

*Free translation for information purposes only*



## **Gaztransport & Technigaz**

*Société anonyme* (joint stock limited liability company) with a board of directors  
and share capital of EUR 370,288

Registered office: 1 route de Versailles – 78470 Saint-Rémy-lès-Chevreuse  
662 001 403 RCS Versailles

## **BASE DOCUMENT**

### **DISCLAIMER**

By accepting this document, you acknowledge, and agree to be bound by the following statements. This document is a translation of GTT's *document de base* dated 13 December 2013, (the “**document de base**” or “**base document**”). The *document de base*, in its original French version, is publicly available at [www.amf-france.org](http://www.amf-france.org) and at [www.gtt.fr](http://www.gtt.fr). This translation (the “**Translation**”) is provided for your convenience only and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published in whole or in part for any purpose. It does not include the translations of certain sections of the *document de base*. This Translation has not been prepared for use in connection with any offering of securities. It does not contain all of the information that an offering document would contain. None of GTT or any of their respective officers, directors, employees or affiliates, or any person controlling any of them assume any liability which may be based on this Translation or any errors or omissions therefrom or misstatements therein, and any such liability is hereby expressly disclaimed.

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Copies of the *document de base* in its French version are available free of charge from GTT's registered office (1 route de Versailles – 78470 Saint-Rémy-lès-Chevreuse) and for download from the Company's web site ([www.gtt.fr](http://www.gtt.fr)).



## PRELIMINARY REMARKS

Unless stated otherwise, the term “**Company**” or “**GTT**” refers in the present base document to Gaztransport & Technigaz, a *société anonyme* (joint stock limited liability company) having its registered office at 1 route de Versailles, 78470 Saint Rémy-lès-Chevreuse, registered with the Versailles Trade and Companies Registrar under no. 662 001 403, and the term “**Group**” refers to the Company and its two subsidiaries.

The present base document, and chapters 12 and 13 in particular, contains guidance about the Company’s objectives and forecasts. This guidance may in certain cases be identified by the use of the future or conditional tense and prospective terms such as “believe”, “aim to”, “expect to”, “intend to”, “should”, “aspire to”, “estimate”, “think”, “wish”, “could”, etc. This information is based on data, assumptions and estimates regarded by the Company as reasonable. It may change or be modified as a result of uncertainties arising from the hazard attached to any business and from the economic, financial, competitive, regulatory and climate-related environments. The Company does not undertake to publish any updates of the objectives, forecasts and prospective information contained in the present base document, except where it has an obligation to do so in accordance with statutory and regulatory provisions. In addition, the occurrence of certain risk factors described in chapter 4 – *Risk factors* of the present base document may have a material adverse effect on the Group’s activities and on its ability to meet its objectives. In addition, for the Company to meet its objectives, it entails success of its strategy presented in section 6.1 – *Group overview* of the present base document. The Company does not give any undertakings or make any warranties that the objectives presented in the present base document will be achieved.

Investors should carefully consider the risk factors described in Chapter 4 – *Risk factors* of the present base document before making their investment decision. The occurrence of all or some of these risk factors may have a material adverse effect on the Group’s business, situation, financial position or on its ability to achieve its objectives. In addition, other risk factors, not yet currently identified or not regarded as material by the Company may have the same adverse effect, and investors may lose part or all of their investment.

The present base document, and in particular Chapter 6 – *Overview of the activities of the Group* of the present base document, contains information about the business segments in which the Group is present and its competitive position. Aside from the estimates prepared by the Group, the information on which statements concerning the Group’s competitive position are based is taken mainly from two studies commissioned by the Company from Poten & Partners and Wood Mackenzie and from data provided by Clarkson Research, all of which are well-known consultants in either the shipping or energy industry. With regard to the information and data contained in the present base document concerning the LNG shipping industry taken from databases or other sources provided by Clarkson Research, Clarkson Research has stated that: (i) certain information taken from its databases is based on estimates or subjective assessments, (ii) information contained in databases belonging to other shipping industry data providers may differ from the information contained in Clarkson Research’s database, and (iii) while Clarkson Research has taken due care compiling the statistical and graphical data, and believes that it is correct and accurate, data compilation is subject to limited validation and audit procedures. The studies prepared by Poten & Partners, Wood Mackenzie and the data provided by Clarkson Research were conducted or provided independently and the information included in the present base document have been verified according to the description in Chapter 23 – *Third party information and statement by experts and declarations of any interest* of the present document. Certain information contained in the present base document is taken from publicly available sources that the Company considers to be reliable, but has not been verified by an independent expert. The Company cannot provide any guarantee that a third party using different methods to combine, analyse or calculate data for the business segments would obtain the same results. The Company and its shareholders do not give any undertakings or make any warranties as regards the accuracy of this information. Given the very rapid changes affecting the Group’s sector of activities in France and around the world, this information may contain errors or may no longer be up-to-date. Accordingly,

the Group's business activities may experience trends deviating from those described in the present base document. The Group does not give any undertaking to publish updates of this information, except where it has an obligation to do so in accordance with statutory and regulatory provisions.

## DEFINITIONS

In the present base document, the terms stated below have the following meaning:

**Approval Application** has the meaning attributed to it in section 6.7.4 - *New technology certification and approval process* of the present base document;

**Btu** means British Thermal Units;

**Bcm** means billion cubic meters;

**Bunkering** means, concerning the LNG, the use of LNG as fuel for the propulsion of vessels;

**Clarkson Research** refers to the company Clarksons Research Services Limited, having its registered office at St Magnus House, 3 Lower Thames Street, London EC3R 6HE, United Kingdom, a well-known shipping consulting specialist in offshore and energy sectors. Clarkson Research is an entity of the Clarkson's group, a world leader of integrated services related to the marine industry.

**Company** means GTT;

**ECA** means Emission Control Areas comprised of the Baltic Sea, North Sea, the English Channel, North-American coasts and coasts of certain Caribbean Islands;

**EPC Contractor** means engineering, procurement and construction contractor;

**EPC Licence Agreement** designates a Licence Agreement entered into between GTT and an EPC Contractor in connection with the commercialisation of GTT's technologies for onshore storage tanks;

**FPSO** (floating production, storage, and offloading unit) means floating units which receive the gas from scattered sites, remove impurities from the natural gas from offshore fields, ensure the treatment of gas, liquefy and store it until it is loaded on a LNG carrier;

**FSRU** (floating storage and re-gasification unit) means a stationary vessel capable of loading LNG from LNG carriers, storing and re-gasifying it;

**g/kWh** means grams per Kilowatt hour;

**Group** refers together to (i) the Company, (ii) Cryovision, a French *société par actions simplifiée unipersonnelle*, having its registered office at 114 bis rue Michel Ange, 75016 Paris, France, registered with the trade and companies register of Paris under number 539 592 717 and (iii) GTT North America, a company incorporated under the laws of the State of Delaware, having its registered office at Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle 19801, United States of America;

**Group Company** means the Company or any company or entity controlled directly or indirectly by the Company within the meaning of Article L. 233-3 of the French Commercial Code;

**GT** means gross tonnage;

**GTT** or the **Company** refers to Gaztransport & Technigaz, a French *société anonyme* having its registered office at 1 route de Versailles, 78470 Saint Rémy-lès-Chevreuse, registered with the trade and companies register of Versailles under number 662 001 403;

**IGC Code** means the International Code for the construction and equipment of vessels carrying liquefied gases in bulk published by the IMO in 1983;

**IMO** means the International Maritime Organisation;

**Innovation Plan** refers to the plan presenting the Group's intellectual property and development innovation strategy;

**LNG** means liquefied natural gas;

**LPG** means liquefied petroleum gas;

**m<sup>3</sup>** means cubic meter;

**MMbtu** means million British Thermal Units;

**MoU** stands for Memorandum of Understanding, which is, notwithstanding its name, the final technical agreement laying down the detailed arrangements for either a TALA or an EPC Licence Agreement for a specific project;

**Mtoe** means million tons of oil equivalent;

**Mtpy** means million metric tons per year;

**PERCOG** refers to the Group-wide collective pension savings plan;

**Poten & Partners** refers to Poten & Partners, a company having its head office at 101 Wigmore Street, London W1U 1QU in the United Kingdom, a well-known shipping consulting specialist that has conducted an independent study of the LNG sector at the Company's request;

**Sloshing** refers to the motion of LNG inside LNG carriers' tanks caused by sea conditions, potentially damaging the tank walls, chamfers and ceilings;

**TALA** means a Technical Assistance and Licence Agreement, which is a framework agreement entered into between GTT and a shipyard to provide its technologies;

**TIP** means preliminary engineering work;

**tpl** means tons at deadweight.

**TSA** means a Technical Services Agreement, a framework agreement entered into between GTT and a shipowner to provide operating, repair or maintenance services for its LNG carrier fleet;

**TSAM** means a Technical Services and Maintenance Agreement, a framework agreement entered into between GTT and a repair shipyard to maintain and repair LNG carriers equipped with GTT's containment technologies;

**TSC** means Technical Study Contract, a framework agreement entered into between GTT and a client to provide studies yielding useful results that can be protected;

**TWC** means a Technical Work Contract, an agreement entered into between GTT and a client to provide consulting, expertise and assistance services when no other agreement is suitable for the client's needs;

**vessels** means together the LNG carriers, FPSOs, FRSUs and re-gasification vessels;

**Wood Mackenzie** refers to Wood Mackenzie, a company registered in Scotland, having its head office at 16 Charlotte Square, Edinburgh EH2 4DF, in the United Kingdom, a consulting specialist well-

known in the research and in the energy, metal and mining sector that has conducted an independent study of the LNG sectors at the Company's request.

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**CHAPTER 1**  
**PERSONS RESPONSIBLE FOR THE BASE DOCUMENT**

[Intentionally omitted]



## **CHAPTER 2 STATUTORY AUDITORS**

### **2.1 PRINCIPAL STATUTORY AUDITOR**

#### **Ernst & Young Audit**

Represented by Philippe Hontarrède

Member of the *Compagnie Régionale des Commissaires aux Comptes* of Versailles.

1-2 place des Saisons  
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92400 Courbevoie

344 366 315 RCS Nanterre

Appointment renewed at the annual general meeting of 25 June 2010 for a term of six financial years and due to expire at the end of the annual shareholders meeting to be called to vote on the financial statements for the financial year ending on 31 December 2015.

### **2.2 DEPUTY STATUTORY AUDITOR**

#### **Auditex**

Member of the *Compagnie Régionale des Commissaires aux Comptes* of Versailles.

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Paris La Défense  
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Appointment renewed at the annual general meeting of 25 June 2010 for a term of six financial years and due to expire at the end of the annual shareholders meeting to be called to vote on the financial statements for the financial year ending on 31 December 2015.

### CHAPTER 3 SELECTED FINANCIAL INFORMATION

The financial information presented below in tables "Income Statement Data", "Balance Sheet Data", "Cash Flow Statement Data" and "Other Financial Data" for the financial years ending 2010, 2011 and 2012 was audited by the statutory auditor of the Company. The financial information presented below in tables "Income Statement Data", "Balance Sheet Data", "Cash Flow Statement Data" and "Other Financial Data" for the first nine months of the financial year 2013 were subject to a limited review by the statutory auditor of the Company. The information presented below in table "Operating Data" presents operating information prepared by the Company.

The selected financial information presented in this chapter 3 must be read in conjunction with (i) the complete financial data contained in chapter 20 of the present base document, (ii) the review of the financial position and income of the Company presented in chapter 9 of the present base document and (iii) the review of cash and equity of the Company presented in chapter 10 of the present base document.

In the present base document, the term "Revenue" refers to "Revenue from ordinary activities" as presented in the respective financial statements for the years ended December 31 2010, 2011 and 2012 or for the first nine months of financial year 2013.

Income statement data (in thousand of euros)	Financial year ended 31 December			9 months as at 30 September	
	2010	2011	2012	2012	2013
<b>Revenue</b>	<b>74,677</b>	<b>55,758</b>	<b>89,486</b>	<b>54,551</b>	<b>156,942</b>
<i>Revenue provided by royalties <sup>(1)</sup></i>	66,930	49,721	82,016	49,510	151,402
<i>Revenue provided by services</i>	7,747	6,036	7,470	5,041	5,540
<b>Operating income before amortisation and depreciation (EBITDA)</b>	<b>32,904</b>	<b>20,453</b>	<b>48,448</b>	<b>18,616</b>	<b>104,642</b>
<i>EBITDA margin</i>	44.1%	36.7%	54.1%	34.1%	66.7%
Amortisations and Depreciations	(3,779)	(3,302)	(3,138)	(2,342)	(2,463)
<b>Operating income (EBIT)</b>	<b>29,125</b>	<b>17,151</b>	<b>45,310</b>	<b>16,275</b>	<b>102,179</b>
<i>EBIT margin</i>	39.0%	30.8%	50.6%	29.8%	65.1%
<b>Financial income</b>	<b>1,013</b>	<b>1,029</b>	<b>676</b>	<b>679</b>	<b>1,083</b>
Income tax	(6,953)	206	(6,409)	(4,410)	(16,631)
Net income	22,744	15,700	40,158	13,783	92,142
<b>IFRS net income</b>	<b>23,185</b>	<b>18,386</b>	<b>39,577</b>	<b>12,543</b>	<b>86,632</b>

(1) This revenue corresponds to studies performed, licence fees and technical assistance services.

<b>Balance Sheet Data</b>	<b>Financial year ended 31 December</b>			<b>9 months as at 30 September</b>	
(in thousand of euros)	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2012</b>	<b>2013</b>
Intangible assets	47	66	52	n.d.	314
Property, plant and equipment	14,237	12,372	11,173	n.d.	10,380
Non-current financial assets	1,114	750	6,190	n.d.	6,118
Deferred tax assets	581	5,322	7,281	n.d.	4,260
<b>Total non-current assets</b>	<b>15,980</b>	<b>18,510</b>	<b>24,696</b>	<b>n.d.</b>	<b>21,072</b>
Trade receivables	21,665	23,521	40,728	n.d.	57,858
Other current assets	8,471	12,563	21,131	n.d.	20,768
Cash and cash equivalents	84,824	55,414	72,737	n.d.	76,197
<b>Total current assets</b>	<b>114,960</b>	<b>91,498</b>	<b>134,595</b>	<b>n.d.</b>	<b>154,822</b>
<b>Total Assets</b>	<b>130,940</b>	<b>110,008</b>	<b>159,292</b>	<b>n.d.</b>	<b>175,895</b>
<b>Equity</b>	<b>69,439</b>	<b>34,827</b>	<b>58,691</b>	<b>n.d.</b>	<b>53,491</b>
Non-current provisions	27,051	25,078	13,984	n.d.	10,555
Other non-current liabilities	2,565	2,536	2,588	n.d.	2,588
<b>Total non-current liabilities</b>	<b>29,616</b>	<b>27,614</b>	<b>16,572</b>	<b>n.d.</b>	<b>13,143</b>
Current provisions	-	-	-	-	-
Trade payables	7,006	9,871	8,909	n.d.	11,518
Other current liabilities	24,879	37,697	75,120	n.d.	97,743
<b>Total current liabilities</b>	<b>31,885</b>	<b>47,567</b>	<b>84,029</b>	<b>n.d.</b>	<b>109,261</b>
<b>Total Equity and Liabilities</b>	<b>130,940</b>	<b>110,008</b>	<b>159,292</b>	<b>n.d.</b>	<b>175,895</b>

<b>Cash Flow Statement Data</b>	<b>Financial year ended 31 December</b>			<b>9 months as at 30 September</b>	
(in thousand of euros)	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2012</b>	<b>2013</b>
Net Cash flow from operating activities	39,329	24,977	40,654	24,632	97,111
Net Cash flow from investing activities	(954)	(1,388)	(7,607) <sup>(1)</sup>	(978)	(1,821)
Net Cash flow from financing activities	(30,269)	(52,999)	(15,724)	(15,714)	(91,831)
<b>Net increase in cash and cash equivalents</b>	<b>8,106</b>	<b>(29,410)</b>	<b>17,323</b>	<b>7,940</b>	<b>3,460</b>

(1) including 5,000 thousand euros relating to the acquisition of financial assets

<b>Other Financial Data</b>	<b>Financial year ended 31 December</b>			<b>9 months as at 30 September</b>	
(in thousand of euros)	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2012</b>	<b>2013</b>
<b>Capital expenditure</b> (acquisition of fixed assets)	(1,250)	(1,507)	(7,732)	(1,127)	(1,938)
<b>Dividends paid</b>	(30,248)	(52,997)	(15,714)	(15,714)	(91,831) <sup>(1)</sup>
<i>Dividend distribution rate (% of previous financial year's net income)</i>	50.5%	233.0%	100.1%	n.d.	n.d.
<b>Net cash position</b>	84,824	55,414	72,737	63,354	76,197

(1) including 51,678 thousand euros of interim dividends paid in 2013 for the financial year 2013.

Operating Data	Financial year ended 31 December			9 months as at 30 September	
(in thousand of euros)	2010	2011	2012	2012	2013
<b>Information relating to order book</b>					
Order book at the end of the period (number of vessels)	18	52	77	76	101
<i>LNG carriers</i>	17	45	65	66	88
<i>FSRU</i>	0	5	8	6	9
<i>FPSO</i>	0	1	2	2	2
<i>Onshore storage</i>	1	1	2	2	2
Number of orders generating revenues for the period	35	26	44	38	70
<i>LNG carriers</i>	30	22	35	31	58
<i>FSRU</i>	4	3	5	3	8
<i>FPSO</i>	0	1	2	2	2
<i>Onshore storage</i>	1	0	2	2	2
<b>Operating Data for LNG carriers</b>					
Number of new orders for the period	7	38	21	21	31
<i>including the first LNG carriers of the series</i>	1	10	6	6	8
Average revenues generated by the studies performed per LNG carrier (only for the first vessel of the series)	1,480	1,688	1,673	1,673	1,850
Average revenues excluding studies and before discount	6,245	6,694	7,026	7,026	7,333
Average discount rate (%)	16.7%	7.0%	9.8%	9.8%	6.4%
Average order capacity (m <sup>3</sup> )	156,743	159,137	164,371	164,371	172,793
Total revenues recognised in the period for LNG carriers	62,144	45,737	68,064	40,336	122,966
<b>Other operating data</b>					
	2010	2011	2012	2012	2013
Revenues recognised in the period for FSRU	4,286	2,794	8,421	4,103	23,177
Revenues recognised in the period for FPSO		1,191	2,648	2,129	3,517
Revenue recognised in the period for onshore storage	500		2,883	2,943	1,741

n.d. : non determined

## **CHAPTER 4**

### **RISK FACTORS**

The Group operates in an environment that is subject to, and may give rise to, numerous risks, some of which are beyond its control.

Before buying shares in the Company, investors are invited to carefully examine each of the risks presented below, along with all information contained in the present base document. These risks are, as of the registration date of the present base document, those that the Company believes may, if realised, have a material adverse impact on the Company or its subsidiaries, their activities, financial positions, cash flow, results or prospects. The Company draws investors' attention to the fact that the risks and uncertainties presented below are not the only ones the Group faces. Other risks and uncertainties, of which the Group is not currently aware or which it does consider as material as of the registration date of the present base document, could also have a material adverse impact on its activities, financial position, cash flow, results and prospects.

#### **4.1 RISKS RELATED TO THE GROUP'S BUSINESS SECTORS AND MARKETS**

##### **4.1.1 Risks related to the level of demand for LNG carriers, FSRUs, FPSOs and onshore storage tanks**

The Company's revenues are undiversified and result for the 2012 financial year from (i) 76.1% of its containment system design for LNG carriers business, and (ii) 9.4% of its FSRU business.

Demand in containment systems used in LNG carriers, FSRUs, FPSOs and onshore storage tanks depends on the prospects for growth in LNG demand, and on the demand for shipping and onshore storage of LNG over the next few years. In recent years, growth in the LNG sector has varied, due in particular to the recession and rising of unconventional gas and in particular of shale gas production in the United States of America. The LNG sector declined in 2012, and further declines in the LNG sector are possible. The absence of orders observed in the Company's order book for LNG carriers in 2009 results from the 2012 decline (see section 6.2.2.1(a) – *LNG carrier segment – Historical trends and order book* of the present base document). Indeed, given the average construction period of a LNG carrier, operators in the LNG sector anticipate the level of LNG production over a three-year horizon in order to define their needs in LNG carriers.

The Company's current and future business depends to a large extent on current and future demand for LNG carriers, FSRUs, FPSOs and onshore storage tanks, which may be negatively affected by any of the following factors:

- changes in the price of LNG;
- changes in the production, in domestic and international markets, of natural gas that has a lower cost than the gas obtained from LNG;
- the ability to obtain the administrative and environmental authorisations required to carry out liquefaction and import projects. Difficulties in obtaining these authorisations have led to temporary supervision of the construction of a storage tank (see section 9.2.1.2 – *Evolution and distribution of revenues (see "operating activities" in income statement)* of the present base document);
- and the ability to meet the respective needs of LNG buyers and sellers and to enter into LNG sales contracts which generally depends on obtaining the financing required to carry out these projects;

- increase in the cost of onshore liquefaction terminals, labour costs or the occurrence of other economic issues which may hinder the development of export LNG projects;
- decrease of the cost of onshore re-gasification terminals or the rising demand for such terminals, which may offer greater capacities than that provided by FSRUs, assuming that there is a demand for such capacities;
- decrease in the consumption of gas resulting from a decline in the cost of other energy sources or any other factor that makes the consumption of gas less attractive;
- increase in the availability of new alternative energy sources, or a decrease of their cost compared with the cost of LNG;
- deteriorating political conditions in regions in which gas export projects could be initiated; and
- deteriorating economic or political conditions in countries or regions where LNG demand is strong, since such a deterioration could reduce overall energy consumption or cause lower growth in energy consumption.

In general, any reduction in demand or slower growth in demand for LNG carriers, FSRUs, FPSOs and onshore storage tanks could have a material adverse impact on the Group's activities, results, financial position and prospects.

#### **4.1.2 Risks related to the economic situation and to the Group's variations in revenues and operating results**

Variations in quarterly or annual revenues and operating results, but also difficulties to anticipate them, could have an adverse impact on the Group's financial situation and prospects.

The Group's revenues and operating results are historically subjected to important variations which could recur in the future.

Indeed, the Company's business is currently largely dependent on the number of orders of LNG carriers, which can vary significantly from year to year depending on economic and regulatory factors and overall demand in the LNG shipping industry. While there has been a recent increase in demand for new LNG carriers, demand for these carriers is beyond the Company's control and may change suddenly and unexpectedly.

As a consequence, the comparison of revenues and operating results on successive periods could not be an indicator of future performances.

Although many market observers predict an increased demand for LNG and LNG carriers in the short and medium-term, such demand, if it develops, will likely fluctuate based on changes in the LNG sector or other conditions and the Company cannot guarantee a steady progression in annual revenue which is only based on total LNG carrier orders between now and 2020. These fluctuations in LNG carrier demand could, in one or more financial years, materially affect the Group's businesses, financial position and prospects.

#### **4.1.3 Risks related to the geopolitical situation and the decision-making process that precedes implementation of liquefaction projects**

The Group's activities and growth prospects depend primarily on demand for the marine transportation of LNG from LNG exporting countries to LNG importing countries.

Any political instability, military action or terrorist-type attack affecting these countries or affecting sea routes used to transport LNG could reduce opportunities for the marine transportation of LNG, particularly through the Panama Canal and have a material impact on the Group's results and financial prospects. The opportunity to use the Panama Canal enables shipowners to benefit from less expensive shipping routes between the United States of America and Asia.

The import and export of LNG also relies on the construction of, among other things, liquefaction facilities. Liquefaction projects are typically of national importance, and can only be carried out in compliance with a variety of regulatory constraints, such as public interest and environmental regulations. Any political instability could extend the decision-making process that precedes the launch of any liquefaction project or increase uncertainty about the outcome of that process and limit the growth of LNG import and/or export capacity of the country in question.

As liquefaction projects create an increased need for the LNG shipping activity and thus the need for LNG carriers, any failure of liquefaction projects worldwide may also have a material adverse impact on the demand for LNG carriers, and may have an adverse impact on the Group's activities, results, financial position, cash flow and prospects.

#### **4.1.4 Risks related to the Company's competitive position in the sector for membrane containment systems used in LNG carriers, FSRUs and FPSOs**

Merger control regulations may apply to the Company in case it would try to acquire a competitor or another company in the LNG or LNG shipping industries.

Given the fact that, according to the Company, 93% of LNG carriers' orders between 2008 and September 2013 used GTT technologies, according to Wood Mackenzie, 69% of the existing carrier fleet as at July 2013 are equipped with GTT technologies and that a significant portion of containment systems for floating units is produced worldwide by the Company, obtaining unconditional authorisation for any such acquisitions from the relevant competition authorities may be difficult in certain cases.

As a result, the Company may not be able in some situations to make certain acquisitions or investments (for example, acquire a competitor or a client) that it believes represent beneficial business opportunities, and those acquisitions and investments it would be able to make may be delayed, conditional or limited by the relevant competition authorities. However, as of the registration date of the present base document, the Company does not have such acquisitions or investments projects.

### **4.2 RISKS RELATED TO THE GROUP'S TECHNOLOGY AND INTELLECTUAL PROPERTY RIGHTS**

#### **4.2.1 Risks related to any possible default in the Group's technologies**

Although the Group has used its membrane and other technologies for many years, it cannot guarantee a total lack of defects when implementing these technologies or in the use of these technologies over time.

The LNG contained in the tanks of LNG carriers equipped with the Company's technologies can, because of certain sea conditions, cause deformation in the containment membrane due to collision between the LNG cargo and the walls of the carriers' tanks (a phenomenon known as "sloshing"). Although the Company has taken steps to limit the impact of sloshing on its membrane containment systems, incidents causing damage have occurred in the past (the primary barrier of four vessels equipped with the Mark III insulation system has been damaged and repaired with part of the costs – not supported by insurance – borne by the Company in 2009 up to 3 million Euros and in 2010 up to approximately one thousand Euros) as a result of sloshing in tanks using the Company's technology

and may occur again in the future. The occurrence or repetition of such events could damage the Company's image and reputation among shipowners, shipyards and gas companies.

The occurrence of any defects in the Company's technology could expose the Company to claims and litigation from shipowners, shipyards, onshore storage tank, FSRUs and FPSOs, owners or operators, or other users of its technology. As a result, the Company may be required to book provisions in its financial statements (please refer, for example, to note 16 of the financial statements for the financial years ended 31 December 2012, 2011 and 2010 in section 20.1.1 – *Financial statements prepared in accordance with IFRS standards for financial years ended 31 December 2010, 2011 and 2012* of the present base document). Such provisions may have a material impact on the Company's financial statements and its results, even if the claims or the underlying litigation are unsuccessful.

Provisions booked for the risk of damage of the Mark III insulation system's primary barrier totalled historically 15 million Euros on 31 December 2009 and 20 million on 31 December 2010, an additional allocation of 5 million Euros having being recorded on 31 December 2010. As at 31 December 2011, this provision amounted to 17.7 million Euros due to a reversal of 2.3 million Euros (amount of unused provision). As at 31 September 2012, the provision amounted to 12.5 million Euros due to a reversal of 5.2 million Euros (amount of unused provision). As at 30 September 2013, the provision booked amounted to 8.9 million Euros.

In addition, the Company benefits from a liability insurance policy seeking to indemnify the Company in the event that its liability may be sought for material or immaterial property damages or personal injuries caused to third parties. This civil liability insurance is intended to cover the Company in the event of failure of its technologies.

The Company has developed, and continues to develop, many new technologies in the LNG shipping industry and the broader LNG sector. The Company cannot guarantee that these technologies will be free of defects, and the Company may incur significant claims or liability as a result.

For example, the Company has recently developed a technology for testing the water proofness of its membranes (TAMI, MOON). As with all of its newly developed technologies, the Company cannot guarantee that this technology will work in the manner intended, or at all, or will be implemented correctly.

As of the registration date of the present base document, the Company has only limited feedback on this and its other newly developed technologies. If defects were to arise when implementing this or other newly developed technologies, the Group cannot guarantee that it will be able to develop adjustments enabling all defects to be cured.

The Group's activities, results, financial position and prospects could be materially affected if one or more of the risks described above materialises.

#### **4.2.2 Risks related to the protection of the Company's intellectual property rights**

A substantial portion of the Company's technology relies on its patent portfolio. On average, two major patents per technology (such as NO 96, Mark III and *GazStorage Technigaz* (GST)) are currently in force, with an average validity term of 15 years. For the purpose of its activities, the Company must obtain, maintain and enforce its patents in all countries in which it operates; its policy being to file patent applications in all these countries to ensure maximum protection. The main technologies currently marketed by the Company give rise to patents or patent applications (i) in countries where is located the headquarter of construction and repair shipyards, (ii) in emerging countries in the LNG sector (such as India and Russia), and (iii) in LNG exporting countries (such as Australia, Russia and Angola) and gas importing countries (such as South Korea and Japan). However, the Company cannot guarantee that it will be able to obtain sufficient patents or other intellectual



property rights in all relevant countries. Any impossibility to obtain the desired intellectual property rights could have a material impact on the Company's results and future growth.

In addition, the granting of a patent does not guarantee its validity or enforceability, which may be challenged by third parties, including the Company's competitors. As a result the Company may be unable to assert, maintain or enforce its patents or other intellectual property rights in all of the jurisdictions in which it currently conducts business. Although the Company takes substantial steps to ensure the validity of its patents, the Company is not and cannot be aware of all patent applications or filings that have been or will be made by third parties. The rights arising from a patent or other intellectual property may also provide incomplete protection of the Company's intellectual property that is insufficient to maintain the Company's competitive advantages.

Procedures to secure compliance with the Company's patents may be lengthy, time-consuming and expensive, regardless of their merit, and there is no guarantee that the Company will benefit from a favourable outcome.

As a result, the Company cannot guarantee that:

- the Company's patent applications currently being examined will result in a patent being granted;
- patents granted to the Company, along with its other intellectual property rights, will not be challenged, invalidated or circumvented;
- the protection provided by patents is sufficient to protect it against competition and against the patents of third parties covering technologies with a similar purpose;
- its technologies and products do not infringe patents belonging to third parties;
- third parties will not claim ownership of patent rights or other intellectual property rights that the Company owns personally or jointly;
- third parties that have entered into license or partnership contracts with the Company and having sufficient experience of technologies that are based on the patents owned by the Company are not developing and will not develop strategies to file applications for patents related to the Company's business and that may be an obstacle to the Company's patent filing strategy; and
- court proceedings or proceedings before competent offices or jurisdictions will not be necessary to ensure compliance with the Company's patents or to determine the validity or extent of its rights in this regard.

The trademarks registered by the Company are important elements for the identification of its technologies. Despite the registration of the Mark III, NO 96 or Mark Flex trademarks, third parties could use or try to use these trademarks or other Company's trademarks. Efforts to enforce the Company's trademarks may be unsuccessful in certain of the jurisdictions in which the Company operates. Such infringement may damage the Company commercially and damage its image.

The Group's activities, results, financial position and prospects could be materially affected if one or more of the risks described above materialises.

### **4.2.3 Risks related to the protection of the Group's know-how**

The Group cannot guarantee that its technologies or their implementation, each of which is based in part on the Company's proprietary know-how, are sufficiently protected and cannot be misappropriated by third parties. When performing license contracts with clients or as part of its partnership contracts, the Company informs its contracting partners of certain elements of its know-how, particularly information relating to the implementation of membrane containment technologies.

Although the Company seeks to limit this communication to the information strictly necessary for its clients to implement its technologies or for the Company to perform its obligations under the aforementioned contracts, it cannot be guaranteed that additional non-essential information, including its proprietary know-how, will not be shared in the course of such activities. While the Company takes steps to ensure, through confidentiality agreements and other measures, that third parties who receive knowledge of the Company's know-how or other such information undertake not to disclose, use or misappropriate it, the Company cannot guarantee that such steps will be successful or respected by its clients or partners.

In particular, the Company cannot guarantee that (i) its contracting partners will fulfil their commitments and not develop technologies inspired by those developed by the Company (see section 4.2.4.2 – *Risks related to competition from the SCA system developed by Samsung Heavy Industries* of the present base document) or (ii) in the event that these commitments are not fulfilled, the Company will be informed and be able to take appropriate measures or steps allowing it to gain full compensation for the damage suffered.

The Group's activities, results, financial position and prospects could be materially affected if one or more of the risks described above materialises.

### **4.2.4 Risks related to the appearance of new technologies and the commercial development of competing technologies**

#### ***4.2.4.1 Risks related to the increase of competing technologies to the detriment of the Company***

Although the Company's technologies have a significant share in the LNG shipping industry, competing technologies and containment systems may be further developed to the detriment of the Company. In addition, competing technologies currently being developed, being approved by classification societies, such as those developed by Samsung Heavy Industries, Hyundai Heavy Industries and Kogas (see section 6.2.2.1(c) – *GTT's technologies faced with competing LNG carrier technologies* of the present base document), or being referenced by gas companies, or which are currently unknown to the Company, could in the future be sold to shipyards and reduce the Company's presence in the LNG shipping sector and ability to sell its own technologies successfully.

However, the Company believes that as a result of the technologies developed by Samsung Heavy Industries, Hyundai Heavy Industries and Kogas (see section 6.7.4 – *New technology certification and approval process* of the present base document) being in the relatively early stage of their development and of their credibility being still insufficient in the absence of feedback on these technologies, it is unlikely that these technologies may have an impact on the Company's presence in the maritime LNG sector in the long term. Regarding the technology developed by Samsung Heavy Industries: see section 4.2.4.2 – *Risks related to competition from the SCA system developed by Samsung Heavy Industries* of the present base document. Despite the large amount of resources it dedicates to R&D activities and active monitoring of the development of competing technologies, the Company cannot guarantee that new LNG containment technologies will not be successfully developed and marketed or that the Company's technologies will remain the leading technologies. The Company does not and cannot know all of the plans of its current and future competitors, and there is

no guarantee that the Company will be able to successfully compete with new technologies in the future.

The Group's activities, results, financial position and prospects could be materially affected if one or more of the risks described above materialises.

#### ***4.2.4.2 Risks related to competition from the SCA system developed by Samsung Heavy Industries***

Since September 2011, Samsung Heavy Industries has been publicising the development of a membrane containment technology named SCA (*Smart Containment – System Advanced*). Samsung Heavy Industries has significantly modified this technology in late 2012, and has since been publicising this modified version of the SCA technology, a competing technology to the Mark III technology developed by the Company. To the knowledge of the Company, the SCA technology received an approval in principle from two classification societies. Despite the implementation by Samsung Heavy Industries of an active communication plan in order to promote the SCA technology in particular to potential customers, the Company considers that the SCA technology is unlikely to be marketed on a large scale before a minimum of 8 to 10 years.

Samsung Heavy Industries is the shipyard that builds the largest number of vessels equipped with the Mark III technology (109 vessels ordered between June 1996 and September 2013). As at 30 September 2013, this shipyard is the Company's largest client, accounting for 34% of its current order book (in number of orders) and represents 37.70% of the Company's revenue for the first nine months of the 2013 financial year. Samsung Heavy Industries' decision to market a competing technology to the Company's technologies may lead to a deterioration in the existing relationship between the Company and Samsung Heavy Industries. Furthermore, if Samsung Heavy Industries is successful in marketing its SCA technology, demand for the Mark III and other technologies of the Company may be impacted, or even severely altered, with a corresponding material negative impact on the Company's financial results, competitive position and growth opportunities.

The SCA technology seems to be derived from Mark III technology which is protected by intellectual property rights. If the Company considered that it was necessary, it could implement all actions to protect its interests and assert its rights. However, the Company cannot guarantee that such proceedings would be successful, which length and complexity would generate significant costs for the Company. Even if the Company's claims would succeed, the likely length of these proceedings could enable Samsung Heavy Industries to commercially establish its competing technology before the Company could benefit from any legal decisions recognising and protecting its rights. Furthermore, such actions and proceedings could have a significant negative impact on the relationship between the Company and Samsung Heavy Industries.

### **4.3 RISKS RELATED TO THE GROUP AND ITS COMMERCIAL ACTIVITIES**

#### **4.3.1 Risks related to the Group's commercial development**

Growth in the Group's business will depend on its ability to maintain its position in the sector of containment systems used in LNG carriers, FPSOs and FSRUs, increase its presence in the sector of onshore storage tank containment systems and expand in the new segments it has identified (see section 6.2.2 – *Segments in which the Group is present* of the present base document).

This development will depend on various factors, including the Company's ability to retain the trust of shipyards, shipowners and charterers (gas companies), along with the Group's ability to meet demand for its technologies and membrane containment systems if it grows significantly.

Although the Group attaches great importance to relations with shipyards, shipowners and charterers (gas companies), it cannot guarantee that these relations will not deteriorate in the event of problems

experienced by the Company or its subsidiaries in fulfilling their obligations towards shipyards, in particular if customers' demand is significantly higher than forecasted, which could have adverse consequences on the entities that own or use the vessels built or scheduled to be built using GTT's technologies. Any difficulties in meeting demand for the Company's technologies, may harm the Company's image in the sector and may encourage current and potential customers of the Company to seek alternatives to the Company's technology.

Moreover, while the Company has demonstrated its ability to meet a strong and rapid rise in demand in 2011, 2012 and the current financial year by using subcontractors and by hiring additional staff on fixed-term employment contracts or temporary employment contracts for "production" work, the Company cannot guarantee that it will always be able to meet all increases in activity. Additional measures taken by the Company to meet increases in demand or other activity may involve additional costs than those typical experienced by the Company and may have a material impact on its financial results and position.

The Group's activities, results, financial position and prospects could be materially affected if one or more of the risks described above materialises.

#### **4.3.2 Risks related to the Group's dependence on the LNG carrier business and uncertainties about the development of other diversified businesses**

As of the registration date of the present base document, almost all of the Group's revenue is derived from activities related to the shipping of LNG, which itself depends on global demand for LNG.

Although the Company is taking steps to diversify its business in the medium term through technologies that already developed or are under development, there is no guarantee that the Company will be able to successfully commercialize any new technologies or continue to be successful in commercializing its current technologies. A lack or insufficient success in the marketing and commercialization of the Company's new and current technologies could have a material adverse impact on the Group's activities, results, financial position and prospects.

The Company believes that a substantial part of its diversification efforts will depend on its ability to adapt its containment technologies to implement the use of LNG as marine fuel, also known as "bunkering" (see section 6.3.5.2 – *Use of LNG for vessel propulsion ("LNG bunkering")* of the present base document). There is no guarantee, however, that the LNG bunkering sector will develop in the timeframe or at the rate anticipated by the Company, and any deviation from the projections set forth in the present base document may have a material impact on the Company's growth and diversification prospects and financial results.

Given the cost associated with adapting its technologies, their complexity and the cost of building the logistics infrastructure enabling the refuelling of vessels with LNG from smaller LNG carriers, the Company cannot guarantee the success of its technologies in the bunkering sector, or their adoption by the sector, which may prefer alternative, less complex technologies that require a lower level of operational control.

#### **4.3.3 Risks related to clients' concentration and dependency on a limited number of shipyards in South Korea**

The Company's direct clients are primary shipyards in South Korea, China and Japan, and its end-clients are shipowners and international gas companies. As of the registration date of the present base document, a significant proportion of the Company's revenue is generated by five shipyards in South Korea, Samsung Heavy Industries, Daewoo Shipbuilding & Marine Engineering, Hyundai Heavy Industries, Hyundai Samho Heavy Industries and STX.

In 2012, 96% of the Company's revenue was generated by these five shipyards. The Company's five largest clients accounted for 89% of its revenue in 2010 and 2011. The Company's largest client, accounted for 43% of its revenue in 2011 and 2012 and 42% in 2010. As at 30 September 2013, 92% of the Company's revenue was generated by the five largest clients of the Company and 37.70% with the Company's largest client. On the same date, the Company's five largest clients accounted for (in numbers of orders<sup>1</sup>) 91% of the Company's order book and the Company's largest client (in number of orders) accounted for 34% of its order book. The Company believes that the makeup of its client base and revenues is unlikely to significantly change over the next few years.

As a result, any event impacting South Korea may have an impact on the Company's financial position, cash flow, results and growth prospects. In addition, any event, including any political or military event affecting South Korea or other countries in Asia, could affect the activities of these clients and could lead them to stop or suspend the performance of their contracts with the Company.

Each of these five shipyards, particularly Samsung Heavy Industries, Daewoo Shipbuilding & Marine Engineering and Hyundai Heavy Industries (see also section 4.2.4.1 – *Risks related to the increase of competing technologies to the detriment of the Company* and section 4.2.4.2 – *Risks related to competition from the SCA system developed by Samsung Heavy Industries* of the present base document), account for a significant percentage of the Company's order book (in number of orders) as of 30 September 2013. Although the Company has not experienced substantial difficulties in recovering its receivables, any event affecting the ability of these shipyards to pay their bills as they become due, including insolvency or other financial difficulties, may have a material impact on the Company's financial position, cash flow and order book.

In addition, South Korean labour costs have recently continuously been increasing, which increases South Korean industrial production costs. There is no guarantee that the South Korean industrial productions, in particular the FPSOs, will remain an acceptable solution for the companies developing offshore LNG projects if the costs increase relating to the offshore structures becomes significant. Such companies may consequently choose onshore solutions.

The loss of a significant client, the termination of a contract with a significant client or difficulties in recovering receivables due by any client could have a material adverse impact on the Group's results, financial position, cash flow and prospects.

#### **4.3.4 Risks related to defaults and order cancellations by shipowners**

Although the Company's direct clients are generally shipyards, its end-clients are shipowners, who order vessels from these shipyards, and gas companies who charter vessels to transport LNG.

Although the Company generally has no contractual link with the shipowners or gas companies with respect to construction projects, any failure or delay by the shipowners in performing their payment could make it impossible for the shipyards to pay for the services provided by the Company in accordance with the contract between the shipyard and the Company. In addition, any failure by gas companies that have chartered vessels may impact the ability of the shipowners to fulfil their obligations, in particular obligations they may have towards shipbuilders. Any such failure or delay by shipowners or gas companies could have a material impact on shipyards, and hence on the Company's financial position, cash flow, results and growth prospects.

In addition, the Company may experience cancellations with respect to orders placed by shipyards. Although historically, and until the start of the financial and economic crisis in 2008, orders for LNG carriers, FSRUs, FPSOs and onshore storage tanks were rarely cancelled, order cancellations have,

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<sup>1</sup> The five largest clients on this period in terms of revenue are not the same entities as the five largest clients in terms of number of orders as a result of the revenue recognition method (see section 9.1.2 – *Revenue recognition* of the present base document).

and may, occur in the LNG shipping market. In 1979, Gaztransport saw the cancellation of an order for five LNG carriers booked in 1978 by Japanese shipyards in relation to a liquefaction project in Iran. Following the revolution in this country, the liquefaction project and the order were cancelled.

Since 2008, the economic and financial crisis has severely affected the shipbuilding sector (excluding LNG carriers), which has suffered from a fall in freight rates and order cancellations. The crisis has also affected the LNG carrier sector.

The Company suffered from the cancellation of an order for one LNG carrier, which had been booked speculatively in 2008 (order for 4.5 million Euros for which the Company was paid 446,000 Euros) and the cancellation of another order for two LNG carriers in July 2012 (order for 16.3 million Euros for which the Company did not receive any payment). This latter order, although the Company was notified of it, was subject to the shipowner obtaining financing, which was not granted. In spring 2013, a shipowner suspended an order for an LNG carrier booked by South Korean shipyard STX (order for 9.1 million Euros for which the Company did not receive any payment). This suspension was the result of financing difficulties.

Although order cancellations have historically taken place before the Company has incurred material expenditure in relation to these orders, the occurrence of one or more order cancellations in relation to LNG carriers could materially affect the Group's activities, results, financial position, cash flow and prospects, and there is no guarantee that order cancellations will not occur in the future.

#### **4.3.5 Risks of dependency on third parties**

The Company has approved certain suppliers as qualified suppliers for its shipyard clients. These qualified suppliers provide materials required to implement the Company's technologies, and sell these materials to shipyards that seek to implement GTT's technologies. They are located primarily in Asia and particularly in South Korea, where the Company's main shipyard clients are located.

Only a very small number of industrial actors supply certain materials used in implementing the Mark III, NO 96 or GST technologies. As of the registration date of the present base document, Hankook (South Korea) is the sole supplier of secondary Mark III membranes. With respect to the Company's NO 96 technology, as of the registration date of the present base document, Aperam (France) is the sole supplier of invar, a material used to make the primary and secondary membranes used in implementing this NO 96 technology.

As a result, the ability of shipyards to implement GTT's technologies (i) depends on the ability of suppliers approved by the Company to supply certain materials required by shipyards in order to implement the Company's technologies and (ii) may be affected by any event occurring in countries or affecting industrial sites where suppliers approved by the Company are located, which may restrict access to the materials required (such as political, military or meteorological events). If the Company's qualified suppliers are unable to provide the materials required to implement the Company's technologies, there is no guarantee that alternative suppliers could be identified in a timely fashion or at all, and any such event could have a material impact on the Company's reputation, financial position, cash flow and order book.

#### **4.3.6 Risks related to the loss of executives and key staff**

The Group's success depends to a very large extent on its ability to attract, retain, motivate and train highly qualified and experienced management, R&D and engineering staff.

Despite the actions put in place by the Company to ensure a versatility of positions identified as crucial, the departure of some key staff of the Group could lead to a loss of expertise or gaps in technical and scientific skills which could substantially weaken the Group's ability to conduct its business.

In addition, if the Group were unable to retain its existing staff, and particularly its management staff, it may have difficulties in implementing its current strategy and developing its business. Competition in the LNG sector for qualified staff is intense, and if the Group is unable to recruit and train new qualified and motivated staff, or compensate the qualified staff it has already recruited, its growth and its development prospects could be materially impacted. Any difficulties in identifying and retaining qualified staff could have an adverse impact on the Group's activities, results, financial position and prospects.

#### **4.3.7 Risks related to labour disputes**

Although the Group has never experienced a strike or significant labour disputes, it cannot guarantee that its business will not be disrupted by strikes, industrial action or other labour disputes. The Company has not taken out any insurance for operating losses resulting from any business disruption caused by labour disputes. As a result, the Group's activities, financial position and operating profit could be affected by the occurrence of such labour disputes.

### **4.4 LEGAL, REGULATORY, TAX AND INSURANCE RISKS**

#### **4.4.1 Risks related to the regulatory environment in the shipping industry**

The LNG shipping sector is governed by a number of regulations, recommendations, codes and national, European and international standards.

In particular, the IGC Code provides an international framework for the safe shipping of LNG by prescribing design and construction standards for vessels carrying LNG, including standards for the equipment that those vessels must incorporate so as to minimise the risk to the ship, its crew and the environment.

These standards may change depending on feedback relating to vessels in use and on technological developments. These changes take place through reviews of international agreements with the involvement of national governments. Thus, a new version of the IGC Code was approved in June 2013 by the Maritime Safety Committee. The new code is expected to be adopted by the Maritime Safety Committee in May 2014 and as of the registration date of the present base document, the Company considers that this new Code will not change its position on the sector.

Any change in the rules contained in the IGC Code may require that the Company change or replace its technologies in order to remain compliant with the IGC Code's requirements.

Although as of the registration date of the present base document, the Company has always been able to prepare for and anticipate the implementation of changes required by the IGC Code, the Company cannot guarantee that it will always be able to adjust its technologies to meet the requirements of the IGC Code within the necessary timeframe and at a cost enabling it to maintain profitability.

The inability of the Company to adjust, profitably or otherwise, its technologies in line with new regulations, recommendations, codes and national, European and international standards, could have a material adverse impact on the Group's activities, results, financial position, cash flow and prospects, including the possibility that one or more of the Company's key technologies become commercially unusable. The loss of any of the Company's key technologies would have a substantial impact on the Company's business, results, financial position and prospects and even may threaten its ability to continue as a going concern.

At the registration date of the present base document, the Company is not aware of any current or anticipated changes with regards to the rules applicable to the LNG shipping sector that would be likely to affect materially the Company's activities, results, financial position and prospects.

#### **4.4.2 Risks related to future authorisations**

The commercial use of the Company's current and future technologies is dependent on the approval of classification societies, which prescribe standards for the design and construction of the vessels that make use of the Company's technologies. Each classification society maintains its own approval and authorisation process, and the Company cannot guarantee that it will be able to maintain the authorisations it has already received or obtain the authorisations it will need in the future. Any failure by the Company to maintain or obtain authorisations could have a material impact on its financial position, results and prospects and may result in one or more of its key technologies become commercially unusable. The loss of any of the Company's key technologies would have a substantial impact on the Company's business, results, financial position and prospects and even may threaten its ability to continue as a going concern.

Changes in authorisation processes could increase the delays and difficulties and thus give rise to additional costs to be borne by the Company in relation to the authorisation and approval processes. Any such delay, difficulty or cost may have a material impact on the Company's reputation, financial results and growth prospects.

The Company's activities, results, financial position and prospects could be materially affected if the risks described above materialises.

#### **4.4.3 Risks related to the tax environment**

Changes in the Group's operating environment, including changes in tax regulations or their interpretation in countries where the Group operates, could affect the calculation of the Group's overall tax burden (tax and duties) and impact its financial position, cash flow and results.

The Group mainly operates in France, where it is subject to French corporate income tax among other taxes. Outside France, the Company also pays withholding taxes on royalties from foreign sources, in particular in South Korea and China. The final calculation of the Group's tax charges requires interpretation of local tax regulations, international tax agreements and legal opinions and administrative practices in each jurisdiction in which the Group operates, and also requires that assumptions be made in relation to the extent of the Group's future activities, their outcomes, the manner in which they are carried out and the manner in which the resulting profits or losses are taken into account. Changes in tax regulation and associated practices could have a material impact on the Group's tax charges.

The Company benefits from certain specific tax arrangements. In France, the Company pays tax at a reduced rate of the corporate income tax on royalties from certain industrial property rights, and receives tax credits in relation to certain R&D spending and withholding taxes paid on royalties from foreign sources. These specific tax arrangements could be challenged or change in time.

The Group's activities, results, financial position, cash flow and prospects could be materially affected if one or more of the risks described above materialised.

#### **4.4.4 Risks related to possible non-compliance with statutory and regulatory provisions**

The provision of petroleum-related goods and services to Iran, including LNG and LNG-related materials, is currently subject to a number of sanctions regimes, particularly in the United States of America. Although, to the best of the Company's knowledge, Iran does not currently have an LNG import or export capacity, it has sought to develop such capacity and may develop such capacity in the future. In addition, other countries are or may be subject to sanctions regimes in connection with LNG and LNG-related materials. If the Company were to engage directly or indirectly in the sale of LNG-related goods or the provision of LNG-related services to Iran or other countries subject to sanctions,



or with parties engaged in such activities, the Company may be exposed to liability under one or more sanctions regimes, which could have a material adverse effect on the Company's activities, results, financial positions, cash flow, prospects and reputation.

With regard to Iran specifically, the Company entered into a Technical Assistance and Licence Agreement, or TALA, with an Iranian shipyard on 24 December 2002, which was renewed by tacit agreement every five years. However, as of the date of this registration document, the TALA has not been performed and is totally inactive. On 30 April 2013, the Company sent a letter to the Iranian shipyard terminating the TALA with effect on 23 December 2013. The TALA with the Iranian shipyard has never given rise to any orders, and therefore has never generated any revenue for the Company. The Company has no intention of conducting any business under this TALA before it is effectively terminated, and has no plans to engage in any Iran-related business in the future, except in the event of an effective change in the current statutory and regulatory framework governing relations with Iran Risks related to disputes and litigation.

#### **4.4.5 Risks related to disputes and litigation**

In the normal course of its business, the Group is involved or may be involved in administrative, judicial or arbitration proceedings. The most significant current and potential disputes are described in detail in section 20.3 – *Judicial and arbitration proceedings* of the present base document. In some of these proceedings, the amounts claimed, or potentially claimed, against the Company are significant. Any provisions booked in this respect by the Company in its financial statements could be insufficient, and this could have material adverse consequences on the Group's activities, results, financial position, cash flow and prospects, regardless of the merits of the underlying claim. It is noted that, as of the registration date of the present base document, no provision is booked in the Company's financial accounts in relation to the proceedings described in section 20.3.2 – *Dispute between the Company and the company Les Chantiers de l'Atlantique (CAT)* of the present base document.

In general, it is possible that, in the future, new proceedings, connected or otherwise with those currently underway, will be brought against the Company or its subsidiaries. Such proceedings may involve the Company in protracted and costly disputes and, regardless of their outcome, may have adverse consequences on the Group's activities, results, financial position, cash flow and prospects.

#### **4.4.6 Environmental risks**

Although the Company believes that its business does not involve substantial environmental risks, where necessary, the Company carries out studies using providers specialising in the health, safety and environment (HSE) aspects of its activities, some of which could present limited environmental risks related to the storage and use of chemicals, gases, dry wood or similar combustible materials, the installed power of fixed machinery in workshops, the quantity of foam processed mechanically, the industrial production of cellular materials and the storage of cellular materials.

In addition, in order to implement its waste management policy, the Company relies on companies authorised to take and process industrial waste (such as foam, chemical waste, scrap metal and WEEE – waste electrical and electronic equipment). Should the companies fail to conduct their business in accordance with the current environmental rules and regulations, the Company may be exposed to environmental liability.

Although the Company is aware to conduct its activities in a sector exposed to risk of environmental liability, the Company cannot guarantee that it will not incur such liability in the future or that its current activities have not already resulted in such liability. Such liability could have an adverse effect on the Company's image and reputation and on the Group's activity, results, financial position and prospects.

#### **4.4.7 Risks related to risk management plans**

In 2011, as part of a project to establish a business continuity plan and a recovery business plan in order to allow the Company to continue to operate upon the occurrence of events limiting access to the site or to the availability of its resources (human, material, IT), the Company mapped the risks to which it believed it may be exposed, assessed its exposure and defined actions to be taken to reduce or control these risks. There is no guarantee that the Company correctly identified all of the risks to which it may be exposed, correctly assessed its exposure to the risks of which it was aware or that the actions taken or to be taken by the Company reduced or controlled or will reduce or control the harm the Company may suffer upon the realization of these risks. There is also no guarantee that its business continuity plan and disaster recovery plan will function correctly or allow the Company to recover effectively from a disaster and continue its business. Regardless of the success or failure of such plans, realization of any of the risks identified by the Company or the occurrence of any disaster may have a material impact on the Company's financial results, cash flow, activities, prospects and reputation.

The Company's risk mapping project is scheduled to be updated by the start of 2014. Failure to update the risk mapping project in a timely fashion may leave the Company without knowledge of, or plans to address, additional risks to which it may have become exposed since the initial risk mapping project was completed in 2011. In addition, there is no guarantee that the Company's updated risk mapping project will not suffer from the same weaknesses described above with respect to its current risk mapping project.

#### **4.4.8 Risks related to insurance policies**

The Group has subscribed insurance policies covering the general and specific risks to which it believes it is exposed. The insurance policies subscribed by the Group contain franchises, caps and exclusions applicable, in case of significant claim, which may impact the Group's financial situation.

There is no guarantee that the insurance policies taken out by the Company cover all of the risks to which the Company currently is or may become exposed to. While the Group believes that its insurance policies have levels of coverage that are appropriate to the risks it faces, there is no guarantee that the Group has adequately or correctly estimated its risk exposure. In addition, the ability of these insurance policies to effectively mitigate the risks they cover depends on the financial capacity of the counterparty insurers, and the Company cannot guarantee that such counterparty insurers will be able to perform adequately or at all their obligations under such insurance policies. Any failure or lack of coverage by the Group's insurance policies may have a material impact on the Group's financial results and position, cash flow or growth prospects.

In addition, the Group's insurance policies often exclude risks to which the Group may be exposed and may offer only partially or incomplete coverage of all risks which the Group may face. Insurers may also seek to limit or challenge claims that the Group makes, which may limit the Group's ability to receive full or timely compensation under its insurance policies. Any such limit, challenge or delay may have a material impact on the Group's financial results and position, cash flow or growth prospects.

### **4.5 FINANCIAL RISKS**

#### **4.5.1 Credit or counterparty risk**

The Group works with a limited number of clients. As of the registration date of the present base document, 24 shipyards have entered into TALAs with the Company. Six of these shipyards were active as of the registration date of the present base document and have notified the Company of orders for LNG carriers.

The Company has experienced late payments by one of its clients, the South Korean shipyard STX. The amount of debt receivables overdue by more than 30 days amounted to 11.2 million Euros as at 30 September 2013. The South Korean shipyard group claims that this late payment is the result of cash-flow problems. A payment schedule was agreed in March 2013 between the Company and its client, so that the overdue amount can be gradually paid.

STX has complied with this payment schedule, subject to a time lag of payment as from July 2013, until the registration date of the present base document. The Company continues to pay very close attention to this situation, which is being monitored regularly by the management team, and cannot guarantee that similar situations will not arise in the future. Any such situation may have a material impact on the Company's financial results and cash flow.

In addition, when a shipyard's invoices become overdue, the TALA with such shipyard may be terminated, which would prevent that shipyard from marketing the Company's technologies to its clients. The loss of a client due to non-payment may have a material impact on the Company's financial results, cash flow and growth prospects.

If an order is cancelled, the sums relating to work already completed by the Company are due. The Company, however, may not be fully compensated for work which it has not fully completed. In addition, because the Company's invoices are scheduled in line with milestones in the ship's construction, any delay in construction typically results in a delay in invoicing by the Company. Such delay or inability to receive payment for work fully or partially completed may have a material impact on the Company's financial results and cash flow.

#### **4.5.2 Currency risk**

As of the registration date of the present base document, the Company believes that it has minimal exposure to currency risk.

The Company's revenues and expenditures are almost all denominated in euro which is the currency in which the Group's accounts are kept, on the order book dated 30 September 2013, only an order is denominated in US dollars, and nearly all of its contracts with customers and suppliers are also denominated in Euro.

#### **4.5.3 Interest-rate risk**

As of the registration date of the present base document, the Group has no debts. As a result, the Company takes the view that it has no exposure to the risk of changes in interest rates with respect to its own accounts.

#### **4.5.4 Liquidity risk**

The Company has not had to recourse to borrowing to meet its commitments in the past decade. Its cash position has historically been positive. Available cash of the Company is placed mainly on term deposit accounts with maturity dates between one month and 5 years, the capital being guaranteed and early release being possible at any time.

As of the registration date of the present base document, the Company takes the view that it has no significant exposure to liquidity risk taking into account its current cash position.

#### **4.5.5 Risks related to shares**

At the registration date of the present base document, the Group did not own any investments portfolio consisting of shares. Consequently, the Company takes the view that it has no significant exposure to risk related to shares at the registration date of the present base document.

### **4.6 RISK MANAGEMENT AND INSURANCE POLICIES**

#### **4.6.1 Risk management**

In 2011, as part of a project to set up a business continuity plan and a disaster recovery plan, the Company mapped the risks to which it may be exposed. These risks were analysed through interviews with the Group's management. For each risk identified, the Company assessed its exposure and potential impact. The Company then defined actions to be taken to reduce or control these risks. The mapping project needs to be updated by the start of 2014. For example, the main risks identified in terms of potential gravity relate to technical failures or prolonged unavailability of computer resources, but also to environmental events or natural disasters.

#### **4.6.2 Insurance policies**

The Group has insurance policies covering the general and specific risks to which it is exposed.

Given the specific nature of its activity and the insurance policies subscribed by the Group and described below, the Group takes the view that it has a level of coverage that is appropriate to the risks inherent in its business.

The Group's main insurance policies cover risks related to the Group's civil liability, directors and officers liability and damage to the Group's movable property and real estate.

The Group also has insurance policies covering other risks, such as policies covering its automobile fleet and those covering expatriate and seconded staff.

##### *Civil liability insurance*

The Company has a civil liability insurance policy that covers it against the financial consequences of any liability for personal injuries, material or immaterial property damages caused to third parties. This civil liability insurance policy was renegotiated with the insurer in 2010 to make it more appropriate to the Company's needs. Some risks are expressly excluded from the insurance policy and so are not covered.

##### *Directors and officers liability insurance*

The Group's directors and officers are covered by liability insurance to protect them against the pecuniary consequences of breaches of statutory or regulatory provisions or provisions of the by-laws of the Company, mismanagement, errors, omissions or negligence by them with respect to third parties (excluding intentional and wilful misconduct, criminal offences and breaches of tax or customs law). This insurance policy covers the cost of defence, prevention, psychological assistance, communication and efforts to restore the image of the Group's directors and officers.

##### *Damage insurance*

The Group has a "multirisks" insurance policy covering damage to its movable property and real estate, subject to exclusions stated expressly in the policy.

Overall, insurance premiums paid by the Company and Cryovision amounted to 1,446,002.48 Euros in 2012, 1,143,332.85 Euros in 2011 and 4,104,144.29 Euros in 2010.

In the financial years ended 31 December 2012, 2011 and 2010, the main claims made by the Company under its civil liability policy related to the dispute between the Company and Chantiers de l'Atlantique (CAT) described in section 20.3 – *Judicial and arbitration proceedings* of the present base document, and to damages caused by the movement of LNG to the primary membranes of LNG carriers built with the Mark III insulation system (described in note 16 to the financial statements for the periods ended 31 December 2012, 2011 and 2010, appearing in section 20.1.1 – *Financial statements prepared in accordance with IFRS standards for financial years ended 31 December 2010, 2011 and 2012* of the present base document).

## **CHAPTER 5**

### **INFORMATION ABOUT THE GROUP**

#### **5.1 HISTORY AND DEVELOPMENT OF THE GROUP**

##### **5.1.1 Corporate name**

The Company's corporate name is Gaztransport & Technigaz. It operates under the commercial name of GTT.

##### **5.1.2 Place of registration and registration number**

The Company is registered at the Trade and Companies Register of Paris under the number 662 001 403.

##### **5.1.3 Date of incorporation and duration of the company**

The Company was incorporated on 3 November 1965 for a duration, after extension, up until 10 January 2065.

##### **5.1.4 Registered office, corporate form and governing law**

The Company's registered office is located at: 1 route de Versailles, 78470 Saint-Rémy-lès-Chevreuse. The phone number of the registered office is +33 (0) 1 30 23 47 89.

From 19 September 1994, the Company was incorporated as a *société par actions simplifiée* (simplified joint stock limited liability company). It was converted into a *société anonyme* (joint stock limited liability company) on 11 December 2013.

In addition, in view of the admission to trading of the Company's shares on NYSE Euronext's regulated market in Paris, the general meeting of the shareholders adopted on 11 December 2013, subject to the non-retroactive condition precedent of the settlement and delivery of the Company's shares allotted as part of the initial public offering, the by-laws that shall be applicable to it once this condition has been satisfied. The main provisions of these by-laws are described in chapters 14 – *Administrative, management and supervisory bodies and general management*, 16 – *Board and management practices* and 21 – *Additional information* of the present base document.

At the registration date of the present base document, the Company is a *société anonyme à conseil d'administration* (joint stock limited liability company with a board of directors) registered in France and governed by the provisions of the French Commercial Code.

##### **5.1.5 Significant events in the development of the Group's activities**

Gaztransport & Technigaz is a French engineering company specialised in designing containment systems with cryogenic membranes used to transport LNG and for onshore and offshore LNG storage.

The Company was formed through a merger between two French maritime engineering companies specialised in designing insulation systems for tanks of LNG carriers, namely Gaztransport and Technigaz.

###### **■ Incorporation of Technigaz**

In 1963, Gazocean, a shipowner, created a subsidiary called Technigaz dedicated to developing a new technology for the transport in LNG carriers of liquefied petrol gas and LNG.

The company Technigaz went on to develop the containment system known as Mark I.

Between 1968 and 1972, twelve LNG carriers using the Mark I system and two ethylene onshore storage tanks designed by Technigaz were built.

Technigaz then continued its research in containment system design, including for the onshore installations sector, which helped it to keep its business going during the 1980s even when it did not have any orders for LNG carriers.

In 1983, Gazocean sold Technigaz to Amrep, a manufacturer of equipment for the oil and gas sectors. One year later, the Amrep group, experiencing financial difficulties, sold Technigaz on to the Bouygues group.

#### ■ *Incorporation of Gaztransport*

Following the merger between Ateliers et Chantiers Navals de la Seine Maritime with Chantiers Navals de la Ciotat in 1965, the newly formed group did not want to take on within the scope of their activities the special studies unit, which conducted research on a membrane technology for future LNG carriers. The Worms group then decided to retain this research unit and entrusted it to Gaztransport, a specially created subsidiary owned jointly by Worms (51%), Forges et Chantiers de la Méditerranée (24%), Ateliers et Chantiers de Dunkerque et Bordeaux (15%) and Gaz de France (10%).

Gaztransport went on to develop containment systems the known as NO 82 and NO 85.

Between 1969 and 1978, ten LNG carriers were built using the NO 82 and NO 85 systems developed by Gaztransport.

During the 1980s, Gaztransport continued its research in containment system design, including for the onshore installations sector.

In 1986, Gaztransport's shareholding structure changed, first with Gaz de France increasing its interest, then following disappearance of Normed (Chantiers du Nord et de la Méditerranée), which had been formed through a merger between Forges and Chantiers de la Méditerranée and Ateliers et Chantiers de Dunkerque et Bordeaux in 1982, its entire shareholding was transferred to Total. As a result of these changes, the Company's share capital was owned by Gaz de France (51%), Total (39%) and the Worms group (10%).

#### ■ *Creation and development of GTT*

GTT was founded in 1994 through a merger between Gaztransport and Technigaz's maritime operations division, and its share capital is owned by Gaz de France (40%), Total (30%) and Bouygues Offshore (30%).

In 2002, Saipem acquired Bouygues Offshore and thus became shareholder of GTT with 30% of its share capital.

In 2008, Saipem sold this shareholding to H&F Luxembourg 1 S.à.r.l., a current shareholder of GTT alongside the GDF Suez group (40%) and Total Gas & Power Actifs Industriels (30%).

#### ■ *Development of the Company's activities*

Following the merger between Gaztransport and Technigaz in 1994, the Company continued to develop and market both companies' longstanding respective technologies, namely the Mark system and the NO system.

The first order for the Mark III system was received in 1992, and the NO 96 system won its first order in 1994.

In parallel of the continued development of the Company's longstanding technologies, GTT also developed the CS 1 system, a new containment technology incorporating the specific technical features of both existing technologies. This technology has been implemented only to a very limited extent. At the date of the present base document, only three LNG carriers incorporating CS 1 containment system technology were in service, since GTT had stopped marketing it.

At the time of the merger between Gaztransport and Technigaz's maritime operations division in 1994, the onshore storage technology developed by Technigaz during the 1960s was transferred to GTT, and GTT then granted an exclusive licence to SN Technigaz, an EPC Contractor and Bouygues Offshore subsidiary. Under an agreement signed in 2006, GTT and SN Technigaz put a premature end to this exclusive licence to enable GTT to regain exclusive rights to this technology. The Company then resumed its research activities with a special emphasis on making the onshore storage technology compliant with European standards EN 14620-1 dated 2006 and EN 1473 dated 2007 and resumed the marketing of its technology for onshore storage tanks again in 2009.

During 2011 and 2012, GTT launched its Mark III Flex and NO 96 Evolution technologies, which are enhanced versions of Technigaz's, on the one hand, and Gaztransport's, on the other hand, original technologies. The first order for the Mark III Flex system was received in 2011, and the NO 96 Evolution system won its first order in 2011 for both of its versions, i.e. NO 96 LO3 and the NO GW system (for more detailed information about these technologies, see sections 6.6.1 – *Mark III series systems and development of the Mark V technology* and 6.6.2 – *NO 96* of the present base document).

GTT has begun to diversify its activities over the past seven years by using its expertise in cryogenic technology and in particular developed a subsea cryogenic pipeline enabling LNG carriers to load the LNG without docking at liquefaction terminals or using a jetty at sea, and navigation software helping to detect sloshing and optimise the shipping routes taken by LNG carriers. GTT is currently continuing its research not only in LNG carriers, but also in areas independent of the LNG carrier sector in which its technologies could be employed and in particular LNG propulsion systems for vessels is one such area.

In February 2012, GTT created Cryovision, a wholly-owned subsidiary providing innovative services to shipowners and terminal operators, services intended to complement its membrane containment technology through the use of its innovative MOON and TAMI integrity tests.

In July 2013, GTT created GTT North America, a second wholly-owned subsidiary governed by the law of the State of Delaware, giving the Company access to the very rapidly growing LNG sector in North America (in particular bunkering technology).

## **5.2 INVESTMENTS**

### **5.2.1 Historic investments**

The investments made by the Company for the financial years ended on 31 December 2010, 2011 and 2012 respectively amounted to 1,250 thousands Euros, 1,507 thousands Euros and 2,732 thousands Euros (excluding 5,000 thousands Euros of acquisition of fixed financial assets). These investments are primarily devoted to purchase of software, equipment and tools, office and IT equipment, furniture and fittings and fixtures for installations.

### **5.2.2 Investments in progress**

During the financial year ending on 31 December 2013, the Company will have made investments of up to 3 million Euros. These mainly relate to:

- fixtures and fittings for offices and buildings;



- purchases of testing equipment and equipment related to development projects; and
- purchases of IT equipment.

In addition, as a result of the incorporation of GTT North America in July 2013, GTT plans to finance its investments and future expenses through a shareholder's current account until it generates profits. The amount of the advance in 2013 is likely to be around 110,000 Euros.

### **5.2.3 Future investments**

Although the Company has not given any firm commitment, it plans to continue investing in industrial tools and equipment and in particular in laboratory facilities for non-material amounts.

In addition, by 2015, GTT may have to invest an additional sum of around 1.2 million Euros in its GTT North America subsidiary to cover the operating expenses of this unit, which is not yet profitable.

## **CHAPTER 6**

### **OVERVIEW OF THE ACTIVITIES OF THE GROUP**

This chapter presents the sector of activities and the activities of the Group. It contains information relating about the sector and the segments in which the Group is present that derives from independent studies conducted at the Company's request, by Poten & Partners and Wood Mackenzie and information provided independently by Clarkson Research (see Chapter 23 – *Third party information and statement by experts and declarations of any interest* of the present base document).

#### **6.1 GROUP OVERVIEW**

The Company is the worldwide leading provider in the sector of very low temperature, or cryogenic, LNG containment systems technology for the LNG shipping industry. It was founded in 1994 by the merger of Gaztransport and Technigaz, which together had more than 50 years' experience in the field of cryogenics and storage of liquefied natural gas.

The Company's containment systems are based around its Mark III, NO-96 and its Gaz Storage Technigaz ("GST") membrane technologies. These membrane containment systems offer safe and reliable transport and storage of LNG in bulk. They use thinner, lighter materials than competing containment systems, optimizing the LNG storage capacity and reducing construction and operational costs of vessels and tanks. The Company's systems are the leading LNG containment systems among shipyards and shipowners worldwide. According to Wood Mackenzie, as of July 2013, over 69% of the world's LNG carrier fleet was equipped with the Company's membrane technology, and, according to the Company, 93% of new LNG carrier vessels ordered globally between January 2008 and September 2013 included or will include its membrane containment systems. The Company's membrane technology is also used by 73.3% of existing LNG re-gasification floating storage units and has become the leading choice for LNG floating production storage and offloading vessels.

The Company has licensed its membrane technology to leading shipyards worldwide, such as Samsung Heavy Industries, Hyundai Heavy Industries, Daewoo Shipbuilding & Marine Engineering and Hudong Zonghua. These shipyards use the Company's technologies in their construction of LNG carriers and onshore storage tanks. The primary purchasers of LNG carriers equipped with the Company's technology are major gas companies, such as Qatargas, Shell, BP, BG Group, TOTAL, GDF SUEZ, Chevron, Eni and Petronas, and shipowners, such as Gaslog, Golar LNG and Maran Gas Maritime, which place orders for LNG carriers based on the requirements of the major gas companies.

The Company also provides engineering, consultancy, training, maintenance assistance and technical analysis across the entire LNG value chain, and has adapted its technologies to newly developed LNG markets, including the use of LNG as marine fuel, or "bunkering", and the development of small- and medium-size LNG carriers for coastal and river trade.

The Company founded two subsidiaries respectively in 2012 and 2013: Cryovision, which provides innovative services to shipowners and terminal operators, and GTT North America, which provides the Company's technology and services to the rapidly growing North American LNG sector (particularly with respect to LNG "bunkering").

In 2012, the Company had revenues of approximately EUR 89.5 million and a net profit of EUR 39.6 million as compared to EUR 55.8 million and EUR 18.4 million, respectively, in 2011, and EUR 74.7 million and EUR 23.2 million, respectively, in 2010. For the first nine months of 2013, the Company had revenues of EUR 156.9 million and a net profit of EUR 86.6 million as compared as EUR 54.5 million and EUR 12.5 million, respectively, during the same period in 2012. For the financial years 2010, 2011 and 2012, the Company paid out 100% of its corporate net income<sup>2</sup>. It amounted to EUR 22.7 million in 2010, EUR 15.7 million in 2011 and EUR 40.1 million in 2012. During the financial year 2011, the Company paid a reserve exceptional distribution of EUR 30.0 million. In addition, in 2013, the Company paid an interim dividend of EUR 51.7 million.

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<sup>2</sup> Net income as stated in the financial accounts prepared in accordance with French accounting rules.

### 6.1.1 Sector overview

Natural gas is, and should remain, the fastest-growing fossil fuel worldwide, primarily due to the ample resources of natural gas around the world, its cost competitiveness and relatively low carbon footprint and the phasing-out of nuclear power in certain countries.

Although the LNG market declined in 2012 (because of the low number of new projects and production difficulties encountered by existing projects), the global LNG demand has regularly increased over the 2002-2012 period, at an average annual rate per year of 7.9 %, according to Wood Mackenzie. Thus, LNG sector has grown rapidly over the past ten years resulting in a substantial growth of the worldwide carrier fleet over the same period, from 147 vessels on 31 December 2002, according to the Company, to 366 vessels<sup>3</sup> in July 2013, according to Wood Mackenzie.

Forecasts for global LNG demand confirm this trend, with an expected annual growth rate of 4.5% between 2013 and 2025 according to Poten & Partners, and an expected annual growth rate of 5.7% over the same period according to Wood Mackenzie.

The growth of the LNG shipping industry has been, and is expected to continue to be, driven by the structural need for storage and shipping of LNG between import and export markets, the increasing demand for LNG worldwide and the lengthening and increasing complexity of global LNG shipping routes. According to Poten & Partners, 231 to 293 orders for new LNG carriers are expected between 2014 and 2023, whereas Wood Mackenzie anticipates 213 to 268 orders for the same period. In addition to the global growth of LNG carrier fleets, new floating platforms, such as FSRUs and FPSOs are being developed. The development of small- and medium-size LNG carriers will also promote the usage of LNG in countries where onshore facilities have not or cannot be developed, and allow for LNG coastal and river trade in areas that are not accessible by traditional LNG carriers.

In addition to the growth in LNG shipping, the Company believes that new emission regulations enacted in 2008 by the IMO, which require reductions in sulphur emissions from maritime shipping, will increase the use of LNG as a marine fuel (bunkering) and drive further demand for LNG containment systems.

### 6.1.2 Business strengths of the Company

- **Well-positioned to capitalize on the expected growth of the LNG sector.** The Company is the leading supplier of containment systems for LNG carriers and the only supplier of membrane containment systems in the LNG shipping industry. The Company estimates that approximately 93% of new LNG carrier vessels ordered worldwide between January 2008 and September 2013 are or will be equipped with its membrane containment systems, and believes, as both Poten & Partners and Wood Mackenzie predict, that it will remain the dominant supplier of LNG containment systems in at least the short- and medium-term future. In addition, the Company's membrane technology is currently used by a large portion of the world's existing FSRU fleet and has become the leading LNG containment technology for FPSOs. This unique position will allow the Company to continue to benefit from the growth of the global LNG sector.
- **Close and lasting relationships with major shipbuilders, shipowners, terminal operators, classification societies and LNG transportation companies, including gas companies.** The technologies developed by the Company have been recognized and approved by all major gas production companies worldwide, enabling shipowners whose vessels are equipped with the Company's technologies to do business with these companies. The Company provides its shipyard clients with engineering, technical and construction services that enable them to implement the Company's membrane containment systems effectively, and provides ongoing training and support services during the working lifetime of its products. For shipowner end-users of the Company's technology, the Company provides customized in-service support and fleet maintenance. The Company has also established close relationships with the principal LNG

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<sup>3</sup> Includes 352 LNG carriers and 14 FSRUs.

classification societies in order to establish safety rules for vessels using its technology and assist in inspections during and after ship construction.

- **A industry-critical proprietary technology, strong patent portfolio and unparalleled know-how.** The Company's proven membrane containment systems are critical to the shipping industry. The Company's membrane containment systems are less expensive to build and operate than those using competing technologies and allow more LNG to be stored per unit volume in a given vessel. In addition, the membrane technology developed by the Company has a modular design allowing for flexible assembly in vessels of all sizes without significant capital expenditures. The Company's unparalleled experience and know-how has allowed it to gain the confidence of shipyards and shipowners worldwide. Its technologies are protected by a strong patent portfolio which, as of September 30, 2013, consisted of 561 active and pending patents in more than 95 countries with an average remaining life of 15 years. The Company continually invests in research and development in order to improve its technologies and protect its market-leading position. The Company believes that the risk that a competitor could rapidly launch the commercialisation of a new LNG containment technology and rapidly obtain orders is not material. Indeed, the requirements of gas companies and those attached to the certification procedure of classification societies that is required in order to allow shipyards to build vessels integrating LNG containment technology are high and the process of certification and approval of a new technology may last several years. In addition, commercially, given the drastic consequences of the failure of an LNG containment system and the low cost of the Company's membrane technology relative to the cost of the LNG carriers in which it is installed, and the LNG cargo which they carry, the Company believes that its customers would continue to favour the long-standing success of the Company's membrane containment systems and the Company's industry expertise.
- **Attractive, cash-generative and high-dividend business model.** In 2012, approximately 92% of the Group's revenues are derived from licence fees paid by customers who use the Company's technology. Additionally, the Company's cost base is primarily fixed resulting in high operating leverage. The Company's activity generates high margins and requires relatively low capital expenditures. The Company's working capital is structurally negative as a result of the contractual payment structure most often used by the Company, with royalties paid in several instalments across the lifetime of the project. In addition, its business benefits from an attractive French tax regime with respect to royalty income that is designed to encourage research and development. The Company has no debt and has generated total free cash of EUR 202 million from 2010 to September 2013. It has historically paid out the entirety of its corporate net income as dividends to its shareholders, except for in 2009 when half of this net income was incorporated into reserves which were then distributed in 2011. The Company intends to continue to pay out a substantial portion of its profit available for distribution as dividends in the future (see Section 12.2.5 - *Outlook for dividend policy* of the present base document).
- **Strong order book and high future revenue visibility.** As of 30 September 2013, 88 LNG carriers, 9 FSRUs and 2 FPSOs, which are being built by six shipyards and are due to be delivered between 2013 and 2016, will be equipped with the Company's membrane containment systems. In 2009 and 2012, the Company also won two orders for onshore storage tanks using its membrane containment systems. For illustrative purposes, in 2012, for LNG carriers with an average storage capacity of 164,371 m<sup>3</sup>, the Company generated approximately 6.8 million of revenues per order (See section 9.1.3 – *Factors affecting the net income* of the present base document. The Company believes that its current order book will result in secured revenues of approximately EUR 212, EUR 215, EUR 165, EUR 56 and EUR 5 million in 2013, 2014, 2015, 2016 and 2017 respectively.
- **Leader in the research and development of LNG storage and transport technologies.** The Company has, from 2010 to 2012, spent EUR 32 million on the research and development of several new LNG containment technologies in order to adapt its existing technology to the needs of the LNG bunkering, small- and medium-size carrier and onshore storage markets. As of 30 September 2013, the Company's research and development team consisted of 85 professionals. The Company's Mark III Flex and NO 96 Evolution technologies successfully launched in the

second quarter of 2011 and had received 43 and 22 orders, respectively, from shipyards as of 30 September 2013. The Company has also developed technical solutions to manage the sloshing of LNG in transit, including a monitoring software designed to optimize vessel routing according to weather conditions and minimize sloshing of LNG, as well as a subsea cryogenic pipeline technology, PLUTO II, designed to allow LNG carriers to load up to 20 km offshore. Through its subsidiary Cryovision, the Company has also developed innovative tools and services designed to complement its membrane technology, such as its innovative membrane integrity tests MOON and TAMI.

- **Experienced and capable engineering team.** The members of the Group's engineering team, graduated from leading French and international schools and are highly experienced in the containment systems industry, with significant experience in oil and gas as well. The Company's engineering team manages a wide range of advanced technologies and has expertise in shipping architecture, structural calculations, hydro-dynamism and materials and materials sciences (including metallurgy, polyurethanes, wood).

### 6.1.3 The Group's business strategy

- **Reinforce sustainable position in growing LNG industry by focusing on innovation to meet needs of shipowners, shipbuilders, EPC Contractors, terminal operators and main LNG companies.** The Group's strategy is primarily focused on innovation. The Company believes that the advantages of its membrane technology will allow it to capture, as forecast by Poten & Partners, between 84% and 87% of the worldwide LNG carrier as well as all FSRU and FPSO orders that will be placed before the end of 2023. Wood Mackenzie (i) anticipates that the Company will maintain its current market-leading position with respect to orders of LNG carriers<sup>4</sup> before 2023 (see Section 6.2.2.1(b) - *LNG carrier segment forecasts* of the present base document), (ii) believes that GTT technologies will be mainly used for new built FSRUs in the absence of an emerging credible alternative technology (see Section 6.2.2.2(b) – *FSRU and re-gaseification vessels segment forecasts* of the present base document) and (iii) considers that GTT's experience in the industry and its relationships with different players in the sector enable to position GTT favourably on the FPSO segment over the long-term (see Section 6.2.2.3(b) - *FPSO segment forecasts* of the present base document). To maintain this market-leading position, the Company is highly focused on innovations to meet the needs of shipowners, shipbuilders and terminal operators across all key stages of the LNG value chain, such as providing alternative storage capacities with wider acceptability and increased flexibility with respect to seasonal use and niche LNG markets, and by addressing the high safety environments in which LNG carriers and terminal operators work. The Company has also focused on the development of innovative tools and services, such as MOON, TAMI and its monitoring software, that will allow it to better meet the needs of customers who use its membrane containment systems. The Company maintains close relationships with all major classification societies and major gas companies worldwide in order to support the approval and prescription of its membrane containment systems. This focus on innovation, reflected by the EUR 32 million that the Company has invested in research and development from 2010 to 2012, has resulted in a significant ongoing renewal of its patent portfolio and has contributed to its substantial lead over its competitors in the LNG shipping industry.
- **Capitalize on the expected strong growth of LNG bunkering, small- and medium-size carrier, onshore storage and cryogenic pipelines markets.** The Company intends to further drive the adoption of its membrane technology in the LNG shipping and storage industry by developing its technologies and services in related markets, including LNG bunkering, small and medium-size carriers, onshore storage and cryogenic pipelines. The Company believes it is ideally placed to develop an LNG containment presence in the LNG bunkering market, as there are

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<sup>4</sup> According to Wood Mackenzie, none of these competing GTT's technologies has been sufficiently developed and marketed to present a real alternative to the GTT's technology. Wood Mackenzie estimates that this *statu quo* argues strongly in favour of maintaining GTT's current position.

currently no competitors in the LNG bunkering market that could develop comparable or superior knowledge or expertise in LNG containment systems. Its membrane technology offers superior efficiency, reliability and cost savings versus competing technologies in the LNG bunkering market, and the Company expects that its first full LNG bunkering solutions will be implemented between 2014 and 2015.

- **Expand the provision of related high value-add services.** The Company intends to increase its services revenue base through the consistent delivery of innovative market-leading engineering, training, consultancy and support services to shipowners, shipbuilders, terminal operators and gas companies. It offers training for users of its products and technologies at all levels of the LNG value chain, and has focused on providing engineering and consulting services designed to meet the needs of shipbuilders and shipowners in the LNG industry. During pre-project and project phases, the Company assists shipyards and shipowners in *ad-hoc* and tank optimization studies, as well as providing detailed engineering assistance with respect to the main characteristics, material specifications and approvals for their projects. The Group is also seeking to consistently emphasize the delivery of excellent service to terminal operators and gas companies.

## **6.2 PRESENTATION OF THE SECTORS IN WHICH THE GROUP OPERATES**

This section contains information about the sector and the segments in which the Group is present, including historical information that, unless expressly stated otherwise, derives from two studies conducted at the Company's request respectively by Poten & Partners and Wood Mackenzie.

### **6.2.1 The LNG sector**

LNG is natural gas (methane) which has been liquefied through cooling to a temperature of -163°C. LNG is odourless, colourless, non-toxic, non-corrosive and has a volume approximately 600 times smaller than gaseous methane. Natural gas is liquefied in LNG liquefaction plants, which allow it to be contained and shipped between regions in liquid form within LNG carriers. After shipping, LNG is returned to a gaseous state in re-gasification terminals which gradually warm the liquid until its temperature rises above 0°C, with the natural gas then typically transferred into distribution networks or consumed.

In gaseous form, natural gas can only be transported via pipelines, however geopolitical, geographic and economic factors can deter investment into and operation of this infrastructure. LNG is an attractive alternative to natural gas (in gaseous form) in countries that want to avoid pipeline dependence given the associated geopolitical risks, as well as in regions where gas pipelines would be uneconomical (e.g. deepwater, Arctic and remote field locations). LNG also allows producers operating in saturated energy markets to export natural gas to more commercially attractive locations.

Current main LNG producing regions include Qatar (32.1% of 2012 supply), Malaysia (9.9% of 2012 supply), Australia (9.0% of 2012 supply), Nigeria (8.4% of 2012 supply) and Indonesia (8.2% of 2012 supply). Current importers of LNG principally include certain Asian (Japan, South Korea and China) and European (Spain and United Kingdom) regions, which together accounted for 68.6% of global demand in 2012.

#### ***6.2.1.1 Overview and trends in the natural gas sector***

Natural gas is expected to remain the fastest-growing fossil fuel, with global consumption set to increase at an estimated average annual rate of 1.7% from 2010 to 2040 against 1.3% and 0.9% for coal and liquid fuels respectively over the same period.<sup>5</sup> The share of gas in the global energy mix is set to rise from 22.3% in 2010 (against 34% for liquid fuels, 28% for coal, 5% for nuclear power and

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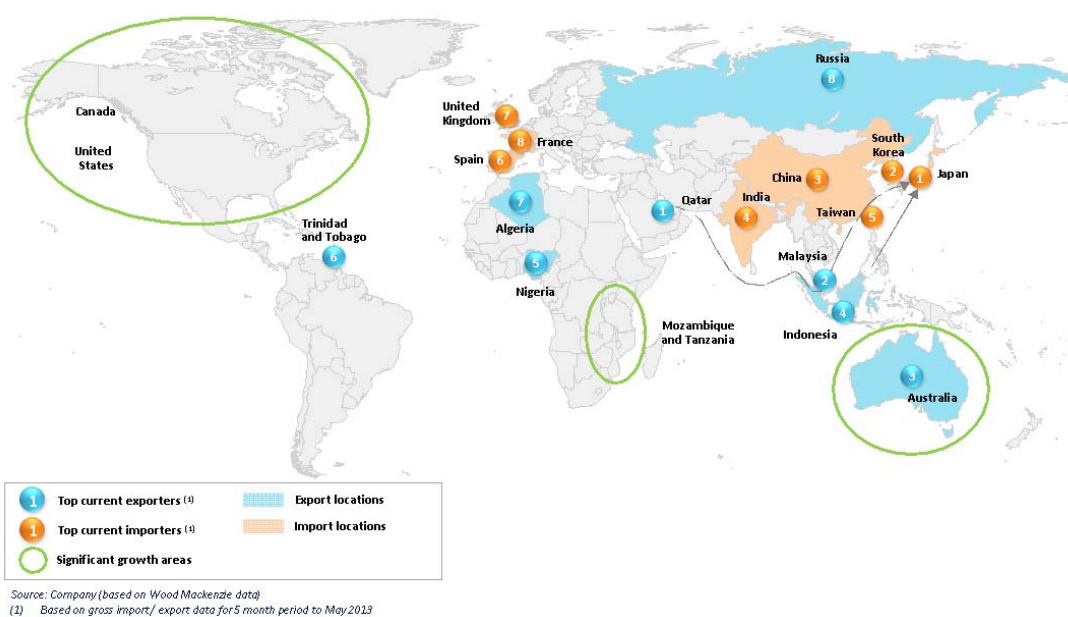
<sup>5</sup> World Total Energy Consumption, EIA 2013.

11% for other energy sources, based on the primary energy total demand of 524 quadrillion BTU) to 23.3% by 2040<sup>6</sup>, with gas the third highest consumed fuel globally over this period after oil and coal.

The high growth of natural gas consumption relative to other fossil fuels is driven by a number of factors:

- abundant, widespread natural gas resources: remaining resources are equivalent to more than 230 years of global consumption at current rates, with recent significant upward revisions to estimates of the amount of conventional/unconventional gas recoverable globally. US unconventional including shale gas, tight gas and coal bed methane also continue to account for a growing proportion of resources <sup>7</sup>;
- cost competitiveness: in many regions, natural gas is currently less expensive than oil. Natural gas is also an attractive fuel for new power generation plants due to its higher average thermal efficiency versus coal;
- low carbon footprint relative to other hydrocarbon fuels: natural gas has a lower carbon intensity than coal and oil, which makes it an attractive fuel source in countries with government policies to reduce greenhouse gas emissions;
- progressive phasing-out of nuclear power: many countries such as Germany, Switzerland, Belgium and Italy have accelerated the phasing-out of nuclear power since the Fukushima disaster, or have attempted to reduce the contribution of nuclear power within their domestic energy mixes.

The map below presents the main GNL import and export zones.



### 6.2.1.2 LNG supply

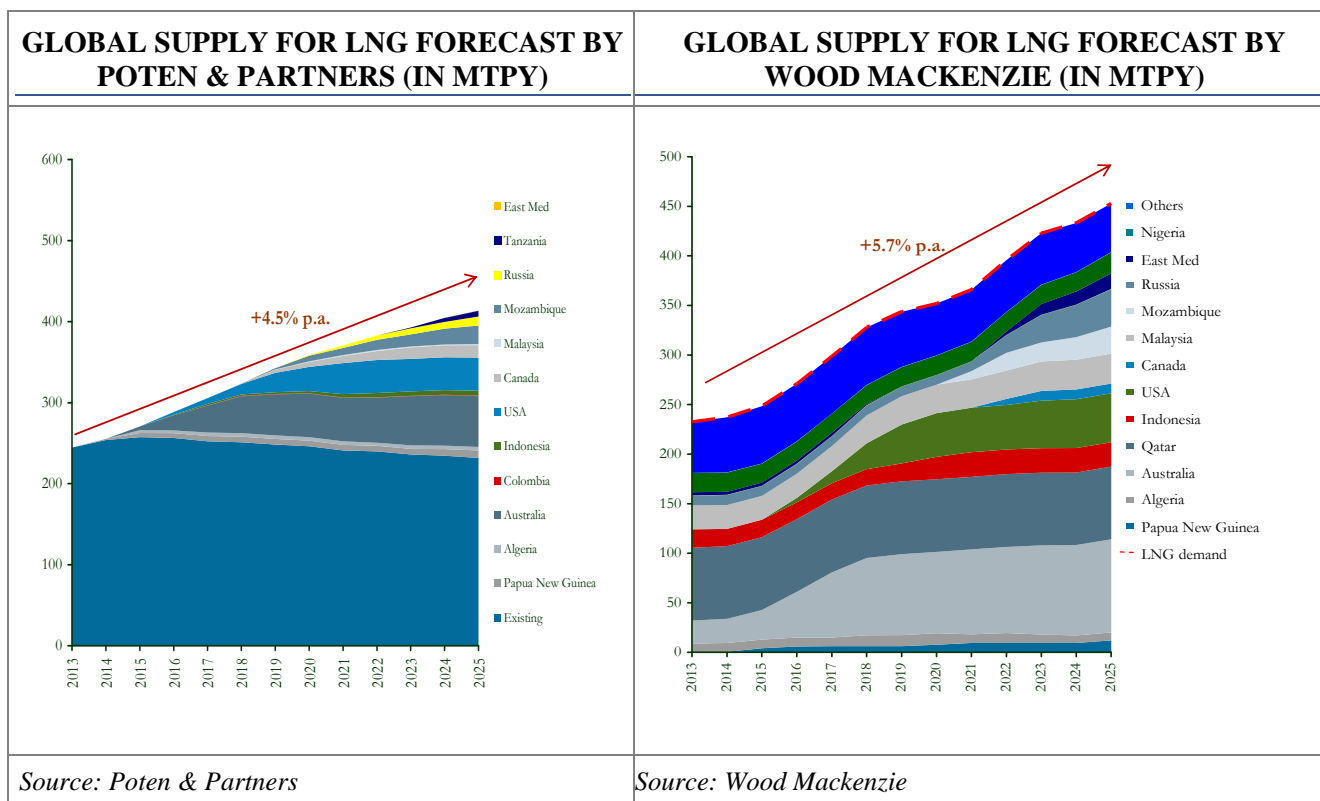
LNG supply includes existing liquefaction projects, with growth driven by new liquefaction projects commencing operations as well as the expansion of existing installations. Global LNG supply has increased steadily from 2003 to 2013, with average annual growth of 6.9%. This growth reflects

<sup>6</sup> World Total Energy Consumption, EIA 2013.

<sup>7</sup> World Energy Outlook, IEA 2012.

expansion in current core producing regions including Qatar, Malaysia and Australia, as well as supply increases in new growth areas such as Russia and Nigeria.

Forecast liquefaction supply growth reflects a continuation of this trend, with annual average growth of 4.5% per Poten & Partners and 5.7% per Wood Mackenzie from 2013 to 2025.



#### (a) Significant current LNG supply regions

##### (i) Qatar

Qatar accounted for approximately 32.1% of global liquefaction supply in 2012, and continues to be the largest producer of LNG. The region is home to the North Field, the world's largest gas field. Significant increases in Qatar supply from 2009 to 2012 (37 Mtpy to 77 Mtpy<sup>(\*)</sup>) reflect the start-up of Qatargas 2, 3 and 4 projects respectively, which are fully integrated North Field LNG Projects and are each of significant scale.

According to the Company, LNG supply from Qatar is forecast to remain stable over the medium term, with potential for further supply growth through debottlenecking from approximately 2019 onwards. Debottlenecking involves replacing and upgrading key equipment (such as compressors and turbines) within an existing liquefaction plant, to increase supply capacity. Such steps have been previously completed at Qatar projects, with the capacity of Qatargas 1 increased through debottlenecking in 2005.

(\*) Selon Wood Mackenzie.



(ii) Malaysia / Indonesia

Malaysia and Indonesia jointly accounted for approximately 18.1% of global liquefaction supply in 2012 (9.9% and 8.2% respectively). Significant legacy projects include the Malaysian MLNG complex (24 Mtpy supply in 2012) and Indonesian Bontang project (12 Mtpy supply in 2012)<sup>(\*)</sup>.

Future supply growth is planned from installation of a ninth LNG train at the existing MLNG facility in Malaysia. State-owned gas company PETRONAS is also developing a FPSO solution to target offshore gas reserves, with the project receiving FID approval in June 2012. Combined supply from these two projects is forecast at 5.7 Mtpy in 2025<sup>(\*)</sup>.

(iii) Australia

Australia accounted for approximately 8.7%<sup>(\*)</sup> of global liquefaction supply in 2012 through the North West Shelf, Darwin and Pluto projects. The region has significant conventional gas as well as coal bed methane resources, and is forecast to increase LNG liquefaction supply from 21 Mtpy in 2012 to 30 Mtpy in 2015, with further long term growth to 94 Mtpy in 2025<sup>(\*)</sup>.

Approximately 65.3% of global liquefaction capacity under construction is located in Australia, with significant projects including Gorgon, Wheatstone, Ichthys, and the Prelude FLNG project targeting gas-condensate fields in the offshore Browse Basin (combined forecast supply of 36 Mtpy in 2025)<sup>(\*)</sup>. As a result of this significant growth, Australia is forecast to be the largest LNG supplier globally by 2018, with this leading position maintained in 2025.

Gorgon is located off the northwest coast of Australia, and will be supplied with gas from the Gorgon and Io/Jansz fields which will be tied back to three processing trains. Supply is forecast at 16 Mtpy by 2025, with the majority of the LNG sold under long-term contracts to Asian buyers<sup>(\*)</sup>. Wheatstone, Ichthys and the Prelude FLNG project are similarly located in northwest Australia, with combined supply from these projects forecast at 21 Mtpy in 2025<sup>(\*)</sup>.

Coal bed methane is also a significant source of LNG for the Queensland Curtis, Gladstone and APNL. Queensland Curtis LNG (QCLNG) is an integrated coal bed methane project. It will operate two processing trains and will initially source gas from the Surat Basin. Offtake agreements have been signed with parties including CNOOC, Tokyo Gas and Chubu Electric, with supply forecast at 8 Mtpy by 2025. Gladstone and APLNG projects are also similar smaller coal bed methane projects located on or facing Curtis Island in Queensland. Geographical proximity leads to potential tie-up opportunities between the projects, including for LNG expansion trains at liquefaction facilities. Combined supply from the four projects is forecast at 25.3 Mtpy by 2025<sup>(\*)</sup>.

(iv) Nigeria

Nigeria accounted for approximately 8.5%<sup>(\*)</sup> of global liquefaction supply during 2012, following an increase in LNG production at the Nigeria LNG (NLNG) project in the Niger Delta. Its supply is forecast at 20 Mtpy in 2025<sup>(\*)</sup>.

(v) Russia

Russia accounted for approximately 4.5% of global liquefaction supply during 2012 from the Sakhalin 2 project (2012 supply of 11 Mtpy), located in close proximity to Northern Japan<sup>(\*)</sup>.

Several liquefaction plant projects are currently being considered, including the Yamal project, located on the Russian Arctic coast, whose objective is to use the South Tambeiskoye gas field for LNG production, as well as the Vladivostok project and potential expansion of the Sakhalin 2 project. Each of these projects faces individual complexities given the extreme Arctic temperatures. However, there is political backing for LNG projects and the Russian government provides support to the region,

including tax incentives as well as through the partial funding of certain building projects, which are expected to encourage supply growth. New technology LNG ice tankers are also expected to be required to ship LNG into Asia and Europe. The global supply from Russian projects is expected to be 38 Mtpy by 2025<sup>(\*)</sup>.

## (b) Emerging LNG supply regions

### (i) United States of America and North America

US unconventional and shale gas production has grown rapidly since 2008 thanks to technological advances in horizontal drilling and hydraulic fracturing. The US is the world's leading shale gas producer, which has led to an abrupt reduction in gas imports and is expected to result in the region becoming a net LNG exporter in the medium term.

A number of US liquefaction export projects, mostly involving conversion of existing LNG re-gasification terminals, are at an advanced stage. Sabine Pass (forecast capacity of 22.5 Mtpy in 2025<sup>(\*)</sup>) is the first US project to receive approval from both the American Department of Energy ("DOE") to export LNG to FTA / non-FTA regions and from the Federal Energy Regulatory Commission ("FERC") to construct and operate an LNG export project.

Projects awaiting final stage FERC approval include Freeport (onshore tanks), Lake Charles and Dominion Cove (combined supply of 22 Mtpy in 2027<sup>(\*)</sup>). Other significant projects include Cameron (supply of 12 Mtpy in 2025) <sup>5</sup>, which has completed FERC pre-filing and Corpus Christi, excluded from Wood Mackenzie forecasts, which is currently pre-filing with the FERC.

The progress of LNG export projects in the US as of mid-November 2013 is summarized in the table below.

Status of LNG development projects in the United States							
Projects	Department of Energy				Federal Energy Regulatory Commission		
	Export to FTA		Export to non-FTA				
	Filed	Approved	Filed	Approved	Pre-Filed	Filed	Approved
Sabine Pass	✓	✓	✓	✓	✓	✓	✓
Freeport & FLNG	✓	✓	✓	✓	✓	✓	
Lake Charles Exports	✓	✓	✓	✓	✓		
Dominion Cove Point	✓	✓	✓	✓	✓	✓	
Freeport & FLNG Expansion	✓	✓	✓	✓	✓	✓	
Cameron	✓	✓	✓		✓	✓	
Jordan Cove Energy	✓	✓	✓		✓	✓	
Oregon LNG	✓	✓	✓		✓	✓	
Cheniere Corpus Christi	✓	✓	✓		✓	✓	

Source: Company

US exports are currently expected to target distant, high demand Asian markets. Economics are expected to remain attractive despite the increased shipping distance; US shale gas production levels have reduced natural gas prices (Henry Hub) to a level of approximately US\$3.7 per MMBtu<sup>8</sup>, versus

<sup>8</sup> According to Wood Mackenzie, the average monthly import price for LNG from January to July 2013.

a gas price (Japanese WAPOG<sup>9</sup>) of US\$16.6 per MMBtu<sup>10</sup> overall US supply is forecast to reach 39.3 Mtpy by 2019, and 49.2 Mtpy by 2025<sup>(\*)</sup>.

In Canada, Kitimat, LNG Canada and Pacific Northwest LNG projects are similarly expected to provide significant supply upside in the medium term from unconventional shale and tight gas production (Canadian LNG supply forecast at 10 Mtpy in 2025).

These projects are located on the west coast of Canada, north of Vancouver Island, and supplied by plays within the Horn River, Montney and Liard basins. Kitimat was initially planned as a re-gasification terminal, with growth in US unconventional reserves leading to a change in planned use for the facility. The produced LNG is expected to primarily target Asia, principally within China and Japan.

(ii) East Africa

Mozambique and Tanzania currently do not supply LNG, however both regions are evaluating new LNG projects following discoveries of significant offshore gas reserves from 2009 onwards. Over 3,681 bcm<sup>3 5</sup> of gas resources has been discovered to date in Mozambique, for which drilling high impact exploration activity continues. Within Tanzania, BG / Ophir and Statoil / Exxon have discovered approximately 675 bcm<sup>(\*)</sup> of gas resources.

Oil & gas businesses are taking steps to co-ordinate the development of onshore LNG liquefaction capacity in these regions of East Africa as supply is expected to increase. Mozambique and Tanzania each seeks to monetise gas reserves and secure customer supply arrangements / pricing where combined forecast supply is expected to reach 27.5 Mtpy by 2025<sup>(\*)</sup>.

There is further potential for significant recovery of East African gas resources in Kenya, which is adjacent to offshore gas discoveries in Mozambique and Tanzania, and the focus of a number of operators. Frontier deepwater exploration positions in Kenya were acquired by CNPC during 2013, together with an interest in Mozambique Area 4.

(iii) Eastern Mediterranean

Cyprus and Israel currently do not supply LNG, but significant volumes of gas have been discovered off-shore in the Eastern Mediterranean. Significant fields discovered within the region include Tamar, Leviathan and Aphrodite, with total discovered gas resources estimated at 1.076 bcm<sup>(\*)</sup>.

A proportion of gas volumes produced from the Eastern Mediterranean are expected to be reserved for Israeli consumption, with the remainder available for export. The allocation of volumes reserved for domestic consumption is currently uncertain, however given the scale of the gas resource and Israeli energy requirements, there is potential for significant quantities of LNG to be allocated to exports to Asia and Europe. The Tamar field was brought onstream in 2013 and has been supplying Israel with natural gas. With the scale of the gas resources discovered however, it is thought that an export solution will be targeted for the Leviathan field with a corresponding impact on LNG supply growth.

Currently, the only gas discovery in Cyprus is the Aphrodite field which was found in December 2011. Domestic gas demand is limited, a viable solution for exporting the gas discovered will be necessary. Cyprus plans to have one train in the field's first phase, though additional trains could be added in subsequent phases.

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<sup>9</sup> Weighted Average Price of Gas in Japan.

<sup>10</sup> According to Wood Mackenzie, the average monthly import price for LNG from January to July 2013 based on delivered ex ship prices.

(iv) Other regions

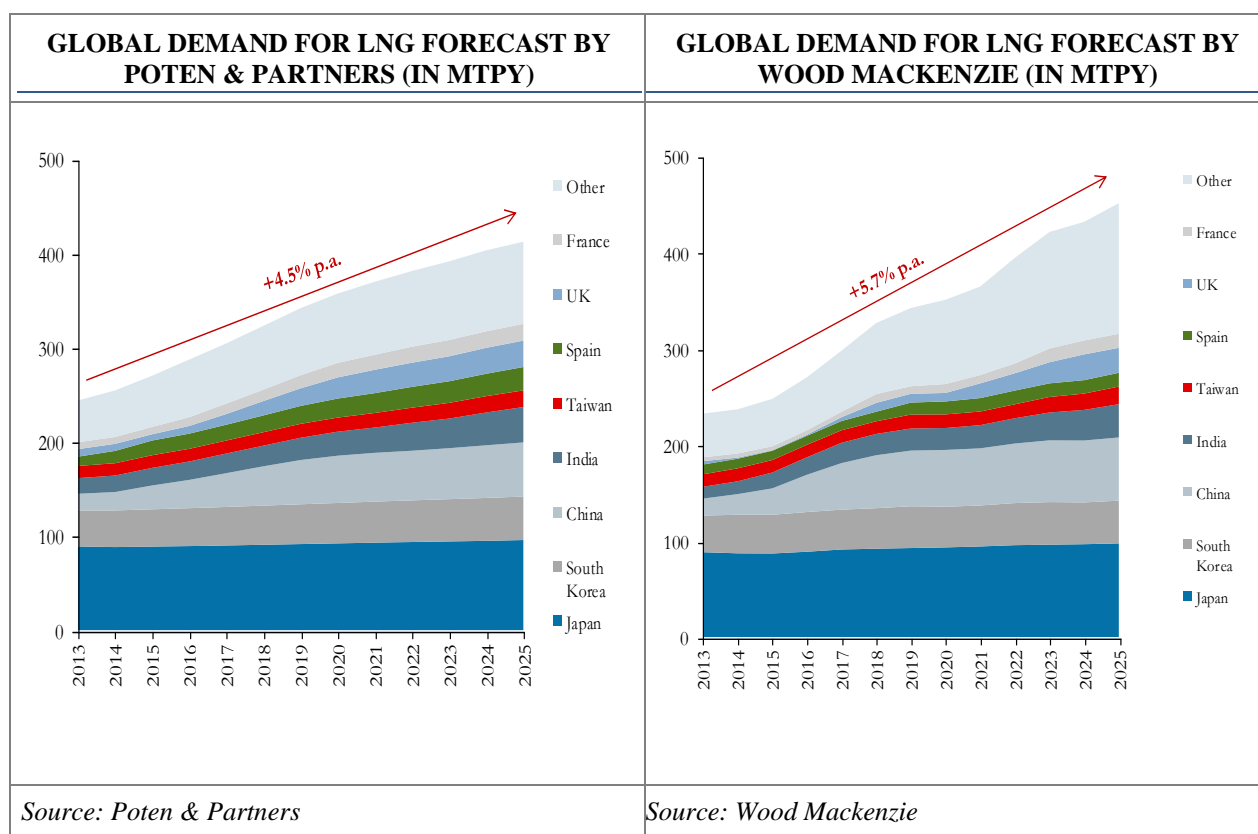
Another significant region of LNG supply is Papua New Guinea, where an integrated gas production, liquefaction and storage facility is forecast to provide supply of 14 Mtpy in 2025<sup>(\*)</sup>. Key Asian customers from the project include Sinopec, Osaka Gas, Tokyo Electric Power and Chinese Petroleum Corporation.

In West Africa, project in Angola commenced operations in Angola in 2013 to supply Europe, Asia and Latin America with LNG. A separate liquefaction project in Equatorial Guinea, the EG project, has been in operation since 2007, with LNG sold directly to BG under a long term supply arrangement. These projects are forecast to provide combined supply of 11.9 Mtpy in 2025<sup>(\*)</sup>.

Within Latin America, a single train liquefaction plant has been in operation in Peru since 2010. In Trinidad & Tobago, a four train facility has been in operation since 1999, selling LNG into Spain and North America. These projects are forecast to provide combined supply of 12.7 Mtpy in 2025<sup>(\*)</sup>.

### 6.2.1.3 LNG demand

Global LNG demand has increased from 2003 onwards at an average annual growth of 6.9% in the period to 2013. Growth regions are principally concentrated in the Pacific Basin, including Japan, Korea, China and India. LNG annual demand growth is forecast at 4.5% per Poten & Partners, and 5.7% per Wood Mackenzie from 2013 to 2025.



(i) Asia

Asia is the main importer of LNG and accounted for 73.1% of global demand in 2012 with 174 Mtpy, which is set to grow to around 260 Mtpy by 2020 and 297 Mtpy by 2025<sup>11</sup>. Demand is expected to continue to be driven from Japan, traditional importers such as South Korea and Taiwan, as well as growth regions including China and India, which currently import gas from the Middle-East.

Japan is the world's leading LNG importer, with the Fukushima disaster in 2011 expected to have a major impact on long-term demand from Japan as several nuclear power plants were damaged or closed for safety reasons following the incident. The return of nuclear to the country energy mix, with the backing of operators involved in the sector, faces opposition from the Japanese population. The extent and timing of this delay contribute to increase the demand for other energy sources, particularly for LNG. As a result, Japanese LNG demand is forecast to increase from 87 Mtpy in 2012 to 92 Mtpy in 2020 and 96 Mtpy in 2025<sup>11</sup>.

South Korea, the world's second-largest LNG importer, has limited indigenous energy resources and lacks international pipeline connectivity, making it the world's second largest importer of LNG as it depends on LNG imports for its gas supply. This country is planning to increase its import capacities and expand the Taichung terminal to accommodate an increase in LNG import volumes and tanker sizes of up to 160,000 m<sup>3</sup>. South Korean demand is forecast at 36 Mtpy in 2012, increasing to 43 Mtpy in 2020 and 46 Mtpy in 2025<sup>11</sup>.

China is set to overtake South Korea and become the world's second-largest importer of LNG by 2017 according to Wood Mackenzie, or by 2018 according to Poten & Partners. China has actively increased its import capacity, with a 31.4% increase in re-gasification capacity during 2012 to 22.8 Mtpy<sup>12</sup>. Chinese demand is forecast to increase at an annual average growth rate of 10.4% over the period from 2013 to 2025<sup>11</sup>, with demand at the end of this period of 58 Mtpy.

India has rapidly expanded its re-gasification assets since 2004, with an additional 33.6% growth forecast in re-gasification capacity during 2013<sup>13</sup>. Overall annual growth in Indian LNG demand is forecast at 7.0% from 2013 to 2025, with demand at the end of this period<sup>11</sup> of 38 Mtpy.

Taiwan is reliant on LNG imports for gas supply, however may face supply shortage as contracts with Malaysian and Indonesian LNG projects which respectively expire in 2014 and 2017 and may not be renewed given uncertainty over reserves. Taiwan has taken steps to secure supply from other LNG projects, including Ichthys and Papua New Guinea, to address the deficit. The Taiwanese demand is forecast to grow at an average annual level of 2.7% from 2013 to 2025<sup>11</sup>.

Overall strong growth in Asian demand has encouraged investment in Australian and East African liquefaction projects, as well as projects in the Atlantic basin (Gulf of Guinea) and Canada. Investors have also entered into long-term supply agreements covering projects under development in Australia, East Africa and the US.

The extension of the Panama Canal from the second half of 2015 should also encourage the creation of new trade routes, including exports to Asia from the US. In particular, larger tankers will be able to use the canal post conversion to transport LNG from the US into Asian markets without having to sail around the southern tip of South America or Africa.

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<sup>11</sup> Based on Poten & Partners.

<sup>12</sup> Based on Wood Mackenzie.

<sup>13</sup> Based on Wood Mackenzie.

## (ii) Europe

Europe is the second most important geographical LNG importer area after Asia-Pacific, and in 2012 it accounted for 20.2% of global LNG demand. According to Poten & Partners, demand in Europe will increase from 48 Mtpy in 2012 to 86 Mtpy by 2020 and 103 Mtpy by 2025<sup>11</sup>, principally driven by activity in Spain and the UK.

Per Poten & Partners, Spain was the leading European LNG importer during 2012 despite a decrease in imports during this period due to the economic crisis and operation of the Medgaz gas pipeline. Forecast demand is expected to increase from 15 Mtpy in 2012 to 20 Mtpy in 2020 and 25 Mtpy in 2025<sup>11</sup> respectively.

The UK was Europe's second-largest LNG importer during 2012, with demand of 11 Mtpy in 2012, increasing to 23 Mtpy in 2020 and 28 Mtpy in 2025<sup>11</sup>. Despite forecast long term growth based on economic activity, UK demand is forecast to reduce in the short term, before recovering from 2016 onwards.

Within the remainder of Europe, regions including Germany, Switzerland, Belgium and Italy are considering phasing out or reducing their use of nuclear energy. If implemented, there is potential for increased LNG imports into these respective markets. Nine re-gasification terminals are currently under construction or approved within Europe, including four in Italy, and one in each of France, Lithuania, Poland, Canary Islands and the UK<sup>14</sup>.

## (iii) Americas

Demand for LNG within North America (including Canada) is forecast to continue to fall in each period to 2015 in response to the abundant domestic supply of natural gas from US shale production. US demand for LNG totalled 5 Mtpy in 2012, accounting for 2.1% of global demand at this time.

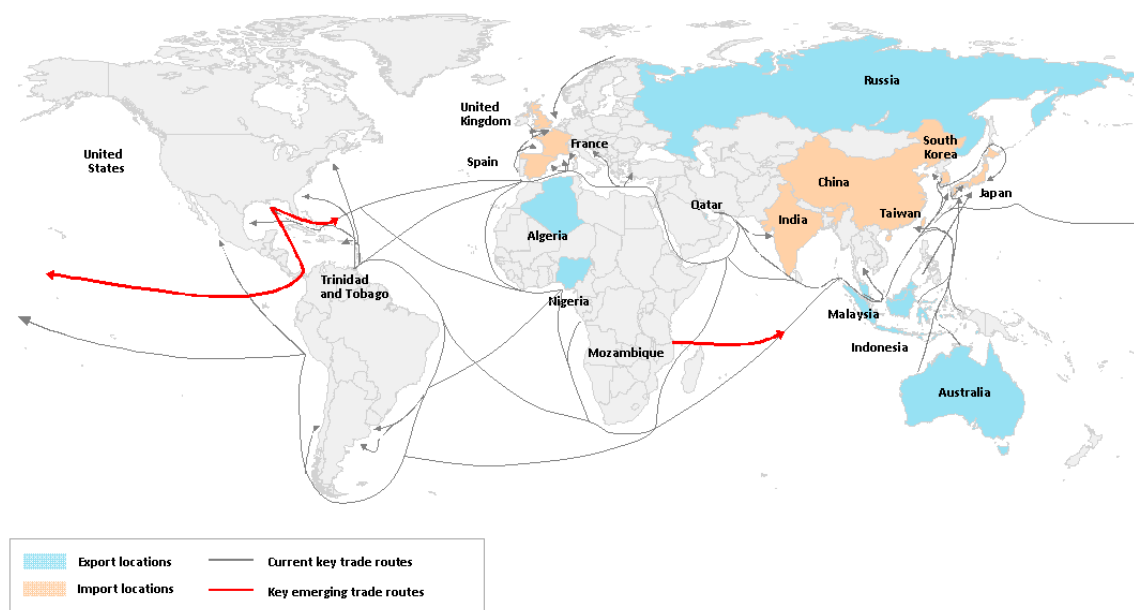
Mexican demand is forecast to increase from 2.5 Mtpy in 2012 to a peak level of 2.8 Mtpy in 2015, given increases in gas powered power plants within the region. LNG demand is subsequently forecast to fall to 1.5 Mtpy in 2025<sup>11</sup> as pipeline projects from the US are completed. Within Argentina, development of the Puerto Cuateros re-gas facility is also currently proposed to increase LNG imports.

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<sup>14</sup> Per Wood Mackenzie.

#### 6.2.1.4 Trend in demand for LNG transport and storage and in the shipping sector

LNG trade routes in 2012 are illustrated in the map below.

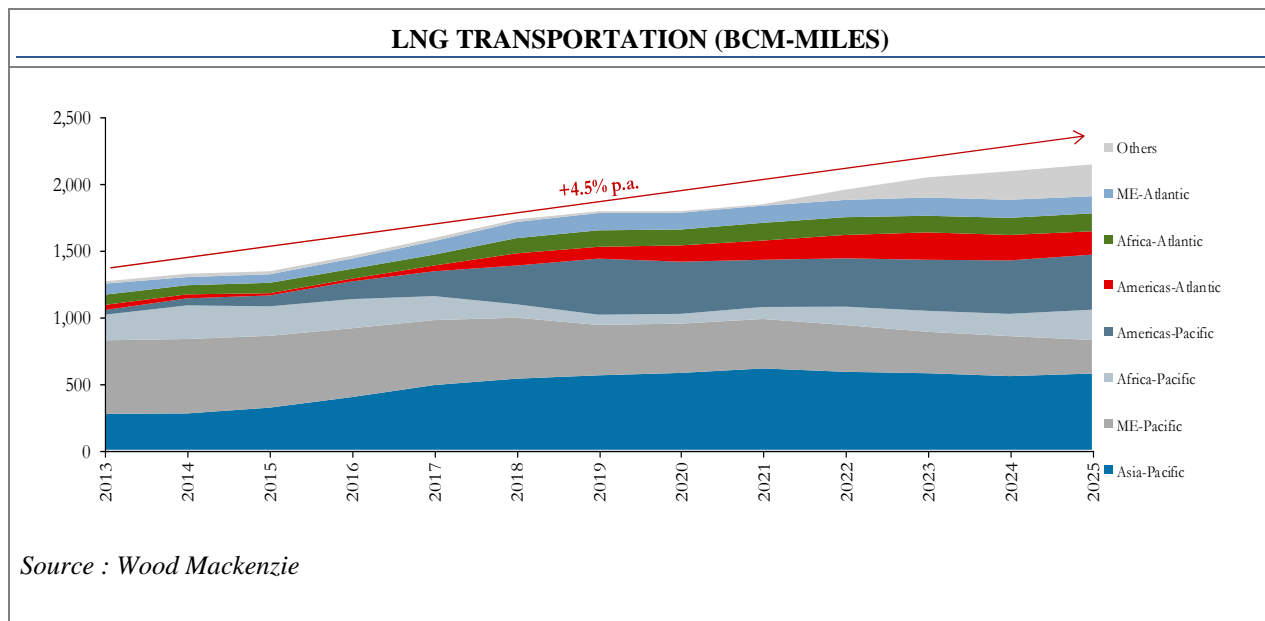


With strong forecast growth in both LNG supply and demand, current and new liquefaction projects create a structural need for increased LNG shipping activity.

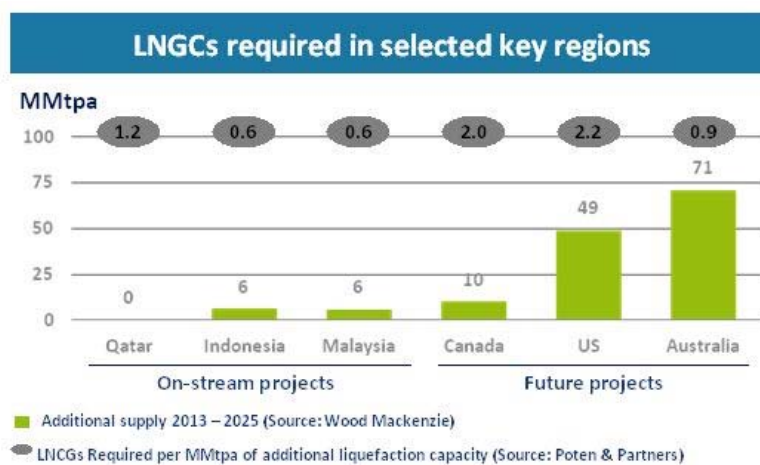
Current liquefaction projects typically have a fleet of vessels dedicated to the project, which may be supplemented by other vessels to respond to supply and demand. As vessels reach the end of their economic life (the average economic life of a vessel being of around 35 years to 40 years), replacement vessels will be required by existing projects to maintain supply.

New liquefaction projects also have dedicated vessels which are ordered in advance of liquefaction operations commencing. The number of vessels required for the project will depend upon the expected supply from the project and the likely targeted export area for the LNG (i.e. the shipping distance and time required to transport the LNG).

As a result of the underlying growth in the LNG market, the LNG transport market is forecast to grow from 1,266 bcm-miles transported in 2013 to 2,145 bcm-miles transported in 2025, representing an annual average growth rate of 4.5%.



In addition to the underlying growth of LNG, a certain number of factors should increase the need for transport capacities. Medium term forecast growth of LNG exports from the US and Canada is a significant driver of increased shipping activity. As US exporters target high demand Asian customers, shipping distances and times will naturally increase, and hence a higher number of LNG carriers will be required for these new liquefaction projects (per unit of capacity).



In addition, trade routes are becoming more numerous and complex within the LNG shipping sector, with cross basin trade (including diversion in the short term of Atlantic Basin trades into Asia as a result of the current absence of LNG offer in the Atlantic Basin) a recent theme. LNG contracts also more frequently now include diversion clauses, which provide flexibility over the end destination of the LNG. Similarly to future US exports, these factors increase LNG shipping times and distances and the number of vessels therefore required for the LNG shipping.

Operational cost remains a key driver within the LNG shipping sector given lengthening and more complex trade routes, and ship-owners are seeking to overhaul their fleets through investment into highly efficient vessels. Vessels which offer a low boil-off rate can reduce operational costs to the operator, and hence offer competitive advantages within the sector.



Spot contracts are also more frequently used within LNG shipping, which may, in particular, render more complex and extend LNG shipping routes and hence increase the need for LNG carriers.

Finally, the speed reduction by LNG carriers to decrease their energy consumption and to adapt themselves to potential diversions will increase the need in LNG carriers with cargos and at equal distances.

New international regulations and technological advances have also impacted LNG carrier design and construction, with recent developments including improved ballast water management and propulsion efficiency systems.

#### ***6.2.1.5 Principal players in the LNG sector***

In the LNG carrier construction sector, gas companies drive demand for gas transport and thus the construction of LNG carriers. Gas companies charter shipowners' LNG carriers, which commission their construction by shipyards using high-reliability containment technologies, such as the membrane technology offered by the Company.

##### **(a) Shipyards**

South Korean shipyards, chiefly Samsung Heavy Industries, Hyundai Heavy Industries and Daewoo Shipbuilding & Marine Engineering, have built 55% of the existing fleet.

Japanese shipyards have built around 27% of the existing fleet (KHI, Imabari/Koyo, MHI, MES) but have seen their orders decline heavily due to their lack of competitiveness (high labour costs, strong currency and limited capacity), irrespective of the vessel type.

All the LNG carriers ordered from GTT between 2008 and 30 September 2013 have been or will be built by South Korean shipyards, with the exception of 11 LNG carriers built or under construction by Chinese shipyard Hudong Zhonghua.

Of the 21 LNG carriers ordered from GTT in 2012, five will be built by Hyundai Heavy Industries, five by STX, four by Hudong Zhonghua, four by Hyundai Samho Heavy Industries, one by Samsung Heavy Industries and two by Daewoo Shipbuilding & Marine Engineering.

Of the 31 LNG carriers ordered between January and September 2013, three will be built by Hyundai Heavy Industries, six by Hudong Zhonghua, six by Hyundai Samho Heavy Industries, ten by Samsung Heavy Industries and six by Daewoo Shipbuilding & Marine Engineering.

China is now actively focusing on building LNG carriers. The Chinese government increasingly requires at least half of the LNG carriers used for each LNG import contract signed by the Chinese gas companies to have been built by domestic shipyards. Several calls for tenders are underway in China in connection with LNG purchase contracts signed for production projects in Australia. Currently, only one shipyard, Hudong Zhonghua, has secured orders, one LNG carriers have already been delivered since 2008 and ten being currently under construction, but many others have ambitions in the Chinese LNG sector. As at the date of the present base document, GTT has seven licensee shipyards in China and believes it is very well-placed in this segment with great growth potential.

For more information about the main shipyards, especially those that are GTT's customers, please refer to section 6.4.1 – *The Group's main shipyard customers* of the present base document.

## **(b) Shipowners**

The LNG carrier fleet is mainly controlled by independent owners and governments. Independent owners typically have long-term charter contracts with public utilities companies or related to LNG production projects.

The principal shipowners are as follows<sup>15</sup>:

- Gaslog: provides gas transport services via its fleet of six wholly-owned LNG carriers, plus another 12 under management and eight on order. Gaslog was founded in 2003 and is headquartered in Monaco. It belongs to the Ceres Hellenic group controlled by Peter Livanos and has been listed on the New York Stock Exchange since 2012.
- Golar LNG: owns and charters LNG carriers and FSRUs and possesses a fleet of 13 vessels, comprising nine LNG carriers and four FSRUs. Golar LNG was founded in 1946 and is a Bermuda-based Norwegian company. John Fredriksen, investor, owns a 46% interest in this company, which has been listed since 2001.
- Maran Gas Maritime: runs a fleet of LNG and LPG transport vessels. The company currently operates six LNG carriers and has more than 18 on order. Maran Gas was founded in 2003 and is headquartered in Greece. It belongs to the Maritime Angelicoussis shipping group.
- Dynacom: runs a large fleet of oil tankers and three LNG carriers. It also has five LNG carriers on order. Dynacom was founded during 1991 in Greece where it continues to be headquartered. It belongs to George Procopiou and operates its LNG carriers via its Dynagas subsidiary.
- Oceanus LNG/Cardiff Marine: currently operates one LNG carrier and has another four on order. Cardiff Marine was founded during 1987 in Greece where it is still registered. It belongs to the Greek shipowner George Economou.
- Chevron: owns crude, refined and liquefied oil, gas and liquefied gas transport vessels. It holds one-sixth of the shares in each of the seven LNG carriers it runs and has eight LNG carriers on order. Chevron was founded in 1906 and is headquartered in California. It has been listed on the New York Stock Exchange since 1963.
- BW Group: operates a fleet of 108 fully controlled vessels that it owns either partially or fully. BW Group owns 14 LNG carriers and has two on order. The LNG carriers are operated by BW Gas, a subsidiary of the BW Group. BW Group founded in 1998 and is headquartered in Singapore. It is owned by the Sohmen-Pao family.
- Awilco LNG: owns and runs LNG transport vessels. It owns five LNG carriers, including one on order. Awilco LNG is a subsidiary of Awilco ASA, which was founded in 2011. It is controlled by the Wilhelmsen family, which owns a 35% share. Awilco LNG has been listed on the Oslo Stock Exchange since 2011.
- Sovcomflot: owns and runs a fleet consisting of 157 vessels (including six LNG carriers) used to transport crude and refined oil or liquefied gas. Four LNG carriers are currently on order. Sovcomflot was founded in 1995 and is headquartered in Russia. It belongs to the Russian government.
- Mitsui OSK Lines: owns and runs bulk carrier, LNG carrier and container vessels. It currently operates six jointly-owned LNG carriers. Mitsui OSK Lines was founded in 1964 and is headquartered in Tokyo. It has been listed on the Tokyo Stock Exchange since 1985.

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<sup>15</sup> Unless stated otherwise, information about shipowners has been taken from publicly available sources.

- Nippon Yusen Kabushiki Kaisha: one of the largest transport groups in the world. It runs a fleet of 838 vessels, aircraft and trucks. The group currently has an interest in 66 LNG carriers and another two on order. It was founded in 1870 and is headquartered in Tokyo. NYK Group has been listed on the Tokyo Stock Exchange since 1949.
- SK Shipping: runs a fleet of oil tankers, gas carriers and bulk carriers, including six LNG carriers. It was founded in 1982 and is headquartered in Seoul. It is a subsidiary of the SK Group, a South Korean conglomerate owned by heir Chey Tae Won.

A few Greek and Norwegian shipowners seeking to diversify away from bulk carriers and oil tankers have recently entered the LNG transportation sector. They include in particular Alpha Tankers (one LNG carrier on order), Awilco LNG (one LNG carrier on order), Cardiff Marine (four LNG carriers on order) and Thenamaris (three LNG carriers on order).

Experienced Greek shipowners, such as Maran Gas Maritime and Dynagas, have also invested in new tonnages, with 18 and five LNG carriers on order respectively. Stena, a Swedish shipowner, has bought three pre-built LNG carriers.

### **(c) Gas companies**

Gas production companies also influence decisions in the LNG carrier construction sector as they have an ongoing need to transport the LNG produced in their liquefaction plants. They rely on shipowners that commission large LNG carriers using highly reliable technologies enabling them to reduce the risk of disruption to their gas production and the risk of reputational damage from a gas transportation accident.

As a result, the gas companies approve the various technologies used in LNG carrier construction which they believe to be effective and reliable. It is a fundamental process enabling a shipowner using approved technology to do business with gas companies.

The world's principal gas companies are<sup>16</sup>:

- BP: a British company active in exploration, production, refining and distribution activities for natural gas, oil and other related products. The majority of its business interests are in the USA, Russia, Azerbaijan, Angola, the UK, North Africa, Canada, the Middle East and Asia. In 2012, BP reported turnover of EUR 292 billion.
- BG Group: a UK-registered company founded in 1997 active in natural gas and oil exploration, development and production. BG Group has liquefaction, re-gasification, shipping, LNG purchasing and marketing activities. In 2012, BG Group reported turnover of EUR 15 billion.
- GDF Suez: a French gas and electricity company with gas exploration, production and distribution activities. The group is the world's leading independent power producer and the number two buyer of natural gas in Europe. It employs around 220,000 people in close to 70 countries. In 2012, GDF Suez reported turnover of EUR 97 billion.
- Conoco Phillips: a Texas-based company with a presence in more than 30 countries. It has exploration, production, transportation and marketing activities related to oil and natural gas. Conoco Phillips runs exploration activities in 19 countries and produces oil and gas in 13 countries. In 2012, Conoco Phillips reported turnover of EUR 45 billion.
- TOTAL: a French company organised into three main divisions: (i) the upstream division encompassing oil and natural gas exploration and production, (ii) the refining/chemicals

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<sup>16</sup> Unless stated otherwise, information about gas companies has been taken from publicly available sources.

division encompassing the refining, distribution, trading and shipping activities, and (iii) the marketing and services division combining the supply and marketing of petroleum products, as well as new energies activities. TOTAL generates around 67% of its sales in Europe, 9% in North America and 8% in Africa. In 2012, TOTAL generated turnover of EUR 182 billion.

- Exxon Mobil: a US company based in Texas, active chiefly in natural gas and crude oil exploration and production. It also manufactures and markets petrochemical products and owns interests in various electricity generation facilities. In 2012, Exxon Mobil reported turnover of EUR 334 billion.
- Chevron: a US company based in California operating petrochemical, mining, energy generation and energy services activities via its subsidiaries in the oil sector. Natural gas is another growth segment for Chevron. In 2012, Chevron reported turnover of EUR 180 billion.
- Shell: an Anglo-Dutch company producing oil and natural gas. The upstream division encompasses the exploration and production activities, as well as natural gas liquefaction. The downstream division handles the refining, transportation and distribution activities. Natural gas accounts for 48% of Shell's production. In 2012, Shell reported turnover of EUR 364 billion.
- Tokyo Gas: a Japanese company supplying gas to Japanese cities is working on expanding its presence across the LNG value chain by getting involved in upstream production projects, LNG transportation using its own fleet of LNG carriers and securing supplies to Japan by entering into long-term agreements. Tokyo Gas reported turnover of EUR 18 billion in its 2013 financial year ended in March.
- Tepco: a Japanese company that produces and distributes energy, primarily in the Kanto region. Tepco also has a smaller presence in telecoms, energy and environment activities and has businesses outside Japan. Tepco's reported turnover of EUR 56 billion in its 2013 financial year ended in March.
- Osaka Gas: a Japanese company that supplies natural gas to over seven million customers in the Kansai region, accounting for 25% of the volumes sold in Japan. Osaka Gas' main business segment involves the sale of gas and gas-related equipment, as well as the construction of gas pipelines. Osaka Gas reported turnover of EUR 13 billion in its 2013 financial year ended in March.
- Qatargas: a Qatari company founded in 1984 running the main LNG-related projects in Qatar under joint ventures with other major gas companies, such as Qatar Petroleum, TOTAL, ExxonMobil, Shell and Conoco Philips. Qatargas currently operates seven LNG trains with a production capacity of 42 million tonnes per year.

## **6.2.2 Segments in which the Group is present**

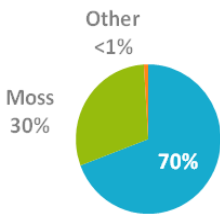
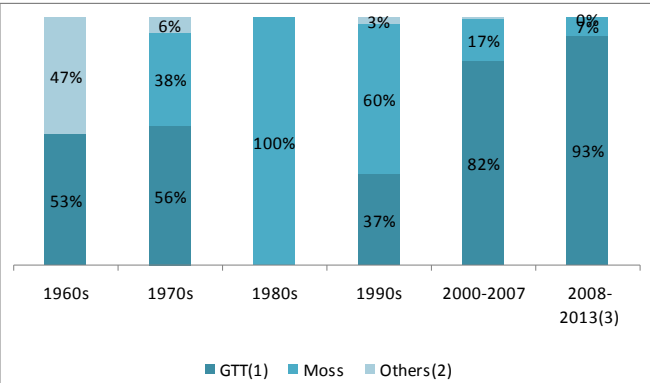
For a number of years, GTT has offered its customers the two main membrane containment technologies that it has developed, i.e. Mark III technology and NO 96 technology, giving the Company a presence in three segments: (i) LNG carrier construction, (ii) FPSO construction, and (iii) FSRU construction.

The Group's presence has grown steadily over recent years, and it is now the leading supplier in the sector of containment systems used in LNG shipping, production and storage:

- 93% of new orders for LNG carriers over the period between 2008 and September 2013 were placed for GTT's technologies according to the Company, and, according to Wood Mackenzie's figures, more than 69% of the existing LNG carrier fleet is fitted with GTT's technologies in July 2013;

- 100% of the newbuild FSRUs will be equipped with GTT's technologies and 73.3% of existing FSRUs are equipped with GTT's technologies as at 30 September 2013 according to the Company;
- The only two FPSOs (with a capacity of more than 50,000 m<sup>3</sup> <sup>17</sup>) to have received the construction go-ahead as at the registration date of the present base document will be fitted with GTT's technologies.

The graphs below represent the use of containment technologies by the LNG carriers and FSRUs global fleet.

GLOBAL FLEET IN JULY 2013 <sup>18</sup>	ALLOCATION OF GLOBAL LNG CARRIER ORDERS BY CONTAINMENT TECHNOLOGIES																												
<p>Current Global LNG Fleet<sup>(1)</sup></p>  <p>Other &lt;1%</p> <p>Moss 30%</p> <p>70%</p> <p>Total: 366 LNG carriers</p>	 <table><thead><tr><th>Period</th><th>GTT(1)</th><th>Moss</th><th>Others(2)</th></tr></thead><tbody><tr><td>1960s</td><td>53%</td><td>47%</td><td></td></tr><tr><td>1970s</td><td>56%</td><td>38%</td><td>6%</td></tr><tr><td>1980s</td><td>100%</td><td></td><td></td></tr><tr><td>1990s</td><td>37%</td><td>60%</td><td>3%</td></tr><tr><td>2000-2007</td><td>82%</td><td>17%</td><td></td></tr><tr><td>2008-2013(3)</td><td>93%</td><td>9%</td><td></td></tr></tbody></table> <p>■ GTT(1) ■ Moss ■ Others(2)</p>	Period	GTT(1)	Moss	Others(2)	1960s	53%	47%		1970s	56%	38%	6%	1980s	100%			1990s	37%	60%	3%	2000-2007	82%	17%		2008-2013(3)	93%	9%	
Period	GTT(1)	Moss	Others(2)																										
1960s	53%	47%																											
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1990s	37%	60%	3%																										
2000-2007	82%	17%																											
2008-2013(3)	93%	9%																											
Source: Wood Mackenzie	<p>(1) Before 1994, GTT’s position is based on that of Gaztransport and Technigaz</p> <p>(2) Includes SPB and abandoned technologies</p> <p>(3) As of 30 September 2013</p> <p>Source: Company</p>																												

The Company's development recorded a strong growth, exceeding the threshold of 100 vessels equipped with GTT technologies in 2005, the threshold of 200 vessels in 2009 and forecasting to exceed the threshold of 300 vessels in 2014.

Drawing on its expertise in containment systems, GTT has also developed a special membrane technology for onshore storage tanks known as "Gaz Storage Technigaz" (GST), which employs the same principle as its LNG carrier technologies, albeit with the choice of materials and general design optimised for onshore storage (see section 6.6 – *Technical description of the Company's membrane containment technologies* of the present base document). GST technology has enabled the Company to establish itself in the onshore storage tank construction market.

<sup>17</sup> The only FPSO with a capacity of less than 50,000 m<sup>3</sup> is located in Columbia.

<sup>18</sup> Includes 352 LNG carriers and 14 FSRUs.

### 6.2.2.1 LNG carrier segment

#### (a) Historical trends and order book

The first LNG carriers were built and delivered in the early 1960s. After relatively sluggish growth in the LNG carrier construction sector during the 1960s and 1970s (average of just two orders per year) and a modest number of orders in the 1980s, the pace of deliveries speeded up during the 1990s (five orders per year on average).

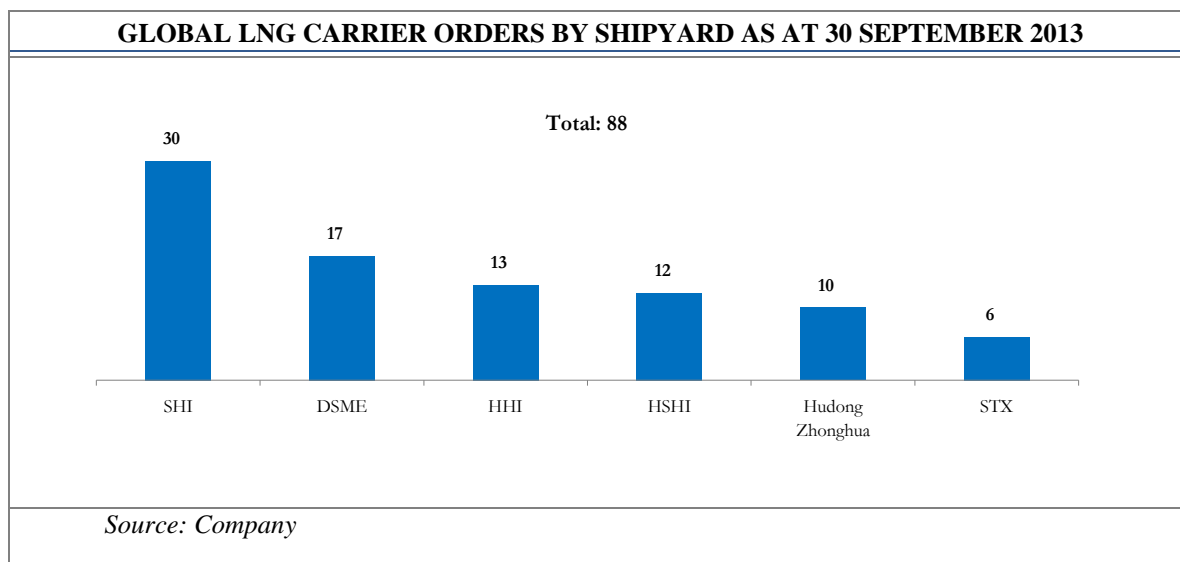
Throughout the 2000s, deliveries increased significantly (average of 23 orders per year) on the back of strong growth in global demand for natural gas and LNG. The number of orders declined between 2008 and 2010 due to the financial crisis and the non-recurring decline in exports linked to shale gas production in the USA before picking up again in mid-2010.

GLOBAL LNG CARRIER ORDERS FROM 2000 TO 30 SEPTEMBER 2013														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013*
<b>GTT</b>	12	18	6	14	61	30	29	18	4	-	7	38	21	31
<b>Moss Maritime</b>	4	8	8	2	9	4	5	1	-	-	-	3	2	3
<b>Total</b>	16	26	14	16	70	34	34	19	4	-	7	41	23	34
*as at 30 September 2013														
Source: Company														

From 2008 to 30 September 2013, 109 LNG carriers were ordered globally, of which 101 use or will use GTT's containment systems (of which 13 LNG carriers have been delivered as at 30 September 2013) and 8 use or will use Moss Maritime technology (no delivery as at 30 September 2013), intended to serve Japan.

At the end of July 2013, according to Wood Mackenzie, 352 LNG carriers were in operation of which 244 were equipped with the GTT technology and 106 with the Moss Maritime technology.

On average, it takes three years from the time an order is placed to deliver the LNG carrier, which accounts for the difference in any given year between the number of orders and the number of LNG carriers delivered. It is worth noting that orders placed with GTT have very rarely been cancelled (see section 4.3.4 – *Risks related to defaults and order cancellations by shipowners* of the present base document).



### (b) LNG carrier segment forecasts

During the third quarter of 2013, Poten & Partners and Wood Mackenzie both conducted independent studies of the LNG sector, at the request of the Company, and prepared order projections for LNG carriers. For the purpose of these studies, the consultants:

- analysed current trends in the LNG and natural gas sector and prepared long-range forecasts of annual LNG demand by region;
- examined the LNG supply projects around the world and identified those most likely to go ahead based on economic data and industry demand; and
- produced a yearly LNG carrier order forecast based on the commissioning of the new LNG production projects and the replacement of LNG carriers on existing LNG projects.

Both consulting firms drew up two sets of forecasts: a base-case scenario using assumptions they believed to be the most likely and a high-case scenario underpinned by assumptions that are more optimistic while still being considered realistic.

Wood Mackenzie has run in addition a further scenario based on the operational trends for LNG shipping assumptions provided by GTT. Compared to Wood Mackenzie's assumptions, the main characteristics of these assumptions are a lower average speed of LNG carriers (17 knots for GTT against 19 knots for Wood Mackenzie) and a lower number of on-hire days (310 days for GTT against 350 days for Wood Mackenzie), partially offset by a less port-time (1 day for GTT against 1.5 day for Wood Mackenzie for loading and unloading).

Poten & Partners produced forecasts for GTT. Poten & Partners takes the view in its base-case scenario that GTT should achieve an average annual share of around 84% of future LNG carrier orders over the 2014-2023 period and an average annual share of around 87% of future LNG carrier orders over the 2014-2023 period in its high-case scenario<sup>19</sup>.

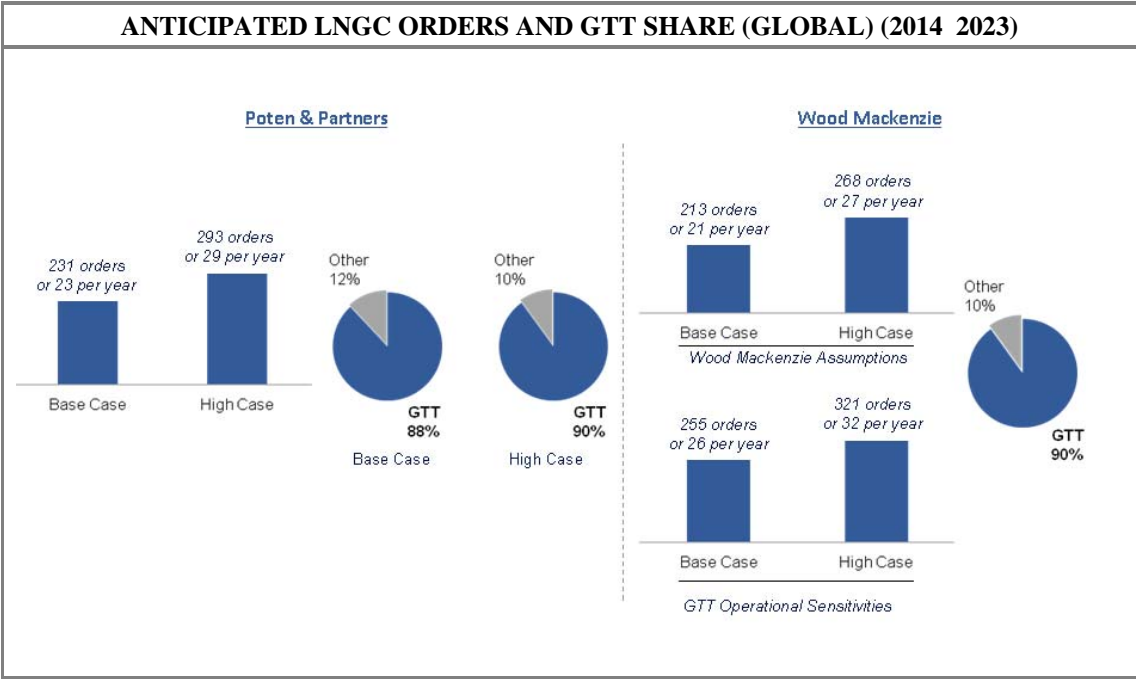
<sup>19</sup> In its high-case scenario, the demand growth from Japan is less important compared to the growth in global demand. Poten & Partner assumed that Japanese shipyards will be the only one to build LNG carriers integrating the Moss technology. Therefore, the growth of the global demand will benefit GTT more in the high-case scenario.

Wood Mackenzie produced only sector projections, but took the view that GTT will be in a position to maintain its share of LNG carrier orders over the 2014-2023 period (around 90% as of July 2013), assuming that the absence of LNG sufficiently competing containment technologies developed that would present a real alternative to the GTT’s technology.

The base-case and high-case scenarii drawn up by Poten & Partners imply 231 and 293 LNG carrier orders over the 2014-2023 period, which corresponds to an annual average of 23 and 29 orders respectively for GTT.

The base-case and high-case scenarii drawn up by Wood Mackenzie imply 213 and 268 LNG carrier orders over the 2014-2023 period, which corresponds to an annual average of 21 and 27 orders respectively.

The base-case and high-case scenarii drawn up by Wood Mackenzie using GTT’s operational assumptions imply 255 and 321 LNG carrier orders over the 2014-2023 period, which corresponds to an annual average of 26 and 32 orders respectively.



(\*) Share of LNG carrier orders in progress, figures as at July 2013

In 2014, 2015 and 2016, GTT projects higher annual orders than those forecast by Poten & Partners and Wood Mackenzie over the period between 2014 and 2023. This expected increase is attributable to a more optimistic vision with regard to the implementation of projects that export LNG from the Gulf of Mexico to Asia, of the anticipated launch of the Yamal project as well as of projects in other countries and Algeria in particular.

**(c) GTT’s technologies faced with competing LNG carrier technologies**

The Company faces competition from certain rival technologies, already developed or under development. While two rival technologies are currently used in the LNG carrier segment (Moss Maritime technology and the SPB system), other containment technologies are currently under development or have already been developed, without being commercialised.



## ■ Moss Maritime technology

Moss Maritime is a subsidiary of the Eni-Saipem group based in Oslo (Norway). Moss Maritime developed its technology in the late 1960s and patented an LNG containment system in 1971 using spherical tanks supported by a single cylinder. The technology is a type B independent containment system (based on the IMO's international classification) (please refer to section 6.7.4 – *New technology certification and approval process* of the present base document) consisting of externally insulated welded aluminium spheres. The principal benefit of Moss technology derives from the fact that this system should be less vulnerable to sloshing than tanks using membrane technology.

The first vessels using this technology were ordered by Norwegian shipyards in 1969 and 1973. Although Moss Maritime was a major player in the sector in the 1980s and 1990s, its presence has diminished today, with, as far as the Company is aware, only eight LNG carriers employing Moss Maritime technology ordered between 2010 and 30 September 2013. High labour costs and the strong yen have severely reduced the competitiveness of Japanese shipyards in all vessel types. Moss Maritime's main LNG carrier licensees are Mitsubishi Heavy Industries, Mitsui Engineering and Shipbuilding, Kawasaki Heavy Industries and South Korean shipyard Hyundai Heavy Industries. Historically, Japanese shipyards were the main users of the Moss Maritime Technology. Only one Korean shipyard (Hyundai Heavy Industries) has used or is using this technology to the date of registration of the present base document.

The Company believes that Moss Maritime technology has several drawbacks compared with its own membrane technology:

- LNG carriers using Moss Maritime technology are more difficult to navigate due to their higher centre of gravity;
- LNG carriers using Moss Maritime technology are more costly to build as they need more steel and thick aluminium panels. The price of a LNG carrier with a capacity of 170,000 m<sup>3</sup> will vary from US\$220 to US\$245 million if it is equipped with Moss Maritime technology and from US\$200 million to US\$215 million if it is equipped with GTT's membrane technology, representing an economy of 10% of the total price of the vessel;
- LNG carriers using Moss Maritime technology have a more limited capacity due to their shape: the largest LNG carrier in service with Moss Maritime technology is 177,000 m<sup>3</sup> (compared with 266,000 m<sup>3</sup> for vessels equipped with GTT's technology). In addition, carriers using Moss Maritime technology are also larger and heavier for the same LNG capacity. Accordingly, vessels using Moss Maritime technology do not have the same degree of access to certain ports, which represents a major handicap for them when using Panama Canal, and they incur higher port charges, Suez canal fees and fuel costs.
- The LNG spherical tank is heavy and this is detrimental to the vessel's energy efficiency.

## ■ SPB technology

The SPB system was developed by Ishikawajima Harima Heavy Industries, a Japanese engineering and shipbuilding group, at the end of the 1970s. It was first tested on LPG carriers, and then adapted to LNG carriers.

Each tank is subdivided into four spaces by a watertight longitudinal bulkhead and a perforated bulkhead. The aluminium tanks are insulated externally with polyurethane foam panels. The principal benefit of SPB technology is that this system should be less vulnerable to sloshing than tanks using membrane technology.

Only two small LNG carriers (87,500 m<sup>3</sup>) delivered in 1993 are fitted with SPB's technology.

The Company believes that SPB technology has several drawbacks compared with its own membrane technology:

- less efficient use of space as an inspection space has to be provided all around the tanks;
- higher costs due to the thickness of the tanks' aluminium walls and the difficulty in designing tank supports;
- little experience in implementing and operating this technology, which is a drawback for the gas companies influencing decisions in this market.

SPB technology is now in the public domain and some copies are under development under various names.

Since 2007, Mitsubishi Heavy Industries has been developing a specific SPB-like system, SPB type B, and has obtained approval in principle from classification societies (see section 6.7.4 – *New technology certification and approval process* of the present base document).

In addition, in 2010, Daewoo Shipbuilding & Marine Engineering developed ACT-IB (Aluminium Cargo Tank-Independent Type B System), which is also similar to SPB's technology. This system has obtained approval in principle from classification societies (see section 6.7.4 – *New technology certification and approval process* of the present base document).

#### ■ **SCA technology**

In December 2007, Samsung Heavy Industries and Korea Advanced Institute of Science and Technology began the joint development of SCA (Smart Containment - System Advanced) system. This technology obtained approval in principle in January 2009 and then became part of a joint project with the classification society Lloyd's Register. It obtained approval for vessels from Lloyd's Register in November 2010, and mock-up certification and general design approval from the American Bureau of Shipping (ABS) in 2011. Samsung Heavy Industries has modified this technology in 2012 and implemented an active communication plan for its marketing.

The SCA technology seems to be derived from Mark III technology, protected in particular by intellectual property rights and the Company believes that this SCA technology does not offer more benefits than the technologies proposed by the Mark III technology. If the Company considered that it was necessary, it could implement all actions to protect its interests and assert its rights. Please also refer to section 4.2.4.2 - *Risks related to competition from the SCA system developed by Samsung Heavy Industries* of the present base document.

The Company believes that the containment system promoted by Samsung Heavy Industries has little chance of convincing the main gas companies and shipowners, which are the key parties influencing the choice of containment technologies. While these may decide to include SCA technology on vessels built by Samsung Heavy Industries and benefit from any cost reductions resulting from not having to pay royalties to the Company, they would without a doubt have numerous reservations about the fact that they are using a system that is not supported by independent technical expertise on the long term, such as the one provided by the Company. More generally, as many shipowners want to benefit from GTT's technologies as well as its technical assistance services, there is no incentive for shipyards to use a new technology, such as the SCA technology, for which they lack feedback and which is not provided along with an independent technical expertise. Furthermore, since the cost of the containment system is minimal compared with the overall cost of building a vessel (around 4% of the total price of a LNG carrier of 160,000 m<sup>3</sup>), the saving deriving from using a less expensive technology, such as the SCA technology, compared to the Company's technology may be counterbalanced by the risks stated above.

## ■ **KC-1 technology**

In South Korea, Kogas has been developing KC-1 technology since 2008. This technology is based on Kogas's membrane containment technology used for onshore LNG storage tanks. This system has obtained an approval in principle (see section 6.7.4 – *New technology certification and approval process* of the present base document).

KC-1 technology does not offer any benefits other than those provided by GTT's technologies.

In addition, the Company believes that this technology has major weaknesses, especially as regards the supporting of the primary barrier maintained by metallic bonds and not foam, which without doubt does not make it attractive to the sector. These include the fact that KC-1 technology does not offer a solution providing permanent support for the tank's primary barrier, unlike the technology proposed by GTT, which incorporates a primary barrier foam support between the primary barrier and the secondary barrier.

## ■ **Other competing technologies**

As at the date of the present base document, other LNG containment technologies have been developed such as the membrane containment technologies of Hyundai Heavy Industries but, as is the case for SCA and KC-1 technologies, none of them have obtained final certification or secured any orders as far as the Company is aware.

Lastly, the Company also has to contend with competition from new technologies that are regularly marketed by maritime engineering companies, shipyards and independent businesses (Aluminium Double Barrier Tank (ADBT), General Dynamics system). The Company believes that these systems, generally based on type B self-supporting technologies (see section 6.7.5 - *International Maritime Organisation (IMO) classification of technologies* of the present base document), have drawbacks including a lower LNG transportation capacity and a higher cost owing to the large amount of metal required for their construction. Irrespective of the interest they have attracted, these new technologies do not represent a viable alternative in the Company's opinion.

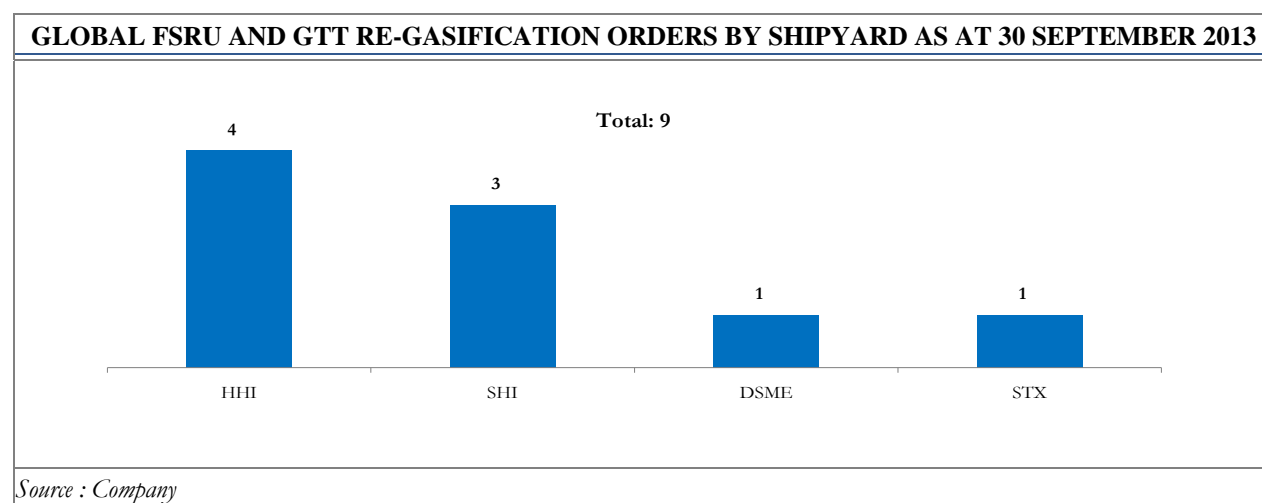
### ***6.2.2.2 FSRU segment and re-gaseification vessels***

FSRUs are stationary vessels able to receive, store and re-gasify LNG from LNG carriers. They send the re-gasified natural gas to land through gas pipelines. Re-gasification vessels have the same re-gasification function but they directly distribute the gas in the network rather than storing it.

#### **(a) Historical trends and order book**

The FSRUs segment has emerged only recently, with the first unit entering service in 2005. Out of fifteen existing FSRUs, four are converted LNG carriers. Three other FSRUs and two vessels fitted with re-gasification installations were ordered in 2011, three FSRUs were ordered in 2012 and 1 FSRU was ordered on 30 September 2013. All of the newbuild FSRUs ordered to date will be equipped with GTT's technology.

FSRU AND RE-GASIFICATION VESSELS ORDERS FROM 2000 TO 30 SEPTEMBER 2013														
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013 <sup>(1)</sup>
<b>GTT</b>	1	1	-	-	1	1	5	1	-	1*	-	5	3	1
<b>Moss Maritime</b>	-	-	-	-	-	-	-	-	1*	2*	-	1*	-	-
<b>Total</b>	1	1	-	-	1	1	5	1	1	3	-	6	3	1
* conversion														
<sup>(1)</sup> as at 30 September 2013														
Source : Company														



Growth in FSRUs is driven by strong demand for LNG, greater acceptability levels among local populations, shorter construction times and a degree of flexibility:

- FSRUs take less time to build than onshore re-gasification terminals (about two years versus three and a half years);
- FSRUs can be used as an alternative to onshore storage terminals and onshore re-gasification terminals;
- due to their offshore locations, FSRUs are less likely to meet resistance from local communities than their onshore counterparts, making it easier to gain the requisite permits;
- FSRUs can be used on a seasonal basis. They can be chartered during peak demand periods and then used as trading vessels or at another terminal location for the rest of the year;
- FSRUs are ideal for niche segments. FSRU capacities currently range from 1.9 to 3.8 Mtpy, while onshore terminals have capacities of 7.5 Mtpy or more;
- FSRUs can be used as a stop-gap solution, delaying the need for onshore capital investment. Many countries interested in re-gasification vessels, such as Bangladesh, Pakistan, and Indonesia, plan to use this technology as a quick-start solution until an onshore facility is completed.

The conversion of former LNG carriers was preferred to newbuilds in the past for cost reasons, but this trend has changed in the last couple of years. There were five newbuild orders in 2011.

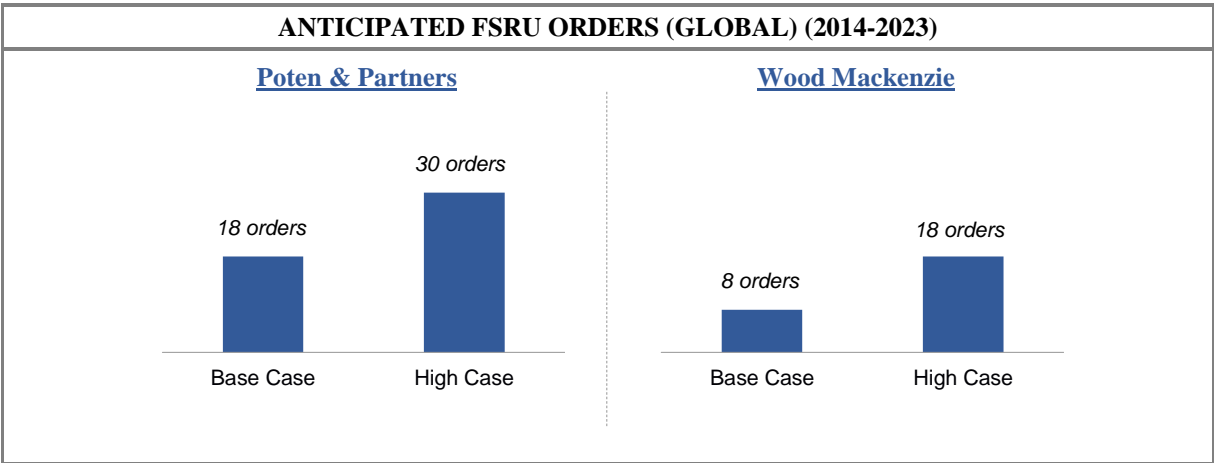
There are several reasons for shipowners’ current preference for newbuilds over conversion of existing units: (i) a desire to increase storage capacities combined with the lack of availability and high price of large vessels; and (ii) high charter rates have encouraged the recommissioning of smaller, older LNG carriers, which are therefore no longer available for conversion.

**(b) FSRU segment forecasts**

In the third quarter of 2013, Poten & Partners and Wood Mackenzie drew up forecasts for the number of FSRU orders in 2014-2023 by estimating the number of re-gasification projects and potential demand for FSRUs.

Poten & Partners expects 18 new purpose-built FSRUs to be ordered between 2014 and 2023 in the base-case scenario and 30 in the high-case scenario. Poten & Partners believes that GTT is likely to win all these orders in this sector.

Wood Mackenzie expects 8 FSRUs to be ordered between 2014 and 2023 in the base-case scenario and 18 in the high-case scenario and believes that that the onshore storage segment will account for a larger share of the new LNG storage segment than the FSRUs. GTT Technologies were used in all newly built FSRUs. Assuming the absence of a credible alternative technology, Wood Mackenzie believes that GTT Technologies will be mainly used for new built FSRUs over this period.



In 2014-2023, GTT anticipates more FSRUs orders than those expected by Poten & Partners and Wood Mackenzie. This is due to a more optimistic view concerning the choice of completion method of LNG import projects (choice of FSRUs versus an onshore facility). The FSRUs which enable a more flexible installation and at a controlled price respond to the emerging markets and the needs of islands and seasonal needs.

**(c) GTT’s FSRU technologies faced with competing technologies**

The Company believes that GTT’s membrane technology has a strong advantage when used in the construction of FSRUs, as it is less expensive than either SPB or Moss Maritime technology.

The main benefit of SPB technology derives from the fact that this system should be less vulnerable to sloshing than tanks using membrane technology. For this type of application, there may be an advantage if the FSRU has to operate in rough seas.

The choice between converting old LNG carriers or ordering newbuild FSRUs is the key factor that will have an impact on the Company's activities.

Currently, newbuilds are preferred to converting existing units for the reasons set out in section 6.2.2.2(a) – *FSRU segment and re-gasification vessels – Historical trends and order book* of the present base document.

### **6.2.2.3 FPSO segment**

FPSOs are offshore platforms that receive the gas produced on remote sites, remove impurities from natural gas coming from offshore gas fields, process the gas, liquefy it and store it until it is offloaded on an LNG carrier.

#### **(a) Historical trends and order book**

As at the date of the present base document, two LNG FPSOs were given the final investment decision in May 2011 and June 2012 respectively. The first project is being carried out by Shell for the Prelude field in Australia and represents the first LNG FPSO order. It is due to be delivered in 2016. Petronas is implementing the second project, and it is due to be delivered in 2015.

The “Prelude” FPSO vessel is a 480-metre long by 70-80 metre wide double-hulled steel barge equipped with ten LNG/LPG membrane storage tanks with an aggregate total capacity of 326,000 m<sup>3</sup>. The tanks will use GTT's Mark III system with two rows of tanks separated by a space called “cofferdam”, which significantly decreases the impact of any sloshing inside the tanks. Shell's choice of GTT's containment system for the “Prelude” project reflects its satisfaction with membrane containment technology and preference for this system over others less sea-proven or less cost-effective.

The second FPSO ordered from GTT as part of the Petronas-led project will be built by a consortium comprising the French EPC Contractor Technip and the South Korean shipyard Daewoo Shipbuilding & Marine Engineering. It will comprise eight tanks using NO 96 technology, with an aggregate total capacity of 177,000 m<sup>3</sup>.

Other orders should follow for the Sunrise project in Australia and other projects in East Africa (off the coast of Mozambique) and South-East Asia (Masela).

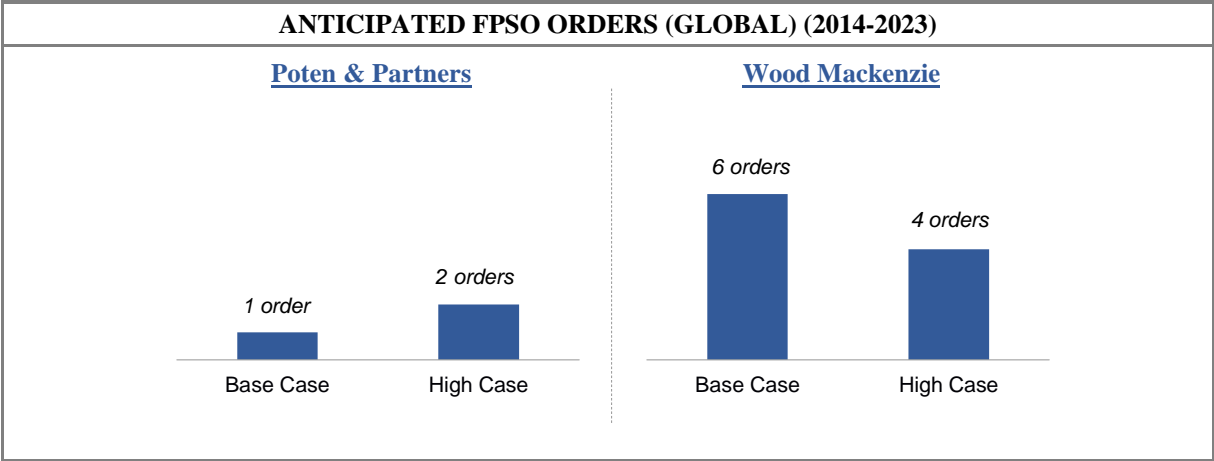
Demand for FPSOs is driven by the need to monetise “remote” offshore gas reserves or monetise smaller gas fields. FPSOs can be used to tap into deepwater oil and gas resources that would not be cost effective with classic seabed pipelines. Growth potential is very high as 50% of the world's proven gas reserves are “trapped”, i.e. discovered offshore but unexploitable for physical or economic reasons.

#### **(b) FPSO segment forecasts**

In the third quarter of 2013, Poten & Partners and Wood Mackenzie prepared demand projections for LNG FPSOs over the 2014-2023 period. Poten & Partners and Wood Mackenzie reviewed the various existing projects and those in progress and worked on the basis of a limited number of FPSO projects that appeared to be most likely to go ahead.

In its base-case scenario, Poten & Partners forecasts that one FPSO will be ordered over the 2014-2023 period for projects with launch dates out to 2028, assuming a period of five years between the placing of an FPSO order and its commissioning date. In its high-case scenario, Poten & Partners forecasts the order of 2 FPSOs over the 2014-2023 period. Poten & Partners assumes that 100% of these FPSO orders will be newbuilds equipped with GTT's membrane technology.

Wood Mackenzie projects in its base-case scenario that 6 FPSOs will be ordered over the 2014-2023 period and in its high-case scenario that 4 FPSOs will be ordered by 2023 assuming a period of five years between the placing of an FPSO order and its commissioning date. The number of FPSOs ordered is lower in the high-case scenario because two liquefaction plant projects (Israel 2 and Leviathan LNG) requiring the construction of FPSOs were not included in this scenario. In its high-case scenario, Wood Mackenzie opted to include other liquefaction plant projects, which would lead to the construction of LNG carriers instead of FPSOs. All the FSPOs currently under construction use GTT technologies. Although there is an alternative technology, Wood Mackenzie considers that GTT’s experience in the industry and its relationships with different players of the sector enable to position GTT favourably in this segment over the long term.



In 2014-2023, GTT anticipates more FSRUs orders than those expected by Poten & Partners and Wood Mackenzie. This is due to a more optimistic view concerning the choice of completion method of LNG export projects (choice of FSRUs versus an onshore facility), in the cases when the volume to be produced is smaller, the installation costs are controlled or when it is advisable to limit the political risks linked to the obtention of required authorisations.

**(c) GTT’s FPSO technologies faced with competing technologies**

The Company believes that GTT’s membrane technologies offer significant competitive advantages compared with Moss Maritime technologies due to the large flat deck that can accommodate the liquefaction unit and other related equipment.

According to the Company, the technologies competing with GTT are not necessarily well-suited to floating platforms. The Moss Maritime containment system is unsuitable for floating platforms because its restricted deck space cannot accommodate the necessary liquefaction equipment.

Ishikawajima Harima Heavy Industries’ SPB system also has a flat deck, but costs US\$100 to 250 million more than GTT’s membrane system as it requires a much larger quantity of expensive metal. The principal benefit of SPB technology derives from the fact that this system should be less vulnerable to sloshing than tanks using membrane technology.

#### **6.2.2.4 Onshore storage segment**

##### **(a) Historical trends and order book**

Technigaz developed a technology for onshore gas storage in the late 1960s. This technology was used for 33 tanks between 1970 and 2006, with five built by SN Technigaz (29 for LNG storage, two for ethylene storage and two for LPG storage).

In 1994, Technigaz and Gaztransport pooled their activities to create GTT. The onshore storage technology was then transferred to GTT, which then granted an exclusive licence to SN Technigaz (an EPC Contractor that is a Bouygues Offshore subsidiary), enabling SN Technigaz to market the membrane containment technology belonging to GTT for onshore storage applications. In 2006, GTT regained exclusive rights to its onshore storage technology and resumed its research and development activities in onshore storage tanks. This research programme was needed to bring GTT's onshore storage technology into line with the EN 14620 and EN 1473 European standards, which entered force in 2006 and 2007 respectively. GTT began to market this type of technology again in 2009.

GTT won an initial order for onshore storage tanks in 2009 and then a second order in January 2012. Both orders came from Energy World Corporation, in Indonesia and in the Philippines. GTT is currently actively marketing its onshore storage technology, which delivers very strong advantages (see section 6.2.2.4(c) – *Onshore storage segment – GTT's onshore storage technologies faced with competing technologies* of the present base document). GTT aims to strengthen its operations in this segment significantly over the next five years.

Demand for LNG onshore storage should continue to increase, supported by strong sector drivers:

- the need for additional storage capacity in connection with the development of new re-gasification and liquefaction projects (for example in Russia or Canada);
- the increase in the average size of LNG carriers requires larger storage tanks and the construction of new onshore storage capacity;
- growth in trading volumes is supporting the construction of numerous projects with lower utilisation rates to take advantage of the sector;
- the liberalisation of certain energy markets is encouraging new players to invest in their own infrastructure;
- the emergence of bunkering and the retail distribution of LNG, which may also justify the construction of new onshore storage facilities to offer re-export services;
- substantial demand for peak-shaving facilities, especially in China and India, where consumption is expected to grow very rapidly and significant additional storage will be added by 2020.

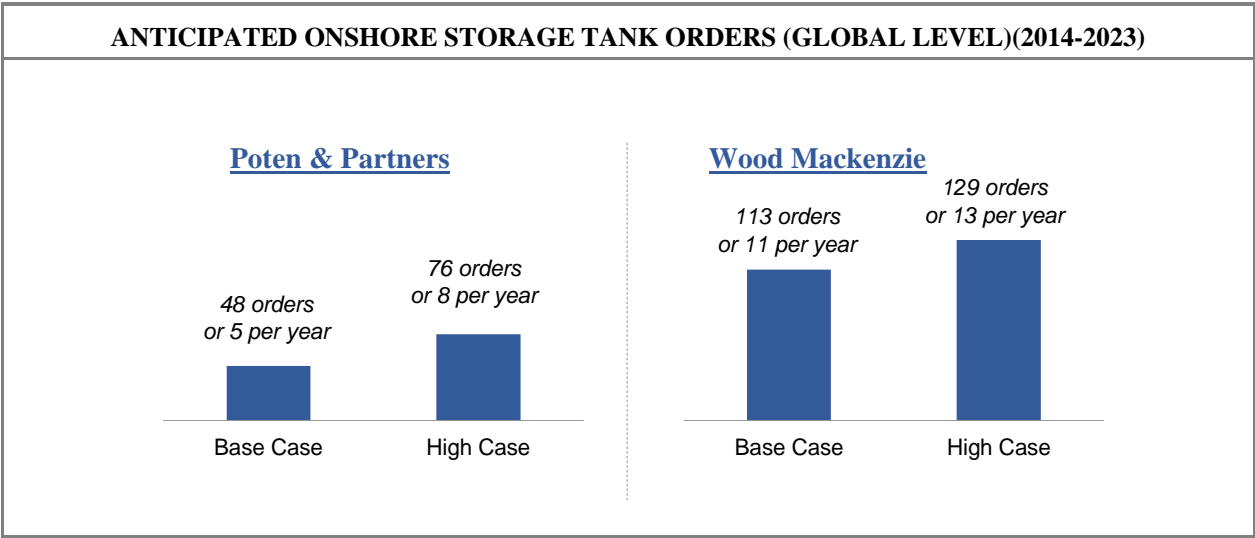
##### **(b) Onshore storage segment forecasts**

Poten & Partners and Wood Mackenzie prepared a study of demand for onshore tanks for gas liquefaction and re-gasification terminal projects. Their respective projections are shown in the following charts.

Poten & Partners forecasts that 48 new purpose-built onshore tanks will be ordered between 2014 and 2023 in the base-case scenario and 76 in the high-case scenario, representing an annual average of 5 to 8 orders respectively.



Wood Mackenzie projects that 113 onshore storage tanks will be ordered between 2014 and 2023 in the base-case scenario and 129 in the high-case scenario, representing an average of 11 to 13 orders per year respectively.

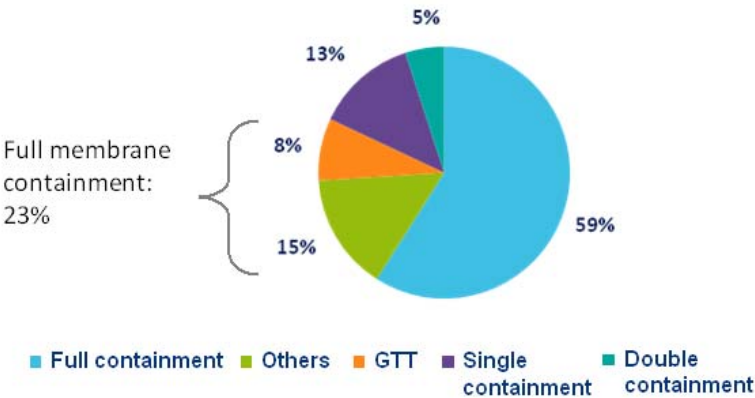


**(c) GTT’s onshore storage technologies faced with competing technologies**

In relation to membrane containment tanks, GTT has three main competitors: Ishikawajima Harima Heavy Industries and Kawasaki Heavy Industries, which developed their technologies in the 1970s, and Kogas, which developed its technology in the 2000s.

Four different types of onshore storage tank currently exist, with the most common types being full integrity containment and full integrity membrane containment.

**SHARE OF ONSHORE STORAGE TECHNOLOGIES AS AT 30 SEPTEMBER 2013 ON EXISTING TANKS WITH A CAPACITY OF MORE THAN 30,000 M<sup>3</sup>**

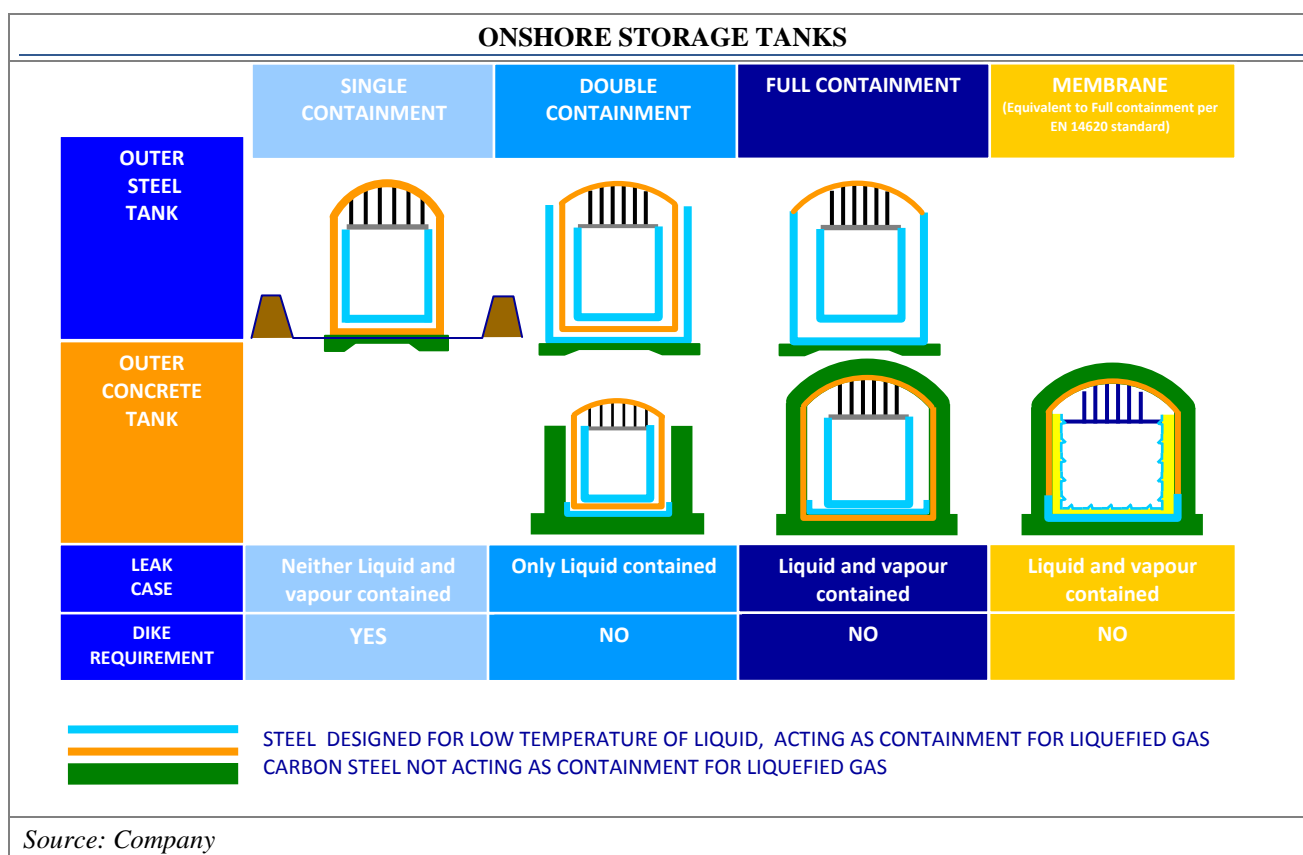


Source: Company

The four types of tank have different features and usages:

- Single containment tanks (13% share of existing tanks): small tanks or tanks in remote areas. This comprises a single cryogenic container to store liquids, surrounded by a dike to contain possible product leakage.
- Double containment tanks (5% share of existing tanks): represented an improvement on single containment, but is no longer used for cost and size reasons. It is a liquid- and vapour-tight primary container, built inside a liquid-tight secondary container.
- Full integrity containment tanks (59% share of existing tanks): the most common type of containment. The primary container is made of 9% nickel and the secondary container is made of concrete, with loose perlite insulation between the two.
- Full integrity membrane containment tanks (23% share of existing tanks): this consists of a stainless steel primary container (membrane) together with thermal insulation and a concrete outer tank jointly forming an integrated composite structure.

The following diagram shows the features of each type of tank.



In relation to the full integrity containment, the main players are EPC Contractors or designers, chief among which CB&I, Bechtel, Ishikawajima Harima Heavy Industries, Saipem, Entrepouse/Vinci, TGE Gas Engineering GmbH, Whessoe and Tokyo Kanetsu KK. The technology employed for the full integrity storage system no longer has any patent protection. The advantage of the so-called “9% Nickel” or “full integrity” technology lies in the fact that it is regarded as the benchmark technology by users because of its widespread use today. In addition, some users regard this technology as being safer because of the thickness of the metal panels used.

Although GTT has unparalleled experience in maritime LNG containment systems, it has, as at the date of the present base document, approximately 8% only of installed onshore storage tanks, having

withdrawn from this sector between 1994 and 2006 after licensing its onshore storage technology to SN Technigaz, as mentioned above.

This exclusive licence did not allow the development of this technology. Clients did not use much this technology regarded as reliant on a single EPC Contractor, SN Technigaz, giving them almost no scope to harness the benefit from competition. Today, the Company has licensed its technology to several EPC Contractors worldwide.

The regulations in force until 2006 classified aerial storage tanks using membrane technologies as single integrity tanks. Single integrity tanks require a retention basin to be placed around the tank, making them a highly unattractive option. Accordingly, membrane technologies were restricted to in-ground storage facilities built in Japan and South Korea where SN Technigaz enjoyed some success—directly in South Korea and indirectly via its licence holder NKK in Japan. Since 2006, the regulations have classified membrane storage tanks as full integrity tanks. Since the retention basin is no longer required, aerial storage tanks using membrane technologies have become a more attractive option.

GTT is confident that it can regain sector share given its extensive know-how, the major competitive advantage deriving from its onshore storage technology and its revamped marketing efforts since 2009.

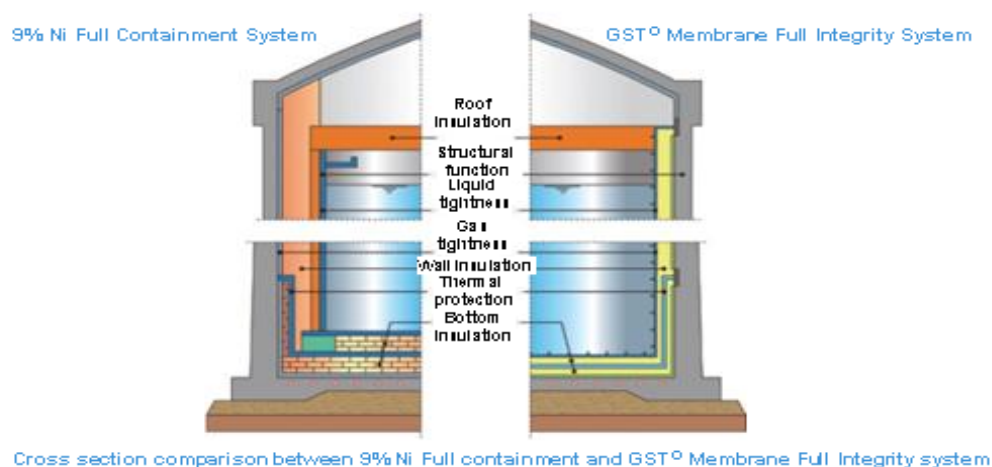
It believes that the GST (Gaz Storage Technigaz) containment system, GTT's onshore storage solution, offers the following benefits:

- substantial cost savings for larger capacities: GTT's membrane system is less expensive than full integrity containment as less metal is required (saving of about 10% of the total quantity of steel required for a 200,000 m<sup>3</sup> tank designed for a full integrity containment system) and is especially adapted to tanks with important storage capacity, 95% of materials used for the construction of GTT's membrane tanks being independent from the tank capacity. As the current trend is to increase storage capacity, these savings represent a major competitive advantage for GTT. Membrane tanks can also be built much more rapidly than full integrity containment tanks as a result of the high level of material prefabrication and standardization, leading to labour cost savings particularly in countries where labour costs are high (Australia, Canada).
- faster and easier to build: the number of man-hours required to set up the membrane containment system is substantially lower than for full integrity containment systems. GTT's membrane tanks require much less welding than full integrity containment and welding is largely automated with about 85% of automatic welding. In addition, the overall construction process for a membrane tank is relatively flexible and can be combined with other tasks, such as installing insulation, bonding the secondary barrier and welding the primary barrier in parallel. This flexible construction process benefits the local labour force. Moreover, the material-handling equipment of GTT's membrane tanks is lighter, which contributes to save construction time. Compare to full integrity systems, the total amount of saved construction time is above 3 months.
- greater security: membrane containment fulfils the same functions and provides the same level of safety as full integrity containment. The GST system, which complies with the EN 14620<sup>20</sup> European safety standard, is the only membrane system approved by gas operators. GTT's GST system (Gaz Storage Technigaz) was developed taking inspiration from the existing systems used in LNG carriers. As a result, the Company's experience and technological proficiency have enabled it to add a partial secondary barrier and bring its technology into line with the EN 14620 European standard.

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<sup>20</sup> Standard covering requirements for the materials, design and installation of the isolation system for refrigerated liquefied gas storage tanks.

- greater operational efficiency: membrane containment does not require special maintenance. Membrane tanks are easily dismantled and the tanks warming and cooling cycles are faster than competing products. Overall, the GTT's membrane tanks lead to cost-savings of 10% to 35% of the total storage cost compare to full integrity systems.



Source: Company

### 6.3 DETAILED PRESENTATION OF THE GROUP'S PRINCIPAL ACTIVITIES

GTT has developed proven technologies with the benefit of its 50 years of experience. With respect to vessels, it is, at the registration date of the present base document, the only company that commercialises “membrane” containment systems that has received the general approval for ship application (see section 6.7.4 – *New technology certification and approval* of the present base document). Its technology enables LNG carriers to carry LNG “in bulk” by protecting the ship’s hull with an insulated liner that keeps the LNG at a cryogenic temperature (-162°Celsius at atmospheric pressure). The LNG is contained by a thin metallic primary surface called a membrane plus a secondary membrane to meet regulatory requirements.

GTT’s two main technologies in the implementation of which GTT has tremendous experience, Mark III and NO 96, are well-known for their excellence and reliability.

They are protected by patents. These technologies and their upgraded versions (see section 6.6 – *Technical description of the Company’s membrane containment technologies* of the present base document) are mainly used in LNG carriers. However, thanks to long-term investment in research and development of its longstanding technologies, GTT has developed new applications, including floating platforms (FSRUs and FPSOs) and onshore storage tanks.

According to Poten & Partners, given its global share of LNG carrier orders over the 2014-2023 period estimated between 84% and 87% as well as all FPSO and FSRU orders over the same period, the Company ranks as the number one player in the sector for containment systems for transporting LNG.

GTT’s clients can gain access to its technology by entering into a licence agreement giving them access to protected rights to the technology as well as access to GTT’s know-how throughout their construction project.

GTT also offers its clients engineering services independently of the licence agreement.

Finally, GTT provides *ad hoc* services such as training, maintenance assistance, approval assistance and technical studies.

Cryovision, a subsidiary of GTT created in 2012, aims to pursue the development of this broad range of services and is currently marketing a new method of detecting membrane defects using a thermal imaging camera, known as Thermal Assessment of Membrane Integrity or “TAMI”. In 2012, Cryovision generated revenues amounting to EUR 860,314.

GTT’s technology has long been accepted and approved by the classification societies active in the marine industry. The Company, which gained ISO 9001 certification in December 2010, is now focusing on refining its quality management system, and this will enable it to achieve full compliance with the quality standards set by its clients.

Almost all of the Company’s clients are located in Asia (China, Korea) (see section 20.1.1 – *Financial statements prepared in accordance with IFRS standards for financial years ended 31 December 2010, 2011 and 2012* – Note 18 – *Segment reporting* of the present base document). The Company’s sales broke down as follows:

<b>ALLOCATION OF COMPANY’S REVENUES (IN %)</b>				
<b>Activities</b>	<b>Financial year 2010</b>	<b>Financial year 2011</b>	<b>Financial year 2012</b>	<b>30 September 2013</b>
<b>LNG carriers</b>	83.2%	82%	76.1%	78.4%
<b>FSRU</b>	5.7%	5%	9.4%	14.8%
<b>FPSO</b>	-	2.2%	3%	2.2%
<b>Onshore tanks</b>	0.7%	-	3.2%	1.1%
<b>Services</b>	10.4%	10.8%	8.3%	3.5%
<i>Source : Company</i>				

### **6.3.1 Applications of GTT’s membrane containment technologies**

#### **6.3.1.1 LNG carriers**

GTT is a key player in the market for LNG carrier containment systems.

The first small-size LNG carrier, equipped with Technigaz technology was delivered in 1964, while the first LNG carrier of a bigger size and equipped with Gaztransport technology was delivered in 1969.

In the 1960s, two vessels were built and delivered using Gaztransport and Technigaz technologies.

In the 1970s, 16 LNG carriers were built and delivered using Gaztransport and Technigaz technologies.

The 1980s brought a slowdown in activity, with nine LNG carriers using the technologies developed by Gaztransport and Technigaz being built and delivered. During this period, both companies concentrated on research and development and on support for vessels in service.

In the 1990s, 14 LNG carriers were built and delivered using GTT’s technology.

During the 2000s, GTT became the leading operator in the LNG containment systems sector with 185 vessels built using its technology during the decade from 2000 to 2010 out of a total of 240 vessels ordered around the world.

Between 2010 and 2011, 45 LNG carriers out of the 48 ordered around the world employed GTT's technologies, enabling it to maintain its undisputed leadership.

In 2012, 21 of the 23 LNG carriers ordered around the world employed GTT's technologies.

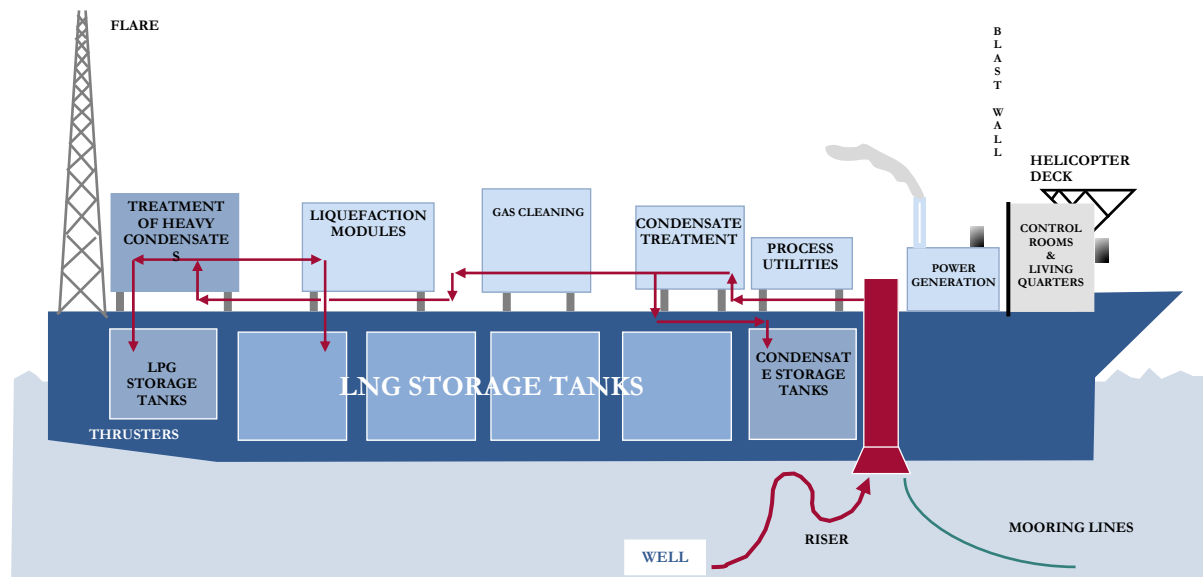
As of 30 September 2013, 31 of the 34 LNG carriers ordered to date around the world employed GTT's technologies.

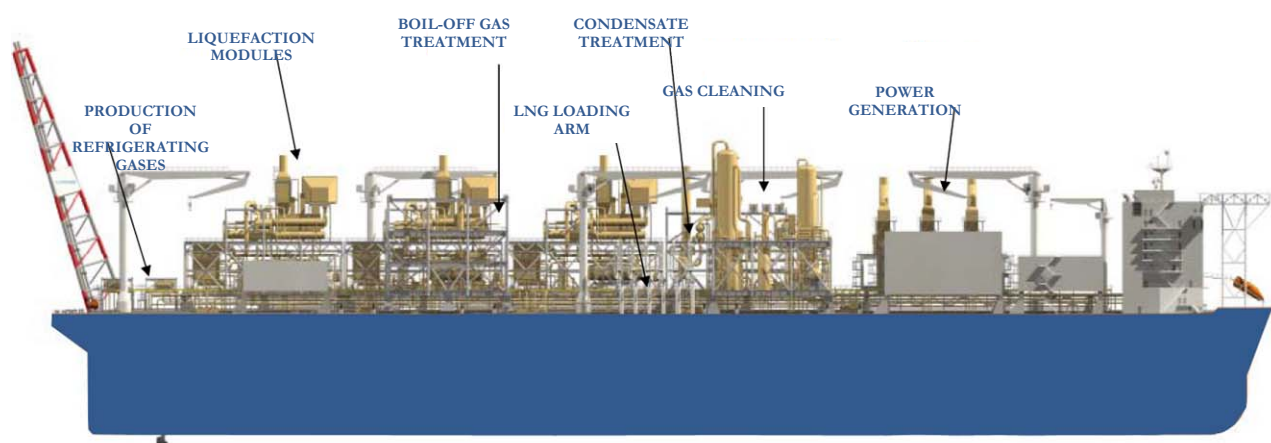
The technology used by the 88 LNG carriers currently under construction breaks down as follows:

- 13 LNG carriers are being built with the Mark III system;
- 42 LNG carriers are being built with the Mark III Flex system; and
- 33 LNG carriers are being built with the NO 96 system.

### **6.3.1.2 FPSOs**

FPSOs are offshore platforms that receive the gas produced on remote sites, remove impurities from natural gas coming from offshore natural gas fields, process and liquefy the natural gas and store it until it is offloaded to an LNG carrier.





Shell's Prelude project, the first FPSO to get the investment go-ahead, will use GTT's Mark III system. Construction by Samsung Heavy Industries will take place from 2012 with delivery due in 2016 and commissioning in 2017.

The second FPSO to get the investment go-ahead will be equipped with GTT's NO 96 system. It will be built by a consortium comprising Technip and Daewoo Shipbuilding & Marine Engineering and is scheduled for delivery in 2015.

### ***6.3.1.3 FSRUs and re-gasification vessels***

FSRUs are stationary vessels able to receive, store and re-gasify LNG from LNG carriers. They send the re-gasified natural gas to land through pipelines. Compared with onshore reception terminals, the advantages of a FSRU are lower costs, shorter construction times and a smaller environmental footprint.



The following table shows the technology used for each FSRU or re-gasification ship already built or ordered.

VESSEL	STATUS	IN-SERVICE DATE	TYPE OF VESSEL	OWNER(S)	TECHNOLOGY
<b>EXEMPLAR</b>	In service	2010	Re-gasification vessel	Excelerate Energy (70%) RWE (15%) George Kaiser (15%)	GTT
<b>EXPRESS</b>	In service	2009	Re-gasification vessel	Exmar NV (50%) Excelerate Energy (50%)	GTT
<b>EXQUISITE</b>	In service	2009	Re-gasification vessel	Excelerate Energy (70%) RWE (15%) George Kaiser (15%)	GTT
<b>EXCELLENCE</b>	In service	2005	Re-gasification vessel	George Kaiser (100%)	GTT

VESSEL	STATUS	IN-SERVICE DATE	TYPE OF VESSEL	OWNER(S)	TECHNOLOGY
<b>EXCELSIOR</b>	In service	2005	Re-gasification vessel	Exmar NV (50%) Teekay (50%)	GTT
<b>EXCELERATE</b>	In service	2006	Re-gasification vessel	Exmar NV (50%) Excelerate Energy (50%)	GTT
<b>EXPLORER</b>	In service	2008	Re-gasification vessel	Exmar NV (50%) Excelerate Energy (50%)	GTT
<b>EXPEDIENT</b>	In service	2010	Re-gasification vessel	Excelerate Energy (70%) RWE (15%) George Kaiser (15%)	GTT
<b>GDF SUEZ NEPTUNE</b>	In service	2009	Re-gasification vessel	Hoegh LNG (50%) MOL (48.5%) Tokyo Gas (1.5%)	GTT
<b>GDF SUEZ CAPE ANN</b>	In service	2010	Re-gasification vessel	Hoegh LNG (50%) MOL (48.5%) Tokyo Gas (1.5%)	GTT
<b>GOLAR FREEZE</b>	In service	2010	FSRU	Golar LNG (100%)	Moss
<b>GOLAR SPIRI</b>	In service	2010	FSRU	Golar LNG (100%)	Moss
<b>GOLAR WINTER</b>	In service	2009	FSRU	Golar LNG (100%)	GTT
<b>NUSANTARA REGAS SATU</b>	In service	2012	FSRU	Golar LNG (100%)	Moss
<b>TOSCANA</b> <sup>21</sup>	In service	2013	FSRU	Golar LNG (100%)	Moss
<b>No. 2031</b>	Under construction	2013	FSRU	Golar LNG (100%)	GTT
<b>No. 2548</b>	Under construction	2013	FSRU	Hoegh (100%)	GTT
<b>No. 2549</b>	Under construction	2014	FSRU	Hoegh (100%)	GTT
<b>No. 2402</b>	Under construction	2014	Re-gasification vessel	Excelerate Energy (100%)	GTT
<b>No. 2024</b>	Under construction	2014	Re-gasification vessel	Golar LNG (100%)	GTT
<b>No. 2550</b>	Under construction	2014	FSRU	Hoegh (100%)	GTT
<b>No. 2551</b>	Under construction	2015	FSRU	Hoegh (100%)	GTT
<b>No. 2074</b>	Under construction	2015	FSRU	BW Group 100%	GTT
<b>No. 4000</b>	Under construction	2015	FSRU	Dynagas (Dynacom)	GTT

#### **6.3.1.4 Onshore storage**

Onshore storage tanks are installed next to LNG loading and unloading terminals in order to transport, re-gasify and distribute LNG. The installed tanks have a volume of approximately 150,000 m<sup>3</sup> (larger capacities are available, particularly with membrane type tanks) and there are usually several tanks per terminal, depending on the capacity of the facility. Tanks are designed to withstand cryogenic temperatures, maintain the liquid at a low temperature and minimise evaporation.

<sup>21</sup> Permanently stationary FSRU, unrecorded in the world's fleet of vessels.



After resuming commercialisation of its onshore storage tanks in 2009, GTT booked its first order in 2009 and its second order in January 2012, both from Energy World Corporation. GTT's current commercial strategy is to license the onshore storage technology to EPC Contractors enabling project sponsors to benefit from competition and lower project costs. As at the date of the present base document, GTT has 16 licensees, including three new licensees in 2011, six new licensees in 2012 and four new licensees at 30 September 2013, reflecting the interest generated by its technology.

The 36 onshore storage tanks employing the technology developed by Technigaz and by GTT (known as "Gaz Storage Technigaz" (GST)) are all located in Asia (Japan, Taiwan and South Korea), except for four onshore tanks in France. Sixteen of these tanks are above-ground tanks, two of which are under construction, while 19 are in-ground tanks and one is a "pilot cavern" that is entirely below-ground. The largest LNG onshore storage tanks in service around the world are equipped with GTT's membrane technology. These are three 200,000 m<sup>3</sup> in-ground tanks in Japan that belong to Tokyo Gas, the first tank being delivered in 1996.

### ***6.3.1.5 The current order book of the Company***

The table below presents the order book of the Company as at 30 September 2013 for all business segments in which it is present.

The Company records an order upon receipt of notification from a shipyard to notify the order and provide its main characteristics or at the execution date of a MoU.

<b>Type</b>	<b>Technology</b>	<b>Shipyard/ Manufacturer</b>	<b>Shipowner</b>	<b>Delivery</b>
<b>LNG carrier</b>	Mark III	SHI	Chevron 100%	2014
<b>LNG carrier</b>	Mark III	SHI	Chevron 100%	2014
<b>LNG carrier</b>	Mark III	SHI	Chevron 100%	2014
<b>LNG carrier</b>	Mark III	SHI	Chevron 100%	2015
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2013
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2014
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2014
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2013
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2014
<b>LNG carrier</b>	Mark III	SHI	Gaslog	2013
<b>LNG carrier</b>	Mark III	SHI	Gaslog	2014
<b>LNG carrier</b>	Mark III	SHI	Gaslog	2014
<b>LNG carrier</b>	Mark III	SHI	Gaslog	2015
<b>LNG carrier</b>	MarkFlex	SHI	Thenamaris	2013
<b>LNG carrier</b>	MarkFlex	SHI	Thenamaris	2014
<b>LNG carrier</b>	NO 96 L03	DSME	Maran Gas Maritime	2014
<b>LNG carrier</b>	NO 96 L03	DSME	Maran Gas Maritime	2015
<b>LNG carrier</b>	NO 96 GW	DSME	Maran Gas Maritime	2013
<b>LNG carrier</b>	NO 96 L03	DSME	Maran Gas Maritime	2014
<b>LNG carrier</b>	NO 96	DSME	Awilco 100%	2013
<b>LNG carrier</b>	NO 96	STX	Sovcomflot	2013
<b>LNG carrier</b>	NO 96	STX	Sovcomflot	2014
<b>LNG carrier</b>	Mark III	HHI	Dynagas (Dynacom)	2013
<b>LNG carrier</b>	MarkFlex	HSHI	Maran Gas Maritime	2013
<b>LNG carrier</b>	MarkFlex	HSHI	Maran Gas Maritime	2014
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2014
<b>LNG carrier</b>	MarkFlex	SHI	Golar LNG	2014

Type	Technology	Shipyard/ Manufacturer	Shipowner	Delivery
LNG carrier	MarkFlex	SHI	Thenamaris	2014
LNG carrier	NO 96 L03	DSME	Oceanus LNG (Cardiff)	2014
LNG carrier	NO 96 L03	DSME	Oceanus LNG (Cardiff)	2014
LNG carrier	NO 96 L03	DSME	Oceanus LNG (Cardiff)	2014
LNG carrier	NO 96 L03	DSME	Oceanus LNG (Cardiff)	2014
LNG carrier	MarkFlex	HHI	BW Group 100%	2014
LNG carrier	MarkFlex	HHI	BW Group 100%	2015
LNG carrier	MarkFlex	HHI	Dynagas (Dynacom)	2014
LNG carrier	MarkFlex	HHI	Dynagas (Dynacom)	2014
LNG carrier	NO 96	Hudong Zhonghua	MOL 70% China Shipping 30%	2015
LNG carrier	NO 96	Hudong Zhonghua	MOL 70% China Shipping 30%	2015
LNG carrier	NO 96	Hudong Zhonghua	MOL 70% China Shipping 30%	2015
LNG carrier	NO 96	Hudong Zhonghua	MOL 70% China Shipping 30%	2016
LNG carrier	MarkFlex	SHI	Golar LNG	2014
LNG carrier	NO 96 L03	DSME	Maran Gas Maritime	2015
LNG carrier	NO 96 L03	DSME	Maran Gas Maritime	2015
LNG carrier	MarkFlex	SHI	Golar LNG	2015
LNG carrier	NO 96 GW	STX	Sovcomflot	2014
LNG carrier	NO 96 GW	STX	Sovcomflot	2014
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2014
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2015
LNG carrier	NO 96 L03	STX	Alpha Tankers & Freighters International Ltd	2015
LNG carrier	NO 96 L03	STX	Alpha Tankers & Freighters International Ltd	2015
LNG carrier	MarkFlex	HSHI	Golar LNG	2014
LNG carrier	MarkFlex	HSHI	Golar LNG	2014
LNG carrier	MarkFlex	HHI	Dynagas (Dynacom)	2015
LNG carrier	MarkFlex	HHI	Dynagas (Dynacom)	2015
LNG carrier	MarkFlex	HHI	Oman LNG	2014
LNG carrier	Mark III	HHI	Brunei	2014
LNG carrier	MarkFlex	HHI	Tsakos	2015
LNG carrier	Mark III	SHI	Chevron 100%	2015
LNG carrier	Mark III	SHI	Chevron 100%	2016
LNG carrier	MarkFlex	SHI	Gaslog	2016
LNG carrier	Mark III	HHI	Brunei	2015
LNG carrier	NO 96	Hudong Zhonghua	China LNG	2016
LNG carrier	NO 96	Hudong Zhonghua	China LNG	2016
LNG carrier	NO 96	Hudong Zhonghua	China LNG	2016

Type	Technology	Shipyard/ Manufacturer	Shipowner	Delivery
LNG carrier	NO 96	Hudong Zhonghua	China LNG	2016
LNG carrier	NO 96	Hudong Zhonghua	China LNG	2017
LNG carrier	NO 96	Hudong Zhonghua	China LNG	2017
LNG carrier	NO 96 GW	DSME	Teekay	2016
LNG carrier	NO 96 GW	DSME	Teekay	2016
LNG carrier	NO 96 GW	DSME	Teekay	2016
LNG carrier	NO 96 GW	DSME	Teekay	2016
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2015
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2015
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2016
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2016
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2016
LNG carrier	MarkFlex	HSHI	Maran Gas Maritime	2016
LNG carrier	MarkFlex	SHI	Gaslog	2016
LNG carrier	MarkFlex	SHI	Bonny Gas Transport	2015
LNG carrier	MarkFlex	SHI	Bonny Gas Transport	2015
LNG carrier	MarkFlex	SHI	Bonny Gas Transport	2016
LNG carrier	MarkFlex	SHI	Bonny Gas Transport	2016
LNG carrier	MarkFlex	SHI	SK Shipping	2017
LNG carrier	MarkFlex	SHI	SK Shipping	2017
LNG carrier	MarkFlex	HHI	Bonny Gas Transport	2015
LNG carrier	MarkFlex	HHI	Bonny Gas Transport	2015
LNG carrier	NO 96 L03	DSME	Maran Gas Maritime	2016
LNG carrier	NO 96 L03	DSME	Maran Gas Maritime	2016
Re-gasification vessel	NO 96	DSME	Excelerate	2014
Re-gasification vessel	MarkFlex	SHI	Golar LNG	2014
FSRU	Mark III	HHI	Hoegh	2013
FSRU	Mark III	HHI	Hoegh	2014
FSRU	Mark III	SHI	Golar LNG	2013
FSRU	Mark III	HHI	Hoegh	2014
FSRU	Mark III	HHI	Hoegh	2015
FSRU	NO 96 GW	STX	Dynagas	2015
FSRU	Mark III	SHI	BW Group	2015
FPSO	Mark III	SHI	Shell	2016
FPSO	NO 96	DSME	Petronas	2015
Onshore tanks	GST	EWC	EWC	2014
Onshore tanks	GST	EWC	EWC	2013

### 6.3.2 Engineering activities

In addition to licensing its technology, GTT also provides its clients with various engineering services based on its experience and know-how in membrane containment systems.

GTT provides specific pre-project studies for engineering projects and supports its clients in their construction projects for LNG carriers, floating platforms or onshore storage tanks from the pre-project phase through the final construction phase.

#### ***6.3.2.1 Pre-project construction studies and ad hoc pre-project studies***

The Company mainly provides pre-project studies for shipyards and EPC Contractors for their construction projects.

It is also solicited to provide its expertise directly to shipowners, charterers, oil and gas companies, engineering companies and classification societies for engineering support projects such as:

- vessel modification;
- feasibility studies; and
- front end engineering design (FEED) studies for vessels, FSRUs, FPSOs and onshore storage facilities.

As a recognised expert in containment systems, process engineering and cryogenic engineering, GTT provides specific *ad hoc* studies for these projects.

The performance of these services enables GTT to forge stable, long-term relationships with all the leading sector players and thus build trust in its technologies, its know-how and its teams.

#### ***6.3.2.2 Detailed engineering services***

##### **(a) Design studies**

GTT contributes globally to LNG carrier, floating platform and onshore storage tanks construction projects by providing design studies.

The purpose of these design studies is to analyse and describe the main characteristics of the projects, including tank measurements, boil-off rate, operating conditions, liquid motion studies, design of the LNG containment systems, and preliminary cost and construction time estimates.

When the order for an LNG carrier, a floating platform or an onshore storage tank is signed, GTT provides engineering details for the containment and cargo handling systems:

- containment systems: format and types of insulation and membrane components, detailed drawings for assembly.
- handling systems: materials involved in handling the cargo of a vessel or onshore storage tank safety, layout of decks and cargo room, design of the pump support mast (for LNG carriers).

During the design phase, GTT also provides detailed information relating to:

- construction material specifications (glass wool, reinforced polyurethane foam, plywood, stainless steel, perlite, mastic or aluminium): GTT provides detailed specifications for all the materials required to build its membrane systems. GTT also performs tests on the materials used to ensure that they meet GTT's rigorous standards. Suppliers of materials used by the shipyards or EPC Contractors to build the membrane systems must be approved by GTT and comply with a demanding approval process. Approval is given for a limited period of time and is subject to renewal. During the approval process, GTT's teams perform tests by random sampling and on-site inspections.

- documentation required to prepare for construction: GTT's engineers provide explanatory technical notes relating to containment and cargo handling systems (structure, naval architecture, issues related to liquid motion, processes and instrumentation notes) as well as specifications for construction components. These notes and specifications are provided to the licensee, shipowner and classification societies. The documentation is specific to each project.

#### **(b) Construction assistance**

GTT assists its clients during the construction of vessels and onshore storage tanks. GTT's representatives provide on-site technical and organisational guidance and ensure that the necessary information is provided to the shipyard or the EPC Contractor for construction of the membrane tank. They also make sure that GTT's technology is implemented properly by the licensee and supervise the tank's final construction phase.

As GTT's experts work closely with the shipyards or the EPC Contractors, the Company benefits from constant feedback. This allows GTT to improve its methodology and systems continuously and therefore to contribute to its clients' productivity.

Client feedback may also be a source of innovation to create the design of *ad hoc* equipment for the shipyards and the EPC Contractors such as welding robots or forming tools.

To broaden its range of products, GTT also designs tooling to be used by shipyards and EPC Contractors to assemble GTT's systems for vessels and storage tanks and to keep production times as short as possible.

### **6.3.3 Group's service activities**

#### ***6.3.3.1 Services performed by the Group***

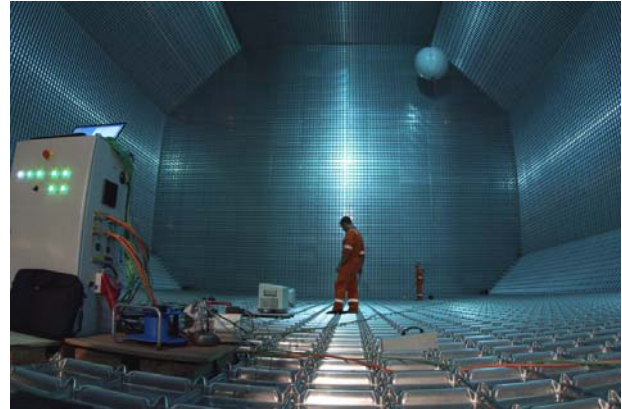
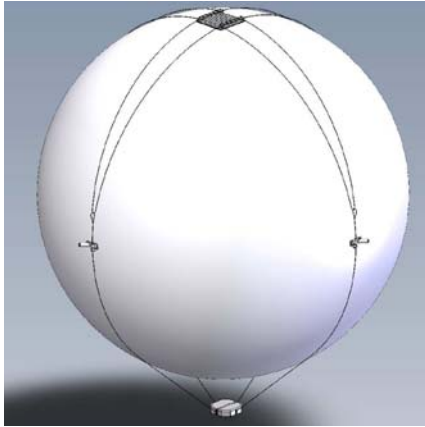
GTT provides additional *ad hoc* services related to its technologies that its clients regard as a key component of GTT's commercial offering, reinforcing their trust in GTT's technologies.

These *ad hoc* services consist of:

- assistance provided to its joint contractors in connection with ship maintenance by shipyards: GTT is involved in fleet and storage tank maintenance. It has a worldwide network of partner repair shipyards to which it contractually provides technical expertise and the maintenance and repair procedures to be implemented under its supervision;
- training: GTT provides advanced training on its premises to its licensees' engineers. It also trains representatives of shipowners, classification societies and repair shipyards;
- emergency assistance: GTT's specialists provide a 24/7 hotline ("HEARS") responding to any questions from shipowners and their crews about incidents encountered with GTT's systems. There are six different types of incidents: (i) gas or liquid infiltration in insulated spaces, (ii) water presence in insulated spaces, (iii) LNG spreading on the deck with breakage of steel and cargo collecting supports, (iv) cargo allocation for emergency departures, (v) extended loss of nitrogen production and (vi) extended loss of the bulkhead heat circuits; and
- crew training: GTT has set up a training tool for crew members to enable them to apprehend the functioning of LNG membrane tanks. These trainings are provided during the first semester 2014.

The Company also develops tools to facilitate the services provided by repair shipyards under its supervision.

For example, GTT's Innovation Department has designed the MOON balloon equipped with leak detection instruments spotting any membrane surface flaws on the primary barrier during tank inspections. This involves a helium balloon carrying a detection system. The balloon moves around the tank automatically using an automatic control system. This tool dispenses with the need to install full scaffolding in the tank to detect leaks and thus it reduces vessel downtime. This tool will be used by Cryovision in connection with the services it provides to shipyards or shipowners.



#### ***6.3.3.2 Services performed by Cryovision***

Cryovision aims to provide additional services to the owners of LNG carriers equipped with GTT membranes (around 244 vessels in July 2013 according to Wood Mackenzie).

Cryovision has developed a Thermal Assessment of Membrane Integrity (TAMI) service, which tests the secondary barrier of Mark III, NO 96 and CS 1 membranes using a thermal imaging camera. This technology makes it possible for various membrane features to be tested while the ship is at sea, significantly reducing dry dock time and offering various applications for both primary and secondary barriers.

The TAMI procedure is a very efficient replacement for the compulsory secondary barrier test, which has to be undertaken every five years by shipowners in accordance with the international code for the construction and equipment of vessels carrying liquefied gases in bulk. The system provides significant advantages in terms of ease of implementation as the tests can be carried out while at sea. It also offers significant cost savings.

The TAMI procedure involves two main tests:

- secondary barrier leak and defect detection; and
- primary barrier deformation testing due to sloshing.

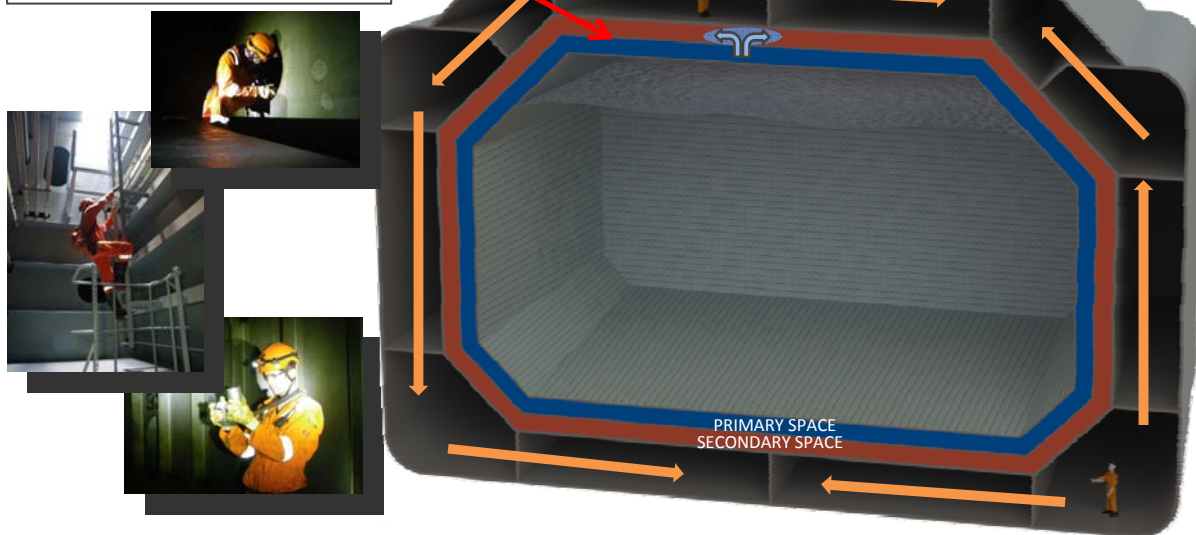
The tests are particularly important for certain vessels equipped with Mark III membranes as their secondary barrier can sometimes be affected by bond defects following defective installation of the technology by shipyards. It is also relevant for some older versions of NO 96 vessels (whose secondary barriers were reinforced with metallic welding).

All other existing secondary barrier tests require the ship to be in dock. The TAMI procedure was successfully tested on eleven tanks in 2011. Marketing of the TAMI procedure was launched in late 2011. Between 1 January 2013 and 30 September 2013, Cryovision performed 28 TAMI tests on nine vessels.

## Testing principles

Under normal conditions, the pressure in the primary space is lower than that in the secondary space. The test consists in increasing the pressure in the primary space to make it higher than the pressure in the secondary space.

Accordingly, in the event of a defect, a cold nitrogen substance pours out from the primary space and into the secondary space. The thermal imaging cameras can thus detect the fault.



### 6.3.4 Business model and commercialisation of the Group's technologies and services

GTT markets its Mark III, NO 96 and GST systems and associated upgrades by licensing the technologies for the construction of LNG carriers, floating platforms or onshore storage tanks to their users.

The type of licence agreement entered into with the users of GTT's technologies depends mainly on the application for which the technologies are to be used, and the choice of the contract will thus vary according to whether the technology is applied to an LNG carrier, a floating platform or an onshore storage tank.

Engineering or other *ad hoc* services may be included in the licence agreement or be subject to a separate services agreement.

#### 6.3.4.1 Commercialisation of GTT's technologies

##### (a) Commercialisation of GTT's technologies for LNG carriers

GTT grants its clients access to its technologies for the construction of LNG carriers under a Technical Assistance and Licence Agreement (TALA). A TALA is a framework agreement entered into between GTT and a shipyard for an initial term of six years, renewable for periods of five years thereafter.

Under a TALA, GTT grants a non-exclusive licence to the rights to GTT's containment systems and associated expertise for a given territory (generally, the area in which the shipyard is located).

When a licensed shipyard has signed a contract for an LNG carrier order received from a shipowner, it enters into a Memorandum of Understanding (MoU). Generally, the MoU applies the TALA for a specific project. The MoU lays down the details of the engineering services to be provided for each LNG carrier order or for a series of LNG carriers. The MoU also provides the construction schedule and amount of royalties to be paid to GTT, which are calculated on the basis of the formula set out in the TALA.

The fee is calculated based on the size of the membrane, with licensees being charged a fixed rate per m<sup>2</sup>. The basic fee currently stipulated in the TALA is EUR 288.96 per m<sup>2</sup> at December 2008.

As GTT enters into many TALAs that may not be implemented for several years (inactive TALAs), the fee calculation formula includes an indexation rate based on the labour cost index for the manufacturing, construction and services industry published by the French national institute of statistics and economic studies (*Institut National de la Statistique et des Etudes Economiques*) applicable to the basic fee from the date on which the shipyard notifies GTT that it has entered into a construction contract with a shipowner. At 31 July 2013, the fee per m<sup>2</sup> of membrane stood at EUR 323.64.

For example, based on the fee per m<sup>2</sup> as at 31 July 2013; for a LNG carrier with a capacity of approximately 165,000 m<sup>3</sup>, the required membrane surface to cover a LNG carrier tank is approximately 27,500 m<sup>2</sup>, which amounts to a fee of approximately EUR 8.9 million, for a first LNG carrier of a series, of which 1.8 million correspond to the pre-project study.

Lastly, the fee may vary according to the number of vessels ordered, with the price of each vessel contingent upon its rank in the series (see the “*Table showing the size of rebates according to the number of identical LNG carriers ordered*” below).

A vessel construction project has the following stages:

- order: signature of the MoU laying down the technical specifications;
- vessel’s steel cutting: generally 18 months after the order is placed;
- laying of the keel: generally five months after the vessel’s steel cutting date;
- launch: general three months after the keel is laid;
- delivery: generally ten months after launch.

Royalties are paid in five instalments as follows:

- instalment 1: 10% of the total amount on the effective date of order;
- instalment 2: 20% of the total amount on the vessel’s steel cutting date;
- instalment 3: 20% of the total amount on the vessel’s keel laying date;
- instalment 4: 20% of the total amount on the vessel’s launch date;
- instalment 5: 30% of the total amount on the vessel’s delivery date;

Licensees receive a discount for a series of identical vessels ordered from the same series within a three-year period.



<b>REBATE RATE PER NUMBER OF IDENTICAL LNG CARRIERS ORDERED</b>									
<b>Identical LNG carriers ordered</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Discount (%) applied to the order of the relevant LNG carrier	0%	20% <sup>1</sup>	20% <sup>1</sup>	36%	36%	36%	36%	48%	48%
<i>Source: Company</i> (1) The 20% discount corresponds to the cost of studies only required for the first vessel in each series									

Most of the TALAs entered into since 2005 contain standard contractual terms that are not negotiated separately with each contracting party. Among the contractual terms, the key provisions are:

- Improvements to the technology: the rights licensed automatically cover any improvements made by GTT to its technology without payment of additional royalties. In return, the licensee must disclose any improvement made to GTT's licensed technology as soon as a patent application is published or no later than 18 months after first implementation of the improved technology and grant GTT a worldwide licence to and including a right to sub-license this improvement.
- Preferred client terms: if GTT enters into a TALA with any other shipyard on more favourable terms or amends an existing TALA through a supplemental agreement to add more favourable terms, it must notify all the other licensees who may choose to replace their current agreed terms with the more favourable terms.
- Confidentiality undertaking: mutual confidentiality undertaking is applicable for ten years, beginning on the date of expiry or termination of the agreement. The confidentiality undertaking is also applicable to any sub-contractors of the licensees.
- Provision of a two-year warranty after delivery relating to the membrane cryogenic performance defined as the absence of cold points on the hull and the respect of the boil-off contractual rate.

**(b) Commercialisation of GTT's technology for the construction of floating platforms**

GTT makes its floating platform technologies available to its clients under a TALA entered into with a shipyard, with a standard form supplemental agreement taking into account the specific rights licensed by GTT for the construction of floating platforms.

The standard contractual terms of the TALA entered into with a shipyard for the construction of an FPSO or FSRU floating platform are very similar to the terms applicable to the TALAs entered into for the construction of an LNG carrier. A MoU similar to the one entered into for the construction of an LNG carrier is also entered into with the shipyard once an order has been placed, the only difference being the technical specifications related to construction of floating platforms.

**(c) Commercialisation of GTT's technology for the construction of onshore storage tanks**

GTT grants access to its technology for the construction of onshore tanks to its clients under a licence agreement. The terms and conditions of this licence agreement are similar to those of TALAs. What sets this type of agreement apart from a TALA is that it is signed with an EPC Contractor for an initial term of 10 years and the licence granted is valid worldwide and not restricted to a given territory.

When an EPC Contractor receives an order from a third party for an onshore storage tank, it enters into a MoU with GTT laying down the *detailed* engineering services required for construction of the onshore storage tank(s). It also provides the amount of royalties to be paid to GTT, which are calculated on the basis of the formula set out in the EPC licence agreement applied to the surface for which GTT's containment system will be used.

#### ***6.3.4.2 Commercialisation of engineering services***

GTT's services under the TALA and EPC Licence Agreements include pre-project studies and technical assistance for the construction of an LNG carrier, floating platforms or onshore storage tanks.

The pre-project studies are not invoiced specifically to the client unless they require more than 100 work days. It is worth noting that the pre-project phase is not implemented systematically. When the shipyard has already built an identical structure, a pre-study does not need to be carried out. However, it may be required if the shipowner asks the shipyard to make design changes, which have to be approved by GTT before being implemented.

The design assistance royalties payable under the TALAs include a certain number of on-site technical assistance days.

Three hundred days of on-site technical assistance are allotted for the construction of an LNG carrier. For FPSOs and FSRUs, the TALA as amended for the specific needs of these facilities includes 100 additional days compared with the construction of an LNG carrier for the first unit ordered and 50 additional days for the second unit ordered. The EPC Licence Agreement includes 400 days of technical assistance for the construction of an onshore storage tank.

If the shipyard or EPC Contractor also asks GTT to provide services not covered by the royalties payable under the TALA or the EPC Licence Agreement, specific rates per unit are set out respectively in the TALA or EPC Licence Agreement.

Any engineering services provided by GTT outside the TALA or EPC Licence Agreement at the request of a shipowner, oil and gas company or engineering company are invoiced under a Technical Services Agreement described in greater detail in section 6.3.4.3 – *Commercialisation of the Group's services – contractual framework* of the present base document.

#### ***6.3.4.3 Commercialisation of the Group's services – Contractual framework***

Apart from the services included in the TALA or EPC Licence Agreement, which may give rise to additional billing, GTT also relies on its experience to offer a broader range of services either directly or through its subsidiaries.

These services are provided under four types of standard contract depending on their nature and the contracting party.

##### **■ Technical Services Agreement for Maintenance and Repair**

Repair shipyards call upon GTT's expertise in maintaining and repairing LNG carriers equipped with GTT's containment systems and to this end enter into a contract known as "Technical Services Agreement for Maintenance and Repair" (TSAM) with GTT.

LNG carriers require technical inspections at least every five years in accordance with the applicable maritime regulations. They also require regular maintenance as well as specific repairs.

Shipyards that are not active in the LNG carrier construction sector have specialised in the repair and maintenance of these vessels and offer these services to shipowners.

By entering into a TSAM and after an audit confirming its expertise, the repair shipyard is approved by GTT to maintain and repair LNG carriers under sole supervision of the shipyard.

GTT advises the repair shipyard technicians, performs technical inspections to detect any membrane defaults and an overall tank inspection.

Under the terms of the TSAM, GTT provides the repair shipyard with experienced consultants, trains the shipyard teams in its technologies for maintenance and repair purposes and provides any information or technical assistance required for these projects to run smoothly.

GTT receives an annual fixed fee for a specified number of days and an additional fee beyond that at the rate per work-day set out in the TSAM. As the TSAM is entered into for an unlimited period of time, rates per day are revised annually on the basis of the labour cost index for the manufacturing, construction and services industry published by the French national institute of statistics and economic studies (*Institut National de la Statistique et des Etudes Economiques*).

#### ■ Technical Services Agreement

If a shipowner asks GTT to provide operating, repair or maintenance services directly for its fleet of LNG carriers, GTT enters into an agreement known as a Technical Services Agreement (TSA).

The services most often requested by shipowners are fleet maintenance, selection of repair shipyards or coordination with certification authorities in relation to maintenance work. By entering directly into a indefinite term contract with GTT, the shipowner benefits from preferential rates and guaranteed availability of GTT's engineers.

There are two levels of TSA:

- Gold, which is charged on the basis of a flat annual fee for a given number of vessels covered by the agreement. Once the fleet exceeds five vessels, the fee is capped at five times the annual fee for one vessel, regardless of the fleet size. The services provide access to the twice-yearly training provided by GTT at its premises, limited to two people per session, and carry the right to a limited number of days of free assistance each year and per ship. Beyond this limited number of days of free assistance, services are charged on a work-day rate, the amount of which may vary according to certain criteria, for example whether the services are provided at the shipyard or at GTT's premises and whether or not the shipyard is approved by GTT.
- Silver, for which there is no annual fee and no assistance free of charge. Services are charged on a work-day rate, the amount of which may vary according to certain criteria, for example whether the services are provided at the shipyard or at GTT's premises and whether or not the shipyard is approved by GTT. However, it does include access to the twice-yearly training provided by GTT in its premises, limited to two people per session.

The flat fee and daily charge-out rates are revised annually in line with the labour cost index for the manufacturing, construction and services industry published by the French national institute of statistics and economic studies (*Institut National de la Statistique et des Etudes Economiques*).

#### ■ Technical Work Contract

A Technical Work Contract (TWC) is an agreement used by GTT when none of its other standard contracts are suitable for the client's needs, which is the case in the following circumstances:

- the client needs a specific *ad hoc* advisory service relating to maintenance and repair works;
- the client asks GTT to undertake an expert assignment or provide assistance relating to GTT's containment technology; and
- for internal organisational reasons, the client works with GTT via another business unit even though it has already entered into a service agreement with GTT.

A TWC is a framework contract under which order forms are signed when the client requires a service. The order form sets out the services to be provided and details of the price. A TWC usually involves GTT's engineers and technicians working directly at the client's premises.

#### ■ Technical Study Contract

A Technical Study Contract (TSC) is used in the same circumstances as the TWC and works in the same way, with a purchase order for each service. The only difference lies in the type of service provided by GTT.

Under a TSC, GTT conducts studies yielding useful results that can be protected. It therefore includes a specific contractual clause covering title to intellectual property rights arising from the results of the study. The principle is that GTT retains exclusive rights only over the results of the study and the resulting intellectual property rights connected specifically with its own area of activity, which is defined in the TSC as techniques for installing or integrating a cryogenic membrane on LNG carriers or onshore storage tanks that may contain gas liquefied at low temperatures and that limits the gas boil-off rate.

The contract also contains a stronger confidentiality clause than the TWC to limit the disclosure of confidential information belonging to GTT to a more restricted circle of people working for GTT's client.

### **6.3.5 Development of new activities by the Group**

In addition to the services that it provides, the Company has also developed a navigation software designed to optimise vessels' routing based on meteorological conditions and to reduce LNG sloshing, as well as Pluto II, a subsea cryogenic pipeline technology, intended to enable LNG carriers to offload their cargo more than 20km from the coast (see section 6.5.2.3(a) - *Research into new technologies and services - Subsea cryogenic pipelines* of the present base document).

The Group focuses special attention on adapting its membrane technology to use LNG as a fuel for the propulsion of vessels ("bunkering") and the development of small- and medium-sized maritime and river carriers.

#### ***6.3.5.1 Sloshing prevention techniques***

Sloshing is a major concern for shipowners and LNG carrier operators around the world. It is a phenomenon giving rise to liquid impacts on tank walls that can damage the membrane and is also considered to be a factor exacerbating the boil-off rate in tanks. Possessing the right tools to control, it is thus a major technical and business priority for companies involved in shipping LNG.

Since 2009, GTT has developed various technical solutions to meet this need, which can be broken down into two categories:

- monitoring solutions detecting impacts caused by the sloshing of the liquid cargo: these include the various tank instrumentation technologies providing the crew with real-time information about tank impacts caused by sloshing-related phenomena; and

- prediction solutions: these software modules help the crew to make decisions reducing the level of sloshing. Based on GTT's rich databases of experimental data, these are capable of providing efficiency indicators for the various alternative scenarios for reducing the level of sloshing by the liquid cargo.

It should be noted that GTT has made sure that these two types of solutions, which provide a complementary vision, are fully compatible with each other.

GTT has reached the final stage of development for some of these products and is actively working on bringing them to market:

- monitoring: at the end of a long prototyping phase, a solution detecting impacts via autonomous buoys, developed jointly with Sofresid Engineering, is nearing the end of its development phase. An initial system is due to be installed in its final configuration on a pilot vessel in early 2014;
- prediction: GTT hopes to incorporate its sloshing prediction modules into its existing navigation decision support systems. GTT is setting up partnerships with vendors of this type of software so that it can offer to the sector effective solutions harnessing the best of each partner's know-how. The class A-001 SPP (Sloshing Prediction Program), the first in its category, will be available via Amarcon's Octopus navigation advisory suite from the beginning of 2014. Designed to cover the majority of conventional LNG carriers (standard-capacity GTT membrane LNG carriers: 137-155 km<sup>3</sup>), it will be followed up by other developments to provide complete coverage of the membrane LNG carrier fleet.

### ***6.3.5.2 Use of LNG for vessel propulsion ("LNG bunkering")***

Of the LNG sector segments to which GTT has devoted particular attention in its research programme, "bunkering" (the use of LNG as a marine fuel) has significant potential due to a legal and regulatory environment conducive to its development as well as to the attractive cost of LNG compared with fuels currently used by vessels.

Bunkering involves developing storage solutions for the entire logistics chain supplying LNG to merchant vessels other than LNG carriers (which mostly use LNG as a fuel). It also entails the development (i) of LNG fuel storage solutions for the same merchant vessels, with the majority potentially using LNG as a bunker fuel to replace the conventional fuel oils derived from fuel distillation, and (ii) related systems.

This logistics chain comprises onshore tanks (bunkering redistribution terminals located in or close to ports), which are supplied by small LNG carriers from existing terminals and bunkering vessels, used in some cases to supply merchant vessels. Small LNG carriers are also used to supply merchant vessels.

In order to comply with the introduction of regulations to reduce sulphur dioxide emissions, vessels will be required to switch to low sulphur fuel oil or process the sulphur oxide (**SO<sub>x</sub>**), nitrogen oxide (**NO<sub>x</sub>**) and particle emissions.

LNG propulsion is one of the most competitive propulsion methods which is expected to be in compliance with emission restrictions under the new regulations.

#### **(a) New regulations encouraging the use of LNG**

Ship emissions of sulphur dioxide (**SO<sub>2</sub>**) are covered by regulations based on EU directives and agreements adopted by the International Maritime Organisation (**IMO**). Directive 1999/32/EC as

amended by Directive 2012/33/EU regulates the sulphur content of exhausts emissions produced by shipping and has enacted certain rules adopted by the IMO into European Union law.

As part of the global efforts to reduce emissions, the IMO introduced measures in 2008 to reduce ship emissions of SO<sub>2</sub> that will gradually enter force around the world. The gradual entering into force of these measures is summarised in the table below:

Effective date	Limitations of sulphur oxide emissions (% mass / total mass)	
	ECA <sup>1</sup>	Outside the ECA
2010	1.5%	4.5%
2010 (July)	1.0%	
2012		0.1%
2015	0.5%	
2020*		

<sup>1</sup> *Emission Control Areas* consisting of the Baltic Sea, North Sea, English Channel, North American coasts and coasts of certain Caribbean Islands<sup>22</sup>.

\*subject to a review in 2018 that may delay the date to 2025

The main existing, pending and potential ECA areas are included in the following map:

## Active, Pending and Potential Emission Control Areas (ECAs)



Source: Clarkson Research Services Ltd, September 2013

*Note: The Baltic Sea ECA (SO<sub>x</sub> only), North Sea ECA (SO<sub>x</sub> only) and the North American ECA (SO<sub>x</sub>, NO<sub>x</sub> and PM) are “Active areas”. The US Caribbean Sea ECA, covering certain waters adjacent to the coasts of Puerto Rico and the United States Virgin Islands, which takes effect on 1<sup>st</sup> January 2014 is defined as a “Pending area”. The “Potential areas” have been identified based on industry and press reports and there is no guarantee of their entry into force.*

To comply with the new measures imposed by the IMO, vessels will be able to choose between one of the following three solutions: (i) be fitted with catalytic converters (“smoke scrubbers”), (ii) convert to LNG propulsion, or (iii) switch to low sulphur fuel oil, such as marine gas oil and methanol/ethanol.

<sup>22</sup> From 1<sup>st</sup> January 2014.

LNG propulsion has been used successfully since 1964. Using LNG as a fuel almost totally eliminates sulphur oxide emissions (**SO<sub>x</sub>**) by comparison with fuel oil propulsion.

Using LNG is also expected to ensure compliance with the regulations regarding nitrogen oxide (**NO<sub>x</sub>**), CO<sub>2</sub> and particle emissions and in particular the Marpol international convention. The regulations applicable to certain new vessels in relation to NO<sub>x</sub> emissions are due to be tightened up in the ECA. The rules (called “Tier” rules) on the limitation of emissions of NO<sub>x</sub>, summarized in the table below, depend on the engine speed of the vessel.

Applicable Tier Rules	Date	Limitations to nitrogen oxide emissions in g/kWh		
		n <sup>1</sup> < 130	130 ≤ n < 2000	n ≥ 2000
Tier I	2000	17.0	45 x n <sup>-0,2</sup>	9.8
Tier II	2011	14.4	44 x n <sup>-0,23</sup>	7.7
Tier III	2016*	3.4	9 x n <sup>-0,2</sup>	1.96

<sup>1</sup> n corresponding to the engines speed of the vessels (turns per minute)  
 \*in ECA (rules Tier II will remain applicable outside ECA).

In July 2011, the IMO adopted strict measures to reduce the emission of greenhouse gases from international shipping. LNG combustion reduces CO<sub>2</sub> emissions by approximately 20% compared with combustion using products derived from fuel oil distillation.

Lastly, regulations on particle emissions are likely to be extended to other areas, and LNG propulsion has the advantage of totally eliminating particle emissions by comparison with fuel oil-based propulsion.

The Company believes that both smoke scrubbers and low sulphur fuel oil have major drawbacks.

Scrubbers, coupled with catalytic converters to reduce NO<sub>x</sub>, make it possible to continue using heavy fuel oils or marine oil as bunker fuel. This technology is proven in power plant situations, but has a limited track record in vessels. Catalytic converters are expensive, consume a high amount of energy, take up vessel space, require maintenance as well as methods of chemical injections, disposal of chemical wastes (acid sludge) and are considered to have a low level of reliability.

#### **(b) A strong financial incentive**

Apart from the ecological and regulatory reasons for using LNG as bunker fuel for vessels, the forecasts drawn up by the International Energy Agency<sup>23</sup>, the Danish Maritime Authority<sup>24</sup>, Det Norske Veritas<sup>25</sup> and Germanischer Lloyd<sup>26</sup> for fuel prices show that the price per energy unit of LNG is set to remain below that of other fuels such as Marine Diesel Oil (MDO) and Marine Gas Oil (MGO) for the next 30 years.

<sup>23</sup> The Contribution of Natural Gas Vehicles to Sustainable Transport (IEA 2010) and Medium Term Oil and Gas Markets (2010).

<sup>24</sup> Danish Maritime Authority, Baseline Report, “North European LNG Infrastructure Project” dated 20 October 2011, page 80.

<sup>25</sup> DNV Serving the energy industry, “LNG fuel for ships. A chance or a must?”, dated June 2010, page 2, Michal Bagniewski.

<sup>26</sup> Germanischer Lloyd SE, “EEDI and its impact on Ship Finance” dated 23 February 2012, page 4, and “Costs and benefits of LNG as ship fuel for container vessels dated 2011, page 7.

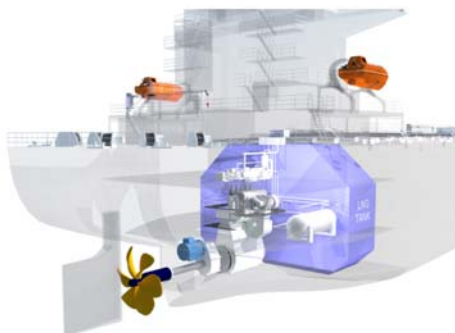
Due to the implementation of stricter limitations relating to SOx emissions at a global level (0.5% instead of the current rate of 3.5%<sup>27</sup>) in 2020 or no later than in 2025, the availability of heavy fuel (*Heavy Fuel Oil* - HFO) with a very low sulphur content might become a problem, which would result in an automatic increase in prices and would potentially be similar to that of MDO, or even of MGO, making its use unprofitable for long routes and leaving thus to shipowners a limited choice between scrubbers, selective catalytic reductions and LNG.

**(c) Significant opportunity for GTT**

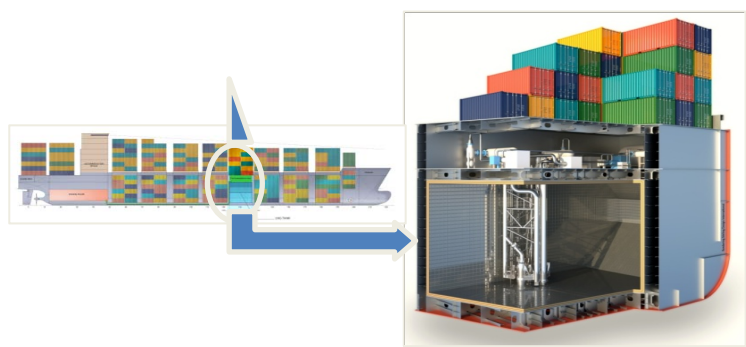
From an operating cost perspective, the LNG propulsion is one of the most competitive methods for complying with the SOx emission regulations. Accordingly, GTT is developing various innovations to adapt its membrane containment technology for use in bunker tanks within merchant vessels.

The following charts provide some examples of membrane tanks being installed to store LNG fuel for this type of propulsion system.

1. *Example of an LNG tank integrated on a merchant vessel (typically a bulk carrier or oil tanker or a refined/chemical products carrier). Volume of between 2,000 and 5,000 m<sup>3</sup>*



2. *Example of a large coastal container ship converted through “jumboisation” and insertion of a vessel section containing the LNG fuel tank and the gas preparation unit. Tank volume of typically between 2,000 and 5,000 m<sup>3</sup>*



GTT is also currently developing technical solutions for “small” onshore tanks, small LNG carriers to act as feeders or bunker vessels/barges and a “ship-to-ship” transfer system.

GTT’s membrane technology offers superior efficiency, reliability and cost savings compared with competing technologies.

<sup>27</sup> In percentage of the mass on the total mass.



In particular, the Company believes that GTT's membrane containment tanks can also fit into unused parts of the ship and optimise cargo volumes with a low level of reduction in the vessel capacity unlike type C tanks which, given their long cylindrical shape, are generally not as efficient in their use of space as membrane tanks. Conversely, type B prismatic tanks (IHI's SPB) theoretically allow the use of a broader range of shapes than membrane tanks, however this type of tank is more expensive than the GTT membrane tanks.

GTT plans to charge for its services depending on the surface area of the tank membrane. For the first tank, this business is expected to generate a margin well below that observed with LNG carriers. Even so, GTT believes that given the large number of vessels that may be fitted with a standard tank, this business will then generate a comfortable level of margins although not comparable to those seen with the installation of tanks on LNG carriers.

To comply with the new sulphur emission regulations, shipowners will have to choose between refitting the propulsion system of their existing vessels and purchasing a newbuild vessel. GTT intends to target these segments: the conversion of existing fuel tanks from 2014 onwards and the newbuild segment from 2015 onwards.

As of 1<sup>st</sup> September 2013, Clarkson Research estimates that the global fleet of merchant vessels of 2,000 tpl or GT and above comprises approximately 43,000 vessels. This fleet is estimated to have increased<sup>28</sup> at a compound annual growth rate of 3.6% between the start of 2008 and 2013 (in terms of the number of vessels), 3.5% between the start of 2003 and 2013, and 2.6% between the start of 1998 and 2013. This relatively strong growth in recent years is in part the result of increased shipbuilding deliveries during, and immediately after the shipping market boom of the last decade. It is anticipated that the fleet will continue to grow during the coming decade, albeit at a reduced rate compared to the past five years. In terms of the number of vessels, the fleet of merchant vessels is expected to grow by approximately 1% in full year 2013.

Future demand for additional ships is based on several factors: (i) the current supply-demand balance; (ii) future tonnage requirement growth, which is determined by the growth in world seaborne trade and tonne-mile demand development; (iii) future tonnage replacement requirements; and (iv) additional vessel productivity factors. According to Clarkson Research, current estimates indicate that approximately 2,000 merchant vessels of 2,000 tpl or GT and above will be delivered in full year 2013 and approximately 1,750 will be delivered in 2014.

According to the Company projections, and given the global economy growth during the last ten year, the global merchant fleet over 2,000 tpl or GT is expected to increase by adding at least 15,000 ships by 2020, and 25,000 ships by 2024. To obtain the overall estimation of the newbuild orders, the renewing to compensate the scrapping of old or uneconomical vessels has to be added into the account.

The Company is expecting that LNG fuel, as every new technology, will progress slowly in the first stages of its development, with the involvement of a small amount of players. Nevertheless, as the solution gains in expertise, efficiency and know-how, the Company anticipates that the LNG fuel option will be adopted by a greater number of players. Its relatively slow development since 2000 should consequently speed up, in particular thanks to increasing financing of the European Union, the Norwegian Nox fund or the US Maritime Administration (Marad) and political support. In the longer term, this solution could become increasingly economical and viable for the shipowners, and free itself gradually from these regional supports and reach other non-subsidized markets. The LNG fuel solution, subject to past and present considerable rapid expansion in the North European countries, is now seriously considered by major industrial countries such as the USA and China. LNG as fuel for short sea and deep sea transport is from now on a considered economical solution for the next years. Thus, as of 30<sup>th</sup> September 2013, in addition to approximately 60 LNG carriers in the fleet and 100 on

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<sup>28</sup> Growth rates are calculated from the fleet as of 1<sup>st</sup> of January for each considered year.

order that are capable of using LNG as a fuel, more than forty other vessels in service are LNG propulsion fitted and about forty vessels which are currently under construction or under conversion will use the LNG as a fuel.

The Company has developed two scenarios: a base-case scenario and a high case scenario. The base case scenario is more conservative and assumes that the enforcement of regulations will be delayed until 2025. According to the high-case scenario, the regulations will be applied in 2020.

#### ■ *Conversions*

At present, according to Clarkson Research, the average ship in the merchant fleet spends approximately 15% of its operational time at sea in active ECAs. The level of exposure varies greatly depending on ship type. For example, the bulk carrier fleet spends relatively small amounts of their time in ECAs, while ships in sectors such as multi-purpose vessels, “Ro-Ro”, cruise, ferries and offshore support vessels have a relatively higher level of exposure to ECAs. Given the current location of ECAs, another important consideration is the area in which vessels typically operate: ships that trade principally in the Atlantic basin are likely to have a higher level of exposure to ECAs than those that operate in the Middle East and the Asia-Pacific. If ‘potential’ ECAs (for example, in the Mediterranean and Japan) enter into force in the future, the exposure of the world merchant fleet to ECAs will increase significantly.

According to the Company, the 15% in time percentage might be seen as a first order approximation indicator of the proportion of large and small ships that may be impacted by the ECA regulation. Pushing this simplistic reasoning further, a rough estimation of at least 8,000 time-equivalent ships would be impacted by the ECA regulation in 2015.

According to Clarkson Research, while there has been increasing interest in converting vessels to becoming LNG fuelled, there has only been relatively limited conversion activity to date. Two large vessels, the chemical bulk tanker “BIT VIKING” and the ferry “TRESFJORD”, have been converted to run on LNG fuel to date. There has been a notable increase in the interest surrounding the conversion option during 2013, with several companies announcing their intentions to convert ships to become LNG-fuelled. Another trend that has emerged recently is for the construction of “LNG fuel conversion-ready ships”, which will run on traditional marine fuels when they are delivered into the fleet, but which are designed to be easily converted to run on LNG fuel when necessary. For example, General Dynamics NASSCO concluded a contract to build four 50,000 tpl LNG fuel conversion-ready product tankers for American Petroleum Tankers in mid-2013, and a further two for Seabulk Tankers Inc. in September 2013.

In November 2013, General Dynamics NASSCO concluded another contract with Seabulk Tanker Inc. for the design and construction of one 50,000 tpl LNG fuel conversion-ready product carrier, plus an option for one additional vessel. According to the Company, orders of this type show the increasing importance of the LNG fuel conversion-ready designs for North America.

These events indicate that there is some potential for ships to be converted to be LNG-fuelled moving forwards. Despite a number of advantages, there is still considerable uncertainty surrounding the widespread adoption of the conversion option, with its uptake subject to a wide range of factors. These include, but are not limited to its financial feasibility, the price of LNG relative to traditional marine fuels, the timely implementation of regulations (for example, the implementation of the global sulphur cap), the development of a wider LNG supply chain and bunkering network at major ports, and the relative effectiveness of alternative solutions to meet environmental regulations.

The Company believes that it may be able to gain access to conversion of vessels to LNG from 2014 through the network of repair projects approved by GTT (see section 6.3.4.3 – *Commercialisation of the Group’s services – Contractual framework of the present base document*).

Within this target fleet, the Company believes that on average between 2014 and 2021 its technology will have been chosen for the conversion of 19 vessels per year in its base-case scenario and 146 vessels per year in its high-case scenario. The number of conversions at the start of this period will probably be lower than these averages. Other vessels will either switch to low sulphur fuel oil, be fitted with scrubbers combined with catalytic converters, be sold to shipowners operating outside ECAs and then be replaced with new vessels (anticipated fleet renewal), or simply not comply with the regulations.

#### ■ *New builds*

In full year 2013, according to Clarkson Research, approximately 1% of newbuilding deliveries will be LNG fuel capable (in terms of the number of ships). The majority of these will be LNG carriers, with a small number of Ro-Ros and Ferries. Based on Clarkson Research's analysis of global newbuild contracts (to be delivered between 2014 and 2017), approximately 3% of the orders placed in 2013 as of 1<sup>st</sup> of September 2013 have been for LNG fuel capable ships. The majority of these have been orders for LNG carriers, with a small number of General Cargo ships, Ferries, Passenger Vessels and Offshore Support Vessels. A number of government organisations, classification societies and research organisations, including Clarkson Research, have estimated the potential for the use of LNG as a marine fuel moving forwards. Scenarios for LNG-fuelled newbuilding deliveries, including LNG carriers, typically range from a base case of approximately 5%, to a high case of 15% of the total number of deep-sea cargo vessels to be built between 2014 and the middle of the next decade. Estimates of the application vary significantly between different size and different sectors of the shipping fleet. However, there is still considerable uncertainty surrounding these scenarios and the widespread adoption of the use of LNG as a marine fuel and its uptake is subject to a wide range of factors. These include, but are not limited to its financial feasibility, the price of LNG relative to traditional marine fuels, the timely implementation of regulations (for example, the implementation of the global sulphur cap), the development of a wider LNG supply chain and bunkering network at major ports, and the relative effectiveness of alternative solutions to meet environmental regulations.

The Company believes that the economic and environmental benefits of LNG coupled with those of membrane technologies, including optimum use of vessels' volumes, will pave the way for the sector to embrace its technologies rapidly, both for vessel refits and for newbuilds. The Company will thus be in a position to satisfy a higher number of tank design requests for different vessel types. Within this target fleet, the Company considers that between 2014 and 2021 its technology will be chosen for the construction of 8 vessels per year on average in its base-case scenario and of 78 vessels per year on average in its high-case scenario. In addition, these requests are likely to come from shipyards located in a variety of geographical regions and in particular, outside Asia. Please note that the number of newbuilds at the start of this period will probably be lower than these averages.

#### ■ *Potential emergence of small LNG carriers*

The sector's great potential has prompted GTT to devote some of its research efforts to developing a version of its containment technologies specially geared to LNG transportation in small LNG carriers, which are crucial for supplying merchant vessels with LNG. Currently, certain LNG carriers are not suitable for all types of port facility.

According to Clarkson Research, there are a number of factors that suggest there is development potential for small LNG carriers in the following geographical regions/countries:

- Caribbean: in addition to the two re-gasification facilities currently in operation, a further three (with potential for a fourth) are expected to start up in the Caribbean in the short-term, powered by LNG exported from the United States or Trinidad & Tobago. Distribution of LNG to the smallest islands is planned via the Dominican Republic or Puerto Rico.

- China: Chinese imports of LNG, boosted by rising energy use and desire to diversify its energy mix, have increased rapidly since 2006 when China's first re-gasification plant began operations. China currently has seven LNG receiving terminals in operation. In addition to this, eight new re-gasification plants and the expansion of two existing facilities are under construction and a further four terminals and expansions of two existing facilities have been proposed. The Yangtze Delta, one of the most populated and industrialised regions of China, represents a strong growth potential for small LNG carriers. There are also preliminary discussions to establish an ECA in the Pearl River Delta region, which could potentially increase demand for small LNG carriers further.
- Southeast Asia: Singapore, which has the largest ship bunkering port in the world, is in the process of developing its LNG bunkering capabilities and expects to have installations for small LNG carriers aimed at serving local markets, principally Indonesia and Malaysia. There are also import projects in Vietnam and the Philippines which could potentially provide additional demand for short haul LNG imports. Draft plans exist for coastal trade in LNG in Vietnam, although the start-up of deep-sea re-gasification capacity will be required first.
- India: at the start of September 2013, there were four LNG re-gasification terminals operating in India. A further eleven new terminals and one terminal expansion are currently proposed, most of which have estimated start-up dates of 2016 or earlier and would increase demand for the import of LNG if they become operational.
- Middle East/Mediterranean: A number of re-gasification projects are intended in the Middle East and eastern Mediterranean. Small LNG carriers may be needed to transport LNG from Israel to Turkey and Lebanon.
- North America: The advent of considerable shale gas production in the United States has led to a decline in LNG imports and looking ahead, it is anticipated that they will become a major exporter of LNG. The North American ECA has already encouraged some cargo vessel owners subject to the Jones Act regulations to order LNG-fuelled and LNG fuel conversion-ready ships, and the LNG-fuelled offshore support vessel fleet in the US Gulf is also expected to grow.
- South America: There is also potential for growth in South America, particularly in Argentina and Brazil where there are already a number of offshore re-gasification terminals.

While the development of LNG re-gasification facilities is subject to delay, postponements and cancellations, if the regional developments mentioned above do proceed on schedule, there is significant potential for growth of the small LNG carriers fleet.

As of 1<sup>st</sup> September 2013, there were 24 LNG carriers sized under 40,000 cbm operating in the fleet and a further 8 under construction at shipyards (including 7 in China which will incorporate containment technologies of type C (see section 6.7.5 - *International Maritime Organization classification of technologies* of the present base document and 1 in Japan). According to the Company, due to its low costs, China should maintain its current rank of leading manufacturer of small LNG carriers in its domestic market with strong potential for growth globally. According to Clarkson Research, if the projects and regions that may require small LNG vessels for coastal distribution and shuttling proceed, this will result in additional requirement for tonnage in this size range. However, it is important to note that these projects are subject to delays, postponements and cancellations.

The Company believes that smaller LNG carriers (i.e. with a capacity of less than 40,000 m<sup>3</sup>) will therefore have to be built that are able to transport LNG and to refuel merchant vessels.

GTT's technologies can be used for small tanks and make it possible to build smaller carriers to meet this need. Even so, the use of GTT's technologies in smaller LNG carriers is less cost-efficient and thus less competitive than in larger LNG carriers. Accordingly, GTT aims to develop its technologies to make them more competitive for the transportation of small LNG volumes.

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## **6.4 THE GROUP'S CUSTOMERS**

### **6.4.1 The Group's main shipyard customers**

Most of GTT's direct clients are shipyards. As at the date of the present base document, the Company has 24 licensee shipyards. These shipyards are mainly located in South Korea, China and Japan.

As at the date of the present base document, six shipyards are currently active and have notified GTT of LNG carrier orders. Of the 18 inactive shipyards, six already have experience in the construction of LNG carriers equipped with GTT's technologies and could return to this type of construction.

Based on GTT's order book as at 30 September 2013, the six active shipyards are building or will build 88 LNG carriers equipped with GTT's technology. These LNG carriers are due to be delivered between 2013 and 2016. The six shipyards are:

- **Samsung Heavy Industries:** Samsung Heavy Industries builds tankers, bulk carriers, LNG carriers, container and passenger vessels worldwide, as well as FSRUs and FPSOs. The Company has received an initial order from Samsung Heavy Industries for a FPSO (Prelude project in Australia). Founded in 1974 and headquartered in Seoul, the company has been listed on the Korea Stock Exchange since 1994. SHI posted EUR 10 billion in sales in 2012;
- **Hyundai Heavy Industries:** headquartered in Ulsan (South Korea), Hyundai Heavy Industries builds vessels, offshore platforms, facilities and engines. HHI was founded in 1972 and is currently headquartered in Seoul. It has been listed on the Korea Stock Exchange since 1999. HHI posted EUR 38 billion in sales in 2012;
- **Hyundai Samho Heavy Industries:** Hyundai Samho Heavy Industries builds oil tankers, bulk carriers, container vessels, LNG carriers, chemical tankers and transportation equipment. HSHI was founded in 1998 and is currently headquartered in Yong Am-Gun (South Korea). It is a subsidiary of Hyundai Heavy Industries;
- **Daewoo Shipbuilding & Marine Engineering:** Daewoo Shipbuilding & Marine Engineering's product portfolio includes merchant vessels such as LNG carriers, LPG carriers, bulk carriers, oil tankers, offshore platforms and drilling vessels; DSI was founded in 1978 and is headquartered in Seoul (South Korea). It has been listed on the Korea Stock Exchange since 2001 and is controlled by the South Korean government, which owns 65% of its capital. Daewoo Shipbuilding & Marine Engineering posted EUR 9.7 billion in sales in 2012;
- **STX:** STX operates in shipbuilding and machinery (including LNG carriers and large oil tankers), shipping and trading, and energy. It was founded in 1967 and is headquartered in Gyeongsangnamdo (South Korea). STX has been listed on the Korea Stock Exchange since 2003. STX posted sales of EUR 43 billion in 2012;

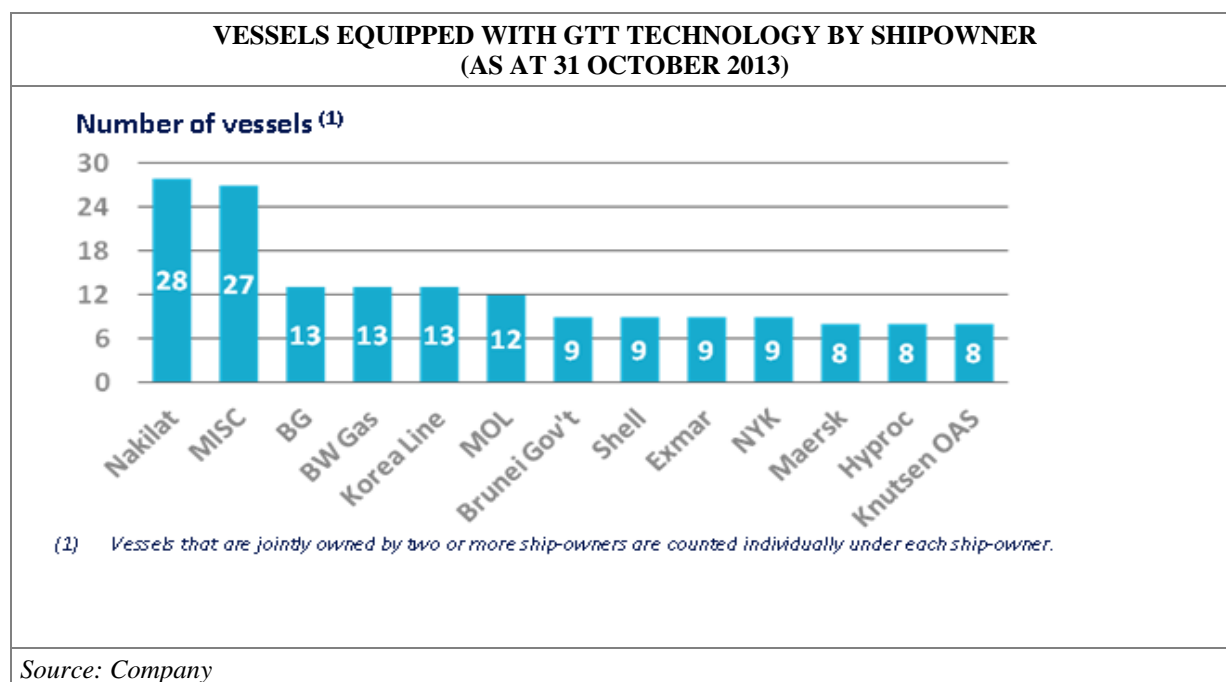
- Hudong Zonghua: builds bulk carriers, oil tankers, floating production, storage and offloading units and marine diesel engines and provides engineering services. It was founded in 1952 and is headquartered in Shanghai. It is a subsidiary of the state-owned China State Shipbuilding Corporation conglomerate;
- IMABARI: Imabari Shipbuilding Company builds and repairs container vessels, bulk carriers, roll-on/roll-off ships, ferries and chemical tankers. The business was founded in 1901 in Imabari, Japan, and was consolidated under its current name in 1942.

For further information on the share represented by these shipyards in GTT's order book, see section 6.2.2.1(a) - *LNG carrier segment – Historical trends and order book* of the present base document.

#### 6.4.2 Commercial relationship with the principal shipowners

The Company's end clients are shipowners that themselves place orders for LNG carriers from shipyards depending on the requirements of the major gas companies. Among them, six shipowners, namely Maran Gas Maritime, Golar LNG, China LNG, Gaslog, Bonny Gas Transport and Chevron, represent in terms of orders about 60% of GTT's current order book for LNG carriers.

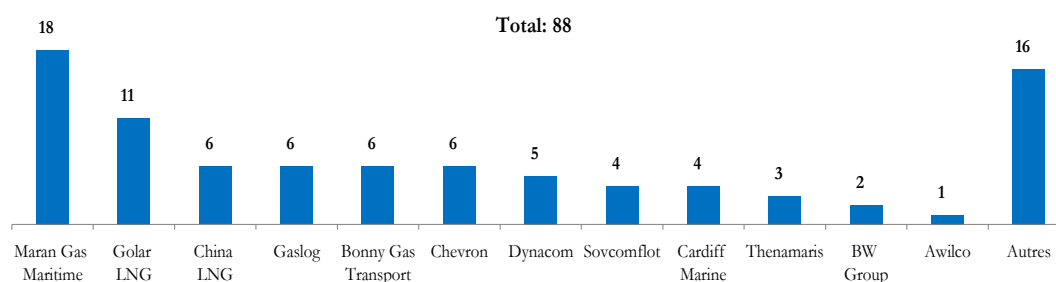
As at 31 October 2013, more than 70 shipowners use or have used GTT technology.



GTT has a longstanding and close relationship with these shipowners and gas companies including Shell for 30 years and GDF SUEZ for 40 years.

GTT has also special relationships with rapidly growing shipowners, such as Maran, Golar or Teekay.

**ORDER BOOK OF GTT'S LNG CARRIERS BY SHIPOWNER  
AS AT 30 SEPTEMBER 2013\***



Source : Company

\* the number of LNG carriers ordered indicated for each shipowner may involve distinct sets of LNG carriers.

### 6.4.3 The principal customers of the services offered by the Group

The principal customers using the services offered by the Group are as follows:

#### ■ Construction shipyards

The Company offers construction shipyards pre-project studies related to plans to build LNG carriers, FSRUs, FPSOs and onshore storage tanks or miscellaneous ad hoc projects (see section 6.3.2.1 – *Pre-project construction studies and ad hoc pre-project studies*) and engineering services related specifically to implementation of construction projects involving LNG carriers, FSRUs, FPSOs and onshore storage tanks (see section 6.3.2.2 – *Detailed engineering services* of the present base document).

#### ■ Shipowners

The Group can provide support to shipowners with the operation of their vessels. To do this, it offers them assistance with maintaining their vessels, especially during the mandatory five-year technical inspections and the TAMI and MOON tests marketed by Cryovision. In addition, for the past few months the Company has run the “HEARS” hotline enabling shipowners and in particular their crews to call up the Company’s specialists 24/7 and receive operational guidance (see section 6.3.3 – *Group’s service activities* of the present base document).

#### ■ Repair shipyards

Given their special expertise, certain shipyards are entrusted by shipowners with maintaining vessels employing GTT’s containment systems. The Company enters into service contracts under which these shipyards can perform maintenance with the support of GTT’s specialists (see section 6.3.4.3 – *Commercialisation of the Group’s services – Contractual framework – Technical Services Agreement for Maintenance and Repair* of the present base document).

#### ■ Suppliers of the materials used by the Group’s technologies

Materials suppliers seeking to provide shipyards with the materials used to manufacture GTT’s systems require the Company’s approval. As a result, the Company has set up a materials assessment service charged with ensuring that the supplier complies with the various criteria laid down in the materials specifications and the procedures approved by GTT (see section 6.3.2.2(a) – *Detailed engineering services – Design studies* of the present base document).

## 6.5 RESEARCH AND DEVELOPMENT

### 6.5.1 Investment policy in research and development

GTT has a sharp focus on developing new technologies and refining its existing technology.

GTT's innovative and research activities are intended to deliver ground-breaking technological solutions to shipowners and terminal operators' existing and future needs. They also aim to maintain the Company's engineering excellence.

The Company's research and development policy has been aimed at achieving a better understanding of potential ways of improving its technologies, especially with regard to the sloshing phenomenon in tanks and the thermal efficiency of the materials used. This policy has been implemented through research into these phenomena and materials, as well as through the development of systems intended to predict or control their effects and new more effective containment systems.

The Company estimates that its spending on research and development activities came to EUR 8 million in the financial year ended 31 December 2010, EUR 10 million in the financial year ended 31 December 2011 and EUR 14 million in the financial year ended 31 December 2012. The Company's research and development activities are funded primarily using its free cash flow.

The amount of research and development expenses represents 20% of the total amount of the Company's operating expenses<sup>29</sup> in 2010, 25% in 2011 and 23% in 2012. The amount of research and development investments represents 31% of the aggregated total amount of the Company's investments for the financial years 2010, 2011 and 2012<sup>30</sup>.

In the first nine months of the financial year 2013, the newly developed products (Mark III Flex, NO 96 GW and NO 96 L03) have generated 53% of sales of the Company, it being specified that as at 30 September 2013, no order has been recorded for the NO 96 L03+ technology. As of 30 September 2013, in respect of LNG carrier, FSRU and FPSO orders, the amount of orders integrating the Mark III Flex technology represents 44% of the Company's order book, those integrating Mark III technology 20% of the Company's order book, those integrating NO 96 technology 15% of the Company's order book, those integrating NO 96 GW technology 8% of the Company's order book and those integrating NO 96 L03 technology 13% of the Company's order book.

The Company received a research tax credit worth EUR 2,025,084 for the financial year ended 31 December 2010, EUR 2,178,233 for the financial year ended 31 December 2011 and EUR 2,863,596 for the financial year ended 31 December 2012.

In addition, the Company received repayable advances from the *Fonds de soutien aux hydrocarbures* (French fund supporting oil and gas activities) between 1987 and 2001 covering some of its research programmes. The advances are repayable by the Company based on a so-called internal valuation, reflecting the improvement in the Company's knowledge and representing 25% to 30% of the amounts received and a so-called external valuation reflecting sales, rentals and licensing of technical products or patents registered in connection with projects that received assistance from the *Fonds de soutien aux hydrocarbures*. Repayment of the internal valuation is made in equal instalments over the five-year period following completion of the research work and that of the external valuation is a function of the actual or projected sales, where appropriate, generated by the new or technical products. Advances vest definitively with the Company at the end of the 20<sup>th</sup> year following the year in which the research programmes are approved and the corresponding advance is granted. At 31 December

<sup>29</sup> The operating expenses comprise the personnel expenses, external expenses, consumed purchases and taxes and fees.

<sup>30</sup> For the financial year 2012, financial assets acquisitions of an amount of EUR 5 million have been subtracted from the total amount of assets acquisitions.



2012, repayable advances amounted to EUR 2,588,163. The redeemable advances granted to the Company are described in note 2.17 of the financial statements for the financial years ended 31 December 2010, 2011 and 2012 as shown in section 20.1.1 - *Financial statements prepared in compliance with IFRS standards for financial years ended 31 December 2010, 2011 and 2012* of the present base document.

In the past, the Company received external financing on an exceptional basis in connection with the development of the NO 96 and CS 1 systems. Between 1985 and 1997, Gaz de France provided technical and financial support for the development of these technologies under several partnership agreements. The aggregate amount of this support came to EUR 4,594,965.83 (see section 19.2.1 – *Agreement between the Company and GDF SUEZ* of the present base document).

### **6.5.2 Research into new containment technologies and related technologies and services**

The Company is working on several new versions of its LNG containment technologies, which may fully or partly revitalise the technologies currently being commercialised. Some developments are in the research phase, while others are at the trial stage. The Company will not necessarily market all these developments, but may focus on a few of them geared to sector demand and best suited to fending off competition.

The Company is also working on its containment technologies for onshore storage tanks to optimise its current technology and increase the cost differential between GTT's technologies and those implemented by its competitors.

Development of technologies and services related to the use of GTT's technologies is part of the Company's strategy of business diversification and expansion.

In addition, Cryovision was set up in February 2012 to offer "TAMI", an innovative service that detects secondary barrier defects using a thermal imaging camera. GTT also offers a fault detection service for the primary barrier called "MOON".

As stated in section 6.3.5.2 – *Use of GNL for vessels propulsion ("LNG bunkering")* of the present base document, the Company is working on various developments related to the so-called "bunkering" logistics chain: this is the technology used for LNG bunker tanks on merchant vessels, feeder LNG carriers and LNG tanks located in port facilities. While a number of these developments use GTT's current technologies, they need to be adjusted to meet the specific constraints of the bunkering sector. Development of this new business may pave the way for the Company to market cryogenic pipelines, a technology already developed but never implemented to date.

#### **6.5.2.1 Research laboratories and equipments**

The Company owns research laboratories and equipments enabling it to perform dynamic fluids tests in real conditions using "hexapods<sup>31</sup>". GTT is a recognized expert in this field and participated in many co-development programs such as "Sloshel" which involved classification societies, oil and gas companies and universities and which aims at evidencing and describing hydro-elastic effects of the Company's containment systems during the solicitation of liquid impacts at full scale. GTT has performed on these "hexapods" approximately 50,000 hours of cumulated tests.

The Company also owns a test laboratory dedicated to thermal and mechanical properties of materials and subsets, in particular in cryogenic conditions, to thermomechanical tests of materials and to the assembly in cryogenic conditions. In addition, the Company has full-scale models to test its

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<sup>31</sup> Parallel mechanical system enabling the positioning and the motion of objects in space in accordance with the six degrees of freedom.

containment systems in cryogenic conditions and perform simulations of mechanical and thermal solicitations of membranes (models HaTILA – Half Tank Instrumented Laboratory).

### ***6.5.2.2 Research into new containment technologies***

The Company is constantly working on its membrane containment systems with a view to improving its existing containment systems and to designing new containment systems.

One means of improving its existing systems has come from the observations made by construction shipyards during the assembly phase of GTT's containment systems in vessels' tanks. The aim of this type of improvement is to simplify the system assembly procedures and possibly reduce the associated costs.

Another avenue of improvement derives from the needs of shipowners seeking a containment system with a higher thermal performance or allowing tanks to be filled partially, which may be necessary when an LNG carrier is filled up while docked alongside an FPSO (i.e. LNG carriers used to load the LNG from the FPSO).

The primary means of improving onshore tanks is to cut the associated costs through various optimisations of GST technology.

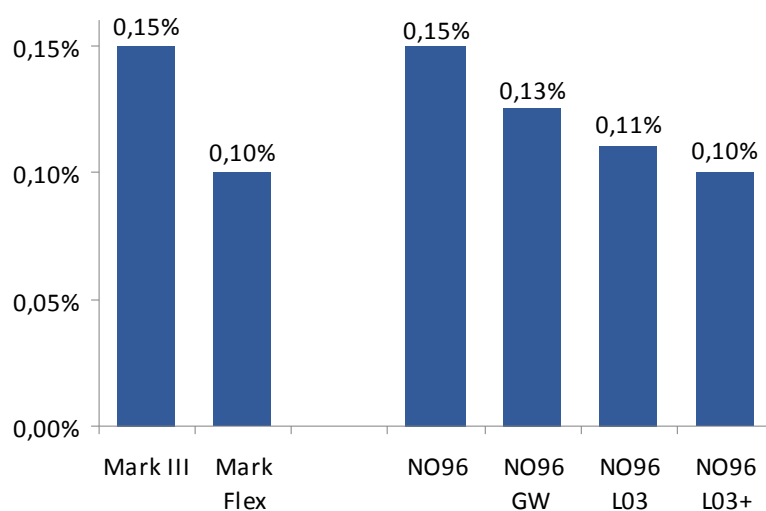
GTT is also working on new membrane containment systems. These research avenues aim to, on the one hand, reduce the cost of the technology and on the other hand, boost the mechanical resistance and thermal performances of these systems.

For illustrative purposes, since 2010 the Company has worked on developing new versions of its Mark III and NO 96 technologies in order to, in particular, reduce significantly the boil-off rate of LNG during its transportation.

The daily boil-off rate for each of the Company's technologies is presented in the chart below.

#### ***Performance of technologies developed by GTT since 2010***

*Daily boil-off rate*

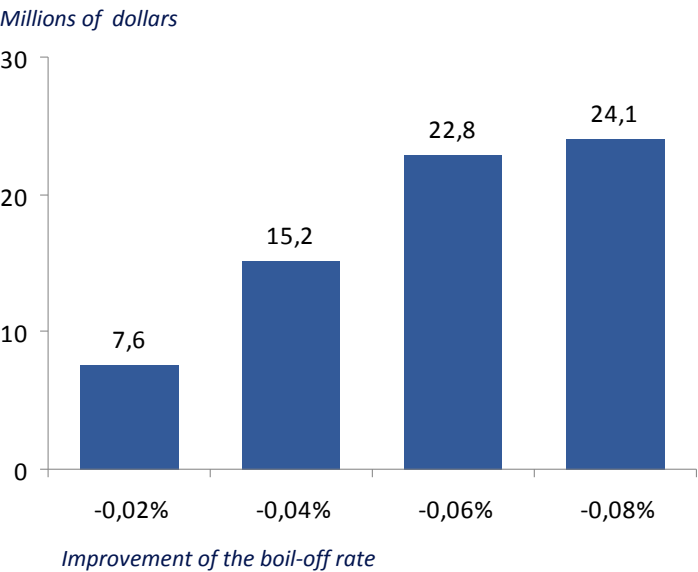


*Source: Company*

The boil-off rate of LNG on a vessel is one of the parameters for assessing the operating performance of the LNG containment system that it integrates. The decrease of the boil-off rate of LNG represents a real saving for gas companies and shipowners to the extent that such a decrease reduces the operating costs of vessels.

The chart below presents the net present value of savings generated over 10 years by reducing the boil-off rate for a vessel of 160,000 m<sup>3</sup>, equipped with technology having an initial daily boil-off rate of 0.15%. The retained assumptions are: a gas price of US\$ 16.45 used per million BTU (price on the Asian market) and a discount rate of cash flows is 10%.

***Net present value of savings generated through improving the boil-off rate from a LNG carrier over a period of 10 years***



Beyond the development of new containment systems, the Company has sought to adapt itself to the challenges of the LNG industry. The construction of LNG carriers with a larger capacity, or operated in more demanding conditions, or the establishment of liquefaction, storage and re-gasification offshore platforms, represented technical challenges for containment solutions over the last years.

GTT conducted the necessary studies to demonstrate to prescribers and players of the sector that its technologies, combined with a suitable naval architecture, offered the guarantees of reliability required by these new applications.

Thus, the exploitation project of the gas field “Yamal”, located in the Russian Arctic ocean, will result in the construction of LNG carriers, so-called of “Arctic class”, which are suitable for navigation at these latitudes. GTT has conducted extensive engineering studies demonstrating the ability of its technologies to address the constraints of navigation in the Arctic, such as vibrations due to collisions with ice or sloshing problems. GTT forecasts that the vessels to be built for this project “Yamal” will use its membrane technologies.

### **6.5.2.3 Research into new technologies and services**

#### **(a) Subsea cryogenic pipelines**

GTT has developed a subsea cryogenic pipeline enabling LNG carriers to load LNG off the coast without using a jetty. LNG carriers can remain up to 20 km away from the shore, allowing LNG projects to go ahead in shallow waters or in very busy coastal regions.

Cryogenic subsea pipelines offer several benefits including a less intrusive visual impact of the LNG infrastructure, a limited environmental impact facilitating permit delivery and an overall lower cost than very long jetties.

In this sector, the development of GTT's technology has reached the manufacturing stage and full-scale prototype testing, with the full industrialisation stage not yet having been completed. GTT technology has received the approval of the principal classification societies, but no project has yet employed this type of cryogenic pipeline. To date, no projects using this technology have been launched or are under development.

GTT has seen a new opportunity to use this technology in connection with the development of the bunkering business. Ports looking to equip themselves with an LNG tank to fuel vessels may consider installing a cryogenic tube to carry the LNG underneath the load rather than stored around it, thereby averting the risk of damage arising from an air hose in a port.



#### **(b) Containment membrane testing services offered by the Group**

The Group offers additional services that reinforce the trust shown by its customers in its technologies.

GTT offers "MOON", a testing service for its primary membrane (see section 6.3.3.1 – *Services performed by the Group* of the present base document) and Cryovision offers TAMI, a testing service for its secondary membrane (see section 6.3.3.2 – *Services performed by Cryovision* of the present base document).

## **6.6 TECHNICAL DESCRIPTION OF THE COMPANY'S MEMBRANE CONTAINMENT TECHNOLOGIES**

Prior to the merger which created GTT in 1994, Gaztransport and Technigaz had both developed their own technology in the 1960s. GTT has pursued research and development studies to improve both technologies and is currently marketing chiefly the NO 96 system resulting from the technology

initially developed by Gaztransport and the Mark III system resulting from the system initially developed by Technigaz.

Since shipyards have traditionally chosen one or other of these technologies proposed respectively by Technigaz and Gaztransport, GTT has pursued the development and improvement in parallel of both technologies in order to maintain a contractual relationship with both Technigaz's and Gaztransport's longstanding clients.

Once the shipyards have selected the most appropriate technology, they have an incentive to continue using it as the construction of an LNG carrier requires lengthy technical training specific to the selected technology and investment in special tools. As GTT can provide a choice between the two state-of-the-art systems, the Company can also adapt to the shipowner's specific needs.

In addition, harnessing its expertise in containment systems, Technigaz developed a special membrane technology for onshore tanks based on the containment systems used for LNG carriers, a development since continued by GTT.

#### **6.6.1 Mark III systems and development of Mark V technology**

The Mark systems containment technology was originally developed by Technigaz in the 1960s.

The first version of the Mark systems, Mark I, used balsa wood as the insulating material, sugar maple plywood for the secondary barrier and corrugated stainless steel for the primary barrier. With the arrival and rapid development of synthetic materials, balsa and sugar maple plywood were considered to be "exotic" materials, particularly balsa which is produced only in Ecuador. The available quantity of balsa is also limited and it takes 7 to 10 years for a tree to reach maturity for commercial purposes.

The design of the Mark III version improves the insulation coefficient and uses various cellular materials that can be sourced from several suppliers. Expanded polyurethane foam reinforced with glass fibre replaced the balsa for the insulation structure and Triplex for the secondary membrane was developed to replace the sugar maple plywood. According to Wood Mackenzie, 110 LNG carriers on water representing 31% of the global fleet were equipped with GTT's Mark technology as at July 2013, including 106 with Mark III technology.

The primary membrane is made of corrugated stainless steel 304 L, 1.2 mm thick, which is directly supported by and fixed to the insulation system. The standard size of the corrugated sheets is 3 meters x 1 meter. The secondary membrane is made of a composite laminated material: a thin sheet of aluminium between two layers of glass cloth and resin. It is positioned inside the prefabricated insulation panels between the two insulation layers.

The insulation consists of a load-bearing system made of prefabricated panels in reinforced polyurethane foam. This includes both primary and secondary insulation layers and the secondary membrane. The standard size of the panels is 3 m x 1 m. The thickness of the insulation is adjustable from 250 mm to 350 mm. The panels are bonded to the inner hull by means of resin ropes which serve two purposes: anchoring the insulation and spreading the loads evenly.

The Mark III technology has an optimized cost structure as the containment system is integrated in the vessel's hull which enables to transfer the efforts on the hull and separate the sealing and insulating functions. In addition, costs are lower as a result of a high level of prefabrication and the ease of assembly. Its modular nature adapts to different tank forms and to different capacities. The technology is particularly well suited for series construction.

The membranes have proven their reliability in the light of the feedback on the entire fleet in service: no loss of cargo is to be deplored while the first vessels were built in the early 1970s. This reliability is partly due to the intrinsic characteristics of the materials and technical choices developed to protect the

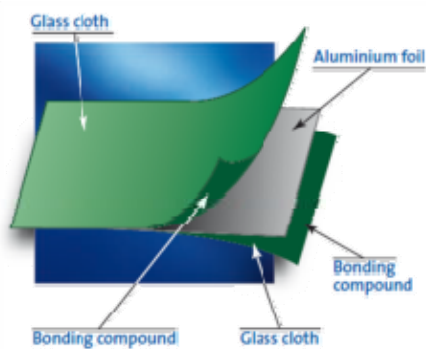
defaulting cargo. The Mark III technology was approved by all major classification societies and gas companies.

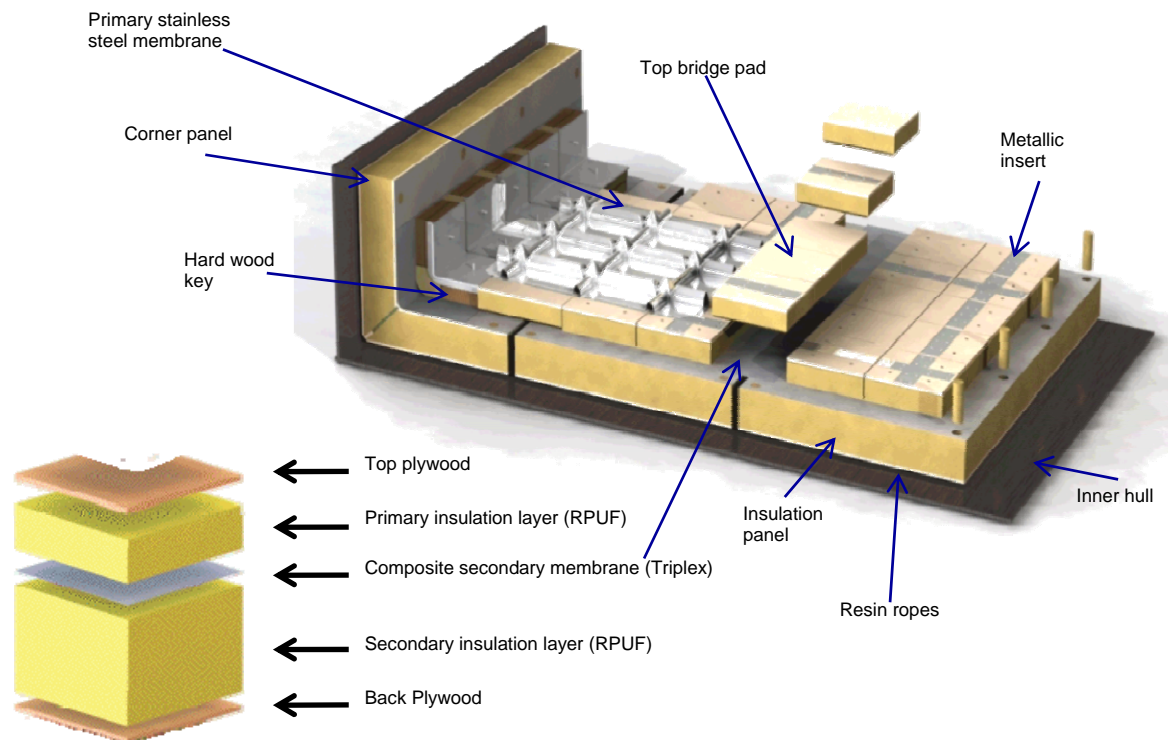
The membranes are designed to remain in operation for 40 years without requiring any particular maintenance. The insulated system has a high resistance and a good insulation capacity due to the insulation foam high density and the used insulation materials thermal properties.

The Company introduced the Mark III Flex, a revision of the Mark III range, in 2011. Since the polyurethane foam is thicker (400 mm rather than 270 mm) and more resilient, Mark III Flex boasts a lower boil-off rate and a system that can withstand sloshing more effectively for vessels operating in difficult conditions. Selecting Mark III Flex system over Mark III system represents an additional cost of US\$2 to 4 million. However, this new version reduces the cargo boil-off rate by 0.05% per day (0.10% per day rather than 0.15% for a vessel of 170,000 m<sup>3</sup>). Based on the assumption that a LNG carrier may operate 310 days per year (i.e. 155 days per year loaded with cargo), this reduction of 0.05% represents an annual saving of 7.75% of the value of the cargo, i.e. a saving for the shipowners of approximately US\$ 3.1 million based on an annual cargo value of US\$ 40 million.

The new version of the system was immediately popular with shipowners, with 43 orders received since it was launched until 30 September 2013

The following charts show the various elements and components of Mark III technology.





As part of the development of the bunkering activity, the Company has developed Mark V, a technology for LNG tanks used for the propulsion of all types of vessel. These tanks meet the same constraints as current LNG carrier tanks (flexible boil-off rate, flexibility in the extent to which tanks are filled), plus their own special constraints (flexibility to adapt to the shape of vessels, construction flexibility allowing adaptation to the construction techniques in which shipyards are proficient and ease of use of the systems with regard to limiting external intervention on the system). The key characteristics of this new technology are that it has a primary barrier identical to that used in Mark III systems, plus a new metallic Invar secondary barrier and Mark II-type reinforced polyurethane foam insulation.

#### 6.6.2 NO 96

The NO systems containment technology was originally developed by Gaztransport in the 1960s.

The first version of the NO system, NO 82, was launched in 1965 and was successfully used to build ten vessels with capacity ranging from 40,000 m<sup>3</sup> to 125,000 m<sup>3</sup>.

The second version of the NO system, NO 85, was launched in 1975, its principal improvements being a thicker Invar membrane and a 20% reduction in the components used to make the thermal membranes. It was therefore less costly and was used to build eight 125,000 m<sup>3</sup> vessels. NO 88, the third version of the NO system, was launched in 1978 and is an upgrade of the previous two versions. The northern pine girders in the secondary space were replaced by mechanical “couplers”, and the membranes were made of 0.7 mm Invar like the NO 85. This third version, which was more effective in terms of both insulation and construction costs, was used to build seven 130,000 m<sup>3</sup> vessels.

The NO 96, the fourth version of the NO systems, was launched in 1983, first ordered in 1994 and represented a major technological advance, with improved thermal and mechanical performance, better fatigue resistance and lower construction costs.

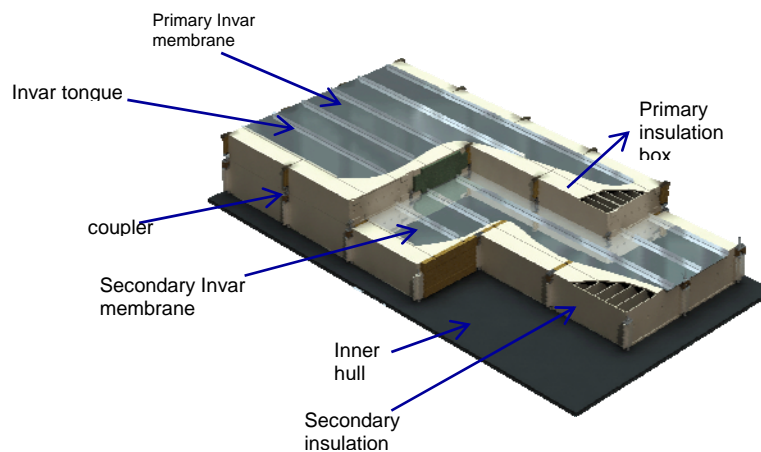
According to the Company, 124 LNG carriers representing around 35% of the global fleet were equipped with GTT’s NO technology as at 30 September 2013, including 109 with NO 96 technology.



The NO 96 membrane system is a cryogenic liner directly supported by the ship's inner hull. This liner comprises two identical metallic membranes and two independent insulation layers. The primary and secondary membranes are made of Invar, a 36% nickel-steel alloy, 0.7 mm thick. The primary membrane seals in the LNG cargo, while the secondary membrane, identical to the primary, provides 100% redundancy should leakage occur. Each of the 500 mm wide Invar strakes is fitted continuously along the tank walls and is evenly supported by the primary and the secondary insulation layers. The primary layer is secured by means of the primary couplers and fixed to the secondary coupler assembly.

The primary and secondary insulation layers in the load-bearing system are made of prefabricated plywood boxes filled with expanded perlite. The standard size of the boxes is 1 m x 1.2 m. The thickness of the primary layer is adjustable from 170 mm to 250 mm while the typical thickness of the secondary layer is 300 mm. The secondary layer is laid and evenly supported by the inner hull through load-bearing resin ropes, and fixed by means of the secondary couplers anchored to the inner hull.

The following charts show the various elements and components of NO 96 technology:



The NO 96 technology has an optimized cost structure as the containment system is integrated in the vessel's hull which enables to transfer the efforts on the hull and separate the sealing and insulating functions. In addition, costs are lower as a result of a high level of prefabrication and the ease of assembly. Its modular nature adapts to different tank forms and to different capacities. The technology is particularly well suited for series construction.



The membranes have proven their reliability in the light of the feedback on the entire fleet in service: no loss of cargo is to be deplored while the first vessels were built in the early 1970s. This reliability is partly due to the intrinsic characteristics of the materials and technical choices developed to protect the defaulting cargo. The NO 96 technology was approved by all major classification societies and gas companies.

The membranes are designed to remain in operation for 40 years without requiring any particular maintenance. The insulated system has a high resistance and a good insulation capacity due to the excellent mechanical resistance of plywood boxes and perlite insulation capacities.

In 2011, GTT introduced the NO 96 Evolution system, the NO equivalent of the Mark III Flex, for which it has already received orders. NO 96 Evolution offers better resistance to sloshing, where required, thanks to its stronger plywood boxes. It also achieves lower boil-off rates: 0.125% per day in a 170,000 m<sup>3</sup> vessel for the NO 96 GW system, for which the perlite insulation was replaced with glass wool, and 0.108% per day in a 170,000 m<sup>3</sup> vessel for the NO 96 LO3 system, for which the perlite insulation was replaced with a mix of glass wool and polyurethane foam. These two refinements, stronger boxes and better insulation, can be combined. The new version of NO 96 Evolution system was immediately popular with shipowners, with 22 orders received since it was launched until 30 September 2013. The NO Evolution program is ongoing, with the development of the NO 96 LO3 + system. This system extends the use of technical improvements introduced by NO 96 LO3, and should result in a lower boil-off rate (see section 6.5.2.2 – *Research into new technologies* in the present base document). The process of general approval for ship application of this system by classification societies is in progress.

### **6.6.3 Membrane adapted to onshore storage tanks**

Capitalising on its expertise in containment systems, Technigaz developed a specific membrane technology for onshore tanks in the 1960s.

GTT's membrane tanks apply the same principle as its LNG carrier technologies (two containers separated by an insulation layer) while the choice of materials and general design has been optimised for onshore storage.

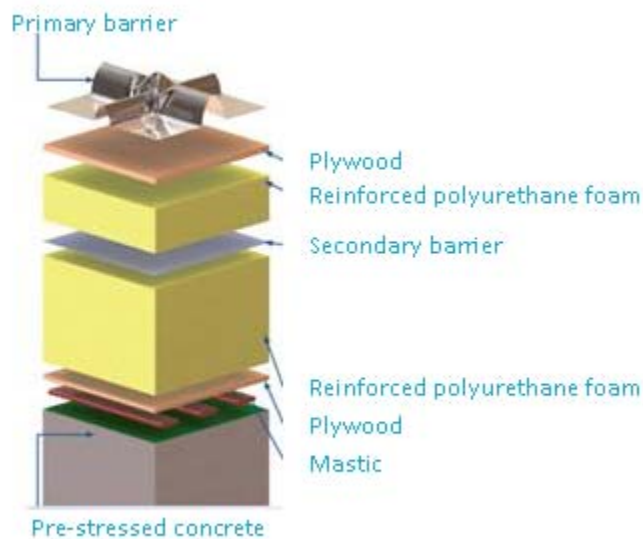
GTT's cryogenic containment system is directly positioned on the bottom slab and walls of the concrete structure. In addition to the stainless steel membrane, a partial secondary barrier made of a composite laminated material is placed inside the insulating panel.

There is a clear distinction between the main functions of the containment system. The membrane inner container provides a gas and liquid seal. The insulating panel provides thermal protection and transfers the hydrostatic charge to the concrete structure. Lastly, the pre-stressed concrete walls provide structural resistance to inner and outer loads.

Each function is optimised, avoiding multiple simultaneous failures and enhancing the reliability and efficiency of the membrane. As the membrane has no structural function, its thickness does not increase with tank capacity.

A wide range of configurations is available, from above-ground to in-ground tanks, as well as gravity-based structures and cryogenic caverns.

The following charts show the various elements and components of GST membrane technology.



## 6.7 CERTIFICATION OF GTT'S TECHNOLOGIES

There are a number of guidelines and recommendations intended to ensure the safe operation of LNG facilities, personnel and carriers. The LNG industry's exemplary safety record is underpinned by strict adherence to international, European and local regulations, recommendations, codes and standards. Since the first LNG carriers were delivered in 1964, over 45,000 shipments have been made without a single incident of LNG being lost through a breach or failure of the ship's tanks.

### 6.7.1 Regulatory authorities

The IMO is the United Nations agency which draws up international regulations governing shipping and international maritime trade.

The primary purpose of the IMO is to develop and maintain an up-to-date regulatory framework for shipping. Its mission statement includes promoting safety, environmental protection, technical co-operation, maritime security and shipping efficiency.

All member states apply the IMO rules including:

- the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code) published by the IMO in 1983 and currently being revised;
- the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code); and
- the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.

Non-compliance with the IGC Code or other applicable IMO regulations may expose a shipowner or bareboat charterer to increased liability, lead to decreases in available insurance coverage for affected vessels and result in the denial of access to or detention in some ports.

The government administration of the ship's registration country may impose additional requirements over and above these international codes.

### 6.7.2 Regulatory requirements

The IGC Code provides an international standard for the safe shipping of liquefied gases and certain other substances in bulk, by prescribing the design and construction standards of the vessels involved and the equipment they should be fitted with so as to minimise the risk to the ship, its crew and the environment, taking into account the nature of the products involved.

Compliance with the IGC Code must be evidenced by a certificate of fitness for the carriage of liquefied gases in bulk.

### 6.7.3 Classification societies

Classification societies are non-governmental organisations that form an integral part of the shipping industry, and are often referred to as "Class". They play two roles:

- they establish safety rules for vessels and make sure that they are implemented through periodic visits and inspections on behalf of shipowners during the construction and then during the service life of vessels; and
- they may also be mandated by the government in the registration country to issue certificates of compliance with the rules, which they have sometimes established themselves.

In the course of performing their duties, each classification society establishes and maintains standards for the construction and classification of vessels, confirms that construction designs and calculations meet these rules, checks the quality of a ship's key components on shipyards' sites (in particular steel, engines and generators) and takes part in trials at sea before issuing a classification certificate, which is required by the insurers. Classification societies also periodically inspect vessels in service to ensure that they continue to comply with the rules and required codes.

Classification societies are gathered in the International Association of Classification Societies (IACS) which comprises 13 members.

MEMBERS OF THE INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES			
American Bureau of Shipping		Polish Register of Shipping	
Korean Register of Shipping		Det Norske Veritas	
Bureau Veritas		RINA	
Lloyd's Register		Germanischer Lloyd	
China Classification Society		Russian Maritime Register of Shipping	
Nippon Kaiji Kyokai (ClassNK)		Indian Register of Shipping	
Croatian Register of Shipping			

Among these classification companies, the Company uses the services of the American Bureau of Shipping, Bureau Veritas, Lloyd's Register and Det Norske Veritas, which have a particularly strong reputation in LNG carriers.

#### **6.7.4 New technology certification and approval process**

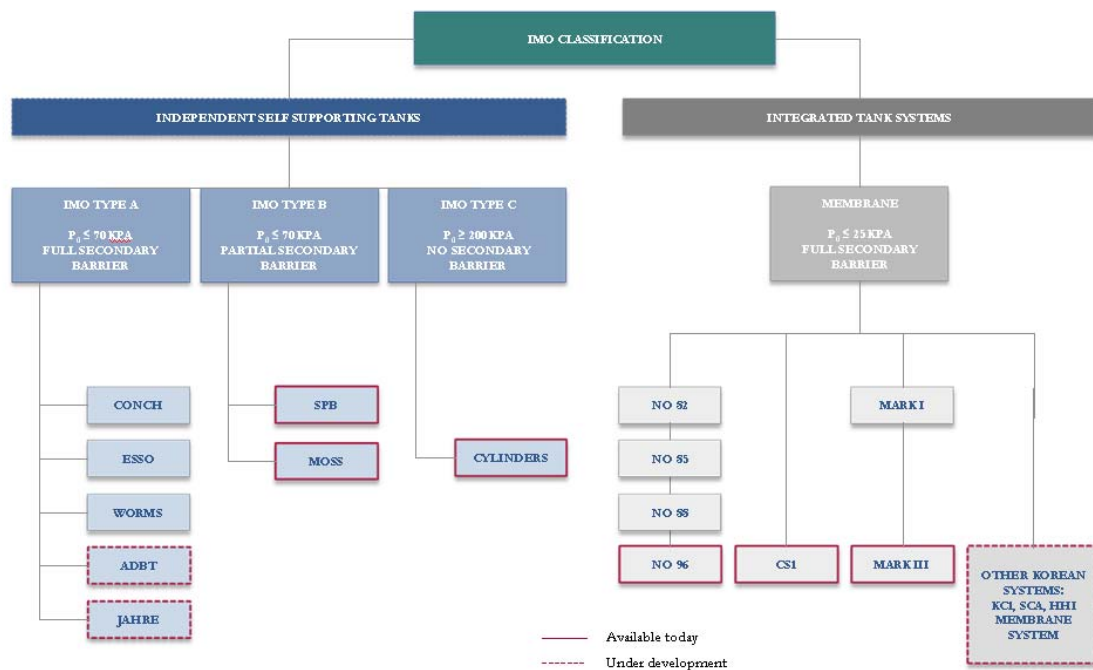
The new technology certification and approval process implemented by classification societies comprises two main steps:

- Type Approval or Approval In Principle. This procedure is optional except in a limited number of circumstances and is intended to approve the design of new materials, components, products and systems for vessels or offshore units and to verify their compliance with classification society standards. Each classification society has its own approval process, and the procedures and documents to be provided may vary from one society to another. Broadly speaking, the designer files an application with the classification society for approval based on a number of documents (plans and designs of the material, product or system, technical specifications, features, functional description, etc.). The classification society then examines the application, ensures that the design complies with international standards and in particular the IGC Code, as well as its own internal requirements, and verifies the product quality (inspection of production lines and quality control of the manufacturer, testing of a representative sample of the product) before issuing a Type Approval Certificate or a Design Appraisal Document.
- General Approval for Ship Application to obtain approval for the new development once the feasibility study has been completed and Approval In Principle obtained. This process aims to approve the installation of the new material, component, product or system in the ship. The approval application covers either a generic vessel or a specific project. The approval process is longer, more in-depth and requires more technical details (detailed designs, tests, in-depth calculations and analysis structures, (e.g. liquid dome or gas dome) than the Approval in Principle. At the end of this process, the classification society issues a Design Appraisal Document or Final Class Approval.

Many approvals in principle are issued by classification societies for technologies under development, including those which are at a relatively early stage of development, while few technologies (such as the GTT's technologies, Moss Maritime and SPB system) are subject to a general approval for ship application which is a longer and more thorough certification. Certain suppliers of containment technologies offer them for sale during the certification and approval process, however, the building shipyards may only build tanks that have obtained a general approval for ship application on vessels.

## 6.7.5 International Maritime Organisation (IMO) classification of technologies

Technologies for LNG carriers are classified in the IGC Code as follows:



Source: Company

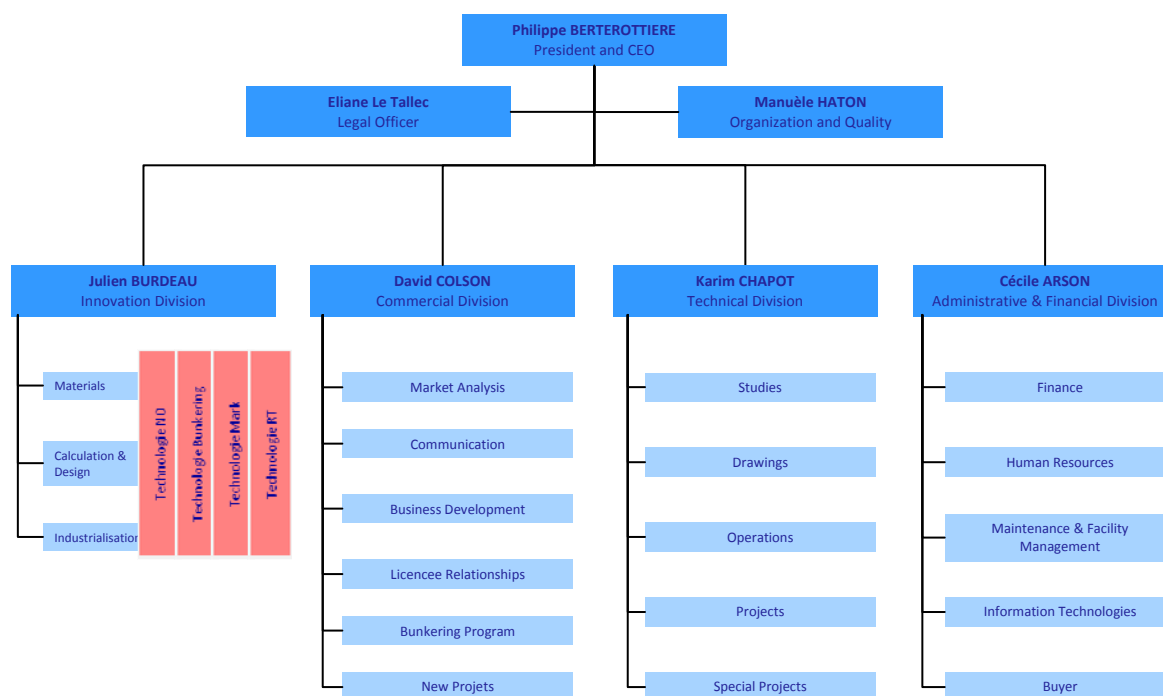
The IMO distinguishes between (i) integrated tank systems (integral tanks) which includes all the technologies developed by GTT and the SCA technology being developed by Samsung Heavy Industries, and (ii) independent self-supporting tanks that do not form part of the ship's hull structure (includes technologies developed by Ishikawajima Harima Heavy Industries and Moss Maritime and older technologies from Conch, Esso and Worms, which are no longer used). The independent self-supporting tanks are divided into three types of tanks that are:

- The type A self-supporting tank which has a prismatic shape, a full secondary barrier (this tank has a gauge design pressure of less than 70 kPa (700 mbar)) and rests on supports in the ship's hold. The thermal insulation of this type of tank is placed on its outer face.
- The type B tank which may take two forms: (i) the spherical shape supported on the hull at its equator (this tank has a gauge design pressure of less than 200 kPa (2 bars)) and (ii) the prismatic shape supported by the ship's hold (this tank has a gauge design pressure of less than 70 kPa (700 mbar)). The thermal insulation of this type of tank is placed on its outer faces.
- The type C self-supporting tank which has a cylindrical or lobed shape, no secondary barrier and is supported by the ship's hold or deck (the tank has a gauge design pressure in excess of 200 kPa (2 bar)). The thermal insulation of this type of tank is placed on the outer face of its wall or consists of a vacuum between the inner wall and an additional outer wall.

## 6.8 ORGANISATION OF THE COMPANY

GTT's senior management team is highly experienced in the containment system industry.

An organisation chart of the Company is shown below.



Key employees of the Company include:

- Philippe Berterottière, Chairman and Chief Executive Officer, joined GTT in 2009. He has 30 years of experience of working in advanced technology sectors. Previously, he served in various senior positions with aerospace companies. At Airbus, he was a contract negotiator, before being appointed head of business development. He was sales director at Matra's defence division and held various sales and marketing responsibilities at Arianespace, before being named Sales and Marketing Director and an Executive Committee member. He is a graduate of the prestigious HEC business school and of the IEP (*Institut d'Etudes Politiques*).
- Cécile Arson, Chief Financial Officer, joined GTT in 2010 and has worked in the energy sector for 17 years. She began her career in 1995 in the accounts department of a TOTAL subsidiary and joined TOTAL's Finance Department in 1999. From 2003 to 2007, she was in charge of accounting and taxation for TOTAL's overseas holding companies in the refining and marketing sector. Before joining GTT in 2010, she was head of internal control and risk assessment in TOTAL's refining and marketing division. She is a graduate of ESCP business school (*Ecole Supérieure de Commerce de Paris*).
- Manuèle Haton, organisation and quality officer, joined GTT in 2004 and boasts 17 years of experience in the energy sector. During her career with GTT, she was deputy head of the cargo handling systems department from 2004 to 2009, then from 2009 to 2010 helped to gain the ISO 9001 certification. Previously, she held several positions as engineering project manager and head of engineering at Soditech, Coflexip, European Marine Contractors and Saipem. She graduated from the *Ecole Nationale Supérieure d'Arts et Métiers* engineering school in Bordeaux and Paris and holds a psychology diploma from City University in London.

- David Colson, Commercial Director, joined GTT in 2004 and has 24 years of experience gained primarily in the chemicals industry and automobile sector. During his career with GTT, he was a shipyard project manager until 2008 and head of the business development department until 2010, when he was appointed Commercial Director. Previously, he held several positions at APV, ACOME and Valeo Filtration Systems. He graduated in mechanical engineering and business administration from the University of Birmingham (*Bachelor of Engineering and Bachelor of Commerce*).
- Julien Burdeau, Innovation Director, joined GTT in 2013. His career began with the French ministry for Industry, before he moved into the steelmaking sector in 2002. He gained 11 years of industry experience and held various operational responsibilities at Arcelor then ArcelorMittal and Aperam. From 2009 to 2013, he managed the Aperam group's Alloys and Specialties division. He is a former pupil of the prestigious *Ecole Normale Supérieure*, holds a PhD in mathematics and is a *Corps des Mines* engineer (see chapter 11 – *Research and Development, patents and licences* of the present base document).
- Karim Chapot, Technical Director, joined GTT as an engineer in 2000 and has worked in the shipping industry for 16 years. In 2002, he became Head of Structural Calculations and was then promoted to Development Director in 2007. Previously, he held various positions at the Cherbourg and Le Havre shipyards. He graduated in naval and offshore architecture from ENSTA Bretagne (*Ecole Nationale Supérieure de Techniques Avancées Bretagne*) and completed the Executive MBA programme at HEC (*Hautes Etudes Commerciales*).
- Eliane Le Tallec, head of legal affairs, joined GTT in March 2005 and has worked in law for 43 years. Previously, she was director of legal affairs at Normed (Chantiers du Nord et de la Méditerranée) and SEMT Pielstick (now MAN), as well as serving as deputy to the corporate secretary at La Cellophane and Application des gaz. She holds a master's degree in private law and graduated from the *Institut des Communautés Européennes*.

### **6.8.1 Organisation of the innovation division**

For a detailed description of the organisation of the innovation department, see section 11.1.1.1. – *Innovation division* of the present base document.

### **6.8.2 Organisation of the sales division**

The general role of the sales division is to conduct the Company's sales activity and to ensure that the customer agreements are properly implemented. It develops tools required for the sales activity and coordinates the promotion of the corporate technologies with the support of other divisions. The commercial director proposes to the Company's general management a sales policy and implements the selected policy. He supports the general management in the preparation of the business strategy and implements it through the actions he undertakes with prescribers and licensees.

The sales division is organized into six departments whose role is described below:

- Market analysis department: its main activity is to conduct a strategic monitoring of the LNG sector and its environment (gas, other energy, shipping, shipbuilding, engineering). It also monitors the competitive environment, in conjunction with the patent engineer from the innovation department. This department prepares analyses of the sector underlying the business plan of the Company.
- Communication department: it is responsible for preparing and implementing the Company's external communications policy. To this effect, it selects conferences and exhibitions for the Company to attend, manages its website, organises training sessions with shipowners and other players in the LNG sector and runs the Group's advertising.

- Business development department: it is responsible for developing and maintaining relationships of the Company with prescribers (shipowners, operators, gas companies , EPC Contractor, engineering companies, classification societies etc.) and potential licensees until the execution of a license agreement. It is organized into 10 regions: North America, South America, Europe, Russia, Middle East and Africa, India, China, South-Eastern Asia, Oceania, South Korea and Japan. It identifies in each of these regions entities and persons which required promotional activity. It identifies potential licensees and supports them until the execution of a license agreement (TALA or License Agreement). It also identifies repair shipyards and supports them until the execution of a technical assistance agreement. It manages the promotion of GTT services offering (technical assistance to shipowners, Hotline (HEARS), feasibility studies, pre-project engineering, etc.).
- Projects and business relations department: it is responsible for developing and maintaining relationships with licensees and the performance of contracts. It coordinates the exchanges between the Company and licensees, in particular obtaining data on projects and sending deliverables and ensures that the services that are provided by other departments comply with contracts and undertakings of the Company. In coordination with the business development department, it may also provide support to licensees for their own marketing plans.
- Bunkering programme department: it coordinates the Company's efforts to penetrate this segment and is responsible for the industrial deployment enabling the project to be carried out, as well as for the product sales model. It manages costs, time limits and project development, and may interact directly with the originators by promoting the products it has developed jointly with the business development department.
- Technical sales support department: is responsible for technical and sales promotion of new concepts in order to penetrate the growing segments identified by the Company and helps clients to specify their needs in order to draw up preliminary pre-projects that are executable by the technical division.

### **6.8.3 Organisation of the technical division**

The general role of the technical division is to manage the technical activity that comes into play after the innovation phase. It participates both in projects where products need to be adapted to a new context or a new segment, and in engineering projects with which it is already familiar and masters the required skills. It may occasionally participate in the industrialisation phase or in other specific assignments. The director of the technical division is responsible for the supply of technical services for each project and for compliance with cost restrictions, time limits and service quality. He is responsible for providing written justification for technical decisions on solutions delivered to shipyards.

The technical division is organised into five departments whose role is described below.

- Studies department: its role covers projects that have reached maturity in the development phase. It provides research reports at the pre-project, project and "after-sales" phases on matters of naval architecture, liquid motion or tank instrumentation and cargo transfer systems. It may potentially supply technical services to prescribers.
- Planning department: it supplies the sales division with plans at the pre-project, project and "after-sales" phases. In association with the studies department, it sets minor developments in technologies that have reached maturity in their development phase. In association with the sales division, it provides technical services to prescribers.



- Projects department: it is in charge of coordinating standard projects and ensures that cost, quality and time targets are met. It monitors the key project management indicators and proposes actions to correct any shortcomings or optimise the cost structure.
- Special projects department: it participates in projects that are not handled by the innovation division but still require further specific developments. Special projects are typically pilot projects that generate a large number of feasibility issues and thus require technical trade-offs. The department manages the interface with clients on these projects and makes the technical choices to ensure convergence of solutions within the agreed lead times while controlling costs.
- Operations department: it provides technical assistance to clients during the construction, maintenance or processing of products under licence and provides on-site technical support during the construction of products under licence in accordance with contractual requirements. It also ensures that the licensee uses the products in accordance with the license agreement (non-diversion of licences). It takes part in the analysis of clients' functional needs and, alongside the sales division, in the design of service offerings in order to meet best these needs.

#### **6.8.4 Organisation of the administration and finance division**

The administration and finance division is responsible for all the support functions required for the business to run smoothly (finance, financial control, purchasing, human resources, IT and general services). The administration and finance director also proposes an overall management policy to the general management.

The administration and finance division is organised into six departments whose role is described below.

- Management control department: it implements and monitors budget control and management accounting, supports the operators in defining the needs in terms of financial, human and technical resources (in particular by preparing budgets and reporting dashboards). It contributes to various economic research reports, particularly on improving cost awareness within the business and the cost of the Company's developed or future technologies for its clients, calculating cost prices and assessing projected and actual returns on investments. It makes an active contribution to strengthening the company's internal control system.
- Finance department: it performs all accounting operations (book-keeping, receivables and payables, fixed assets, payments) and prepares the Company's financial statements. It implements accounting and tax standards and procedures, and is responsible for cash management. It provides various payroll services such as calculating salaries and social security payments, as well as accounting for paid leave.
- Human resources department: it ensures that the Company has people with the skills and expertise it requires and organises employees' career development and training. It assists general management in preparing for meetings with staff representative bodies.
- Maintenance and general services department: it manages the premises of the Company's registered office on a day-to-day basis, and in particular liaising with contractors work (for construction or installation) on the premises and with insurance companies in the event of a damage (reporting, repairs, compensation).
- IT systems department: is responsible for the consistency and efficient operation of systems and networks, hardware and software maintenance, IT security and systems development. It supervises new developments and manages relations with suppliers in its areas of competence. It ensures that IT systems comply with regulations.

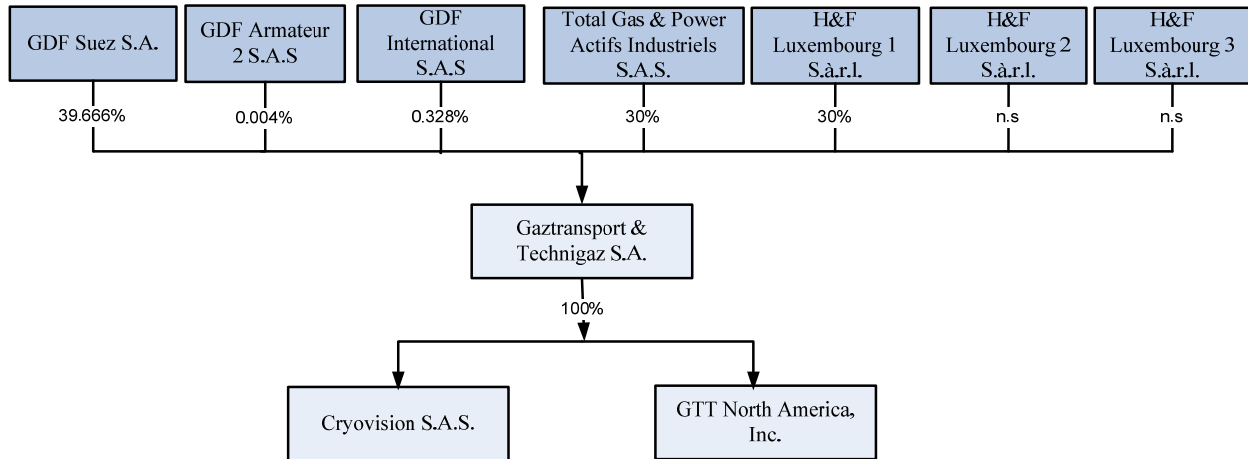
- Purchasing department: it manages the Company's purchasing strategy, sets up the main contracts and manages the purchasing application.

## **6.9 BASIS FOR ANY STATEMENTS MADE BY THE COMPANY REGARDING ITS COMPETITIVE POSITION.**

See section *Preliminary remarks* of the present base document.

## CHAPTER 7 ORGANISATION CHART

The simplified organisation chart presented below shows the Company's situation at the registration date of the present base document.



GDF Armateur 2 S.A.S. is wholly-owned by GDF International S.A.S., which in turn is wholly-owned by GDF Suez S.A.

Total Gas & Power Actifs Industriels is wholly-owned by Total S.A.

H&F Luxembourg 1 S.à.r.l is a Luxembourg company managed by its managers and controlled by an investment fund led by Hellman & Friedman. It has been a shareholder of the Company since 2008.

H&F Luxembourg 2 S.à.r.l is a Luxembourg company managed by its managers and controlled by an investment fund led by Hellman & Friedman. It has been a shareholder of the Company since 2013.

H&F Luxembourg 3 S.à.r.l is a Luxembourg company managed by its managers and controlled by an investment fund led by Hellman & Friedman. It has been a shareholder of the Company since 2013.

At the date of the present base document, the Company owns the entire share capital and voting rights of Cryovision and GTT North America.

The Group's business activities are presented in Chapter 6 – *Overview of the activities of the Group* of the present base document.

The duties performed by the Company's managers in its subsidiaries are described in section 14.1 - *Members of the administrative, management and supervisory bodies and general management* of the present base document.

## **CHAPTER 8**

### **PROPERTY, PLANTS AND EQUIPMENT**

#### **8.1 SIGNIFICANT, EXISTING OR PLANNED PROPERTY, PLANT AND EQUIPMENT**

##### **8.1.1 Property**

The Company and Cryovision use the premises located at the Saint-Rémy-lès-Chevreuse (France) site, which is owned by the Company and where the registered office is located.

The Company is the owner of two plots of land of 84,628m<sup>2</sup> and 122m<sup>2</sup> in surface area, representing a total of 84,750m<sup>2</sup> located at 1 route de Versailles in Saint-Rémy-lès-Chevreuse. A property complex comprising laboratories, offices, stores, workshops and corporate restaurants has been built on these plots of land. The property complex has an aggregate of 16 buildings in total. The land also contains parking lots, roadways for vehicles, a river water retention pond, green spaces and cultivated areas.

The total space occupied by the Company's premises stands at around 12,986m<sup>2</sup>.

In addition, the Company has leased office space to Cryovision under a commercial lease executed on 31 December 2012 (see section 19.1.1 – *Commercial lease between GTT and Cryovision* of the present base document).

##### **8.1.2 Other property, plants and equipment**

Aside from the land and property complex located at Saint-Rémy-lès-Chevreuse described above, other property, plant and equipment consist primarily of office and IT equipment and installations, equipment and tools used in the laboratories and fixtures and fittings for the premises.

The property, plants and equipment owned by the Company are described in note 7 to the financial statements for the financial years ended 31 December 2010, 2011 and 2012 as shown in section 20.1.1 – *Financial statements prepared in accordance with IFRS standards for financial years ended 31 December 2010, 2011 and 2012* of the present base document.

#### **8.2 ENVIRONMENT AND SUSTAINABLE DEVELOPMENT**

Given the nature of its business activities and its current property, plant and equipment, the Company does not believe that it is exposed to significant environmental risk. Since the Company's acquisition in 2003 of the Saint-Rémy-lès-Chevreuse site, which had undergone pollution abatement work by the seller and it is no longer classified as "*a classified installation for the protection of the environment*". In addition, this site is located in the *Haute Vallée de Chevreuse* national regional park.

The Company does not believe that there are any environmental issues likely to have a significant influence on use of this property, plants and equipment by the Company or by Cryovision.

## **CHAPTER 9**

### **REVIEW OF FINANCIAL POSITION AND RESULTS**

#### **9.1 FINANCIAL STATEMENT PREPARED IN ACCORDANCE WITH IFRS**

As part of its initial public offering project, the Company established in addition to its financial statements prepared in accordance with French accounting standards, (i) restated IFRS accounts prepared in accordance with IFRS standards (International Financial Reporting Interpretations Committee), as adopted in the European Union for the financial years 2010, 2011 and 2012 and (ii) condensed financial statements for the first nine months of the financial year 2013. These statements prepared in accordance with IFRS were approved by the Board of Directors of the Company as at 13 November 2013. The financial statements prepared under IFRS for financial years 2010, 2011 and 2012 were audited by the statutory auditors of the Company and the financial statements prepared in accordance with IFRS for the first nine months of the financial year 2013 were subject to limited review by the statutory auditors of the Company. The auditors' reports are presented in sections 20.1.2 - *Auditors' report on the financial statements prepared in accordance with IFRS for the financial years ended 31 December 2010, 2011 and 2012* and 20.1.4 - *Auditors' report on the condensed financial statements as at 30 September 2013 prepared in accordance with IFRS* of the present base document.

Consolidated financial statements including the Company's subsidiary "Cryovision" established on 2 February 2012 have not been prepared due to its immaterial activity over the period covered by the financial statements presented in the present base document. For its first financial year, the subsidiary's revenues amounted to EUR 860,314, its net income amounted to EUR 16,171 and its total balance sheet amounted to EUR 1,106,976 (figures from the financial statements as at 31 December 2012 prepared in accordance with French accounting standards). The evolution of Cryovision's activity in 2013 should not reverse this position in the short term.

The creation of the other subsidiary of the Company, GTT North America in July 2013, has not been taken into account in the financial statements presented in the present base document. Indeed, as at 30 September 2013, the amounts involved (expenses relative to the incorporation of the company) are minimal.

The comments on the financial statements for the financial years 2010, 2011 and 2012 and at 30 September 2013 presented in chapters 9 and 10 of the present base document, have been established solely on the basis of the accounts and financial statements prepared in accordance with IFRS and included in the section 20.1 - *Financial statements prepared in accordance with IFRS* of the present base document. Investors are invited to consult the information relative to the financial position and results of the Company presented in this chapter with (i) financial statements for the financial years 2010, 2011 and 2012 prepared in accordance with IFRS included in section 20.1.1 - *Financial statements prepared in accordance with IFRS for the financial years ended 31 December 2010, 2011 and 2012* and (ii) financial statements for the first nine months of financial year 2013 prepared in accordance with IFRS included in section 20.1.3 - *Financial statements prepared in accordance with IFRS as at 30 September 2013* of the present base document.

Over the period 2006-2009, the indicators presented in this chapter are extracted from the respective financial statements of GTT prepared in accordance with French accounting standards.

##### **9.1.1 Activity**

The Company is an engineering company specialized on the one hand, in the design of cryogenic containment systems with membranes for LNG carriers, FPSOs, FSRUs and LNG onshore storage tanks, and on the other hand, in the provision of engineering services technology related to membrane containment technology and the provision of maintenance and repairing services.

Since its creation, the Company has focused its efforts on:

- continuous improvement of its two main technologies, Mark III and NO 96, which are protected by patents and whose implementation is mastered by GTT; and
- the conquest of new markets by pursuing a process of diversification of its activities for several years, looking for applications that would capture new market segments, generating growth in the short and medium term.

### **9.1.2 Revenue recognition**

The recognition of revenues is determined in accordance with the provisions of TALA (see section 6.3.4.1 - *Commercialisation of GTT's technologies* of the present base document) and is recognized using the percentage-of-completion method in relation to the duration of construction of vessels, about three to five years (see note 2.4 of the financial statements for the financial years ended 31 December 2012, 2011 and 2010 included in the section 20.1.1 - Financial statements prepared in accordance with IFRS for the financial years ended 31 December 2010, 2011 and 2012 of the present base document).

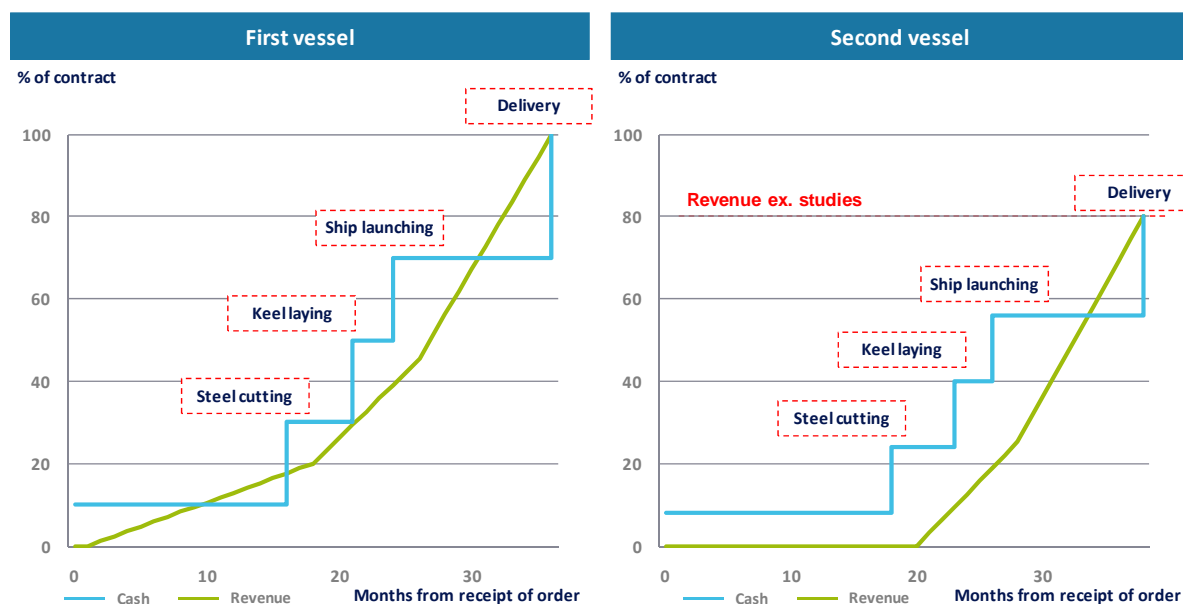
Revenues consist primarily of royalties received from shipyards, customers of the Company, in consideration of the use of the technology available for the construction of vessel and LNG onshore storage tanks under license agreements. These royalties include engineering study services, license fees and technical assistance services.

Revenues related to engineering study services, which represents for the first vessel in a series of LNG carriers about 20% of the total royalties paid, is recognized within 14 to 20 months following the signing date of the order.

Revenues from license fees, which represent the major part of royalties are recognized only from the start of steel-cutting and until final acceptance of the LNG carrier, a time-lag of about 15 to 24 months from the signing date of the order.

Finally, GTT receives royalties for the provision of technical project assistance which is recognized over the last 300 days before the delivery date of the LNG carriers.

These charts illustrate the recognition of revenue provided by royalties according to (i) the first vessel of a series or (ii) the second vessel or following vessels of a series:



### 9.1.3 Factors affecting the net income

Information relating to order book	2010	2011	2012	30/09/2013
Order book at the end of the period (number of orders)	18	52	77	101
LNG carriers	17	45	65	88
FSRU	-	5	8	9
FPSO	-	1	2	2
Onshore storage	1	1	2	2
Number of orders during the year or previous years generating revenues for the period	35	26	44	70
LNG carriers	30	22	35	58
FSRU	4	3	5	8
FPSO	-	1	2	2
Onshore storage	1	-	2	2
Generation of income for LNG carriers	2010	2011	2012	30/09/2013
(A) Number of new orders for the period	7	38	21	31
(B) including the first vessels of the series	1	10	6	8
(C) Average turnover generated by the studies (only for the first vessels of the series) (in thousands of euros) <sup>(1)</sup>	1,480	1,688	1,673	1,850
(D) Average turnover excluding studies and before discount (in thousands of euros) <sup>(1)</sup>	6,245	6,694	7,026	7,333
(E) Average discount rate (%)	16.7%	7.0%	9.8%	6.4%
Total turnover secured under taking order (in thousands of euros) <sup>(2)</sup>	37,915	253,319	143,187	227,586
Average order capacity (m <sup>3</sup> )	156,743	159,137	164,371	172,793

(1) Total turnover from global life of the order

(2) Determined as (A) x (D) x (1-E) + (B) x (C)

- *The global level of orders for vessels:* the Company being the first operator of cryogenic systems for LNG carriers, its activity is directly related to the number of LNG carriers ordered, which is dependent on the LNG global supply and demand. A large part of the revenues and

cash flow of the Company is dependent on the global level of vessels orders, even if the provision of other service activities provides another source of revenues.

Given the average turnaround time for contracts, to the order of 3 to 5 years depending on the type of vessel, the revenues and net income of any one financial year are largely dependent on the orders booked in previous years. The order book at the beginning of the financial year, being another important indicator, strongly affects the level of activity and results of the current year and subsequent years.

The GTT order book has grown significantly since 31 December 2010, when it was at its lowest level with 18 LNG carriers, to increase to 101 LNG carriers as at 30 September 2013, its highest level since 2007.

- *The characteristics of the orders:* the revenue received by GTT is calculated based on the surface of the membrane. In addition, because of the system of trade discounts, the Company's revenues depend on the number of orders of identical vessels received.

The average revenues expected by a series LNG carrier have increased steadily since 2010, from EUR 6,245 thousands to EUR 7,333 thousands as at 30 September 2013. This is mainly due to an increase in the average capacity of ship orders increasing from 156.743 m<sup>3</sup> in 2010 to 172.793 m<sup>3</sup> as at 30 September 2013.

Given the relatively low number of orders, the Company has not conducted such analysis for the FSRU, FPSO and onshore tanks. Capacity and average incomes for FSRU are however similar to those of LNG carriers.

- *Personnel expenses and the cost of the use of subcontracting,* which is needed to cope with the heavy work-load of activity.
- *The level of expenditure and capital allocated to research and development:* if, structurally, the Company is constantly working to improve its technologies, it is also required to conduct research and development to develop new technologies.
- *The tax environment,* particularly with respect to specific tax regimes of which the Company may benefit such as taxation in France at a reduced rate of royalties from licensing of certain intellectual property rights; or the benefit of tax credits derived from certain research and development expenditure; and regarding withholding taxes on royalties from foreign sources in accordance with applicable tax treaties.

#### **9.1.4 Long term business outlook**

In order to meaningfully compare financial indicators, the table below provides a reconciliation of operating income as per the annual accounts (prepared in accordance with French GAAP) to the operating income in the IFRS accounts for the period from 2010-2012.

For the period from 1 January 2006 to 31 December 2009, the indicators presented in this chapter are extracted from GTT's financial statements prepared in accordance with French accounting standards. For the period from 1 January 2010 to 30 September 2013, the indicators presented in this chapter are extracts from the accounts of GTT prepared in accordance with IFRS.

In this chapter 9, EBIT corresponds to operating income (IFRS) over the 2010-2012 period and the operating income (French GAAP) for the 2006-2009 period. EBITDA corresponds to EBIT plus the depreciation charge on assets (under IFRS for the 2010-2012 period and under French GAAP for the period 2006-2009).



	As at 31 December							As at 30 September
	(in thousand of euros)	2006	2007	2008	2009	2010	2011	2012
French GAAP accounts	<b>Turnover</b>	163,442	221,636	250,896	141,539	74,677	55,758	89,486
	<b>EBITDA (Operating income + amortisation of fixed assets)</b>	<b>117,528</b>	<b>174,871</b>	<b>193,767</b>	<b>76,622</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
	Amortisation of fixed assets	2,257	3,133	3,424	3,780	n.a.	n.a.	n.a.
	<b>Operating income</b>	<b>115,271</b>	<b>171,738</b>	<b>190,343</b>	<b>72,842</b>	<b>27,785</b>	<b>15,694</b>	<b>39,377</b>
IFRS transition	Leases	n.d.	n.d.	n.d.	n.d.	(180)	(180)	(180)
	Reclassified exceptional income	n.d.	n.d.	n.d.	n.d.	732	46	5,753
	Income Tax	n.d.	n.d.	n.d.	n.d.	2,350	2,046	2,818
	Employee Profit-sharing schemes	n.d.	n.d.	n.d.	n.d.	(1,562)	(455)	(2,458)
	<b>EBITDA</b>	<b>n.d.</b>	<b>n.d.</b>	<b>n.d.</b>	<b>n.d.</b>	<b>32,904</b>	<b>20,453</b>	<b>48,448</b>
	Amortisation under IFRS	n.d.	n.d.	n.d.	n.d.	3,779	3,302	3,138
	<b>Operating income (EBIT)</b>	<b>n.d.</b>	<b>n.d.</b>	<b>n.d.</b>	<b>n.d.</b>	<b>29,125</b>	<b>17,151</b>	<b>45,310</b>

n.a. : non applicable  
n.d. : non determined

The table below shows the evolution of the order book, revenue, EBITDA, EBIT, net income and the amount of dividends distributed.

(in thousand of euros)	2006 <sup>(1)</sup>	2007 <sup>(1)</sup>	2008 <sup>(1)</sup>	2009 <sup>(1)</sup>	2010 <sup>(2)</sup>	2011 <sup>(2)</sup>	2012 <sup>(2)</sup>	30/09/2013 <sup>(2)</sup>
Order book for the period (number of orders)	120	112	66	30	18	52	77	101
<b>Total revenues</b>	<b>163,442</b>	<b>221,636</b>	<b>250,896</b>	<b>141,539</b>	<b>74,677</b>	<b>55,758</b>	<b>89,486</b>	<b>156,942</b>
Annual growth (%)		35.6%	13.2%	(43.6%)	(47.2%)	(25.3%)	60.5%	187.7% <sup>(3)</sup>
EBITDA	117,528	174,871	193,767	76,622	32,904	20,453	48,448	104,642
<i>EBITDA margin (%) - EBITDA / Revenues</i>	71.9%	78.9%	77.2%	54.1%	44.1%	36.7%	54.1%	66.7%
EBIT / Operating income	115,271	171,738	190,343	72,842	29,125	17,151	45,310	102,179
<i>EBIT margin (%) - EBIT or Operating income / Revenues</i>	70.5%	77.5%	75.9%	51.5%	39.0%	30.8%	50.6%	65.1%
Net income	92,546	143,677	160,467	59,851	22,744	15,700	40,158	92,142
<i>Net margin (%) - Net income / Revenues</i>	56.6%	64.8%	64.0%	42.3%	30.5%	28.2%	44.9%	58.7%
IFRS net income	n.d.	n.d.	n.d.	n.d.	23,185	18,386	39,577	86,632
<i>IFRS net margin (%) - IFRS net income / Revenues</i>	n.d.	n.d.	n.d.	n.d.	31.0%	33.0%	44.2%	55.2%
Dividends paid	61,560	92,989	144,019	161,006	30,248	52,997	15,714	91,831
<i>Dividend distribution rate (% of previous financial year net income)</i>		100.5%	100.2%	100.3%	50.5%	233.0%	100.1%	

(1) Informations from financial statements prepared in accordance with French accounting standards: revenues, operating income, net income. EBITDA = operating income + amortisations (French GAAP Financial statements)

(2) Information from IFRS financial statements: revenues, operating income, net income. EBITDA = operating income + amortisation (IFRS)

(3) Annual growth over the first nine months of financial year 2012

## 9.2 ANALYSIS OF ANNUAL RESULTS FOR THE YEARS ENDED 2010, 2011 AND 2012

### 9.2.1 Analysis of annual results 2011-2012

#### 9.2.1.1 Condensed income statement

(in thousand of euros)	As at 31 December		
	2010	2011	2012
<b>Revenues from operating activities</b>	<b>74,677</b>	<b>55,758</b>	<b>89,486</b>
Costs of sales	(1,466)	(1,674)	(2,192)
External charges	(19,446)	(18,373)	(32,246)
Personnel expenses	(16,820)	(18,084)	(24,259)
Taxes	(1,403)	(1,182)	(1,634)
Depreciation, amortisations and provisions	(9,608)	(1,329)	8,073
Other operating income and expense	3,191	2,036	8,082
<b>Operating income (EBIT)</b>	<b>29,125</b>	<b>17,151</b>	<b>45,310</b>
<b>EBIT margin on revenues (%)</b>	<b>39.0%</b>	<b>30.8%</b>	<b>50.6%</b>
Net financial income	1,013	1,029	676
<b>Net income before tax</b>	<b>30,138</b>	<b>18,180</b>	<b>45,986</b>
Income tax	(6,953)	206	(6,409)
<b>Net income</b>	<b>23,185</b>	<b>18,386</b>	<b>39,577</b>
<b>Net margin on revenues (%)</b>	<b>31.0%</b>	<b>33.0%</b>	<b>44.2%</b>
Basic earnings per share (in euros)	1,002	794	1,710
Calculated indicator			
<b>EBITDA</b>	<b>32,904</b>	<b>20,453</b>	<b>48,448</b>
<b>EBITDA margin on revenues (%)</b>	<b>44.1%</b>	<b>36.7%</b>	<b>54.1%</b>

Net margin on revenues increased from 31.0% to 33.0% between 2010 and 2011 and from 33.0% to 44.2% between 2011 and 2012. The increase between 2010 and 2011 is due to a deferred tax asset recognized in 2011, part of which relates to prior year deficits, which were offset against income tax and created a positive net tax result in 2012 while it exceeded of EUR 6 million in 2010 and in 2012.

#### 9.2.1.2 Evolution and distribution of revenues (see “operating activities” in income statement)

(in thousand of euros)	2010	2011	2012
<b>Total revenues</b>	<b>74,677</b>	<b>55,758</b>	<b>89,486</b>
Annual growth (%)	(47.24%)	(25.33%)	60.5%
<i>Royalties</i>	66,930	49,721	82,016
<i>LNG carriers</i>	62,144	45,737	68,064
<i>FSRU</i>	4,286	2,794	8,421
<i>FPSO</i>		1,191	2,648
<i>Onshore storage</i>	500		2,883
<i>Other services</i>	7,747	6,036	7,470

Revenues moved from EUR 74,677 thousands in 2010 to EUR 55,758 thousands in 2011 and then reached EUR 89,486 thousands in 2012.

The decrease in royalties between 2010 and 2011 is directly related to the decline in orders experienced by the Company between 2008 and mid-2010 because of the financial crisis and the increase in production of shale gas in the United States of America. The increase between 2011 and 2012 is related to the number of orders recorded between late 2010 and 2011, driven in part by the first signs of recovery from the global financial crisis as well as changes in demand for LNG, as a result of the consequences of the Fukushima disaster.

The FPSO order signed in 2011 generated revenues from the year of booking the order (engineering studies).

Revenues from onshore tanks in 2010 resulted from the order of an onshore tank in 2009, which generated revenues in 2010. However, given the suspension for several months of the construction of this tank located in Indonesia due to encountered difficulties for obtaining the required authorizations, no revenue was recorded in 2011. Revenue from onshore tanks in 2012 resulted from the resumption of the construction of the onshore tank and the order of a new onshore tank in early 2012.

Revenues relating to other services were relatively stable over the period 2010-2012 to the extent that it is disconnected from the number of orders relating to new builds.

### **9.2.1.3 Composition of GTT operating income**

#### **9.2.1.3.1 External charges**

(in thousand of euros)	<b>2010</b>	<b>2011</b>	<b>2012</b>
Tests and studies	6,368	8,104	17,324
Leasing, maintenance & insurance	7,333	2,596	3,958
External Staff	719	842	1,313
Fees	752	2,024	3,857
Transport, travel and reception expenses	2,700	3,221	4,649
Postal & telecommunication charges	138	80	140
Other	1,436	1,507	1,005
<b>Total</b>	<b>19,446</b>	<b>18,373</b>	<b>32,246</b>
<b>% of revenues from operating activities</b>	<b>26%</b>	<b>33%</b>	<b>36%</b>

External expenses of the Company moved from EUR 19,446 thousands in 2010 to EUR 18,373 thousands in 2011 and to EUR 32,246 thousands in 2012.

External expenses consist of:

- principally, test fees and studies that include both the use of technical assistance in times of high activity and external studies needed to develop the know-how of the Company. These costs, decreased between 2009 and 2010 by almost 40 % due to reduced activity and a program of cost reduction, then subsequently increased by 27 % between 2010 and 2011 and by 113% between 2011 and 2012 to accompany the strong activity related to the volume of orders booked in 2011 and 2012;
- to a lesser extent, the cost of upkeep and maintenance of the site at Saint-Rémy-lès-Chevreuse, and insurance costs (in particular civil liability). The sharp decline between 2010 and 2011 was due to the renegotiation of the civil liability insurance contract, completed at the end of 2010 with an effective date in 2011, adapted to meet the needs of the Company. The increase between

2011 and 2012 is mainly due to a ship repair bill (which has been reimbursed by the Company's insurers);

- travel expenses or costs of accommodating staff who travel to shipyards mainly in Asia or commercial or technical seminars around the world; and
- fees, for which the significant increase between 2010 and 2011 (+169 %) and between 2011 and 2012 (+90.6 %) is mainly due to the dispute between the Company and the Chantiers de l'Atlantique (see section 20.3.2 - *Dispute between the Company and the company Chantiers de l'Atlantique* of the present base document), the Company sought counsel from law firms because of the ongoing proceedings (especially before the High Court in London in 2011 and various procedures in 2012). A portion of these costs was reimbursed by the Company's insurance policy. The increase is also explained by the increase in the use of recruitment agencies and business development consultants to address the business growth of the Company.

External costs represent 26% of revenues in 2010 and 33% of revenues in 2011. This evolution is mainly due to the sharp decrease in revenues between 2010 and 2011 and by the fact that the external costs are mainly fixed costs.

External expenses represented 36% of revenues in 2012, due to the increased use of external studies and testing to enable a 60.5% increase in 2012 revenues.

#### 9.2.1.3.2 Personnel expenses

(in thousand of euros)	2010	2011	2012
Wages and salaries	9,837	11,493	13,993
Social security costs	5,421	6,195	7,808
Profit-sharing and incentives scheme	1,562	397	2,458
<b>Personnel expenses</b>	<b>16,820</b>	<b>18,084</b>	<b>24,259</b>
<b>% of operating activities</b>	<b>23%</b>	<b>32%</b>	<b>27%</b>

Personnel expenses, which include salaries, payroll taxes and amounts of employee profit sharing and incentive schemes, less any repayments of compensation made by the Social Security, increased from EUR 16,820 thousands in 2010 to EUR 18,084 thousands in 2011 and reached EUR 24,259 thousands in 2012. Meanwhile, the number of employees of the Company has grown steadily from 216 persons by the end of 2010, to 242 persons in late 2011, reaching 286 persons by late 2012.

Until 2010, wages were composed of a fixed part and a "collective" variable bonus, part of which is determined by the number of orders signed during the year. In 2010, salaries were increased by 14% and the "collective" bonus was replaced by a variable amount based on the individual performance of each employee. This change had no significant impact on the average wage per person in financial years 2010, 2011 and 2012.

In addition, there are an incentive agreement in GTT and a Group profit-sharing agreement:

- GTT concluded an incentive agreement dated 25 June 2009 which was replaced by an agreement dated 6 June 2012 subsequently amended on 21 September 2012. As at the registration date of the present base document the incentive criteria are related to the membrane surface commissioned in the year, the Company's share of global vessels orders and the number of potentially patentable innovative ideas generated by the Company. This agreement may allow a distribution of up to 10% of the company's total payroll costs, subject to positive feedback from customers regarding the quality of deliverables provided;

- The voluntary employee profit sharing agreement signed on 6 March 2000 and subsequently modified by amendment on 26 March 2012 is not dependant on the Company's tax income but its net income. This agreement provides for the payment of 3% or 4% of reported net income depending on whether the ratio of net income to permanent workforce at 31 December of the financial year in question is between three and five times the value of the annual social security threshold (EUR 37,032 in 2013) or more than five times the value of the annual social security threshold.

The cumulative costs of the profit sharing incentive schemes amounted to EUR 1,562 thousands in 2010, EUR 397 thousands in 2011 and EUR 2,458 thousands in 2012. The variations are directly correlated to changes in net income.

Personnel costs represent 23% of revenues in 2010, 32% in 2011 and 27% in 2012.

### 9.2.1.3.3 Amortisations and provisions

(in thousand of euros)	2010	2011	2012
Amortisation of fixed assets	3,779	3,302	3,138
Provisions	9,534	322	238
Reversal of provisions	(3,706)	(2,295)	(11,449)
<b>Provision (Reversal) of amortisation and provisions</b>	<b>9,608</b>	<b>1,329</b>	<b>(8,073)</b>

Amortisations and provisions consists of:

- Amortisation on fixed assets: fixed assets are mainly constructions (amortized over 20 years), technical facilities (layout, testing equipment, amortized over 5 and 10 years), hardware (amortized over 3 years), software (amortized over 1 year) and assets acquired under finance lease (amortized over 15 years). The stability amounts of the annual amortization charge on fixed assets is due to the stability of investments in recent years mainly devoted to real estate redevelopment and equipment purchases.
- Provisions for risks:
  - in 2010:
    - a provision for risk initially booked for EUR 15 million in 2009 was the subject of an additional allocation of EUR 5 million. It was considered necessary due to damage caused by the phenomenon of "sloshing" detected in LNG carriers built using the Mark III insulation system technology. The amount of the provision is based firstly on the analysis of the likelihood of damage to the fleet of vessels equipped with Mark III technology, inspected up until 2015 and secondly, the average repair cost GTT may incur;
    - a provision for risk was made for an amount of EUR 4.5 million due to the dispute between GTT and the Chantiers de l'Atlantique.
  - the provision for risk for Mark III technology has been released by EUR 2.3 million and EUR 5.2 million in 2011 and 2012 respectively, some vessels potentially affected have been inspected and although do not show signs of deformation, may still lead to repairs at the expense of the Company.
  - in 2012 the provision of EUR 4.5 million relating to the dispute with the Chantiers de l'Atlantique was released in light of the various court decisions in favor of GTT which occurred in 2012 (for more details, refer to section 4.2.1 - *Risks related to any possible default in the Group's technologies*, of the present base document).

■ Provision for depreciation of receivables:

- in 2010, a provision for doubtful customers of € 3.7 million was released. This concerned a receivable due from Chantiers de l'Atlantique, which was eventually paid by the Chantiers de l'Atlantique.

See also note 16 of the financial statements for the years ended December 31 2010, 2011 and 2012 listed in section 20.1.1 - *Financial statements prepared in accordance with IFRS for the financial years ended 31 December 2010, 2011 and 2012* of the present base document).

#### 9.2.1.3.4 Other operating income and expenses

(in thousand of euros)	2010	2011	2012
Research tax credit	2,350	1,987	2,818
Other operating income	732	46	5,153
Investment subsidies	110	3	111
<b>Other operating income and expenses</b>	<b>3,191</b>	<b>2,036</b>	<b>8,082</b>

Other income and expenses consist primarily of research tax credits for which the Company has received an amount of EUR 2,025 thousands in 2010, EUR 2,178 thousands in 2011 and EUR 2,864 thousands in 2012. The recorded amounts were provisional amounts (EUR 2,350 thousands in 2010, EUR 1,987 thousands in 2011 and EUR 2,818 thousands in 2012), which differ from the amounts finally declared to the tax authorities after the balance sheet date.

“Other operating income” is comprised of:

- cancellation of a charge registered in 2011 concerning ship repairs, subsequently reimbursed by the insurers of the Company for an amount of EUR 1,379 thousands;
- conviction of Chantiers de l'Atlantique to reimburse GTT legal costs related to their dispute. Legal Costs related to this dispute were previously expensed for EUR 3,883 thousands.

#### 9.2.1.3.5 Changes in operating income (EBIT) and EBITDA

EBIT increased from EUR 29,125 thousands in 2010 to EUR 17,151 thousands in 2011 and reached EUR 45,310 thousands in 2012.

The decrease observed between 2010 and 2011 (-41.1 %) is due to the combined effect of (i) the significant decline in revenues observed between 2010 and 2011 (for details, see section 9.2.1.2 - *Evolution and distribution of revenues (see "operating activities" in income statement)* of the present base document) due to the reduction in orders between 2008 and 2010, and (ii) to a lesser extent, lower external costs due to reduced activity and a cost reduction program initiated in 2010 and continued in 2011. Personnel expenses increased slightly over this period (7.5%) due to an increase in staff (216 persons in 2010 compared to 242 persons in 2011). Between 2011 and 2012, EBIT increased by 164.2 % in a context where the revenues increased by 60%. External expenses increased by 75% over this period, the Company using external resources to cope with the additional workload generated by the influx of orders. Similarly, personnel costs increased by 34.1%, the number of employees increasing from 242 to 286 employees in 2012.

Provisions for risks had a negative effect on EBIT amounting to EUR 5,828 thousands (net) in 2010, while in 2011, there was a positive impact of EUR 1,973 thousands (reversal of provision). Between 2011 and 2012, provisions for risks have a positive effect of EUR 11,211 thousands on EBIT (reversal of provisions).

The EBIT margin decreased from (i) 39.0% to 30.8% between 2010 and 2011 and (ii) increased from 30.8% to 50.6% between 2011 and 2012.

EBITDA went from EUR 32,904 thousands in 2010 to EUR 20,453 thousands in 2011 and reached EUR 48,448 thousands in 2012. The evolution of EBITDA follows that of EBIT, the level of amortization of fixed assets having remained relatively stable over the last three years. The EBITDA margin on revenues moved from 44.1% as at 31 December 2010 to 36.7% as at 31 December 2011 and reached 54.1% as at 31 December 2012.

#### **9.2.1.4 Composition of financial income of GTT**

Financial income and expenses consist primarily of:

- *Financial income from cash investments:* Financial income changed from EUR 1,167 thousands in 2010 to EUR 1,196 thousands in 2011. This change is mainly due to the combined effect of the decrease of average cash (cash and cash equivalents decreased between 2010 and 2011, from EUR 84.8 million at the end of 2010 to EUR 55.4 million at the end of 2011), and the change in the nature of investments (combination of term deposits with maturities between 18 and 48 months, against cash previously invested from time to time and remunerated on the basis of EONIA). Between 2011 and 2012, financial income decreased from EUR 1,196 thousands to EUR 995 thousands, despite the increase in cash (which rose from EUR 55.4 million at the end of 2011 to EUR 72.7 million at the end of 2012) as a result of lower investment rates.
- *Net gains on disposals of investment securities:* arising from the disposal of money market funds “SICAV” held by the Company and Negotiable Medium Term Notes bought and sold on a daily basis.
- *Variation in the fair value of plan assets,* which corresponds to the variation in the excess of the fair value of plan assets over the corresponding fair value of the retirement plan liabilities.

(in thousand of euros)	2010	2011	2012
Exchange rate gains and losses	4	2	2
Other financial charges	(28)	(5)	(32)
Short term deposit income	1,167	1,196	995
Discounting of subsidies (Hydrocarbons Support Fund)	(61)	(51)	(52)
Proceeds on disposal of investment securities	154	192	9
Changes in the fair value of net retirement plan assets (Details in Note 15.2)	(223)	(305)	(246)
<b>Financial income</b>	<b>1,013</b>	<b>1,029</b>	<b>676</b>

#### **9.2.1.5 Income tax**

##### **9.2.1.5.1 Analysis of income tax**

(in thousand of euros)	2010	2011	2012
Current Income tax	(7,229)	(4,535)	(8,368)
Deferred tax	276	4,741	(1,959)
<b>Total</b>	<b>(6,953)</b>	<b>206</b>	<b>(6,409)</b>

##### **9.2.1.5.2 Current tax expenses**

The current income tax expense is equal to the income tax due to the tax authorities for the financial year, based on the rules and tax rates present in the various countries.

The applicable tax rates are the following:

- the reduced rate of 15% (increased to approximately 15.5% (or 16.25% in the case of revenues in excess of EUR 250 million, this rate is likely to be increased to 17.1% for financial years ending after 31 December 2013) after application of the additional contributions) for license fees, and
- the ordinary tax rate of 33.33% (increased to approximately 34.43% (or 36.1% the case of revenues in excess of EUR 250 million, the rate is likely to be increased to 38% for financial years ending after 31 December 2013) after application of the additional contributions) for other transactions.

At the end of the financial year, the potential tax deficit subject to the ordinary tax rate is offset against taxable income subject to the reduced rate.

The actual current tax liability is obtained by reducing the income tax expense by the amount of tax credits related to withholding taxes on royalties from China and South Korea, in accordance with the tax treaties concluded between France and these two countries. All income under license agreements, when customers are located in South Korea and China are subject to withholding taxes. Tax credits related to these withholding taxes are taken into account when the royalties are (i) recognized as revenue by the Company and (ii) effectively paid by the customer.

The decrease in income tax expense between 2010 and 2011 (EUR 7,229 thousands in 2010 against EUR 4,535 thousands in 2011) was due to the sharp decline in taxable income primarily due to the reduction of GTT's operating income.

Between 2011 and 2012, the income tax expense increased from EUR 4,535 thousands to EUR 8.368 thousands as a result of the increase in GTT's operating income.

#### **9.2.1.5.3 Deferred tax**

The valuation of deferred tax assets and liabilities is based on the way that the Company expects to recover or settle the carrying amount of assets and liabilities, using tax rates expected to apply to the year in which the asset is realized or the liability settled.

A deferred tax asset is recognized only if it is probable that the Company will have future taxable profits against which the asset can be utilized. In this case, the effective recovery of deferred tax assets is assessed solely in relation to profits taxed at the reduced rate of 15% applicable in respect of royalties invoiced by the Company. Tax loss carry forwards are recognised as deferred tax assets when the Company's business plan envisages a recovery of these losses within a maximum period of 5 years. At the end of financial years 2011 and 2012, prospective vessels orders for the next 5 years enable to consider the possible use of such tax losses on future taxable income. Loss carry forwards are recognized as deferred tax assets only to the extent that there future use is probable. The application of this method explains the changes in the deferred tax expense, which represents EUR 276 thousands at the end of the financial year 2010, EUR 4,741 thousands at the end of the financial year 2011 and EUR 1,959 thousands at the end of the financial year 2012.



### 9.2.1.6 Composition of net income and earnings per share

	2010	2011	2012
Net income in euros	23,185,366	18,386,022	39,577,206
Average number of shares	23,143	23,143	23,143
Number of diluted shares	23,143	23,143	23,143
<b>Basic earnings per share in euros</b>	<b>1,002</b>	<b>794</b>	<b>1,710</b>
<b>Diluted earnings per share in euros</b>	<b>1,002</b>	<b>794</b>	<b>1,710</b>

The net income of the Company changed from EUR 23,185 thousands in 2010 to EUR 18,386 thousands in 2011 and reached EUR 39,577 thousands in 2012.

Net margin on revenues increased from 31% to 33% between 2010 and 2011 and from 33% to 44.10% between 2011 and 2012. The increase between 2010 and 2011 is due to a deferred tax asset recognized in 2011, part of which relates to prior year deficits, which was offset against income tax and created a positive net tax income in this financial year while it exceeds EUR 6 million in 2010 and 2012.

Earnings per share have been calculated on the basis of a share capital of 23,143 shares.

## 9.2.2 Balance Sheet analysis

### 9.2.2.1 Non-current assets

	As at 31 December		
(in thousand of euros)	2010	2011	2012
Intangible assets	47	66	52
Property, plant and equipment	14,237	12,372	11,173
Non-current financial assets	1,114	750	6,190
Deferred tax assets	581	5,322	7,281
<b>Non-current assets</b>	<b>15,980</b>	<b>18,510</b>	<b>24,696</b>

Non-current assets include intangible, tangible, non-current financial assets and deferred tax assets.

Over the period 2010-2012, the decrease in the net book value of fixed assets (mainly technical equipment and installations) is due to the amount of depreciation of tangible assets being in excess of acquisitions.

The increase in non-current assets between 2010 and 2011 resulted primarily from the significant increase recognized deferred tax assets. This increase is related to the recognition of deferred tax assets on taxable losses generated in prior financial years deemed to be recoverable in light of the estimated future taxable income for the next five years.

### 9.2.2.2 Current assets

	As at 31 December		
(in thousand of euros)	2010	2011	2012
Trade and other receivables	21,665	23,521	40,728
Other current assets	8,471	12,563	21,131
Cash and cash equivalents	84,824	55,414	72,737
<b>Current assets</b>	<b>114,960</b>	<b>91,498</b>	<b>134,595</b>

Changes in current assets over the period are due to:

- an increase in trade receivables, other tax and social charge receivables between 2010 and 2012 as a result of the recovery in activity since 2011, and
- a decrease in cash between 2010 and 2011. The observed decrease between 2010 and 2011 is related to the fact 2009 income was not fully distributed as dividend (EUR 30 million), this amount of EUR 30 million was finally paid at the end of 2011 as part of an exceptional distribution of reserves. The increase between 2011 and 2012 is directly related to the recovery of the activity.

### 9.2.2.3 Equity

(in thousand of euros)	As at 31 December		
	2010	2011	2012
Share capital	370	370	370
Share premium	1,109	1,109	1,109
Reserves	44,774	14,962	17,634
Profit for the year	23,185	18,386	39,577
<b>Total Equity</b>	<b>69,439</b>	<b>34,827</b>	<b>58,691</b>

(in thousand of euros)	Share capital	Reserves	Net result	Total equity
<b>As at 31 December 2010</b>	<b>370</b>	<b>45,883</b>	<b>23,185</b>	<b>69,439</b>
<b>Profit for the year</b>			<b>18,386</b>	<b>18,386</b>
<b>Other comprehensive income</b>			-	-
<b>Total comprehensive income</b>			<b>18,386</b>	<b>18,386</b>
Allocation of the previous year profit		23,185	(23,185)	
Dividends		(52,997)		(52,997)
<b>As at 31 December 2011</b>	<b>370</b>	<b>16,071</b>	<b>18,386</b>	<b>34,827</b>
<b>Profit for the year</b>			<b>39,577</b>	<b>39,577</b>
<b>Other comprehensive income</b>			-	-
<b>Total comprehensive income</b>			<b>39,577</b>	<b>39,577</b>
Allocation of the previous year profit		18,386	(18,386)	
Dividends		(15,714)		(15,714)
<b>As at 31 December 2012</b>	<b>370</b>	<b>18,743</b>	<b>39,577</b>	<b>58,691</b>

Net changes in equity of the Company result from the combined effect, on the one hand, of significant decrease in net income over the period due to the decline in orders between 2008 and 2010, followed by a recovery between 2011 and 2012, and on the other hand, the decision to maintain EUR 30 million in reserves in 2010 and to distribute them at a later date (in this case at the end of 2011).

### 9.2.2.4 Non-current liabilities

Non-current liabilities consist mainly of provisions for risk and subsidies:

(in thousand of euros)	2010	2011	2012
Non-current provision	27,051	25,078	13,984
Deferred tax liabilities	-	-	-
Other non-current liabilities	2,565	2,536	2,588
<b>Non-current liabilities</b>	<b>29,616</b>	<b>27,614</b>	<b>16,572</b>

The main provisions are the following:

- a provision for litigation initially booked at the end of 2009 amounting to EUR 15 million in anticipation of costs to be incurred because of possible damage caused by the phenomenon of "sloshing" detected in LNG carriers built using the Mark III insulation system technology.

This amount was based on an analysis of probability of damage to the fleet of vessels equipped with the Mark III technology to be inspected until 2015 and the average cost of repair that GTT may have to assume.

An additional provision was booked for EUR 5 million in 2010, and subsequently part of the overall provision was released for an amount EUR 2.3 million in 2011 and a further release of EUR 5.2 million in 2012. Since the beginning of financial year 2011, the provision will be released each year in proportion to the vessels inspected up until 2015, to the extent that all vessels are subject to a mandatory five-year inspection visit, during which defects may be found.

At the end of 2010, this provision amounted to EUR 20 million, EUR 17.7 million at the end of 2011 and EUR 12.4 million at the end of 2012;

- a provision for risk was booked at the end of 2010 amounting to EUR 4.5 million due to the dispute between GTT and Chantiers de l'Atlantique. This provision was released in 2012. This amount corresponded to a receivable (fees and services) due from CAT, which CAT was summoned to pay to GTT in 2010 pursuant to an arbitration tribunal decision dated February 2009 (see section 20.3.2.1 – *Company's analysis and assessment of the risk* of the present base document).

This initial provision was booked to cover risk of non-recovery of the receivable due to GTT from CAT which CAT subsequently paid in 2010 as a result of a successful appeal made against the first decision. The provision therefore amounted to EUR 4.5 million at the end of 2010 and at the end of 2011, but no longer appears in the accounts at the end of 2012.

- other provisions are intended to cover potential risks in disputes between GTT with former employees, as well as a claim made by a legal expert involved in an action brought by a third party against a repair shipyard.

At the end of 2010, this provision amounted to EUR 2.5 million; EUR 2.8 million at the end of 2011 and EUR 1.5 million at the end of 2012.

Other non-current liabilities represent refundable subsidies which the Company has received between 1987 and 2001 from the Hydrocarbons Support Fund (FSH). These subsidies were intended to finance investment projects in the framework of research programs approved by the State.

These subsidies are repayable based on the revenues generated by the funded projects. They are recognized in "Other non-current liabilities" being settled progressively over time (see section 10.1.2 - *Financing by refundable cash subsidies (FSH)* of the present base document).

### 9.2.2.5 *Current liabilities*

(in thousand of euros)	2010	2011	2012
Current provision	-	-	-
Trade and other payables	7,006	9,871	8,909
Other current liabilities	24,879	37,697	75,120
<b>Current liabilities</b>	<b>31,885</b>	<b>47,567</b>	<b>84,029</b>

(in thousand of euros)	2010	2011	2012
<b>Trade and other payables</b>	<b>7,006</b>	<b>9,871</b>	<b>8,909</b>
Tax and social security payables	9,970	8,999	13,542
Other debts	335	1,308	1,344
Deferred income	14,574	27,390	60,234
<b>Other current liabilities</b>	<b>24,879</b>	<b>37,697</b>	<b>75,119</b>
<b>Total</b>	<b>31,885</b>	<b>47,567</b>	<b>84,028</b>

This balance sheet item includes mainly short-term liabilities vis-à-vis third parties, tax and social security liabilities (employees and social security organisations) as well as deferred income.

The change over the period of trade payables (increase between 2010 and 2011 from EUR 7,006 thousands to EUR 9,871 thousands, followed by a decrease from 9,871 to 8,909 between 2011 and 2012) reflects the strong recovery of activity from orders in 2011 which then stabilized.

Tax and social security liabilities, which include employee incentive and profit-sharing schemes, wages, holiday pay and payroll taxes due, changed from EUR 9,970 thousands at the end 2010 to EUR 8,999 thousands at the end of 2011 reaching EUR 13,542 thousands at the end of 2012. This is mainly related to the amounts due to employee incentive and profit-sharing schemes for the period, which are directly correlated to changes in net income.

Deferred income, which directly related to the timing difference between billing and the recognition of revenues, increased between the end of 2010 and the end of 2012 (EUR 14,574 thousands at the end of 2010, against EUR 27,390 thousands at the end of 2011, reaching EUR 60,234 thousands at the end of 2012).

## 9.3 ANALYSIS OF COMPREHENSIVE INCOME FOR THE FIRST NINE MONTHS OF THE YEAR 2013

### 9.3.1 Analysis of comprehensive income for the first nine months of the year 2013

(in thousand of euros)	30 September 2012	30 September 2013
<b>Revenues from operating activities</b>	<b>54,551</b>	<b>156,942</b>
Other revenues from operating activities	-	-
Costs of sales	(1,637)	(1,479)
Other used goods	-	-
External charges	(24,392)	(28,355)
Personnel expenses	(15,975)	(24,949)
Taxes	(1,021)	(2,832)
Depreciations, amortisations and provisions	1,574	967
Other operating income and expense	3,175	1,885
<b>Operating income (EBIT)</b>	<b>16,275</b>	<b>102,179</b>
<b>EBIT margin on revenues (%)</b>	<b>29.8%</b>	<b>65.1%</b>
Net financial income	679	1,083
<b>Net income before tax</b>	<b>16,953</b>	<b>103,263</b>
Income tax	(4,410)	(16,631)
<b>Net income</b>	<b>12,543</b>	<b>86,632</b>
<b>Net margin on revenues (%)</b>	<b>23.0%</b>	<b>55.2%</b>
Basic earnings per share (in euros)	542	3,743
Calculated indicator		
<b>EBITDA</b>	<b>18,616</b>	<b>104,642</b>
<b>EBITDA margin on revenues (%)</b>	<b>34.1%</b>	<b>66.7%</b>

#### 9.3.1.1 Evolution and composition of revenues

The table below presents the evolution and composition of the revenues over 9 months.

(in thousand of euros)	30 September 2012	30 September 2013
<b>Total revenue</b>	<b>54,551</b>	<b>156,942</b>
<i>Annual growth (%)</i>		187.7%
<i>Royalties</i>	<i>49,510</i>	<i>151,402</i>
<i>LNG carriers</i>	<i>40,336</i>	<i>122,966</i>
<i>FSRU</i>	<i>4,103</i>	<i>23,177</i>
<i>FPSO</i>	<i>2,129</i>	<i>3,517</i>
<i>Onshore storage</i>	<i>2,943</i>	<i>1,741</i>
<i>Other services</i>	<i>5,041</i>	<i>5,540</i>

Revenues increased from EUR 54,551 thousands as at 30 September 2012 to EUR 156,942 thousands as at 30 September 2013, corresponding to an increase of 187.7% over the period. This strong growth is derived directly from the growth of royalties revenues due to the significant number of orders received since 2011.

The revenues from other services remained relatively stable over the period.

### 9.3.1.2 Composition of operating income

#### 9.3.1.2.1 Evolution of operating income (EBIT) and EBITDA

(in thousand of euros)	30 September 2012	30 September 2013
<b>Operating income (EBIT)</b>	<b>16,275</b>	<b>102,179</b>
<i>EBIT margin on revenues (%)</i>	<i>30%</i>	<i>65%</i>

The operating profit of the Company increased by 16,275 thousands euros as at 30 September 2012 to EUR 102,179 thousands as at 30 September 2013, representing an EBIT margin on revenues ranging from 30% to 65% over the period. In the first nine months of financial year 2013, EBIT was impacted by (i) the sharp rise of revenues (+187.7% compared to 30 September 2012), (ii) by the increase of external charges and personnel expenses (+32.0% compared to 30 September 2012), and (iii) the absence of new provisions or release of provisions for risk over the period.

The evolution of the EBITDA in line with EBIT over the same period, increasing from EUR 18,616 thousands as at 30 September 2012 to 104,642 thousands euros as at 30 September 2013. The EBITDA margin on revenues increased significantly compared to previous periods and amounted to 66.7% as at 30 September 2013.

#### 9.3.1.2.2 External expenses

(in thousand of euros)	30 September 2012	30 September 2013
Tests and studies	13,466	15,179
Leasing, maintenance & insurance	3,152	3,319
External Staff	1,040	748
Fees	2,705	2,667
Transport, travel and reception expenses	3,156	5,433
Postal and telecommunication charges	94	117
Other	779	892
<b>Total</b>	<b>24,392</b>	<b>28,355</b>
<b>% of revenues of operating activities</b>	<b>45%</b>	<b>18%</b>

External expenses of the Company increased from EUR 24,392 thousands as at 30 September 2012 to EUR 28,355 thousands as at 30 September 2013.

The increase of 16.2% over the period of the external expenses is mainly due to the evolution of the caption “tests and studies” (which requires the use of sub-contracting), and the cost of transport, travel (sending staff to the shipyards in Asia). This increase is less significant than that the increase in revenues (187.7% over the period).

External expenses of the Company represent 45% of revenues as at 30 September 2012 and 18% as at 30 September 2013.

### 9.3.1.2.3 Personnel expenses

(in thousand of euros)	30 September 2012	30 September 2013
Wages and salaries	9,767	12,345
Social security costs	5,259	7,766
Profit-sharing and incentives scheme	949	4,838
<b>Personnel expenses</b>	<b>15,975</b>	<b>24,949</b>
<b>% of revenues from operating activities</b>	<b>29%</b>	<b>16%</b>

Personnel expenses increased from EUR 15,975 thousands as at 30 September 2012 to EUR 24,949 thousand as at 30 September 2013. In parallel, the number of employees in the Company increased (281 persons as at 30 September 2012 against 344 persons as at 30 September 2013).

Employee profit sharing and incentive scheme costs increased to the extent that they are directly related to the increase in net income of the Company (profit share) and more generally to its activity in general (incentives).

### 9.3.1.2.4 Amortisations and provisions

(in thousand of euros)	30 September 2012	30 September 2013
Amortisation of fixed assets	2,342	2,463
Provisions	238	177
Reversal of provisions	(4,154)	(3,607)
<b>Provisions (Release) of amortisation</b>	<b>(1,574)</b>	<b>(967)</b>

The increase (release) of amortization and provisions results in a net release in each period: from EUR 1,574 thousands as at 30 September 2012 to EUR 967 thousands as at 30 September 2013. The observed variation is mainly due to the release of provisions for risk being slightly lower between the end of September 2012 and the end of September 2013 (arising directly from the number of vessels inspected the period - see section 9.2.1.3.3 - *Amortisations and provisions* of the present base document).

### 9.3.1.2.5 Other operating income and expenses

(in thousand of euros)	30 September 2012	30 September 2013
Research tax credit	1,691	2,125
Competitiveness and employment tax credit	-	154
Other operating income / expense	1,485	(394)
<b>Other operating income and expense</b>	<b>3,175</b>	<b>1,885</b>

Other income and expenses consist primarily of the research tax credit, the amount estimated by the Company at the end of September 2012 amounted to EUR 1,691 thousands compared to EUR 2,125 thousands for the period ended September 2013. During the period, these amounts are estimated in terms of the projects considered eligible according to the criteria of the research tax credit and the amounts historically recorded.

### 9.3.1.3 Composition of net income and earnings per share

	30 September 2012	30 September 2013
Net income in euros	12,543,440	86,631,781
Weighted average number of shares in issuance	23,143	23,143
Number of shares on a fully diluted basis	23,143	23,143
<b>Basic earnings per share in euros</b>	<b>542</b>	<b>3,743</b>
<b>Diluted earnings per share in euros</b>	<b>542</b>	<b>3,743</b>

The net income of the Company increased from EUR 12,543 thousands for the period ended 30 September 2012 (representing a margin on revenues of 23%) to EUR 86,632 thousands for the period ended 30 September 2013 (a net margin on sales revenues of 55%) based on the information presented in the above table.

Earnings per share have been calculated on the basis of the Company's issued share capital, consisting of 23,143 shares.

Besides those elements which have an impact on operating income, which have been presented in the above sections, the main factors contributing to the change in net income is the amount of the income tax charge which increased from EUR 4,410 thousands as at 30 September 2012 to EUR 16,631 thousands as at 30 September 2013. This evolution is directly related to the increase of revenues and therefore the tax base between 30 September 2012 and 30 September 2013 (116% increase in income tax payable during the period), and the impact of the new French tax rules on dividends paid during the period, which resulted in an additional 3% of tax being levied on the total amount of dividend distribution, amounting to EUR 2,755 thousands as at 30 September 2013.

### 9.3.2 Balance Sheet analysis

#### 9.3.2.1 Non-current assets

(in thousand of euros)	31 Decembre 2012	30 September 2013
Intangible assets	52	314
Property, plant and equipment	11,173	10,380
Non-current financial assets	6,190	6,118
Deferred tax assets	7,281	4,260
<b>Non-current assets</b>	<b>24,696</b>	<b>21,072</b>

The decrease in non-current assets between 31 December 2012 and 30 September 2013 results mainly from (i) the decrease in deferred tax assets during the period, which decreased from EUR 7,281 thousands as at 31 December 2012 to EUR 4,260 thousands as at 30 September 2013 and (ii) to a lesser extent, the decrease in the net book value of fixed assets over the period due a slightly reduced level of investment.

#### 9.3.2.2 Current assets

(in thousand of euros)	31 Decembre 2012	30 September 2013
Trade and other receivables	40,728	57,858
Other current assets	21,131	20,768
Cash and cash equivalents	72,737	76,197
<b>Current assets</b>	<b>134,595</b>	<b>154,822</b>

Current assets increased between 31 December 2012 and 30 September 2013, rising from EUR 134,595 thousands to EUR 154,822 thousands.

This was mainly due to an increase in trade receivables (essentially accrued invoices) and an increase in the net cash position due to the increase in the Company's activity over the period.



### 9.3.2.3 Equity

(in thousand of euros)	31 Decembre 2012	30 September 2013
Share capital	370	370
Share premium	1,109	1,109
Reserves	17,634	(34,620)
Profit for the year	39,577	86,632
<b>Total Equity</b>	<b>58,691</b>	<b>53,491</b>

The reduction in reserves between 31 December 2012 and 30 September 2013 results from the distribution of an interim dividend for the financial year 2013.

### 9.3.2.4 Non-current liabilities

(in thousand of euros)	31 Decembre 2012	30 September 2013
Non-current provisions	13,984	10,555
Other non-current liabilities	2,588	2,588
<b>Non-current liabilities</b>	<b>16,572</b>	<b>13,143</b>

Provisions at the end of September 2013 consist of:

- mainly, the provision for litigation related to possible damages arising from the use of the Mark III technology, initially recorded at the end of 2009 and increased in the end of 2010, and then partially released in 2011 and 2012. This provision amounted to EUR 8.9 million as at 30 September 2013; and
- provisions designed to cover potential risks in disputes between GTT and former employees (for more details, please refer to the notes to the accounts relating to non-current liabilities between 2010 and 2012). These provisions amounted to EUR 1.7 million as at 30 September 2013.

### 9.3.2.5 Current liabilities

(in thousand of euros)	31 Decembre 2012	30 September 2013
Current provisions	-	-
Trade payables	8,909	11,518
Other current liabilities	75,120	97,743
<b>Current liabilities</b>	<b>84,029</b>	<b>109,261</b>

This balance sheet item increased from EUR 84,029 thousands at the end of 2012 to EUR 109,261 thousands as at 30 September 2013. This variation is mainly due to the increase in other current liabilities (principally deferred revenues).

## CHAPTER 10 EQUITY AND CASH

### 10.1 DEBT AND EQUITY

The Company's equity amounted to EUR 58,691 thousands, EUR 34,827 thousands and EUR 69,439 thousands as at 31 December 2012, 2011 and 2010, respectively. The company's equity amounted to EUR 53,491 thousands as at 30 September 2013. The changes in equity during this period are presented in sections 9.2.2.3 and 9.3.2.3 – *Equity* of the present base document.

The Company has no financial debt in the short, medium or long term.

Activities of the Company generate significant cash-flow from operating activities, which enable it to finance its investments. The structure of the company's business is such that it has a cash surplus which is placed in short-term deposit accounts.

(in thousand of euros)	As at 31 December			As at 30 September
	2010	2011	2012	2013
Short-term deposits	80,029	49,235	68,724	67,366
Cash and cash equivalents	4,795	6,179	4,013	8,831
<b>Cash Assets</b>	<b>84,824</b>	<b>55,414</b>	<b>72,737</b>	<b>76,197</b>
Bank overdrafts and equivalents				
<b>Net cash position</b>	<b>84,824</b>	<b>55,414</b>	<b>72,737</b>	<b>76,197</b>

#### 10.1.1 Financing by capital

No capital increase or issuance of securities giving or capable of giving access to capital is expected in the short and medium term, to finance the development of the Company.

#### 10.1.2 Financing by refundable cash subsidies (Hydrocarbons Support Fund)

(in thousand of euros)	As at 31 December			As at 30 September
	2010	2011	2012	2013
Refundable cash subsidies from FSH	2,565	2,616	2,588	2,588

The Company has received between 1987 and 2001 refundable subsidies from the Hydrocarbons Support Fund (FSH). These subsidies were intended to finance investment projects in the framework of research programs approved by the French Government.

These subsidies are repayable in function of the revenues generated by the funded projects. They are recognized in "Other non-current liabilities" with subsidies due for repayment being recognized progressively according to the funded projects revenues generation and using an annual discount rate of 2%. This should lead to a gradual settlement of the liability. Between 2010 and 2011, the effect of discounting is less than the settlement effect. In contrast, between 2011 and 2012, the slight increase is related to the effect of discounting, being more important than the settlement of the subsidies.

#### 10.1.3 Financing by Research tax credit

(in thousand of euros)	As at 31 December			As at 30 September
	2010	2011	2012	2013
Research tax credit	2,350	1,987	2,818	2,125

Due to an importance of its research and development activity, the Company received a research tax credit amounting to EUR 2,025 thousands in 2010, EUR 2,178 thousands in 2011 and EUR 2,864 thousands in 2012. The amounts are recognized in the accounts on a provisional basis (EUR 2,350 thousands in 2010 and EUR 1,987 thousands in 2011, EUR 2,818 thousands in 2012, EUR 2,125

thousands at end of September 2013) and differ from the final amounts reported to tax administration after the balance sheet date.

#### **10.1.4 Off-Balance Sheet commitments**

The Company has not recognized any off-balance sheet commitments for the years 2010, 2011 and 2012.

The Company has not recognized any off-balance sheet commitments during the first nine months of financial year 2013.

The non-consolidated subsidiary Cryovision has not recognized any off-balance sheet commitment for the year 2012. At the end of September 2013, the non-consolidated subsidiaries Cryovision and GTT North America have no off-balance sheet commitment.

### **10.2 CASH-FLOW OF THE GROUP**

#### **10.2.1 An economic model with strong cash flow generation**

The Group's business model is characterized by its strong ability to generate cash flow mainly due to:

- High levels of operating margin;
- Minimum capital expenditure requirements, focusing essentially on research and development; and
- A structurally negative working capital considering an advantageous sequence of collection of revenue see section 6.3.4.1(a) – *Commercialisation of GTT's technologies for LNG carriers* of the present base document.

The working capital requirement is structurally negative due to the combination of several factors:

- Recognition of income that occurs on an average of 3 to 4 years (duration of construction of the vessel);
- A payment schedule that is based on five construction milestones of the vessel:
  - Upon firm order (signing of the MoU): 10% of the royalties,
  - Steel-cutting : about 18 months after the MoU: 20% of the royalties,
  - Keel laying : about 5 months after the date of cutting steel: 20% of the royalties,
  - Launching: 3 months after the date of the laying of the keel: 20% royalties, and
  - Delivery: about 10 months after the date of launching: 30% of the royalties.
- This payment schedule creates a structurally negative working capital requirement for a large part of the construction of the vessel because the amounts are billed and collected prior to recognition in the accounts as revenue. This is particularly the case when the Company has recorded stable and important orders for several consecutive years.

#### **10.2.2 Cash-Flow from operating activities**

The following table presents the reconciliation of the net income of the Company to cash flow from operations.

(in thousand of euros)	As at 31 December			As at 30 September
	2010	2011	2012	2013
<b>Net income</b>	<b>23,185</b>	<b>18,386</b>	<b>39,577</b>	<b>86,632</b>
Elimination of income and expenses with no cash impact	-	-	-	-
- Depreciations, amortisations and provisions	13,314	1,329	(7,955)	(1,070)
- Proceeds on disposal of assets	-	(9)	(4)	-
Financial income/expense	305	358	308	64
Income Tax	6,953	(206)	6,409	16,631
<b>Internally generated funds from operations</b>	<b>43,757</b>	<b>19,858</b>	<b>38,335</b>	<b>102,257</b>
Income tax paid	(7,229)	(4,535)	(8,368)	(13,609)
Movements in working capital				
- Trade and other receivables	8,631	(2,800)	(17,246)	(17,149)
- Trade and other payables	(6,443)	2,569	1,875	2,609
- Other operating assets and liabilities	613	9,885	26,058	23,004
<b>Net Cash-flow from operating activities (Total I)</b>	<b>39,329</b>	<b>24,977</b>	<b>40,654</b>	<b>97,111</b>

Between financial years ending 2010 and 2011, the operating cash flow decreased by 37%, directly related to a decline in orders between 2008 and mid 2010 and the timing of the billing of services.

Between 2011 and 2012, cash flow from operations showed an increase of 62% due to the resumption of activity of the Company.

Between late 2012 and late September 2013, the increase is even more pronounced, being directly related to the growth in net income of the Company.

### 10.2.3 Cash-flow from investing activities

(in thousand of euros)	As at 31 December			As at 30 September
	2010	2011	2012	2013
Investing activities				
Acquisition of property, plant and equipment	(1,250)	(1,507)	(7,732)	(1,938)
Proceeds from disposal of property, plant and equipment	-	10	56	117
Decrease of other financial assets	296	110	69	-
<b>Net Cash-flow from investing activities (Total II)</b>	<b>(954)</b>	<b>(1,388)</b>	<b>(7,607)</b>	<b>(1,821)</b>

Between 2010 and 2012, net cash used in investing activities increased by over 695%, from EUR 954 thousands in 2010 to EUR 1,388 thousands in 2011 and reached EUR 7,607 thousands in 2012 (including EUR 5,000 thousands acquisition of financial assets). At the end of September 2013, net cash used in investing activities amounted to EUR 1,821 thousands, mainly as a result of the acquisition of assets (computer equipment, building improvements).

The acquisitions of property, plant and equipment include EUR 474 thousands of acquisition related to the research and development activity of the Company in 2010, EUR 668 thousands in 2011 and EUR 565 thousands in 2012.

### 10.2.4 Cash-flow from financing activities

(in thousand of euros)	As at 31 December			As at 30 September
	2010	2011	2012	2013
Financing activities				
Dividends paid to the shareholders	(30,248)	(52,997)	(15,714)	(91,831)
Interest paid	(21)	(2)	(10)	-
<b>Net cash-flow from financing activities (Total III)</b>	<b>(30,269)</b>	<b>(52,999)</b>	<b>(15,724)</b>	<b>(91,831)</b>

The cash flow from financing activities amounted to EUR 52,999 thousands in 2011 compared to EUR 30,269 thousands in 2010, a decrease of nearly EUR 23 million. This can be explained by the exceptional dividend distribution made at the end of 2011.

Between 2011 and 2012, cash flows from financing activities decreased from EUR 52,999 thousands to EUR 15,724 thousands the dividend paid in 2012 being equal to the net income for the year 2011.

At the end of September 2013, cash flows from financing activities amounted to EUR 91,831 thousands due to the dividend payment equal to the net income for the year 2012 (EUR 40,153 thousands), and the payment of an interim dividend corresponding approximately to net income at the end of June 2013 (EUR 51,678 thousands).

**10.3 RESTRICTION TO USE OF CAPITAL HAVE MATERIALLY AFFECTED OR COULD MATERIALLY AFFECT, DIRECTLY OR INDIRECTLY, THE ACTIVITIES OF THE COMPANY AND CRYOVISION**

None

**10.4 EXPECTED SOURCES OF FINANCING FOR FUTURE INVESTMENTS**

The Company expects to finance its future investments with the cash generated from its operating activities.

## **CHAPTER 11**

### **RESEARCH AND DEVELOPMENT, PATENTS AND LICENCES**

#### **11.1 INNOVATION POLICY**

GTT's research and innovation activities aim to strengthen the position of the Company as a leading technology provider for the LNG chain.

Accordingly, its innovation policy pursues three main objectives:

- to remain receptive to the needs of LNG chain participants and their expectations and develop innovative technological solutions by enhancing the performance and value in use of the technologies provided by the Company;
- establish the excellence of the Company's expertise in key areas such as how materials behave at cryogenic temperatures, thermodynamic system modelling and liquid motion in tanks;
- promote innovation by ensuring processes, organisation and skills of the highest level within the Company.

GTT's innovation policy is based on:

- upstream, a development strategy deriving from relationship with clients, shipowners and gas companies, ideas resulting from an in-house policy promoting creativity and internal or external specific expertises; and
- downstream, a development projects management drawn up according to methods and practices accepted by innovation management experts.

The Company has thus chosen to invest resolutely in developing its skills and motivating its employees as means of fostering innovation.

Thus, between 1 January 2012 and 30 September 2013, the headcount of the innovation division increased by 17 persons, recruited for their expertise in GTT's technologies or to strengthen development efforts in expanding segments such as bunkering or onshore storage tanks. One-third of the new positions in the innovation division have been filled through internal mobility, with employees transferring from other Company divisions as they possess particular knowledge of the Company's technologies.

Furthermore, an incentive-based policy of rewarding inventions has been introduced to foster innovation within the Company. It has been promoted significantly towards employees and facilitates the emergence and maturing process for new ideas.

##### **11.1.1 Internal organisation of the Company's research and development activities**

The Company has a division specifically dedicated to innovation, which had a workforce of 85 employees as at 30 September 2013, with external consultants brought in when required.

###### ***11.1.1.1 Innovation division***

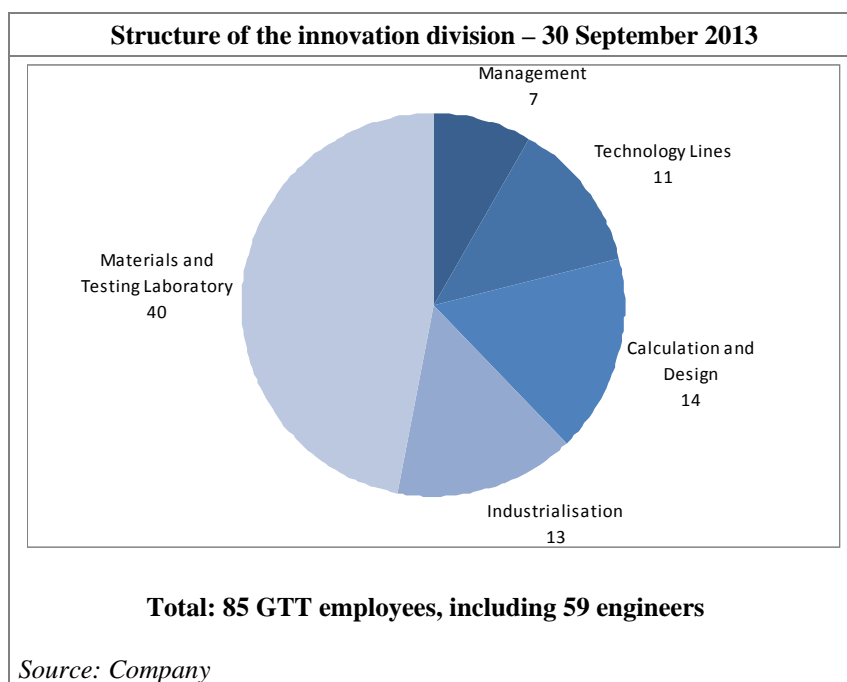
The Company's research and development activities are mainly managed by the Company's innovation division, which is responsible for developing its technology.

The innovation division has two main objectives: first, enhance existing technologies and develop new technologies and, secondly, maintain and expand its business expertise. This second objective consists in maintaining the requisite levels of expertise and business resources for developing new technology.

The Company's innovation division covers every phase of development, from design through to generic industrialisation.

The innovation division is headed by the innovation director, who is responsible for planning technological developments, working together with the other divisions and with the Company's general management. He proposes to the general management an intellectual property strategy and draws up the plan to develop innovation (the "*Innovation Plan*").

The innovation division is organised into four departments with the following composition and roles:



- **Management:** seven employees responsible for drawing up and overseeing the plan of developments and managing resources and methods. The special role has been set up and the main duty of whom is to manage the entire process of refining inventions, from the initial idea to the filing of the patent application. The patent engineer manages the patent portfolio across various countries, with the assistance of an external industrial property specialist.
- **Calculations and design department:** fourteen employees responsible for: (i) as part of the calculations unit, performing the various calculations for technological developments, assisting the materials, certifications and testing department with digital validation and ensuring the consistency of the computing, modelling and design resources for the design unit, and (ii) as part of the design unit, implementing the plans in principle for technological developments, assisting the materials, certifications and testing department and the industrialisation department with the design of test and machine assemblies.
- **Materials, certifications and testing department:** forty employees responsible for maintaining a list of approved suppliers of materials (certification and tracking), technology monitoring and development of the new materials required for new technologies. The department has testing resources (laboratory) for specialised thermal, mechanical and liquid motion applications, supporting its development initiatives and its supplier certification and tracking activities.
- **Industrialisation department:** thirteen employees responsible for evaluating the cost of producing new technologies and major developments, ensuring that the lead time, cost and quality imperatives of new tool developments are met and being in charge of the process of

transferring pre-industrialisation developments through to actual production under the authority of the technical division.

- Technology lines: eleven employees who conduct development projects, harnessing the resources and expertise needed within the division departments.

#### **11.1.1.2 Research committee**

In 2010, the Company also set up a research committee responsible for guiding GTT's teams with the development and implementation of research and development activities. It is composed of eminent scientists from outside the Company and holds three or four seminar sessions every year. It draws up a report at the end of the year intended for members of the board of directors. The research committee members also work simultaneously on certain of the Company's research and development projects.

##### **(a) Composition**

The research committee has at least four members, who are appointed by GTT's chief executive officer for a tacitly renewable term of eighteen months.

The research committee members perform their task under a cooperation agreement entered into with GTT or under an agreement entered into between GTT and their employer.

As part of their task, each research committee member enters into a confidentiality and industrial property agreement with the Company, under which he or she undertakes to treat as confidential the information to which he or she is privy during the performance of his or her duties. Every member also undertakes not to use this confidential information for any purpose other than the smooth running of the research committee and to refrain in particular from filing or having filed any patent application related to this confidential information.

At the date of the present base document, the research committee has the following four members:

- Henri-Paul Lieurade, a member of the research committee since 2010, has 42 years' experience in steelmaking and materials design sectors. Previously, he held various positions as head of department at the French steelmaking research institute (*Institut de Recherche de la Sidérurgie Française*) and as head of department and unit manager responsible for the French mechanical engineering industry technical centre (*Centre Technique des Industries Mécaniques*), where he also held a management function as a member of the executive committee. In addition, he was a lecturer at several French higher education institutions, such as the prestigious *Ecole Nationale des Ponts et Chaussées* engineering school, and published articles in a number of scientific reviews. He graduated as an engineer at the CESTI (*Centre d'Etudes Supérieures des Techniques Industrielles*) and the ISMCM (*Institut Supérieur des Matériaux et de la Construction Mécanique*), then obtained a post-graduate diploma in metallurgy from the University Paris VI and holds a PhD in physical science.
- Bernard Molin, a member of the research committee since 2010, has 37 years' experience in the marine science sector. He began his career as a research scientist in the drilling and production department of the French petroleum institute (*Institut Français du Pétrole*), where he led the "marine unit hydrodynamics" project. Since 1994, he has been a scientific advisor to Principia company. He has also taught in several higher-education institutions, such as the *Ecole Supérieure d'Ingénieurs* of Marseille and the *Ecole Centrale* of Marseille, and has published articles in numerous scientific reviews. He is a graduate of the prestigious *Ecole Polytechnique*, Berkeley (MSc in Naval Architecture) and ENSM Nantes (PhD in engineering) and was authorised by the University Aix-Marseille II to direct research projects.



- Jean-Michel Ghidaglia, a member of the research committee since 2010, has 30 years' experience of working in the mathematics research and digital fluid mechanicals sectors. Previously, he held various positions as a research scientist with INRIA (*Institut de Recherche Français en Mathématiques et Informatique*) and at the *Ecole Polytechnique*'s applied mathematics centre and as a research officer at the CNRS working in the digital analysis laboratory. He has also been a member of numerous scientific committees, including the internet use committee of the French research Ministry's technology department. Furthermore, he published articles in various scientific reviews. He is a professor at the prestigious *Ecole Normale Supérieure* of Cachan and at ENSTA (*Ecole Nationale Supérieure de Techniques Avancées*). He graduated from the *Ecole Polytechnique*, University of Paris XI (PhD in engineering and PhD in mathematical sciences) and is associate professor in mathematics.
- Pierre Besse, a member of the research committee since 2013, has 30 years' experience in the marine science sector. He began his career as a geotechnical engineer working with the Menard group. He then joined Bureau Veritas to work in the construction sector, before switching to oceanographic engineering, becoming deputy director of certification of offshore development projects. He is now Vice-President of the Research & Development department of Bureau Veritas' marine division. He graduated from the *Ecole Centrale* of Paris.

#### **(b) Duties of the research committee**

The task of the research committee is to provide its opinion on issues of interest to research and on which general management asks for its input. To this end, the research committee's duties are as follows:

- guide and approve GTT's Innovation Plan. The goal is to provide a technical opinion on the content of the projects integrated to the Innovation Plan, without providing a strategic opinion;
- assist GTT's teams in a number of more fundamental research areas, such as studying the motion of liquids or conducting materials research;
- track the progress of the implementation of the Company's Innovation Plan and research activities and provide its opinion concerning possible readjustments; and
- recommend any external partners for GTT's research and innovation activities.

The committee advises the Company's management on how to conduct its innovation policy and on the research work undertaken that should enable it to refine a number of innovations.

#### **(c) The operation of the research committee**

The research committee generally meets in full session four times a year. The dates and agenda for these meetings are proposed by the innovation director in his capacity as secretary of the research committee.

Aside from these full sessions, the members of the research committee hold regular theme-related meetings with GTT's engineers.

Every year, the research committee draws up a report for the board of directors on the Company's research and development activities including a number of recommendations. It may also be asked to provide the Company's general management with a report on a specific issue.

### ***11.1.1.3 Protection of the Company's rights and incentive to innovate***

#### **(a) Protection of the inventions made by the Company's employees**

The employment contracts of GTT employees assigned to the Company's research and development activities contain a standard clause concerning the ownership of inventions arising from their work. This clause states that their duties entail studies and research assignments and hence include permanent invention-based activities.

The ownership of the inventions arising from their work automatically lies with the Company pursuant to Article L. 611-7 of the French Intellectual Property Code. The specific clause related to inventions arising from their work incorporated in the employment contracts of GTT's employees restates the legal principles attributing to the employer ownership of the intellectual property rights arising from their work and the employee's undertaking to report any invention in line with the internal procedure implemented by GTT. It is being specified that, in accordance with the provisions of the French Intellectual Property Code, the employee has the right in return for additional compensation for any patentable invention, which takes the form of one or more flat-rate payments.

#### **(b) Internal organisation promoting innovation**

The Company has drawn up an internal document entitled "Management and protection of ideas - procedure", which aims to define a method common to all of the GTT's divisions for patent applications.

This procedure aims to achieve the following objectives:

- (i) make creations, inventions and patents traceable to promote technical advances within the Company;
- (ii) choose patent inventions relevant to GTT's strategy, the most suitable patent application filing date and countries in which it is to be filed or extended, etc.; and
- (iii) have decisions concerning the possible filing of a patent approved by a patent committee (see section 11.3.1 – *Patents and patent applications* of the present base document).

#### **(c) Protected know-how**

##### ***(i) Company's information system security***

The activities of the Company, which are predicated on its know-how and expertise, require protection of all the working documents and information created, classified and exchanged internally via its IT network.

The Company implements the appropriate human, physical and technical resources to ensuring safety and fair use of the information system and backing up its IT data. All the applicable rules are shared in an internal memo entitled "Charter for use of GTT's information system", which has been signed by all of the Company's employees and is annexed to its internal rules. The information systems department is responsible for controlling and overseeing the smooth operation of the information system and ensures that the rules in the charter are applied.

The Group's employees are not allowed to connect equipment to both the internal IT network and the internet at the same time to avoid any unlawful intrusions into GTT's internal network.

*(ii) Contractual protection of the Company's know-how*

Aside from the protection of new inventions, the Company monitors the protection of its know-how very carefully. It systematically adds a confidentiality clause to its contracts with third parties. In particular, a confidentiality clause is added to TALAs under which GTT grants its clients rights to its technologies and to a large portion of its know-how.

The confidentiality clause stipulated in most TALAs prohibits licensees using GTT's intellectual property rights and know-how from disclosing technical information communicated by the Company without the latter's prior consent. This obligation must be satisfied for the whole term of the TALAs and for a further period of ten years after it is terminated.

Furthermore, the Company's general policy is to add to engineering services or *ad hoc* services contracts, or cooperation, research or partnership agreements confidentiality clauses protecting the Company against the disclosure of information, technical documents, designs or other written or oral information communicated by GTT in connection with these services and research works.

### **11.1.2 Research and development projects**

GTT's research and development projects comprise both:

- (i) projects aimed at achieving an improvement - incremental or disruptive - in the performance of GTT's technologies. These are short- or medium-term projects with an objective of offering new technical solutions to LNG chain participants.
- (ii) exploratory research projects in the Company's areas of expertise. These are longer-term projects with an objective of developing new technological building blocks likely to be integrated into the Company's future generations of technologies.

#### ***11.1.2.1 Short- and medium-term development projects***

The objectives of these short- and medium-term projects are:

- improving the performance of the technologies offered by the Company: superior competitiveness by cutting implementation costs, improved thermal performance of systems, greater reliability of the systems designed using GTT's technologies, fewer operating constraints;
- developing new solutions adapted to specific segments, such as promising areas such as bunkering;
- extending the range of services offered by the Group, for example by developing tank inspection or maintenance systems.

The aim of these developments is to enhance the reliability of the systems designed with GTT's technologies and to broaden their spectrum of uses by relaxing a number of the operational constraints imposed on vessels or offshore platforms (FPSOs or FSRUs).

#### ***11.1.2.2 Exploratory research***

This work includes:

- improving the thermomechanical properties of materials in cryogenic conditions: insulating materials, metal alloys and other materials;
- the sealing of large-size systems;

- a study of sloshing and liquid motion phenomena in various operational conditions encountered in the LNG chain (LNG carriers, moored platforms, very high-capacity storage, etc.).

## **11.2 COOPERATION AND RESEARCH AGREEMENTS**

### **11.2.1 Cooperation, research and technical work agreements and licences granted by the Company or to the Company**

As part of its research and development activities, the Company has entered into cooperation agreements with various players in the LNG sector, including universities, research centres, engineering companies, classification societies, shipyards and shipowners. Under these cooperation agreements, the Company performs or participates in technical, research or engineering work. It may also call upon the services of its partners to perform such work.

None of the agreements entered into by the Company has given rise to the transfer of title to the intellectual property rights to GTT's technologies and know-how. Overall, intellectual property rights in relation to GTT's area of activity resulting from the work performed under these cooperation agreements belong to GTT. With certain partners, GTT may undertake to grant a licence to use these rights, free of charge in most cases. Intellectual property rights of the Company's contractual partner that existed before the parties entered into the cooperation agreement remain the property of the contractual partner and those resulting from the work performed under the cooperation agreement, but falling outside the Company's area of activity, become the property of the contractual partner. Exceptionally, intellectual property rights resulting from the work performed under cooperation agreements may be held in joint ownership or become the property of the contractual partner.

The aim of most of these cooperation arrangements is to work on the Company's long-term areas of research or they relate to highly specific areas in which GTT's partners have particular expertise.

### **11.2.2 Licenses granted by the Company**

The grant of intellectual property rights by the Company to shipyards and EPC Contractors represents one of the Company's business activities and is one of its largest generators of revenue: see section 6.3.4.1 – *Commercialisation of GTT's technologies* and section 9.1.2 – *Revenue recognition* of the present base document.

### **11.2.3 Licenses granted by third parties**

At the date of the present base document, no license agreement other than the short-term software license agreements has been granted by third parties to GTT.

## **11.3 INTELLECTUAL PROPERTY**

### **11.3.1 Patents and patent applications**

The Company has filed patent applications covering its principal technologies in (i) countries in which shipbuilding and repair companies have their registered office, (ii) emerging countries in the LNG sector (such as India and Russia) and (iii) LNG exporting countries (such as Australia, Russia and Angola) and gas-importing countries (such as South Korea and Japan). GTT's technologies are protected by an extensive portfolio of patents. At 30 September 2013, GTT held 561 patents, of which 224 had been issued and another 337 patent applications were under review in close to 95 countries.

GTT files new patents every year to protect and improve its technologies. The Company submitted filings for 120 new patents in 2011, 122 patents in 2012 and 89 patents during the first nine months of 2013, primarily in relation to recent developments in GTT's technologies to keep pace with the latest trends.

The Company has established an internal procedure that aims to identify and protect inventions and enables the Company to file new patents on a very regular basis.

The Company's objective is to maintain a high level of protection for its intellectual property rights, in particular by increasing the number of patent applications and giving up patents regarded as ineffective, which no longer correspond to its customers' needs and requests.

#### ***11.3.1.1 Nature and coverage of the patents held by the Company***

The number of patents and patent applications reflects the efforts made by the Company to refine its existing technologies and make new inventions. Around 90 different inventions are covered by the 561 patents and patent applications in force at 30 September 2013, encompassing the technologies already commercialised by GTT and the additional technologies that may be used by the Group to commercialise its future products.

#### ***11.3.1.2 Protected territory***

Most of the patent applications filed by the Company in France have been extended to other countries, initially, by means of international filings under "Patent Cooperation Treaties" for countries that are signatories of the World Intellectual Property Organisation's Madrid Agreement, or in the form of national filings for other countries. Subsequently, depending on the results of the various international research reports and the actual technical and strategic benefits of the patent application, international patent filings may be backed up by national filings in numerous countries, both in and outside Europe.

European patents are generally validated in the main European countries, including Spain, Italy and Germany. Outside Europe, most of the Company's patent applications are filed in Asia, especially South Korea, China and Japan, as well as Australia, Russia and Persian Gulf countries.

Overall, patent applications are extended to countries with installations or constructions using GTT's technologies, countries with repair shipyards and, more generally, countries where licensee companies are based. In addition, patent applications are filed in several strategic countries that produce or import LNG.

#### ***11.3.1.3 Litigation***

The Company is currently in dispute with Les Chantiers de l'Atlantique in connection with the filing by Les Chantiers de l'Atlantique of a patent relating to the technological improvements made to the bonding method for CS 1 technology (see section 20.3.2 – *Dispute between the Company and Les Chantiers de l'Atlantique (CAT)* of the present base document).

### **11.3.2 Trademarks and domain names**

#### ***11.3.2.1 Trademarks***

The portfolio of trademarks predominantly comprises the "GTT" and "GAZTRANSPORT & TECHNIGAZ" signs and the names of the major technologies developed by the Company, i.e. "GAZSTORAGE & TECHNIGAZ", "GST", "CS 1", "MARK III", "NO 96" and "MARK FLEX". The Company also owns some figurative marks comprising the Company's logo. Cryovision owns the "TAMI" and "Cryovision" trademarks. Whenever an application is accepted in these jurisdictions, the Company registers its trademarks in France, in shipbuilding and LNG importing and exporting countries and in countries that it has identified as having substantial potential in the LNG sector.

The "GTT", "GAZTRANSPORT & TECHNIGAZ", "GAZSTORAGE & TECHNIGAZ" and "GST" signs are generally registered for the products and services listed below covering the Company's business activities.

Category	Description
Class 6	Metal products for handling and storing gas in a liquid, gaseous or solid state, metal bottles, metal containers, metal floating containers, metal tanks, metal gas pipes, metal vats, metal recipients for gas under pressure, metal handling pallets, metal storage tanks, metal recipients for liquid gas, metal pipes, metal valves (other than machine parts).
Class 7	Handling devices (loading and unloading) for gas in a liquid, gaseous or solid state, loading bridges, pressure regulators (machine parts), valves (machine parts).
Class 11	Gas liquefaction devices, gas condensers, gas solidification devices.
Class 12	Devices for transporting gas in a liquid, gaseous or solid state by land, by rail, by waterway or by sea, vessels for shipping liquid gas, tank barges, barges, wagons for transporting gas in a liquid, gaseous or solid state.
Class 37	Shipbuilding, technical assistance in the event that a ship breaks down (repair), sealing and thermal insulation (construction) service; supervision (management) of shipbuilding work, shipbuilding consulting.
Class 39	Transportation by inland waterway or by sea, transportation by land and by air, transportation in barges; storage of gas in a liquid, gaseous or solid state, storage-related and shipping information.
Class 42	Marine engineering, marine expertise (engineering work); industrial design, preparation of plans for construction, technical studies and research for storage, transportation of gas in liquid, gaseous or solid form, thermal insulation and sealing technical research and engineering work on ships, tank barges, metal containers, materials testing and quality assurance.

The signs covering the technologies (“CS I”, “MARK III”, “NO96” and “MARK III FLEX”) are generally registered only for products and services falling within classes 6, 12 and 42 referred to above.

#### ***11.3.2.2 Domain names***

The Company has a policy of registering and managing domain names required to conduct its business activities. As at 30 September 2013, the Company owned a portfolio of around 23 domain names.

The employment contracts of GTT’s employees state that ownership rights to the software created by employees in the course of their employment or pursuant to the instructions of the Company belong to the latter, in accordance with the provisions of Article L. 113-9 of the French Intellectual Property Code.

When the Company calls on the services of external service providers to develop software or enhance existing software, it ensures that the related intellectual property rights are transferred to it.

## **CHAPTER 12**

### **TREND INFORMATION**

#### **12.1 BUSINESS TRENDS**

For a detailed presentation of the Company's results during the first nine months of the 2013 year, please refer to section 9.3 – *Analysis of the comprehensive income for the first nine months of the year 2013* of the present base document.

#### **12.2 MEDIUM-TERM OUTLOOK**

The objectives presented in this section do not represent forecasts or revenue estimates of the Company. They are predicated on the guidelines laid down by the Company in its future business plan. These objectives are based on data, assumptions and estimates deemed to be reasonable by the Company at the registration date of the present base document. These data, assumptions and estimates may change due to uncertainties arising from the economic, geopolitical or regulatory environment. In addition, the occurrence of one or more risks factors described in chapter 4 – *Risk factors* of the present base document may have a material adverse effect on the Company's activities, results, financial position and prospects and, accordingly, on its ability to achieve the objectives presented below. The Company does not give undertakings or make any warranties that it will achieve the objectives presented in this section.

##### **12.2.1 Market outlook and global level of orders**

As stated in section 9.1.3 – *Factors affecting the net income* of the present base document, one of the main factors influencing the Company's business activities and results is the global level of orders for LNG carriers, FPSOs, FSRUs and onshore storage tanks.

The studies conducted by Wood Mackenzie and by Poten & Partners providing forecasts (with a base-case scenario and a high-case scenario) of orders for LNG carriers, FPSOs and FSRUs over the 2014-2023 period and the portion of these orders that the Company would be expected to receive are presented in sections 6.2.2.1 (b) – *Forecasts for the LNG carriers segment*, 6.2.2.2 (b) *Forecasts for the FSRU and re-gasification vessel segment*, and 6.2.2.3 (b) – *Forecasts for the FPSO segment* of the present base document.

Over this period, the Company expects to receive a number of orders at the top end of the range resulting from the LNG carrier order forecasts prepared by Wood Mackenzie and Poten & Partners and believes that the number of LNG carrier orders that it is likely to receive between 2014 and 2023 probably stands at between 270 and 280. As stated in section 6.2.2.1 (b) – *Forecasts for the LNG carriers segment*, GTT anticipates a level of annual orders for 2014, 2015 and 2016 above the annual average estimated by Poten & Partners and Wood Mackenzie over the period between 2014 and 2023. This expected increase is explained by a more optimistic view of the implementation of projects to export LNG from the Gulf of Mexico to Asia, of the Yamal project, which should be launched shortly, and of projects in other countries and Algeria in particular. Furthermore, the Company believes that the number of FPSOs and FSRUs orders that it expects to receive between 2014 and 2023 is likely to stand at between 3 and 7 FPSOs and between 25 and 35 FSRUs. As stated in section 6.2.2.2 (b) – *Forecasts for the FSRU and re-gasification vessels segment*, and 6.2.2.3 (b) – *Forecasts for the FPSO segment* of the present base document, GTT anticipates more FRSU and FPSO orders than those forecasted by Poten & Partners and Wood Mackenzie.

The onshore storage tank segment in which the Company has been active in the past, with 33 onshore storage tanks ordered from the Company, according to it between 50 and 130 units will be ordered worldwide between 2014 and 2023. The Company believes that it will receive around 10 orders over the period.

“Bunkering” is still a marginal market, which is expected to gain considerable momentum over the next years. The Company expects to gain a significant position on this market.

### 12.2.2 Outlook for the order book

As stated in section 6.1.2 – *Business strengths of the Company*, GTT has strong visibility on its future revenue on the basis of the size of its order book as at 30 September 2013. It currently consists of 88 LNG carriers, 9 FSRUs, 2 FPSOs and 2 onshore storage tanks that should be delivered between 2013 and 2017 and corresponding to orders received by the Company between 2009 and 2013.

The Company believes that its current order book will translate into secure revenue of around EUR 215 million in 2014, EUR 165 million in 2016, EUR 56 million in 2016 and EUR 5 million in 2017.

TIMETABLE OF DELIVERIES AND ASSOCIATED REVENUE					
	2013	2014	2015	2016	2017
Deliveries	12	36	28	21	4
Revenue (€ m)	212	215	165	56	5

Source: Company

### 12.2.3 Revenue outlook

In terms of the level of orders expected in the medium term and the Company’s current order book, and based on the assumption of (i) no significant variation in the average revenue generated, as the case may be, by LNG carrier, FPSO, FSRU or onshore storage tank compared with that observed during the 2012 financial year and the first nine months of the 2013 financial year (aside from variation resulting from indexation to the industry, construction and services labour cost index – see section 6.3.4.1 (a) – *Commercialisation of GTT’s technologies for LNG carriers*) and (ii) no significant variation in the average rebate rate, as the case may be, for LNG carrier, FPSO, FSRU or onshore storage tanks compared with that observed in the 2012 financial year and the first nine months of the 2013 financial year, the Company expects for the 2015 and 2016 financial years to achieve a revenue level comparable to that to be achieved in the 2013 financial year (see section 13.1.2 – *Forecasts for the 2013 and 2014 financial years* of the present base document).

However, the Company’s revenue has traditionally been subject to significant fluctuations due to the number of LNG carrier orders (see section 4.1.2 – *Risks related to the economic situation and to the Group’s variations in revenues and operating results* of the present base document) and the method used to recognise the Company’s revenue pursuant to which the most significant portion of the revenue generated by an order is recognised in the second and third financial years following the year in which the order was booked. To illustrate this point, 2% of the total revenue from a standard order of four vessels<sup>32</sup> is recognised in the year in which the order is booked, 4% in the following year, 38% in the third year and 56% in the fourth year.

Accordingly, due to the fact that the main portion of the revenue taken into account until 2014 is linked to the exceptionally large number of orders booked in 2011, the Company’s revenue in the 2015 and 2016 financial years may be lower than that to be recognised in the 2014 financial year.

GTT should benefit over the longer term from the expected growth in the LNG sector and in the need for LNG carriers, for FPSOs and for FSRUs associated to such growth (between approximately 300 and 320 orders over the 2014-2023 period).

<sup>32</sup> Based on the assumption, for illustrative purposes, that the order was placed on 30 June.



#### **12.2.4 Outlook for profitability level**

Owing to the Company's substantial operating leverage, it anticipates that an increase in its revenue will generally translate into an improvement in its net margin (ratio to revenue). Conversely, a decline in revenue usually translates into a decline of the net margin (ratio to revenue).

#### **12.2.5 Outlook for dividend policy**

In accordance with legal and regulatory provisions, the Company's general meeting may decide to pay out a dividend upon recommendation and based on the report of the board of directors.

Since the Company's investment, research and development requirements represent a relatively moderate proportion of its net profit, the Company plans to pay out 100% of its income available for distribution for the 2013 financial year. An interim dividend in the amount of EUR 51,678,319 having been paid out on 5 September 2013, it is planned to distribute the remainder of this interim dividend in 2014, following the date of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris. As regards the following financial years, the Company intends to pursue a dividend policy of paying out to shareholders at least 80% of its income available for distribution. It is planned to declare dividends payments twice a year, with an interim dividend being paid in the autumn of each financial year and the remainder in the following spring of the subsequent financial year at the occasion of the shareholders' meeting approving the financial statements for the relevant financial year.

The dividends may, if the general assembly decides it, pursuant to the provisions of the by-laws of the Company, be paid in shares of the Company or in cash, depending on each shareholder's choice (see section 21.2.3.4 - *Statutory allocation of profits* of the present base document)

Objectives and dividends payment arrangements presented above do not bind the Company. The actual amount of the dividends and payment arrangements will be determined by taking into consideration various factors, including the conduct of business of the Company and in particular, its strategic objectives, financial position, contractual obligations, opportunities that it may wish to take, the applicable legal provisions or any other factor that the board of directors would consider relevant.

## **CHAPTER 13**

### **FORECASTS AND PROFIT ESTIMATES**

#### **13.1 FORECASTS**

##### **13.1.1 Assumptions**

The Company has prepared the forecasts presented below on the basis of:

- (i) its order book as at 30 September 2013, which comprised 88 LNG carriers, 9 FSRUs, 2 FPSOs and 2 onshore storage tanks;
- (ii) its usual revenue recognition method (see section 9.1.2 – *Revenue recognition* of the present base document);
- (iii) the condensed financial statements at 30 September 2013 prepared in accordance with IFRS.

##### **13.1.2 Forecasts for the 2013 and 2014 financial years**

Based on the items described above, the Company expects to achieve for the 2013 financial year:

- a revenue amounting to approximately EUR 215 million;
- a net profit amounting to approximately EUR 110 million.

The Company's audited financial statements for the 2013 financial statements will be included in the prospectus prepared for the purpose of the Company's initial public offering.

On the same basis, the Company expects to achieve for the 2014 financial year:

- a revenue amounting to at least EUR 223 million made of:
  - EUR 215 million corresponding to its order book as at 30 September 2013;
  - approximately EUR 8 in respect of services proposed by the Company, an area in which the Company has demonstrated some resilience in the past, since this activity bears no relation to new orders and is a strategic line of expansion for the Company (see section 6.1.3 – *Group's business strategy* of the present base document).

To this amount would be added revenues associated with orders received by the Company during the last quarter of 2013 and 2014 financial year ;

- a net margin (ratio to revenue) of around 50%.

## **13.2 STATUTORY AUDITOR'S REPORT ON THE FORECASTS**

### **GAZTRANSPORT & TECHNIGAZ – GTT**

#### **STATUTORY AUDITOR'S REPORT ON THE PROFIT FORECASTS**

To the Président-Directeur Général

In our capacity as statutory auditors and in compliance with the EU Regulation 809/2004, we hereby report on the 2013 net income forecast and on the 2014 net income margin (forecast net income as a percentage of forecast total revenues) for Gaztransport & Technigaz which is included in chapters 13 of its base document (“Document de base”).

In accordance with EU Regulation 809/2004 and the relevant ESMA guidance, you are responsible for the preparation of these forecasts and its principal underlying assumptions.

It is our responsibility to express our conclusion, pursuant to Appendix 1, paragraph 13.2 of the EU Regulation 809/2004, as to the proper compilation of these forecasts.

We have performed those procedures which we considered necessary in accordance with professional guidance issued by the national auditing body (Compagnie Nationale des Commissaires aux Comptes). Our work consisted in an assessment of the preparation process for the forecasts, as well as the procedures implemented to ensure that the accounting methods applied are consistent with those used for the preparation of the historical financial information of Gaztransport & Technigaz. We also gathered all the relevant information and explanations that we deemed necessary to obtain reasonable assurance that the forecasts has been properly compiled on the basis stated.

It should be noted that, given the uncertain nature of forecasts, the actual figures are likely to be significantly different from those forecasts and that we do not express a conclusion on the achievability of these figures.

We conclude that:

- These forecasts have been properly compiled on the basis stated;
- The accounting methods applied in the preparation of these forecasts are consistent with the accounting principles adopted by Gaztransport & Technigaz.

This report is issued for the sole purpose of the registration by the French Stock Exchange Regulatory Body (AMF) of the Document de base and, if applicable, the public offering in France and in other European Union countries in which a prospectus, including this registration document (Document de base), as approved by the French Stock Exchange Regulatory Body (AMF), will be published and may not be used for any other purpose.

Paris-La Défense, on 12 December 2013

The Statutory Auditor  
ERNST & YOUNG Audit  
Philippe Hontarrède

## **CHAPTER 14**

### **MEMBERS OF THE ADMINISTRATIVE, MANAGEMENT AND SUPERVISORY BODIES AND GENERAL MANAGEMENT**

#### **14.1 MEMBERS OF THE ADMINISTRATIVE, MANAGEMENT AND SUPERVISORY BODIES AND GENERAL MANAGEMENT**

Unless stated otherwise, references to the by-laws and internal regulations of the board of directors in this chapter and in chapter 16 – *Board and management practices* of the present base document may be assumed to be to the Company's by-laws and the internal regulations of the board of directors adopted respectively by the shareholders meeting and the meeting of the board of directors on 11 December 2013 subject to the non-retroactive condition precedent of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris.

The Company is a *société anonyme à conseil d'administration* (joint stock limited liability company with a board of directors) governed by the applicable laws and regulations and by its by-laws.

As of the date of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris, the Company will be managed by a board of directors comprising eight directors, including three independent directors, four of these directors being appointed upon proposal of GDF SUEZ, GDF International and GDF Armateur 2 (including Philippe Berterottière, Chief executive officer of the Company since 2009 who has a casting vote in the event of tied vote) and one of these directors being appointed upon proposal of Total Gas & Power Actifs Industriels, H&F Luxembourg 1 S.à.r.l., H&F Luxembourg 2 S.à.r.l. and H&F Luxembourg 3 S.à.r.l. GDF SUEZ has informed the Company that it may propose that an additional board member be elected at the occasion of a future ordinary shareholders' meeting convened by the Company in the ordinary course of its affairs. In that case, Total Gas & Power Actifs Industriels and/or H&F Luxembourg 1 S.à.r.l. have informed the Company that they would propose at the same time the election of an observer (unique) at the board of directors.

A description of the main provisions of the by-laws and internal regulations of the board of directors, its committees and general management of the Company, in particular their operation and their powers, are provided in chapter 16 of the present base document.

##### **14.1.1 Board of directors**

###### ***14.1.1.1 Composition of the board of directors***

The following table shows the composition of the board of directors following the date of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris, being said that in addition to the directors which identity is described in this table below, three independent directors shall be appointed before the date of the AMF approval (*visa*) on the initial public offering prospectus.

Name, surname or company name	Office	Date of initial appointment and the term of office	Mandates and other offices held within the Group over the past five years	Mandates and offices held outside the Group over the past five years
<b>Philippe Berterrotière<sup>1</sup></b>	Chairman of the board of directors and chief executive officer	Appointed by the shareholders meeting dated 11 December 2013 End of term following the shareholders meeting convened to approve the annual accounts for financial year ended 31 December 2017	Chairman of the board of directors and chief executive officer of GTT	<b>Current mandates</b> <ul style="list-style-type: none"> <li>• Manager of : <ul style="list-style-type: none"> <li>– SARL SOFIBER</li> <li>– SCI MATHIAS DENFERT</li> <li>– SCI MATHIAS LABROUSTE</li> <li>– SCI FIVE PARTICIPATION</li> <li>– SARL SOFISTE</li> <li>– SARL SOFIKI</li> </ul> </li> </ul> <b>Past mandates</b> <ul style="list-style-type: none"> <li>• Director of Sofremi, company of the GNT group</li> </ul>
<b>Isabelle Salhorgne<sup>2</sup></b>	Director	Appointed by the shareholders meeting dated 11 December 2013 End of term following the shareholders meeting convened to approve the annual accounts for financial year ended 31 December 2016	None	<b>Current mandates</b> None <b>Past mandates</b> None
<b>Jacques Blanchard<sup>1</sup></b>	Director	Appointed by the shareholders meeting dated 11 December 2013 End of term following the shareholders meeting convened to approve the annual accounts for financial year ended 31 December 2014	Director of GTT	<b>Current mandates</b> <ul style="list-style-type: none"> <li>• Chairman of the board of directors of GAZOCEAN SA</li> <li>• President of GDF ARMATEUR 2 SAS</li> <li>• President of GDF INVESTISSEMENTS 24 SAS</li> <li>• President of GDF INVESTISSEMENTS 29 SAS</li> <li>• Representative of : <ul style="list-style-type: none"> <li>– GDF INVESTISSEMENTS 29 SAS, managing partner of GDF METHANE INVESTISSEMENTS 3 SNC</li> <li>– GDF ARMATEUR 2 SAS, managing partner of GDF METHANE INVESTISSEMENTS 2</li> </ul> </li> </ul>

Name, surname or company name	Office	Date of initial appointment and the term of office	Mandates and other offices held within the Group over the past five years	Mandates and offices held outside the Group over the past five years
				<p>SNC</p> <ul style="list-style-type: none"> <li>– GDF ARMATEUR 2 SAS, managing partner of GDF ARMATEUR SNC</li> <li>– GDF ARMATEUR 2 SAS, manager of MESSIGAZ SNC</li> <li>• Member of the management board of NYK ARMATEUR SAS</li> </ul> <p><b>Past mandates</b></p> <ul style="list-style-type: none"> <li>• President of GNL MARINE INVESTISSEMENTS SAS</li> <li>• Representative of : <ul style="list-style-type: none"> <li>– GNL MARINE INVESTISSEMENTS SAS, manager of MESSIGAZ SNC</li> <li>– GNL MARINE INVESTISSEMENTS SAS, managing partner of GDF ARMATEUR SNC</li> </ul> </li> <li>• Director of METHA-BAIL G.I.E.</li> <li>• Chairman of the board and chief executive officer of GAZOCEAN SA</li> </ul>
<b>Marc Florette<sup>1</sup></b>	Director	<p>Appointed by the shareholders meeting dated 11 December 2013</p> <p>End of term following the shareholders meeting convened to approve the annual accounts for financial year ended 31 December 2016</p>	Director of GTT	<p><b>Current mandates</b></p> <ul style="list-style-type: none"> <li>• President of GRTgaz</li> <li>• Member of the Board of GERG (Groupe Européen de Recherche Gazière)</li> <li>• Director of the ANRT (<i>Association Nationale de la Recherche et de la Technologie</i>)</li> <li>• President of MARCOGAZ (<i>Association européenne techniques des entreprises gazières</i>)</li> <li>• Director of GTI (Gas Technology Institute)</li> </ul>

Name, surname or company name	Office	Date of initial appointment and the term of office	Mandates and other offices held within the Group over the past five years	Mandates and offices held outside the Group over the past five years
				<ul style="list-style-type: none"> <li>Member of the Board of Eurogia</li> <li>Director of the Fondation d'entreprise GDF SUEZ</li> </ul> <p><b>Past mandates</b> None</p>
<b>Benoît Mignard</b> <sup>1</sup>	Director	Appointed by the shareholders meeting dated 11 December 2013 End of term following the shareholders meeting convened to approve the annual accounts for financial year ended 31 December 2015	Director of GTT	<p><b>Current mandates</b></p> <ul style="list-style-type: none"> <li>Director of GDF SUEZ E&amp;P International (EPI)</li> <li>Director of GDF SUEZ E&amp;P Norge (EPN)</li> <li>Director of GDF SUEZ E&amp;P UK (Gas UK)</li> </ul> <p><b>Past mandates</b></p> <ul style="list-style-type: none"> <li>Director and President of the Audit Committee of GRDF</li> </ul>

<sup>1</sup> Director appointed upon proposal of GDF SUEZ, GDF International and GDF Armateur 2

<sup>2</sup> Director appointed upon proposal of Total Gas & Power Actifs Industriels, H&F Luxembourg 1 S.à.r.l, H&F Luxembourg 2 S.à.r.l. and H&F Luxembourg 3 S.à.r.l.

For purposes of their mandates, the members of the board of directors are domiciled at the Company's registered office.

#### **14.1.1.2 Biography of the members of the board of directors**

##### **Philippe Berterottière**

For the biography of Philippe Berterottière : see section 6.8 – *Organisation of the Company* of the present base document.

##### **Isabelle Salhorgne**

Isabelle Salhorgne, 42 years old, a law graduate of the University of La Sorbonne and the University of Cambridge and passed the *certificat d'aptitude à la profession d'avocat* (CAPA) in 1996. She is also a graduate of the *Institut d'Etudes Politiques de Paris (Sciences Po)* and of the Institute of Oriental Languages of Paris (*Langues O*).

Having practiced as a lawyer for five years in the law firm Freshfields Bruckhaus Deringer LLP in mergers and acquisitions and project finance, Isabelle Salhorgne joined the legal department of the bank CDC Ixis (*Caisse des Dépôts et Consignations*) as Senior Counsel in charge of monitoring structured finance of CDC in infrastructure and energy sectors in Europe and the Americas. In 2003, she joined the legal department of the European Bank for Reconstruction and Development in London and managed a portfolio of acquisitions/disposals and project financing of the institution in the 26 countries where it operates and in particular in the industry and energy sectors.

Isabelle Salhorgne joined Total SA in 2006. She was Senior Counsel in the legal department mergers and acquisitions and project financing of Total SA and as such participated in major disposals of the Total Group (Mapa Spontex, Cray Valley.). She is currently in charge of the Gas & Power division in the Upstream legal department of Total group and as such monitors (i) the marketing activities of natural gas, LNG, LPG and electricity, as well as shipping of LNG and (ii) stakes of Gas & Power division in the share capital of infrastructure companies (re-gasification terminals, transport and storage of natural gas, gas-fired power), including those owned by Total Gas & Power Actifs Industriels in the Company.

### **Jacques Blanchard**

Jacques Blanchard, 60 years old, is a graduate of the *Ecole Nationale Supérieure de Techniques Avancées de Paris et du Génie Maritime* (National School of Advanced Techniques of Paris and Maritime Engineering).

After a first experience in shipbuilding, he specialized in the field of ship repair and has been for many years managing director and then chairman of the board of directors of a shipyard in Saint-Nazaire.

He was also director of SIGTTO (Society of International Gas Tanker and Terminal Operators ) for 6 years.

Jacques Blanchard is Executive Vice President Maritime Transportation at GDF SUEZ LNG, at the head of the Maritime Transportation Department since 1994, managing 17 tankers chartered by the GDF SUEZ group, including 5 owned by the group; in addition, Jacques Blanchard is chairman of the board of directors of GAZOCEAN (ship management company in charge of five LNG carriers), member of the French Committee of Bureau Veritas, member of the board of directors of GTT and officer in several affiliated shipping companies.

### **Marc Florette**

Marc Florette, 60 years old, is a graduate of the *Ecole Polytechnique* and holds a Master of Science in Physics-Engineering from the University of California and a *certificat de perfectionnement aux affaires* from HEC.

After joining the Research division of Gaz de France and the Distribution division of EDF and Gaz de France, Marc Florette was appointed deputy director of the electricity and gas distribution of Grand Toulouse. Five years later, he was appointed director of the Electricity and Gas Distribution department of Seine et Marne. In 1999, he became deputy director of the Research department of Gaz de France, and managing director in 2000 of Cogeneration division of the business service of Gaz de France and of the planned CCGT construction of 800 MW in Dunkerque.

Since 2003, Marc Florette was successively, director of the Research department of Gaz de France, and of the department of Research & Innovation of GDF SUEZ.

### **Benoît Mignard**

Benoît Mignard, 54 years old, civil engineer graduate of the *Ecole des Mines de Paris*.

After having held various positions at the Research Development division of EDF, Benoît Mignard joined Gaz de France in 1992 and took the head of the Trading Office and of the Budget. In 1999, he is in charge of the negotiation of gas supply contracts, and then of economic studies. In 2002, he undertakes the development of "structured transactions gas and LNG," activities accompanying the opening of the energy markets in Europe. In 2006, he joined the Finance department as head of Investments Acquisitions, a position he held at GDF SUEZ after the merger of 2008. Since 2012, he is deputy director and Chief Financial Officer of the Global Gas Branch and LNG of GDF SUEZ.



### ***14.1.1.3 Declarations concerning members of the board of directors***

To the Company's knowledge, there are no family ties between the members of the board of directors of the Company identified above.

Over the past five years, none of the member of the board of directors identified above:

- have been convicted of fraud, of a criminal offence or had an official public sanction issued against them by the statutory or regulatory authorities;
- have been involved in a bankruptcy, receivership or liquidation as manager or officer ;
- have been prevented by a court from acting in his or her capacity as a member of an administrative, management or supervisory body or from being involved in the management or conduct of an issuer's business affairs.

### **14.1.2 General management**

By a decision made on 11 December 2013, the board of directors decided not to separate the functions of chairman of the board of directors and of chief executive officer and to entrust the management of the Company to the chairman of the board of directors, who thus carries the title of chairman of the board and chief executive officer.

At the registration date of the present base document, Philippe Berterroitière holds the duties of chairman and chief executive officer.

## **14.2 CONFLICTS OF INTEREST AFFECTING THE BOARD OF DIRECTORS AND GENERAL MANAGEMENT**

At the registration date of the present base document and to the Company's knowledge, no actual or potential conflicts of interest exist between the duties towards the Company of the persons referred to in this section 14.1 of the present base document and their private interests and other duties.

The composition of the board of directors at the registration date of the present base document reflects a shareholders' agreement entered into on 11 December 2013 between GDF Suez, GDF International, GDF Armateur 2, Total Gas & Power Actifs Industriels, H&F Luxembourg 1 S.à.r.l., H&F Luxembourg 2 S.à.r.l. and H&F Luxembourg 3 S.à.r.l., and which entered force upon the conversion of the Company into a *société anonyme*. This shareholders' agreement will be terminated automatically at the settlement and delivery date of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris.

No restrictions have been accepted by the members of the board of directors as regards the sale of their shareholding in the Company, except for the rules laid down in section 16.1.1.2 – *Directors' duties* of the present base document relating to the prevention of insider trading.

## CHAPTER 15 COMPENSATION AND BENEFITS

### 15.1 COMPENSATION AND BENEFITS OF ANY KIND ALLOTTED TO EXECUTIVE OFFICERS AND MEMBERS OF ADMINISTRATIVE, MANAGEMENT AND SUPERVISORY BODIES DURING THE FINANCIAL YEARS ENDED ON 31 DECEMBER 2011 AND 31 DECEMBER 2012

The following information shows the compensation and benefits granted to the chairman of the board and chief executive officer of the Company and the non-executive officers (i.e. the other members of the board of directors) who will be members of the board of directors on the date of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris (in respect of their office held within the Company during the financial years ended 31 December 2011 and 2012).

Aside from the items referred to above, the compensation of the Company's chairman of the board and chief executive officer will consist of a significant variable component linked to the Company's performance and in particular to its market value, that may be structured as one of the three following types of compensation: (i) compensation in cash, (ii) compensation in Company's shares, and/or (iii) compensation in financial instruments conferring rights to access to the Company's share capital, such as share subscription warrants, stock options and purchase options. The terms and conditions of this variable compensation will be determined in compliance with the recommendations of the AFEP-MEDEF Code and will, as well as, as the case may be, any exceptional compensation linked to the initial public offering, described in the prospectus which will be established for the purpose of the initial public offering of the Company.

#### 15.1.1 Compensation and benefits of any kind allotted to executive officers

The following tables show the compensation and benefits of any kind paid to the chairman of the board of directors and chief executive officer by (i) the Company, (ii) its subsidiaries, (iii) companies controlled, within the meaning of Article L. 233-16 of the French Commercial Code, by the company/(ies) controlling the Company and (iv) the company/(ies) controlling the Company within the meaning of the same article.

**Table 1 - Summary of the compensation and of the options and shares allotted to the chairman of the board and chief executive officer**

Summary table of the compensation and of the options and shares allotted to the chairman of the board and chief executive officer		
(euros)	Financial year ended on 31 December 2011	Financial year ended on 31 December 2012
Philippe Berterrottièr		
Compensation payable in respect of the financial year ( <i>broken down in table 2</i> )	405,181	420,104
Valuation of the options allotted during the financial year	None	None
Valuation of the performance shares allotted during the financial year	None	None
<b>TOTAL</b>	405,181	420,104

**Table 2 - Breakdown of compensation and benefits allotted to the chairman of the board and chief executive officer**

Summary table for compensation allotted to chairman of the board and chief executive officer (in euros)				
Philippe Berterottière	Financial year ended on 31 December 2011		Financial year ended on 31 December 2012	
	Amount due	Amount paid	Amount due	Amount paid
Fixed compensation <sup>(1)</sup>	236,048	236,048	244,545	244,545
Variable compensation <sup>(2)</sup>	153,431	86,557	158,954	105,140
Non-recurring compensation	None	None	None	None
Directors' attendance fees	None	None	None	None
Benefits in kind <sup>(3)</sup>	15,702	15,702	16,605	16,605
<b>TOTAL</b>	<b>405,181</b>	<b>338,307</b>	<b>420,104</b>	<b>366,290</b>

(1) The gross amount before tax of the fixed compensation includes (i) fixed compensation received by the chairman of the board and chief executive officer in respect of his employment contract, and (ii) fixed compensation received by the chairman of the board and chief executive officer in respect of his appointment as officer.

(2) Variable compensation breaks down into (i) variable compensation related to his appointment as CEO of the Company contingent upon meeting the objectives set for the relevant financial year and which amount may vary between 0 and 50% of the annual compensation, (ii) additional deferred variable compensation linked to his appointment as chairman of the Company's board of directors contingent upon meeting the objectives set for the relevant financial year and which amount may vary between 0 and 15% of the N-1 year gross annual compensation, (iii) a bonus under his employment contract pursuant to which Philippe Berterottière holds the position of director of industrial development contingent upon meeting the objectives set for by the Company and which amount may vary between 0 and 50% of the gross annual salary (being specified that incentive, profit-sharing and contributions are included in this bonus), and (iv) a deferred bonus under this employment contract which amount may vary between 0 and 15% of the N-1 year gross annual compensation. As regards the variable compensation, the difference observed between the amount due and the amount actually paid in a given year is linked to the deferred payment of additional compensation pursuant to his appointment as chairman of the Company's board of directors and pursuant to his employment contract.

The objectives set for the purpose of determining the proportion of variable compensation are notably linked to the market share held by GTT's technologies, the development and results of its subsidiary, Cryovision, the Company's ability to penetrate new business segments (including offshore, onshore storage tanks and bunkering), the grip on operating costs and the development of the Company's invention-based activities.

The objectives set forth were achieved for the financial years ended 31 December in 2011 and 2012.

(3) Benefits in kind are of two types:

- GSC loss of employment insurance (social guarantee for business managers and executives) defined according to the declared compensation and options chosen; and
- a company car.

### 15.1.2 Compensation and benefits of any kind allotted to non-executive officers

Members of the board of directors did not receive any compensation (directors' attendance fees, other compensation or benefits) during the financial years ended 31 December 2011 and 31 December 2012, it being stipulated that the Company was a *société par actions simplifiée* (simplified joint stock limited liability company) with a board of directors during these financial years.

### 15.1.3 Stock options, purchase options, performance shares

At the registration date of the present base document, the Group had not allotted stock options or purchase options or performance shares to any of its executive officers.

### 15.1.4 Details of compensation and other benefits granted to executive officers

Executive officers	Employment contract		Supplementary pension regime		Indemnities or benefits due or likely to become payable as a result of the cessation or change in duties		Indemnity under a non-compete clause	
	Yes	No	Yes <sup>(2)</sup>	No	Yes	No <sup>(3)</sup>	Yes <sup>(4)</sup>	No
<i>Philippe Berterottière</i> (Chairman of the board and chief executive officer)	X <sup>(1)</sup>					X	X	

- (1) In accordance with the provisions of the AFEP-MEDEF Code, the chairman of the board and chief executive officer will no longer benefit from an employment contract with the Company from the date of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris.
- (2) This supplementary pension regime resulted in booking an expense of 42,414 euros in 2011 and 46,170 euros in 2012.
- (3) At the registration date of the present base document, the Company is not under any obligation to pay a contractual indemnity in respect of the cessation of Philippe Berterottière's duties. Only the statutory redundancy indemnities and those provided for in the collective agreement for engineers and metalworking industry executives may be payable if his employment contract is terminated.
- (4) In return for a non-compete undertaking, the Company undertook to make a monthly payment to Philippe Berterottière equivalent to five tenths of the average monthly salary and contractual benefits and bonus payments that Philippe Berterottière received during the twelve previous months with the Company for the duration of the non-compete obligation of one year from termination of the employment contract.

If he is dismissed for any reason other than gross misconduct, this monthly payment will be increased to six tenths of the average for as long as Philippe Berterottière has not found another job and within the limit of time during which the non-compete obligation remains in force.

## 15.2 COMPENSATION AND BENEFITS OF ANY KIND ALLOTTED TO EXECUTIVE OFFICERS AND MEMBERS OF ADMINISTRATIVE, MANAGEMENT AND SUPERVISORY BODIES DURING THE FINANCIAL YEAR ENDED ON 31 DECEMBER 2013 AND FOR THE PERIOD FOLLOWING THE SETTLEMENT AND DELIVERY DATE OF THE COMPANY'S SHARES ALLOTTED AS PART OF THE INITIAL PUBLIC OFFERING ON NYSE-EURONEXT'S REGULATED MARKET IN PARIS

### 15.2.1 Compensation and benefits of any kind allotted to non-executive officers and directors

The draft board of directors internal regulations, which will apply from the settlement and delivery date of the Company's shares allotted as part of the initial public offering on the NYSE-Euronext regulated market in Paris, states that directors will receive directors' attendance fees, the aggregate amount of which for each financial year, as set by the shareholders meeting, will be divided up into two equal components, one fixed and one variable, as follows:

- a fixed component equal to 40% of the aggregate sum allocated between directors as follows:

- the chairman of the board of directors is entitled to one and a half share;
  - the other directors are each entitled to one share;
  - the fixed component is allocated among the directors on the basis of the number of shares they are entitled to.
- an initial variable component equal to 30% of the aggregate sum, based on whether they are a member of the board of directors' committee, allocated to members of the committees of the board of directors as follows:
- each chairman of a committee of the board of directors is entitled to one and a half share;
  - the other committee members are each entitled to one share;

the initial variable component is allocated among committee members on the basis of the number of shares they are entitled to.

- a second variable component is based on attendance:

- at board of directors meetings; and
- at board of directors committee meetings, where appropriate;

and equal to 30% of this amount is allocated among members of the board of directors committees as follows:

- at the beginning of the financial year, each director is entitled to one share;
- assuming she/he does not attend at least half:
  - of the board of directors meetings; and
  - of the meetings of the board of directors committees to which she/he belongs; held during the year, they would forfeit their share.
- however, in accordance with the provisions of article 12 of the internal regulations, meetings to which the director was unable to attend for unavoidable reasons will not be taken into account for the purposes of the above allocation;
- the second variable component is divided up between directors based on the number of shares they are entitled to.

In addition, the internal regulations of the board of directors state that each member of the board of directors is entitled to be reimbursed for travel expenses incurred in the course of his/her duties upon submission of supporting documents.

### **15.2.2 Stock options, purchase options, performance shares**

None

As regards the future compensation of the chairman of the board and chief executive officer of the Company : see the introduction to section 15.1 - *Compensation and benefits of any kind allotted to executive officers and members of administrative, management and supervisory bodies during the financial years ended on 31 December 2011 and 31 December 2012* of the present base document.

### **15.3 AMOUNTS SET ASIDE BY THE GROUP TO COVER PAYMENT OF PENSIONS, RETIREMENT AND OTHER BENEFITS TO EXECUTIVE OFFICERS**

None

**15.4 AGREEMENTS ENTERED INTO BY THE COMPANY OR ITS SUBSIDIARIES WITH  
EXECUTIVE OFFICERS**

None

**15.5 LOANS AND GUARANTEES GRANTED TO EXECUTIVE OFFICERS**

None

## CHAPTER 16

### FUNCTIONING OF THE COMPANY'S BOARD AND MANAGEMENT BODIES

The functioning of the board of directors is governed by statutory and regulatory provisions, the Company's by-laws and the internal regulations of the board of directors, the key provisions of which are described in this chapter 16.

The by-laws and the internal regulations of the board of directors described in the present base document are those of the Company as they will become effective subject to the fulfilment of the non-retroactive condition precedent of settlement and delivery of the shares of the Company allotted as part of the Company's initial public offering on the regulated market NYSE-Euronext in Paris.

#### 16.1 BOARD AND MANAGEMENT PRACTICES

##### 16.1.1 Board of directors

###### *16.1.1.1 Composition of the board of directors*

*Number of directors and number of independent directors (article 14 of the by-laws, article 2 of the internal regulations of the board of directors)*

The Company is governed by a board of directors comprising no less than three and no more than 18 members. The maximum number of 18 members may be increased, where applicable, by the number of directors representing the employee shareholders, appointed in accordance with article 14.8 of the Company's by-laws.

The composition of the board of directors seeks to achieve a balanced representation of men and women as required in particular by the provisions of article L.225-17 of the French Commercial Code.

In accordance with the AFEP-MEDEF Code, the internal regulations of the board of directors state that a director is independent when he or she has no relationship of any kind whatsoever with the Company, any company or entity directly or indirectly controlled by the Company within the meaning of article L. 233-3 of the French Commercial Code (a **Group Company**) or their management, that might affect his or her freedom of judgement. The internal regulations of the board of directors also requires, each year, the compensation and nominations committee to discuss the independent status of each individual director and the board of directors to review it on a case-by-case basis in light of the independence criteria set out below. In addition, the qualification as independent director is also discussed when an independent director is appointed and re-appointed. The board of directors' conclusions on the qualification as independent director are reported to the shareholders in the chairman's report to the annual shareholders meeting of the Company.

The criteria to be reviewed by the compensation and nominations committee and the board of directors and that shall be cumulatively fulfilled to qualify a director as independent, are as follows:

- is not and has not been in the past five years an employee or corporate officer (*dirigeant mandataire social*) of the Company or an employee or director of its parent company or one of its consolidated companies;
- is not a corporate officer (*mandataire social*) of a company in which an employee appointed as such or a corporate officer of the Company (current or over the past five years) is a director or a member of the supervisory board;
- is not a material customer, supplier, investment banker or commercial banker for the Company or the Group, or for which the Company or the Group accounts for a significant part of the business;

- in respect of directors holding mandates in one or more banks, has not participated in (i) preparing or soliciting an offer of services by one of those banks to the Company or a Group Company, (ii) the work done by one of those banks pursuant to a mandate given to the bank by the Company or a Group Company or (iii) voting on any resolution involving a project in which the relevant bank has or could have an interest as adviser;
- is not related by close family ties to a corporate officer of the Company or a Group Company;
- has not been an auditor of the Company over the past 5 years;
- has not been a director of the Company for more than 12 years, although the loss of independent status will only occur at the end of the term of office during which the twelve-year limit was reached.

For directors holding ten per cent or more of the Company's share capital or voting rights, or representing a legal entity that holds ten per cent or more of the Company's share capital or voting rights, the board of directors shall, based on a report prepared by the compensation and nominations committee, decide whether or not the director is independent in the light of the Company's ownership structure and the existence of any potential conflicts of interest.

The board of directors may however consider that a particular director, although meeting all the above criteria, cannot be considered as independent due to his or her specific situation.

The shareholders meeting of the Company shall appoint three directors who meet the independence criteria set out above, subject to fulfilment of the non-retroactive condition precedent of settlement and delivery of the shares allotted pursuant to the Company's initial public offering on the regulated market NYSE-Euronext in Paris.

#### *Directors' term of office (article 16 of the by-laws)*

Subject to the provisions of the applicable laws and regulations in case of temporary appointment by the board of directors, the directors are appointed for a term of four years.

Certain directors may exceptionally be appointed by the shareholders meeting for a term of less than four years for the purpose of organizing the gradual renewal of the terms of directors. Such gradual renewal system has been decided by the meeting of the shareholders on 11 December 2013 pursuant to section 14.1.1.1 – *Composition of the board of directors* above.

A director's term of office ends at the close of the annual shareholders meeting called to approve the financial statements for the previous financial year and held during the year in which his or her term expires.

Directors may be re-appointed.

#### *Age limit (article 16 of the by-laws)*

The number of directors (whether individuals or representatives of legal entities) over the age of 70 may not be more than one quarter of the total number of directors in office, rounded up where necessary to the next whole number.

No person over the age of 70 may be appointed as director if it would cause the number of directors over the age of 70 to be more than one quarter of the total number of directors in office, rounded up where necessary to the next whole number.

If the proportion of one quarter is exceeded and none of the directors over the age of 70 resigns, the oldest director shall automatically be deemed to have resigned.



*Number of shares of the Company owned by the directors (article 11 of the internal regulations of the board of directors)*

Each director, other than the representatives of employee shareholders is required to hold at least 100 shares of the Company in pure registered form.

#### **16.1.1.2 Directors' duties**

The internal regulations of the board of directors supplements the provisions of the law and the by-laws on the rights and duties of directors and takes into account of the recommendations made in the AFEP-MEDEF Code. Directors are bound by the duties summarised below.

*General duties (article 6 of the internal regulations of the board of directors)*

Before accepting the office, each member of the board of directors shall ensure that he or she is acquainted with the general and specific duties incumbent to him or her. In particular, he or she shall be acquainted with the laws and regulations governing the office of director, the Company's by-laws and the internal regulations of the board of directors' internal regulations of the board of directors in all its provisions which are applicable to him or her.

Each director shall abide by all the laws and regulations governing the office of a member of the board of directors of a *société anonyme*, the provisions of the Company's by-laws and the internal regulations of the board of directors, in particular the rules relating to:

- powers of the board of directors;
- multiple offices;
- incompatibilities and incapacities;
- agreements entered into directly or indirectly between a member of the board of directors and the Company; and
- possession and use of inside or confidential information.

*Duty of loyalty and conflicts of interest management (article 7 of the internal regulations of the board of directors' internal regulations of the board of directors)*

The members of the board of directors shall under no circumstances seek their own personal benefit instead of that of the Company.

Any member of the board of directors is bound to inform the board of directors of any current or potential conflict of interest situation between him or her (or any related person with whom he or she has family ties) and the Company or any company in which the Company has an equity interest or any company with which the Company plans to enter into an agreement of any kind.

The relevant member of the board of directors shall not attend or take part in the board of directors discussions or vote on the resolutions involving the conflict of interest, except where it involves an ordinary business agreement entered into on arm's length basis.

*Duty of non-competition (article 8 of the internal regulations of the board of directors)*

Throughout their term of office, each director shall not occupy any position in a competing entity with the Company or a Group Company without the prior consent of the chairman of the board of directors.

*General duty of disclosure (article 9 of the internal regulations of the board of directors)*

In accordance with the French and European Union statutory and regulatory provisions, each member of the board of directors is required to provide the board of directors with full information about any compensation and any benefits received from the Company or a Group Company, their directorships or offices in other companies or legal entities, and any previous convictions.

*Duty of confidentiality (article 10 of the internal regulations of the board of directors)*

As a general rule, all documents and matters discussed at board of directors' meetings and all information obtained during or outside board of directors' meetings about the Group, its business and prospects are, without exception, strictly confidential even if they have not been expressly presented as such. Beyond the simple duty of discretion laid down by the applicable statutory and regulatory provisions, each member of the board of directors shall consider himself or herself to be bound by a genuine duty of professional secrecy.

*Duty regarding the disclosure of holdings of financial instruments issued by the Company (article 11 of the internal regulations of the board of directors)*

In accordance with the applicable statutory and regulatory provisions, each director shall abide by the rules on disclosures to be made to the AMF.

In addition, directors and their related persons within the meaning of the applicable statutory and regulatory provisions may not perform any transaction on the Company's securities during the 30 calendar days preceding publication of the annual and half-yearly consolidated results and during the 15 calendar days preceding publication of the quarterly revenues.

*Duty of due diligence (article 12 of the internal regulations of the board of directors)*

Directors shall devote the time and attention necessary to fulfil their duties. Save in case of unavoidable unavailability, each director undertakes to attend all board of directors' meetings, shareholders meetings and relevant board of directors' committee meetings of which he or she is a member, either in person or, if permitted, by videoconferencing or other means of electronic communication.

*Duty to obtain information (article 13 of the internal regulations of the board of directors)*

Directors have a duty to inform themselves. The board of directors and all directors may request or otherwise obtain all information or documents they believe useful or necessary to fulfil their duties. They should address their requests for information to the chairman of the board of directors, who is responsible for ensuring that their requests have been satisfied.

***16.1.1.3 Powers of the board of directors (article 19 of the by-laws, title II of the internal regulations of the board of directors)***

The board of directors is responsible for defining the Company's business strategy and monitoring their implementation. Subject to those powers expressly vested in the shareholders meetings and within the limits of the Company's corporate purpose, the board of directors considers and settles all matters involving the proper functioning of the Company through the adoption of resolutions. It performs all controls and verifications it considers appropriate within the limit of its duties.

In addition to the board of directors' duties under the applicable laws, regulations and by-laws, the internal regulations of the board of directors provide that, as part of the Group's internal organisation, the following transactions and decisions require the board of directors' express prior approval before being implemented by the Company's chief executive officer or, if applicable, a deputy chief executive officer:

- decisions to set up a significant operation in France or abroad either directly, by creating an establishment, a business, branch, direct or indirect subsidiary or indirectly by acquiring an equity interest;
- decisions to close down such operations in France or abroad;
- any merger, demerger, partial contribution of assets or any similar transaction;
- entering into, amending or terminating any commercial or industrial cooperation agreement, joint venture, consortium or alliance with a third party (except for agreements entered into in the ordinary course of business) likely to have a significant impact on the Group's business or a significant impact in the event of a future restructuring of the Company's capital (in particular with regard to change of control clause(s) or otherwise);
- significant transactions likely to affect the Group's strategy and alter its financial structure or the scope of its business;
- sale of patents used for the Company's key technologies, grant of licences related to those key technologies outside the ordinary course of business;
- acquisitions or disposals of equity interests in any existing or future company, participation to the creation of companies, consortia or organisations, subscriptions to issues of stock, shares or bonds, excluding treasury transactions;
- grant of security interests over the Company's assets;

the assessment of the significant impact of the transactions referred to above is made, under his responsibility, by the chief executive officer or any other person duly authorized to implement such transactions;

- each of the following transactions and decisions resulting in an investment or divestment by the Company or a Group Company<sup>33</sup> equal to or more than EUR 1 million:
  - acquiring or selling properties;
  - exchanges, with or without a cash balance, of any goods, securities or financial instruments, excluding treasury transactions;
  - in case of a dispute, signature of any agreements and settlements, arbitrations and arrangements;
- each of the following transactions and decisions resulting in an investment, divestment, expense or guarantee commitment by the Company or a Group Company equal to or more than EUR 1 million:
  - entering into loans, borrowings, credits or advances;

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33 This prior approval procedure does not apply however to transactions and decisions that will lead to the conclusion of agreements involving exclusively entities controlled by the Company and the Company itself.

- acquiring or selling receivables by any means;
- any industrial or commercial project considered to be material by the Company's chief executive officer.

***16.1.1.4 Board of directors meetings (article 18 of the by-laws, title IV of the internal regulations of the board of directors)***

The board of directors' meeting is held as often as the interests of the Company require and at least once a quarter upon convening notice of its chairman or, in the event of his death or temporary unavailability, of at least one third of the directors, by any written means, ten calendar days before the date of the meeting, this period may be shortened in case of duly justified emergency. The board of directors may nevertheless validly deliberate even in the absence of notice of meeting if all members are present or represented.

At least one third of the directors may request the chairman to convene the board of directors, or directly convene the board of directors on a specific agenda, if the meeting of the board of directors has not been held for more than one month. The chief executive officer or, if appropriate, the deputy chief executive officer may also request the chairman to convene the board of directors on a specific agenda. In both cases, the chairman is bound by the requests he receives and shall convene the board of directors within the seven following days of the request, this period being shortened in the case of duly justified emergency.

The board of directors meetings are held at the registered office or at any other place specified in the notice of meeting.

The board of directors meetings are chaired by the chairman of the board of directors. In his absence, the board of directors appoints, among its directors, a chairman of the meeting.

At least half of the directors shall be present in order for the board of directors to validly deliberate. Decisions of the board of directors are adopted by simple majority voting of the directors present or represented, each director may represent only one director. In the event of a tied vote, only the current chairman of the board of directors shall have a casting vote. If the chairman of the board of directors does not attend the meeting of the board of directors, the *ad hoc* chairman of the meeting shall not have a casting vote.

Directors attending the meeting by videoconferencing or other electronic means that satisfy legal and regulatory requirements shall be deemed to be present for the purposes of calculating the quorum and majority, in accordance with the terms and conditions set out in the internal regulations of the board of directors.

***16.1.1.5 Directors' fees (article 17 of the by-laws, article 23 of the internal regulations of the board of directors)***

The board of directors allocates the aggregate annual amount of directors' attendance fees voted by the shareholders meeting. The allocation rules specified in the internal regulations of the board of directors are as follows:

- a fixed component equal to 40% of the aggregate amount, allocated between the directors as follows:
  - the chairman is entitled to one and a half share;
  - the other directors are each entitled to one share;

- the fixed component is allocated among the directors on the basis of the number of shares they are entitled to.
- an initial variable component, on the basis of the membership and equal to 30% of this amount, allocated to members of the board of directors' committees on the following basis:
  - for each seat of chairman of a board of directors' committee, the director is entitled to one and a half shares;
  - for each seat within another committee to that in which the director is a chairman, the director is entitled to one share.

the initial variable component is allocated among the committee members of the board of directors on the basis of the number of shares they are entitled to.

- a second variable component, on the basis of attendance at the meetings of the board of directors and committees of the board of directors, as the case may be, and equal to 30% of this amount, allocated to the members of the board of directors on the following basis:
  - any director is entitled to one share at the start of the financial year;
  - in the event they do not attend to at least half of:
    - the meetings of the board of directors; and
    - the meeting of the relevant committees of the board of directors to which he belongs;

held during the year, any director would forfeit the share to which he is entitled.

  - however, in accordance with the provisions of article 12 of the internal regulations of the board of directors, meetings which the director has been unable to attend for unavoidable reasons will not be taken into account for the purposes of the above calculation.
  - the second variable component is allocated among the directors on the basis of the number of shares held.

Furthermore, under the internal regulations of the board of directors, each member of the board of directors is entitled to be reimbursed for all travel expenses he or she incurs in the course of his or her duties, subject to presentation of supporting documents.

### **16.1.2 General management**

Under the by-laws and the internal regulations of the board of directors, the person responsible for the general management of the Company is either the chairman of the board of directors who shall bear the title of chairman and chief executive officer, or another person appointed by the board of directors among or its members or outside, who shall bear, in this case, the title of chief executive officer.

The board of directors decides which of the two options it wishes to adopt by a majority vote of the directors present or represented.

If the board of directors decides to separate the offices of chairman of the board of directors and chief executive officer, it appoints a chief executive officer.

When the chairman of the board of directors is responsible for the Company's general management, all of the provisions applying to the chief executive officer also apply to the chairman.

At the proposal of the chief executive officer, the board of directors may appoint, among its members or outside of the board, one or two persons to assist the chief executive officer, who bear the title of deputy chief executive officer.

***16.1.2.1 Chairman of the board of directors (article 15 of the by-laws, article 14 of the internal regulations of the board of directors)***

The chairman of the board of directors is appointed for a term that may not exceed his term of office as director. He may be re-appointed. He may be removed at any time by the board of directors.

The age limit for serving as chairman of the board of directors is 70.

The chairman of the board of directors organises and manages the work of the board of directors and reports thereon at the shareholders meetings. He is responsible for ensuring that the Company's corporate governance structures, including the board of directors committees, function correctly and, more particularly, that the directors are capable of fulfilling their duties, in particular within the board of directors committees.

The chairman is available at all times for the directors to answer any questions they may have about their duties and he is responsible for ensuring that the directors devote the necessary time to issues involving the Company and Group Companies.

***16.1.2.2 Observers (article 20 of the by-laws and articles 21.5 to 21.8 of the internal regulations of the board of directors)***

*Appointment of the observers*

The ordinary shareholders meeting may appoint, among shareholders or outside, up to three observers to the board of directors.

The number of observers may not exceed 3 members.

Observers are appointed for a term of three years, but they may be removed at any time by the ordinary shareholders meeting. Their term ends at the close of the annual ordinary shareholders meeting called to approve the financial statements for the previous financial year and held during the year in which their term expires.

The observers may be re-appointed.

Any observer who reaches the age of 70 while in office is deemed to have resigned from his office.

The observers' duties and, if applicable, compensation, fall within the competence of the board of directors and are described in the internal regulations of the board of directors.

*Observers' powers and duties*

The observers are notified to attend all the meetings of the board of directors. They attend the meetings of the board of directors as scrutinizer and may be consulted by the board of directors. The board of directors may ask the observers to carry out specific assignments.

They participate in the deliberations of the board of directors in a consultative capacity only.

The observers are required to abide by the duty of confidentiality referred to in article 10 of the internal regulations of the board of directors.

**16.1.2.3 Chief executive officer (articles 21, 22, 24, 25 and 26 of the by-laws and article 5 of the internal regulations of the board of directors)**

The chief executive officer is appointed by the board of directors for a term determined by the board of directors but which may not exceed his term of office as director, where applicable, as well as his compensation. The chief executive officer may be removed at any time by the board of directors.

The age limit for serving as chief executive officer is 70.

The chief executive officer has the broadest powers to act in the name of the Company at all times and in all circumstances, within the limits of the Company's corporate purpose and subject to those powers expressly vested by the applicable statutory and regulatory provisions in the shareholders meeting and the board of directors, and subject to any prior authorisations of the board of directors required pursuant to the provisions of the internal regulations of the board of directors.

The board of directors may also set restrictions on the chief executive officer's powers upon his appointment and specific restrictions to his powers for a given transaction, which are recorded, if applicable, in the minutes of the meeting of the board of directors authorising the transaction.

The chief executive officer represents the Company *vis-à-vis* third parties.

**16.1.2.4 Deputy chief executive officer (articles 23 to 26 of the by-laws and article 5 of the internal regulations of the board of directors)**

At the proposal of the chief executive officer, the board of directors may appoint, among its members or outside of the board, one or two deputy chief executive officers. He may be removed at any time by the board of directors, at the proposal of the chief executive officer.

The age limit for serving as deputy chief executive officer is 70.

In agreement with the chief executive officer, the board of directors sets the term of office and scope of powers of each deputy chief executive officer. The board of directors may also set specific restrictions on their powers for a given transaction, which are recorded, if applicable, in the minutes of the meetings of the board of directors authorising the transaction.

The deputy chief executive officers have the same powers as the chief executive officer *vis-à-vis* third parties.

**16.2 SERVICE AGREEMENTS BETWEEN MEMBERS OF THE ADMINISTRATIVE, MANAGEMENT OR SUPERVISORY BODIES AND THE COMPANY OR ITS SUBSIDIARIES**

To the Company's knowledge, at the registration date of the present base document, there is no service agreements between the Company or its subsidiaries and any of the directors identified at section 14.1.1 – *Board of directors* of the present base document.

**16.3 COMMITTEES**

The board of directors has created an audit and risk management committee and a compensation and nominations committee, which will become operational subject to fulfilment of the non-retroactive condition precedent of settlement and delivery of the Company's shares allotted as part of the Company's initial public offering on the NYSE-Euronext's regulated market in Paris.

It may also decide to create any other board of directors' committee it deems appropriate to examine issues referred to it by the board of directors or its chairman for examination.

The duties of the committees are to prepare the decisions of the board of directors, make recommendations and issue opinions in their areas of competence.

The composition, procedures and powers of the committees are set out in the internal regulations of the board of directors.

### **16.3.1 Audit and Risk Management Committee**

#### ***16.3.1.1 Composition of the audit and risk management committee (articles 25 and 28 of the internal regulations of the board of directors)***

The audit and risk management committee is composed of at least three members, including its chairman. They are selected from among the non-executive directors other than the chairman of the board of directors.

Two thirds of the committee's members, including its chairman, shall be independent directors on the basis of the criteria described in section 14.1.1.1. – *Composition of the board of directors* of the present base document.

Members of the audit and risk management committee shall have specific expertise in finance or accounting.

All committee members shall, upon their appointment, be given information about the Company's specific accounting, financial and operational features.

The composition of the audit and risk management committee, which will become operational upon the settlement and delivery of the shares allotted as part of the Company's initial public offering on the NYSE-Euronext's regulated market in Paris, will be composed of the three following members: Mr Benoît Mignard and two independent directors, including the chairman of this committee.

#### ***16.3.1.2 Powers of the audit and risk management committee (articles 25 and 26 of the internal regulations of the board of directors)***

The main duties of the audit and risk management committee are to review the financial statements and monitor issues relating to the preparation and control of accounting and financial information.

This includes:

- reviewing the draft annual and half-yearly corporate and consolidated financial statements before they are presented to the board of directors, and in particular:
  - ensuring that the relevance and consistency of accounting methods used to prepare the corporate and consolidated financial statements;
  - examining any difficulties encountered in applying the accounting methods; and
  - examining in particular significant transactions in connection with which a conflict of interest could have arisen;
- reviewing the financial documents disclosed by the Company for the annual and half-yearly statements of accounts;
- reviewing the draft financial statements prepared for specific transactions such as contributions, mergers, demergers or interim dividend payments;
- reviewing the financial aspects of various transactions submitted by the chief executive officer including:



- capital increases;
- acquisitions of equity interests;
- acquisitions or disposals;

and that are referred to the board of directors, some for prior approval;

- assessing the reliability of systems and procedures used to prepare the financial statements and forecasts, and the validity of positions taken for the treatment of significant transactions;
- ensure the external audit of the corporate and consolidated financial statements by the statutory auditors;
- reviewing reporting and restating methods and procedures of accounting information from the Group's foreign subsidiaries;

The audit and risk management committee is also responsible for verifying the effectiveness of the Company's internal control and risk management systems.

This includes:

- assessing the Group's internal control systems in conjunction with the persons responsible for these activities;
- reviewing the following, in conjunction with the persons responsible for these activities at the Group level and with the assistance of internal audit:
  - internal control objectives, audit and action plans;
  - outcome of audits and actions taken by the relevant responsible persons in the Group; and
  - recommendations and follow-up to these audits and actions by the relevant responsible persons;
- reviewing internal audit methods and results;
- verifying whether internal audit procedures contribute to ensuring that the Company's financial statements:
  - give a true and fair view of the Company's position; and
  - comply with accounting rules;
- reviewing the relevance of analysis procedures and risk monitoring, and ensuring the implementation of a process for identifying, quantifying and preventing the main risks inherent to the Group's business;
- reviewing and controlling the rules and procedures applicable to conflicts of interest; and
- reviewing the draft report of the chairman of the board of directors on internal control and risk management.

The audit and risk management committee is also responsible for verifying the effectiveness of the Company's external audit and the independence of the statutory auditors.

This includes:

- reviewing the following with the statutory auditors on an annual basis:
  - their audit plan and conclusions; and

- their recommendations and follow-up;
- issuing a recommendation on the proposed statutory auditors to be appointed at the shareholders meeting of the of the Company;
- verifying the independence of the statutory auditors of the Company;
- reviewing the statutory auditors' fees, which shall not be of a nature to jeopardise their independence and objectivity.

In order to enable the committee to monitor, throughout the term of the statutory auditors, the independence and objectivity rules of the latter, the audit and risk management committee shall in particular be provided each year:

- a statement of independence from the statutory auditors;
- the amount of fees paid to the statutory auditors' network by companies controlled by the Company and its parent company for services not directly related to the duties of the statutory auditors; and
- information on all directly audit-related services provided by them.

The audit and risk management committee shall also review with the statutory auditors any risks to their independence and the measures taken to mitigate them. This involves making sure that the amount of fees paid by the Company and the Group, or the proportion of the firm's and network's revenue they represent, is not of a nature to jeopardise the statutory auditors' independence.

The statutory audit engagement shall be exclusive of any other work that is not directly audit-related. The selected statutory auditors shall renounce for themselves and the network to which they belong to provide advisory services (legal, tax, IT, etc.) directly or indirectly to the company that appointed them or the companies controlled by it. However, with prior approval from the audit and risk management committee, incidental work or work directly complementary to the statutory audit may be carried out, such as acquisition or post-acquisition audits, but excluding any assessment or advisory work.

Lastly, the audit and risk management committee shall periodically ensure that its practices and procedures effectively assist the board of directors in taking decisions in its area of competence.

***16.3.1.3 Audit and risk management committee practices and procedures  
(articles 25, 27 and 29 of the internal regulations of the board of directors)***

The meeting of the audit and risk management committee is held as often as required and in any event at least four times a year at the request of its chairman, a majority of its members, the chairman of the board of directors or one third of the directors.

The meeting of the audit and risk management committee is validly held if more than half of its members are present. Its opinions, proposals or recommendations are adopted by simple majority vote of the committee members present. In the event of a tie vote, the committee chairman shall not have a casting vote.

In order to fulfil its duties, the audit and risk management committee, in general and each of its members in particular, may request to be provided with any information it considers relevant, useful or necessary to fulfil its duties.

The audit and risk management committee may request to interview the statutory auditors or hear other responsible persons in the Company, including members of general management of the

Company and in particular the chief financial officer. Any interviews with the statutory auditors may take place, if required, without the presence of general management members.

The committee may also initiate any independent investigation it considers appropriate.

The audit and risk management committee reports regularly to the board of directors on its work and informs the board of directors promptly of any difficulties it encounters. Its reports are either inserted in or attached to the minutes of the relevant meetings of the board of directors.

### **16.3.2 Compensation and nominations committee**

#### ***16.3.2.1 Composition of the compensation and nominations committee (articles 25 and 32 of the internal regulations of the board of directors)***

The compensation and nominations committee is composed of at least three members, including its chairman.

The chairman of the board of directors and the chief executive officer, in the event the duties of the chief executive officer are performed by a director other than the chairman of the board of directors, may not be members of the compensation and nominations committee.

The majority of the committee's members, including its chairman, shall be independent directors on the basis of the criteria described in section 14.1.1.1 – *Composition of the board of directors*.

The compensation and nominations committee, which will become operational upon the settlement and delivery of the shares allotted as part of the Company's initial public offering on the NYSE-Euronext's regulated market in Paris, will be composed of the five following members: Mrs Isabelle Salhorgne, Mr. Jacques Blanchard and three independent directors, including the chairman.

#### ***16.3.2.2 Powers of the compensation and nominations committee (articles 25 and 30 of the internal regulations of the board of directors)***

As regards nominations, the compensation and nominations committee's duties are as follows:

- assist the board of directors in its choice of:
  - the members of the board of directors;
  - the members of the board of directors' committees; and
  - the chief executive officer and, if applicable, the deputy chief executive officer(s)
- select potential members of the board of directors who meet the independence criteria and submit the list to the board of directors;
- consider each year, prior to publication of the Company's annual report, the independence of each director and submit its opinion to the board of directors for the board's own independence review; and
- succession planning for:
  - the members of general management of the Company; and
  - the chairman of the board of directors, the chief executive officer and, if applicable the deputy chief executive officer(s).

As regards compensation, the committee's role is to make recommendations and proposals to the board of directors on the components of compensation received by the directors that would benefit from it, including:

- allocation of attendance fees;
- all other components of compensation, including any termination benefits;
- fees allocated to the observers, if any;
- changes to or potential developments in the pension, health and protection schemes;
- benefits in kind and other miscellaneous pecuniary benefits; and
- if applicable:
  - stock-options or options to purchase shares;
  - allocation of free shares. .

The compensation and nominations committee also makes recommendations and proposals to the board of directors on:

- executive officers compensation policy, including the criteria for determining their variable compensation, which shall be consistent with the Group's strategy; and
- incentive mechanisms, by any means, for employees of the Company and, more broadly, Group Companies, including:
  - employee savings schemes;
  - additional pension plans;
  - reserved issues of securities giving access to capital;
  - stock-options or options to purchase shares ;
  - allocation of free shares.

The compensation and nominations committee will also make recommendations to the board of directors on the performance conditions used, if applicable, to determine the variable component of the compensation of executives, for the grant or exercise of any options to subscribe or purchase shares and any potential allocation of free shares.

These performance conditions shall be simple to establish and explain, satisfactorily reflect the Group's performance and business development targets at least in the medium-term, be clear and transparent for shareholders in the annual report and at the shareholders meeting and meet the Company's corporate objectives and customary practices with regard to executive compensation.

The compensation and nominations committee considers each year, prior to publication of the Company's annual report, the independence of each director and submit its opinion to the board of directors for the board of directors' own independence review. Lastly, the internal regulations of the board of directors require the committee to periodically ensure that its practices and procedures assist effectively the board of directors in adopting decisions in its area of competence.

#### ***16.3.2.3 Compensation and nominations committee practices and procedures (articles 25, 31 and 33 of the internal regulations of the board of directors)***

The meeting of compensation and nominations committee is held as often as necessary and in any event at least three times a year at the request of its chairman, the majority of its members, the chairman of the board of directors or one third of the directors.

The meeting of compensation and nominations committee is validly held if more than half of its members are present. Its opinions, proposals or recommendations are adopted by simple majority vote of the committee members present. In the event of a tie vote, the committee chairman does not have a casting vote.

Within the exercise of its duties, the compensation and nominations committee may propose to the board of directors to undertake, at the Company's expense, any external or internal studies which are likely to inform the deliberations of the board of directors.

It may interview one or more members of general management of the Company, including the chief executive officer and, if applicable, the deputy chief executive officer(s).

The compensation and nominations committee reports to the board of directors on its work at each meeting of the board of directors.

#### **16.4 STATEMENT ON CORPORATE GOVERNANCE**

For the sake of transparency and public information the Company intends upon its initial public offering to comply with the corporate governance principles set out in the recommendations issued by the *Association Française des Entreprises Privées* (AFEP) and the *Mouvement des Entreprises de France* (MEDEF) in the AFEP-MEDEF Code.

In particular, the Company intends to ensure that it has the requisite number of independent directors within its board of directors, create special board of directors' committees responsible for making recommendations in the area of accounting control and executive compensation, and require the prior approval of the board of directors for a number of decisions likely to have a material impact on the business, assets and liabilities and results of the Company or a Group Company.

In this context, the board of directors therefore adopted the internal regulations of the board of directors on 11 December 2013, under the non-retroactive condition precedent of settlement and delivery of the shares of the Company allotted pursuant to the Company's initial public offering on the regulated market NYSE-Euronext in Paris, setting out the composition, organisation and practices of the board of directors and its committees, the rights and duties of the directors. The key terms of the internal regulations of the board of directors are described in this chapter.

#### **16.5 INTERNAL CONTROL AND CORPORATE GOVERNANCE**

Given that as of the registration date of the present base document, no Company securities have been listed on a regulated market, the chairman of the board of directors is not required to draw up a report provided for by article L. 225-37 of the French Commercial Code on the composition of the board of directors and the application of the principle of gender balance in the board's composition, the terms for the preparation and organization of the board of directors' work, and the internal control and risk management procedures implemented by the Company.

As from the listing of the Company's shares on the regulated market NYSE-Euronext in Paris, the Company intends to implement the statutory and regulatory provisions applicable to the listed companies in terms of internal control procedures and compliance with corporate governance principles. In particular, the chairman of the board of directors will prepare the report on internal control referred to above in accordance with article L.225-37 of the French Commercial Code.

## **CHAPTER 17 EMPLOYEES**

### **17.1 HUMAN RESOURCES POLICY**

#### **17.1.1 Employment policy**

##### ***17.1.1.1 GTT's employment policy***

The employment policy of the Company aims at promoting and developing, particularly through professional training, the skills of each employee and hiring highly qualified, motivated people in order to provide high-quality services.

The Company encourages internal staff mobility, with a view to retaining all the key skills required for its business using various tools for this purpose. All employees are informed about vacant positions. Employees may be given the opportunity to be seconded abroad. They may also become GTT representatives on construction sites for several years.

Internal mobility enables, while securing the loyalty of the employees, to offer them a career within the Company through which they learn various new skills.

Career interviews are also available for employees who so wish. It gives the employee the opportunity to meet a member of the management team or the human resources manager to discuss their career prospects.

The Company also hires externally, particularly when faced with an increase in its order book. It seeks both people with a technical background (engineers or technicians in areas of instrumentation process, fluids mechanics, calculation etc.) and people with a general background. Engineers are mainly graduates of the top French engineering schools or scientific universities. Technicians have qualifications in computer-assisted design, drawing or laboratory work.

Employees are recruited through the Company's internet website, Linked-In, specialised recruitment sites, advertisement in specialised press, partnerships with certain engineering schools, or head hunting firms for some specific skills.

An action plan was implemented in 2011 to foster equality in the workplace. The Company is a great believer in gender equality, which it sees as a source of momentum, balance and efficiency essential to the business. The plan aims to ensure equal treatment of men and women in the recruitment process and to develop actions to promote a healthy balance between professional, family and personal life.

Lastly, pursuant to applicable laws, an action plan on senior employment was implemented within the Company in 2009. It covers various measures to encourage the hiring or continued employment of senior employees and to continue providing them with career opportunities.

##### ***17.1.1.2 Working hours***

The Company has a working time arrangement agreement under which all employees based in France, except for executives, benefit from the reduced working week.

Employees who have no autonomy to organize their schedule and for which working time can be predetermined in advance, work 35 hours a week on average over the year and benefit from 14 days off, after one full year within the Company. These employees work to a variable timetable, which includes fixed time periods when their presence is compulsory and variable time periods when their presence is optional.

For the autonomous managers who do not work a set standard week, working time is computed in days. They have 14 days off earned under the reduced working time arrangements. In an average year, the number of effective working days is 214, plus the "solidarity day", which makes 215 days in total.

A time savings account (*CET*) was introduced in 2011, enabling employees to save up to 14 days on the CET under certain conditions (see section 17.1.2 – *Compensation policy* of the present base document).

### ***17.1.1.3 Training***

The Company has an annual training plan including training programmes designed to support its strategic development. It also offers training in personal development, project management and for acquiring or improving technical skills. In 2012, the Company focused on management training through a programme aimed at all employees in managerial positions.

Training related to business practices (such as training in the electronic document management system or renewal of operator safety competency certificate) is usually done at the Company's request and can be compulsory. Lastly internal mentoring is also available.

The aggregate training budget for the 2012 financial year is in excess of the minimum legal requirement. Indeed, more than 2% of payroll was allocated to the training in comparison to the legal requirement of 0.9%, and this, even without including salary costs in the training budget. The administration and finance department of the Company is responsible for monitoring training costs and making sure that the aggregate training budget is appropriate for the annual training plan.

### **17.1.2 Compensation policy**

GTT's staffing needs increased significantly as a result of sustained business activity in 2011, making it necessary to provide an attractive compensation package.

The "*GTT package*" is based on the Company's results.

Employee compensation comprises:

- a fixed component comprising a gross annual salary:

The situation of each employee is reassessed each year following the individual annual performance review.

An overall envelope for salary increases is determined. The envelope for the financial year ended 31 December 2012 represented almost 2.7% of payroll. The sum allocated to each division is proportional to the percentage of payroll it represents and the division managers allocate the amount between the employees which report to them, in line with the instructions issued by the chief executive officer.

- an individual performance-related bonus:

Each year, the chief executive of GTT determines an overall bonus envelope expressed as a percentage of payroll. The envelope for the financial year ended 31 December 2012 represented 9% of payroll. The sum allocated to each division is proportional to the percentage of payroll it represents and the division managers allocate the amount between the employees which report to them, in line with the instructions issued by the chief executive officer.

The salary increase and bonus are designed to reward individual performance and are consistent with practices in the oil and gas engineering sector.

- a time savings plan (*CET*) coupled with a collective retirement savings plan (*PERCO*):

The introduction of the CET in 2011 encourages employees who so wish to work more hours. Under certain conditions, they may work up to 14 additional days and the corresponding salary is deposited in the CET, which is then coupled with the employer's complementary contribution (*abondement*), which amounted to 35% for 2013.

GTT also introduced a Group retirement savings plan (**PERCOG**) on 26 March 2012, enabling employees who so wish to build up an extra pension benefit. It replaces the previous GTT company agreement dated 5 September 2011. Under certain conditions, employees may transfer the equivalent of up to 14 days from their CET to the PERCOG, which is then coupled with the employer's complementary contribution, which is fixed at 75% in 2012. The complementary contribution for future years will be determined in an amendment to the agreement and if no agreement is reached, it will be 25% of sums deposited (which is currently the case for 2013). The complementary contribution under voluntary contributions made by employees to the plan is of 100% of the sums paid up to a limit of 200 euros for the 2012 financial year and, if no new agreement is reached, up to a limit of 100 euros for the 2013 financial year.

- an individual profit-sharing bonus introduced by unilateral decision

During 2013, the Company decided to pay a profit-sharing bonus of 40 euros per employee present during 2012 financial year, with no length of service condition. This payment was made as a result of the dividends for the 2012 financial year paid in 2013.

### **17.1.3 Employee representation**

GTT has three employee representative bodies:

- works council;
- health, safety and working conditions committee;
- employees' representatives.

Management has built up a constructive, open dialogue with the works council representatives.

Cryovision does not have a works council or a staff representative but its employees benefit from the social welfare activities provided by the GTT works council.

## **17.2 EMPLOYEE DATA**

### **17.2.1 Headcount**

As at 30 September 2013, the Company employed 344 people, 67% of whom were managerial grade. Of that total, 69 employees were on fixed-term contracts, site contracts or internship agreements.

As at 30 September 2013, Cryovision, which was created on 2 February 2012, employed 5 people on permanent contracts.

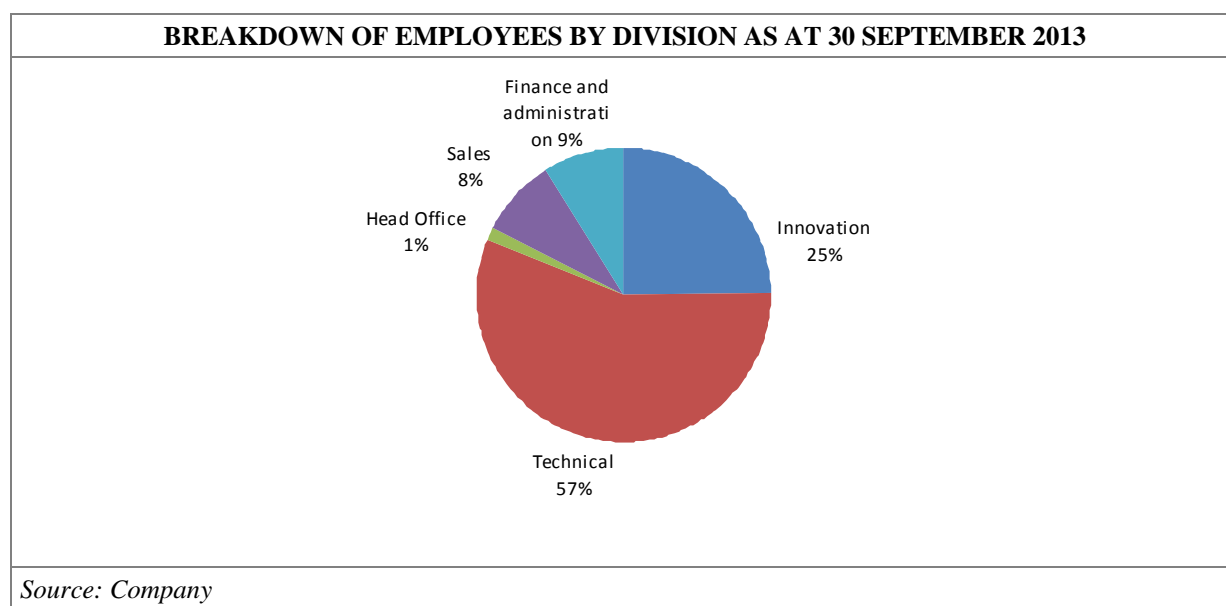
As at 30 September 2013, GTT North America, created on 13 July 2013, had no employees.

### **17.2.2 Organisation chart**

An operational organisation chart is provided in section 6.8 – *Organisation of the Company* of the present base document.



The breakdown of employees by division as at 30 September 2013 is the following:



### 17.2.3 Geographical breakdown

Between 2010 and 2013, some of the Company's employees were seconded on clients' sites in South Korea and China.

As at 30 September 2013, 52 of the Company's employees were seconded outside France (including 49 in South Korea and 3 in China).

### 17.2.4 Structure and trends in headcount at the Company and Cryovision

The tables below show the structure of and trends in headcount of the Company and Cryovision in the past three financial years.

#### Overall trends in the number of employees of the Company and Cryovision

The tables below show trends in the Company's headcount in the past three financial years, broken down by contract type (17.2.4.1), by grade (17.2.4.2), by new hires (17.2.4.3) and by reason for departure (17.2.4.4).

#### 17.2.4.1 Breakdown of headcount by contract type

GTT (in percentage)	30/09/2013	31/12/2012	31/12/2011	31/12/2010
Permanent (CDI)	80%	80%	84%	90%
Non-permanent (temporary, fixed-term, construction site, internships)	20%	20%	15%	9%

The main reason for recourse to fixed-term and temporary contract staff in 2010, 2011 and 2012 was the temporary increase in business activity.

All Cryovision employees have permanent contracts.

**17.2.4.2 Breakdown of headcount by socioprofessionnal category at the Company and Cryovision**

<b>GTT</b>	Executive	Non-executive
At 30 September 2013	<b>231</b>	<b>113</b>
At 31 December 2012	<b>191</b>	<b>95</b>
At 31 December 2011	<b>160</b>	<b>82</b>
At 31 December 2010	<b>138</b>	<b>78</b>

<b>Cryovision</b>	Executive	Non-executive
At 30 September 2013	<b>3</b>	<b>2</b>
At 31 December 2012	<b>3</b>	<b>2</b>

The executive employees are covered by the collective agreement for engineers and managers in the metallurgy industry. Non-executive employees are covered by the collective agreement for metallurgy industries (workers, technicians and supervisors) applicable to the Paris region.

**17.2.4.3 Breakdown of new hires at the Company and Cryovision**

<b>GTT</b>	<b>30/09/2013</b>	<b>31/12/2012</b>	<b>31/12/2011</b>	<b>31/12/2010</b>
Permanent ( <i>CDI</i> )	<b>37</b>	<b>32</b>	<b>11</b>	<b>2</b>
Non-permanent (temporary, fixed-term, construction site, internships)	<b>69</b>	<b>65</b>	<b>51</b>	<b>30</b>
<b>Total</b>	<b>106</b>	<b>97</b>	<b>62</b>	<b>32</b>

Five new employees were hired by Cryovision during 2012 financial year. Four of them were transferred from GTT. Under their transfer agreement, GTT has agreed to take them back should Cryovision cease its business.

**17.2.4.4 Dismissals, resignations and retirements at the Company and Cryovision**

<b>GTT</b>	<b>30/09/2013</b>	<b>31/12/2012</b>	<b>31/12/2011</b>	<b>31/12/2010</b>
Dismissals	<b>0</b>	<b>2</b>	<b>3</b>	<b>0</b>
Resignation/end of contract	<b>46</b>	<b>46</b>	<b>29</b>	<b>39</b>
Retirement/death	<b>2</b>	<b>2</b>	<b>1</b>	<b>4</b>
Contractually agreed termination	<b>0</b>	<b>3</b>	<b>3</b>	<b>11</b>
<b>Total</b>	<b>48</b>	<b>53</b>	<b>36</b>	<b>54*</b>

There were no dismissals, resignations or retirements at Cryovision in the year to 30 September 2013.

### **17.3 STOCK OR PURCHASE OPTIONS**

As at the date of registration of the present base document, neither GTT nor Cryovision have any stock option or stock award plans.

### **17.4 EMPLOYEE INCENTIVE AND PROFIT-SHARING PLANS**

#### **17.4.1 Employee incentive agreement**

Both GTT and Cryovision have an employee incentive agreement.

##### ***17.4.1.1 Within GTT***

GTT entered into an incentive agreement on 25 June 2009 which was replaced by an agreement dated 6 June 2012, amended on 21 September 2012.

All employees with at least 3 months service are entitled to benefit from the incentive agreement. The aggregate incentive entitlement is allocated on the basis of salary corresponding to an effective length of service.

It is allocated to the beneficiaries provided that the Company reports a positive net profit and at least one of the three following objectives is met:

- orders totalling at least 85,000 m<sup>2</sup> of insulating primary membrane are booked during the year;
- GTT obtains more than 80% of global vessels orders (including FRSUs and FPSOs) if the number of global orders is more than four, or more than or equal to 50% if the number of global orders is less than or equal to four. The percentage of orders obtained by GTT is determined by the Company's sales and marketing department on the basis of (i) the number of orders booked by GTT as validated by GTT's board of directors and (ii) the number of global orders determined on the basis of data provided by the Company's sales and marketing department, cross-checked with data published by specialist consultants Poten & Partners and Wood Mackenzie;
- more than fifteen ideas are validated by the technical committee, organised predominantly by the patent engineer who is responsible for analysing the technical and strategic aspects of ideas that might result in a patent application.

The basic amount of the incentive is equal to:

- 3% of aggregate gross base salaries if one of the three targets is met;
- 5% of aggregate gross base salaries if two of the three targets are met;
- 10% of aggregate gross base salaries if all three targets are met.

The initial incentive amount is then increased or decreased according to the average score achieved in the annual "active shipyards" satisfaction survey.

Under the 25 June 2009 agreement, the aggregate net incentive amount was EUR 874,452 for the financial year ended 31 December 2010 and EUR 396,553 for the financial year ended 31 December 2011. Under the 6 June 2012 agreement amended on 21 September 2012, the aggregate net incentive amount was EUR 1,274,358 for the financial year ended 31 December 2012.

#### **17.4.1.2 Within Cryovision**

Cryovision entered into an incentive agreement on 7 June 2012 for a period of three years from 1 January 2012. A total bonus of EUR 4,137 was paid under the agreement for 2012.

All employees with at least 3 months service are entitled to benefit from the incentive agreement. The aggregate incentive entitlement is allocated on the basis of salary corresponding to an effective length of service.

It is allocated to the beneficiaries provided that Cryovision reports a positive net profit after deduction of the incentive bonus. The amount is based on the TAMI testing activity, on the one hand, and all Cryovision's other activities, on the other hand.

Any beneficiary employee may allocate all or part of their incentive bonus to the group employee savings scheme (PEG) or the Group retirement savings plan (PERCOG).

The implementation of the agreement is monitored by a special committee whose members include employee representatives appointed for that purpose, who have access to the documents required to calculate the incentive bonus and ensure that it is correctly allocated.

The annual incentive results are determined by Cryovision after review by the special committee and are subject to a joint report on the mechanism, which is made available to be displayed for information for all the staff.

#### **17.4.2 Profit-sharing agreement**

GTT entered into a voluntary profit-sharing agreement on 6 March 2000. An alternative formula to the legal benchmark formula is used to calculate the amount of the special profit-sharing reserve.

The agreement was amended on 26 March 2012 to transform the company agreement into a group agreement to include Cryovision. On 13 April 2012, after a referendum, Cryovision became a party to the profit-sharing agreement as established pursuant to the amendment dated 26 March 2012, it being effective for the first time as of 2012.

In 2010, the total net amount set aside under the profit-sharing agreement was EUR 687,245. In the 2011 financial year, the profit threshold that would have triggered a profit-sharing special reserve for the financial year ended 31 December 2011 was not reached. In 2012, the total net amount set aside under the profit-sharing agreement was EUR 1,205,025, including EUR 1,183,789 for GTT and EUR 21,236 for Cryovision.

### **17.5 GROUP EMPLOYEE SAVINGS SCHEME**

A group employee savings scheme was set up on 26 March 2012 pursuant to the provisions of articles L. 3331-1 *et seq.* of the French Labour Code. It cancelled and replaced the previous scheme dated 26 May 2000.

The scheme covers GTT and all Group companies in which GTT directly or indirectly holds or will hold 50% of the share capital.

All employees with at least three months service with the company and any retirees or early retirees who still hold shares may participate in the scheme.

Employees who have left the company (other than retirees or early retirees) may no longer make voluntary contributions to the scheme but may still contribute their incentive bonus or profit-sharing entitlement. In this case, neither the incentive bonus nor the profit-sharing entitlement will be eligible for the employer's top-up.

The Group employee savings scheme may be used to invest the following sums:

- beneficiary's voluntary contributions;
- amounts contributed by the company, i.e. expenses related to custody accounts and the participants' individual accounts and an additional contribution (*abondement*) payment equal to less than 8% of the annual social security ceiling per year and per employee, provided it is less than three times the amount of the beneficiary's voluntary contributions. The savings scheme dated 26 March 2012 includes an annual employer's contribution equal to 300% of voluntary payments made by the beneficiary (including the incentive bonus and profit-sharing entitlement). However, GTT and Cryovision may decide on different contribution rules;
- transfer of sums held on another employee savings scheme or time savings account.

Sums deposited in the group employee savings scheme are invested in shares of a corporate mutual fund (FCPE). Employees may choose between five FCPEs, including one socially responsible fund as required by the provisions of article L. 3332-17 of the French Labour Code.

The shares of corporate mutual fund are locked up for a period of five years although early release is possible in certain specific circumstances set out in the applicable laws and regulations.

#### **17.6 DIRECTORS' AND OFFICERS' SHAREHOLDINGS AND DEALINGS IN THE COMPANY'S SHARES**

As of the registration date of the present base document, the directors and officers do not own any shares in the Company.

Each director will own 100 shares of the Company at the settlement and delivery date of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris.

## CHAPTER 18 MAJOR SHAREHOLDERS

### 18.1 IDENTITY OF SHAREHOLDERS

#### 18.1.1 Allocation of share capital and voting rights

At the registration date of the present base document, the share capital and voting rights of the Company are allocated as follows:

Shareholder	Number of shares	% of share capital	% of voting rights
GDF Suez	14,688,000	39.666	39.666
GDF International	121,600	0.328	0.328
GDF Armateur 2	1,600	0.004	0.004
TOTAL Gas & Power Actifs Industriels	11,108,800	30.00	30.00
H&F Luxembourg 1 S.à.r.l. <sup>34</sup>	11,108,798	30.00	30.00
H&F Luxembourg 2 S.à.r.l.	1	n.s	n.s
H&F Luxembourg 3 S.à.r.l.	1	n.s	n.s
Total	37,028,800	100.00	100.00

Since 31 December 2012, end of the previous financial year, the allocation of share capital has evolved as follows: (i) GDF International transferred one share of the Company to GDF Armateur 2 on 7 November 2013 and (ii) H&F Luxembourg 1 S.à.r.l. transferred one share of the Company to each H&F Luxembourg 2 S.à.r.l. and H&F Luxembourg 3 S.à.r.l on 11 December 2013.

The nominal value of the Company's shares was divided by 1,600 on 11 December 2013.

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<sup>34</sup> H&F Luxembourg 1 S.à.r.l is a Luxembourg company managed by its directors and controlled by an investment fund managed by Hellman & Friedman. It is a shareholder of the Company since 2008.

### 18.1.2 Changes in the allocation of share capital and voting rights during the past three years

At the end of financial years 2012, 2011 and 2010, the share capital and voting rights were allocated as follows:

Shareholder	Position at 31/12/2012			Position at 31/12/2011			Position at 31/12/2010		
	Number of shares	% of share capital	% of voting rights	Number of shares	% of share capital	% of voting rights	Number of shares	% of share capital	% of voting rights
GDF Suez	9,180	39.666	39.666	9,180	39.666	39.666	9,180	39.666	39.666
GDF International	77	0.333	0.333	77	0.333	0.333	77	0.333	0.333
TOTAL Gas & Power Actifs Industriels	6,943	30	30	6,943	30	30	6,943	30	30
H&F Luxembourg 1 S.à.r.l.	6,943	30	30	6,943	30	30	6,943	30	30

## 18.2 VOTING RIGHTS

Each share of the Company confers one voting right.

## 18.3 SHAREHOLDERS' AGREEMENTS, LOCK-UP COMMITMENTS AND CONCERT PARTIES

On 11 December 2013, a shareholders' agreement was entered into between GDF SUEZ, GDF International, GDF Armateur 2, TOTAL Gas & Power Actifs Industriels, H&F Luxembourg 1 S.à.r.l., H&F Luxembourg 2 S.à.r.l. and H&F Luxembourg 3 S.à.r.l.

The purpose of this agreement is to govern the relations between the Company's shareholders and its corporate governance practices for as long as the Company's shares are not admitted to trading on a regulated market.

This agreement will terminate automatically upon the settlement and delivery of the Company's shares allotted pursuant to the Company's initial public offering on the NYSE-Euronext regulated market in Paris.

## 18.4 CONTROL OF THE COMPANY

Upon the initial public offering, GDF SUEZ will acquire a number of shares of GTT necessary to hold around 40% of the share capital and voting rights in the Company on a fully diluted basis, as assessed on the date of the settlement and delivery of the Company's shares allotted as part of the initial public offering on NYSE Euronext's regulated market in Paris.

Consequently, GTT believes that GDF SUEZ will be able to exercise a *de facto* control. However, it considers that there is no risk that such control may be exercised in an abusive way. In this respect, it is reminded that GTT will comply with the recommendations of the AFEP-MEDEF Code, as applicable to controlled companies. Therefore, pursuant to such recommendations, GTT's board of directors will include at least one third of independent directors. The compliance with the AFEP-

MEDEF recommendations relating to corporate governance and in particular to the composition of the board of directors' committees will enable to protect minority shareholders' interests.

GDF SUEZ has indicated that, in the framework of its LNG strategy, it would continue to support and assist the Company's development and, more generally, its strategy led by its managers who have demonstrated over the past years their expertise and ability to develop the Company's business. GDF SUEZ has accordingly confirmed to the Company that, under the supervision of the board of directors, it intended that the Company's management would pursue its strategic directions and the conduct of its business in accordance with the terms and conditions presented in the present base document.

#### **18.5 ARRANGEMENTS THAT COULD RESULT IN A CHANGE OF CONTROL OF THE COMPANY**

To the Company's knowledge, at the registration date of the present base document, there are no arrangements, the implementation of which could subsequently result in a change of control.



## **CHAPTER 19**

### **RELATED PARTY TRANSACTIONS**

This section describes agreements existing between, on the one hand, the Company and its subsidiaries or, on the other hand, between the Company or one of its subsidiaries and a related party, as of the registration date of the present base document.

#### **19.1 INTRA-GROUP AGREEMENTS**

##### **19.1.1 Commercial lease between GTT and Cryovision**

Under a lease agreement dated 31 December 2012, effective until 31 December 2022, the Company has granted Cryovision a lease over 45.70 m<sup>2</sup> of office space and 7.3 m<sup>2</sup> of storage space in the Company's head office along with a space for a container and six parking places. The premises are used for a business providing inspection services for LNG carriers tanks. The annual rent for the first three years is EUR 6,360 excluding taxes but including service charges, payable monthly with VAT charged at the prevailing rate for the first three years.

##### **19.1.2 Current account advance agreement**

###### ***19.1.2.1 Current account advance agreement between GTT and Cryovision***

The Company and Cryovision entered into a current account advance agreement on 6 February 2012 for a period of two years renewable by mutual agreement between the parties, under which the Company granted a loan of EUR 750,000. The funds were made available to Cryovision as of 14 February 2012 so that it could finance the start-up of its business. The loan bears interest at the maximum tax-deductible rate for shareholder's current account payable annually on the drawdown anniversary date.

The loan will be repaid in full, including any accrued or rolled-up interest, upon expiry of the agreement, i.e. on 6 February 2014, unless the agreement is renewed.

As at 30 September 2013, the shareholder's current account of the Company from Cryovision was in debit of EUR 750,000.

###### ***19.1.2.2 Cash advances granted by GTT to GTT North America***

The Company also made cash advances to GTT North America. As at 30 September 2013, shareholder's current account of GTT North America from the Company was in debit of EUR 52,798.31.

##### **19.1.3 Service agreements**

Under an agreement dated 20 January 2012, entered into initially for a period of three years but renewable automatically for further periods of one year, GTT provides Cryovision with support in areas such as accounting management, tax returns, payroll management, legal affairs, human resources and intellectual property matters. These services are invoiced on a time basis. This agreement resulted in the payment of EUR 30,155.32 for the 2012 financial year and EUR 4,238.53 for the first semester of the 2013 financial year.

## **19.2 RELATED PARTY AGREEMENTS**

### **19.2.1 Agreement between the Company and GDF Suez**

As of 1985, GDF Suez, formerly Gaz de France, provided the Company with technical and financial support for its development of watertight, thermally insulating liquefied gas storage systems designed for shipping LNG. The partnership between GTT and Gaz de France resulted in several agreements whereby the Company paid GDF Suez a royalty for commercial operation of these systems in relation to the construction of LNG carriers equipped with such systems.

On 4 November 2008, the Company and GDF Suez entered into a new agreement cancelling and replacing all the previous agreements entered into between 1985 and 1995. The new agreement sets out the fees to be paid by the Company to GDF Suez in consideration for the technical and financial support provided during the development of the NO 96 and CS 1 technologies. These fees comprise the following amounts:

- For the NO 96 technology and provided the Company receives the associated royalties: 3% of the amount of the royalties excluding taxes accounted for as "sales of services" for the construction of LNG carriers equipped with the technology for the financial year ended 31 December 2008 and 3% of the aggregate amount of royalties excluding taxes accounted for as "sales of services" for the construction of LNG carriers equipped with the technology in respect of all firm orders placed before 30 June 2008 until extinction of the royalties due to GTT by the shipbuilders in respect of those orders. Under the new agreement, the Company ceased paying fees in respect of the NO 96 technology at the end of the financial year ended 31 December 2011.
- For the CS 1 technology and provided the Company receives the associated royalties: 10% of the aggregate amount of the royalties excluding taxes accounted for as "sales of services" for the construction of LNG carriers equipped with the CS 1 technology in respect of the first five firm orders for vessels and 3% in respect of firm orders booked for subsequent vessels (up to a maximum of twenty) and until 31 December 2016, until extinction of the royalties due to GTT in respect of those orders. On the date of the present base document, the CS 1 technology was no longer sold and the Company has no further liability for fees in this respect.

The new agreement specifies that GTT has exclusive title to the results of all research carried out with GDF Suez's support on the NO 96 and CS 1 technologies, and all the associated intellectual and industrial property rights. GTT has undertaken to pay all the costs of maintaining the patents and other intellectual property rights over the two technologies and to take any infringement action related to them.

This agreement, which is described in the statutory auditor's special report on related-party agreements reproduced in section 19.3 – *Special reports of the statutory auditor on related-party agreements* of the present base document, resulted in the payment in fees by GTT of EUR 843,770 for the financial year ended 31 December 2010, EUR 539,341 for the financial year ended 31 December 2011 and no payment for the financial year ended 31 December 2012.

### **19.2.2 Agreement between the Company and Total for the secondment of Cécile Arson in the Company**

The Company has entered into an agreement with Total, the parent company of Total Gas & Power Actifs Industriels SAS, a shareholder of the Company, for the secondment of Cécile Arson from Total in the Company. The agreement is effective since 1 October 2010 and for a term of three years automatically renewable. Under the agreement, Cécile Arson remains an employee of Total and is based at the Company's head office. She may be required to carry out specific assignments elsewhere

in France and abroad. She continues to benefit from all of the various collective agreements applicable in Total.

The Company has agreed to reimburse Total for the following sums:

- Cécile Arson's actual gross salary plus employer's social security contributions;
- employer's and employee's social security contributions for any surplus days worked, i.e. days exceeding the agreed threshold of 207 days a year; and
- management costs related to the secondment, equal to 5% of Cécile Arson's gross compensation.

Under the agreement, GTT paid the sum of EUR 35,896.77 for the financial year ended 31 December 2010, EUR 175,379.09 for the financial year ended 31 December 2011 and EUR 193,241.81 for the financial year ended 31 December 2012.

### **19.2.3 Technical work contract between GTT and GDF Suez**

GTT and GDF Suez entered into a Technical Work Contract (TWC) on 7 April 2010. During the financial year ended 31 December 2010, GDF Suez placed three work orders with GTT under the contract. The work orders were placed in connection with a project to install a high pressure gas inlet on board the vessels GDF Suez Cape Ann and GDF Suez Neptune for a total of EUR 45,500 excluding taxes. During the financial year ended 31 December 2011, a work order was placed for an amount of EUR 9,900 excluding taxes.

### **19.2.4 Technical work contract entered into by GTT and Gazocean**

On 11 December 2007, GTT entered into a Technical Work Contract (TWC) with Gazocean, a company in which 80% of the share capital is held by GDF SUEZ. Seven work orders have been placed by Gazocean under the contract for the supply of technical support services.

For the financial year ended 31 December 2011, three orders for the supply of various technical support services were placed by Gazocean for an aggregate amount of EUR 183,096.11 excluding taxes and for the first nine months of the 2013 financial year a work order was placed for a total amount of EUR 42,242.53 excluding taxes. No work order was placed under this agreement in 2010 and 2012.

### **19.2.5 TSA entered into between the Company, on the one hand, and GDF ARMATEUR, GDF ARMATEUR 2 and NYK ARMATEUR represented by GAZOCEAN, on the other hand**

GTT and GAZOCEAN (representatives of GDF Armateur, GDF Armateur 2 and NYK Armateur), a company in which 80% of the share capital is held by GDF SUEZ, entered into a framework contract on 18 July 2013 for the provision of technical services (Technical Services Agreement) in relation to the provision of technical assistance for maintenance, repair and, if necessary, the resolution of incidents on vessels tanks that may contain LNG. The agreement was entered into for a period of five years, renewable by tacit agreement for one-year periods.

Under the annual fee covering the period from 1 July 2013 to 30 June 2014, the Company has invoiced a total amount of EUR 22,436.58 for the 3 vessels and the contract has resulted in a work order for a total amount of EUR 37,638.44 excluding tax.

### **19.2.6 Agreement entered into between the Company and TOTAL E&P RECHERCHE DEVELOPPEMENT SAS**

GTT and TOTAL E&P RECHERCHE DEVELOPPEMENT SAS entered into an agreement on 28 February 2011 in relation to the feasibility study to be undertaken by GTT in relation to an FPSO offshore platform. The feasibility study is based on five distinct themes: (i) the basic design of FPSO, (ii) the containment system, (iii) the design of handling system, (iv) the manufacture of handling system and (v) maintenance.

This agreement resulted in the payment by TOTAL E&P RESEARCH DEVELOPMENT SAS a lump sum of EUR 121,000 excluding taxes for the financial year ended 31 December 2011. This agreement terminated 2011 and no payment was made in respect of the financial year ended 31 December 2012 or the first nine months of the 2013 financial year.

## **19.3 SPECIAL REPORTS OF THE STATUTORY AUDITOR ON RELATED PARTY AGREEMENTS**

### **19.3.1 Special report of the statutory auditor on related party agreements for the year ended 31 December 2010**

*To the Shareholders,*

*In our capacity as statutory auditor to your company, we hereby present our report on related party agreements.*

*Our role is to report to you, based on the information provided to us, on the key terms and conditions of agreements that have been disclosed to us or of which we have become aware during our audit, without commenting on their relevance or substance or enquiring about the existence of other agreements. It is your responsibility to determine whether such agreements are appropriate and should be approved.*

*Pursuant to article 13 of the by-laws, we are also required to report to you on agreements approved by you in prior years which remained in effect during the year just ended.*

*We performed the procedures we deemed necessary in accordance with the professional auditing standards set out by the Compagnie national des commissaires aux comptes in France for this type of engagement. Those procedures consisted of verifying the consistency of the information provided to us with the source documents.*

#### ***Agreements submitted to the shareholders meeting for approval***

*We have not been advised of any agreements entered into during the year just ended that would require shareholder approval in accordance with the provisions of article L. 227-10 of the French Commercial Code.*

#### ***Previously approved agreements***

*As required by your company's by-laws, we have been advised of the following agreement approved in a prior year which remained in effect during the year just ended.*

#### ***With GDF Suez***

*Fees paid by your company to GDF Suez in respect of royalties and licence fees for the use of the NO 96 and CS 1 technologies, corresponding to sales of vessels by your company.*

*Your company has agreed to pay GDF Suez:*

- *3% of the amount of net royalties and licence fees on all firm orders for vessels using NO 96 technology booked in 2008. This provision was contractually applicable only in 2008.*
- *3% of the amount of net royalties and licence fees on all firm orders for vessels using NO 96 technology booked prior to 30 June 2008.*
- *10% of the net royalties on the first five LNG carriers built using CS 1 technology and 3% on firm orders for subsequent vessels, booked up until 31 December 2016.*

*In 2010, your company paid GDF Suez the sum of €843,770 (excluding VAT).*

*Paris-La Défense, 24 May 2011*

*The Statutory Auditor*

*Ernst & Young Audit*

*Philippe Hontarrède*

### **19.3.2 Special report of the statutory auditor on related party agreements for the year ended 31 December 2011**

*To the Shareholders,*

*In our capacity as statutory auditor to your company, we hereby present our report on related party agreements.*

*Our role is to report to you, based on the information provided to us, on the key terms and conditions of agreements that have been disclosed to us or of which we have become aware during our audit, without commenting on their relevance or substance or enquiring about the existence of other agreements. It is your responsibility to determine whether such agreements are appropriate and should be approved.*

*Pursuant to article 13 of the by-laws, we are also required to report to you on agreements approved by you in prior years which remained in effect during the year just ended.*

*We performed the procedures we deemed necessary in accordance with the professional auditing standards set out by the Compagnie nationale des commissaires aux comptes in France for this type of engagement. Those procedures consisted of verifying the consistency of the information provided to us with the source documents.*

#### **Agreements submitted to the annual shareholders meeting for approval**

*We have not been advised of any agreements entered into during the year just ended that would require shareholder approval in accordance with the provisions of article L. 227-10 of the French commercial code.*

### ***Previously approved agreements***

#### ***Previously approved agreements which remained in effect during the year just ended***

*As required by your company's by-laws, we have been advised of the following agreement approved in a prior year which remained in effect during the year just ended.*

#### ***With GDF Suez***

*Fees paid by your company to GDF Suez in respect of royalties and licence fees for the use of the NO 96 and CS 1 technologies, corresponding to sales of vessels by your company.*

*Your company has agreed to pay GDF Suez:*

- 3% of the amount of net royalties and licence fees on all firm orders for vessels using NO 96 technology booked in 2008. This provision was contractually applicable only in 2008.*
- 3% of the amount of net royalties and licence fees on all firm orders for vessels using NO 96 technology booked prior to 30 June 2008.*
- 10% of the net royalties on the first five LNG carriers built using CS 1 technology and 3% on firm orders for subsequent vessels, booked up until 31 December 2016.*

*In 2011, your company paid GDF Suez the sum of €539,341 (excluding VAT).*

*Paris-La Défense, 13 April 2012*

*The Statutory Auditor*

*Ernst & Young Audit*

*Philippe Hontarrède*

### **19.3.3 Special report of the statutory auditor on related party agreements for the year ended 31 December 2012**

*To the Shareholders,*

*In our capacity as statutory auditor to your company, we hereby present our report on related party agreements.*

*Our role is to report to you, based on the information provided to us, on the key terms and conditions of agreements that have been disclosed to us or of which we have become aware during our audit, without commenting on their relevance or substance or enquiring about the existence of other agreements. It is your responsibility to determine whether such agreements are appropriate and should be approved.*

*Pursuant to article 13 of the by-laws, we are also required to report to you on agreements approved by you in prior years which remained in effect during the year just ended.*

*We performed the procedures we deemed necessary in accordance with the professional auditing standards set out by the Compagnie nationale des commissaires aux comptes applicable in France for this type of engagement. Those procedures consisted of verifying the consistency of the information provided to us with the source documents.*

***Agreements submitted to the annual shareholders meeting for approval***

*We have not been advised of any agreements entered into during the year just ended that would require shareholder approval in accordance with the provisions of article L. 227-10 of the French commercial code.*

***Previously approved agreements***

*As required by your company's by-laws, we have been advised of the following agreement approved in a prior year which remained in effect but was not implemented during the year just ended.*

***With GDF Suez, your company's major shareholder***

*Fees paid by your company to GDF Suez in respect of royalties and licence fees for the use of the NO 96 and CS 1 technologies, corresponding to sales of vessels by your company.*

*Your company has agreed to pay GDF Suez:*

- *3% of the amount of net royalties and licence fees on all firm orders for vessels using NO 96 technology booked in 2008. This provision was contractually applicable only in 2008.*
- *3% of the amount of net royalties and licence fees on all firm orders for vessels using NO 96 technology booked prior to 30 June 2008.*
- *10% of the net royalties on the first five LNG carriers built using CS 1 technology and 3% on firm orders for subsequent vessels, booked up until 31 December 2016.*

*In 2012, the company did not pay any sums in respect of royalties and licence fees.*

*Paris-La Défense, 24 April 2013*

*The Statutory Auditor*

*Ernst & Young Audit*

*Philippe Hontarrède*

## CHAPTER 20

### FINANCIAL INFORMATION CONCERNING THE COMPANY'S ASSETS AND LIABILITIES, FINANCIAL POSITION AND PROFITS AND LOSSES

#### 20.1 FINANCIAL INFORMATION PREPARED IN ACCORDANCE WITH IFRS

##### 20.1.1 Financial statements prepared in accordance with IFRS standards for financial years ended 31 December 2010, 2011 and 2012

#### BALANCE SHEET

In thousands of euros	Notes	As at 31 December		
		2012	2011	2010
Intangible assets	6	52	66	47
Property, plant and equipment	7	11 173	12 372	14 237
Non-current financial assets	8	6 190	750	1 114
Deffered tax assets	17	7 281	5 322	581
<b>Non-current assets</b>		<b>24 696</b>	<b>18 510</b>	<b>15 980</b>
Trade and other receivables	9	40 728	23 521	21 665
Other current assets	9	21 131	12 563	8 471
Cash and cash equivalents	10	72 737	55 414	84 824
<b>Current assets</b>		<b>134 595</b>	<b>91 498</b>	<b>114 960</b>
<b>TOTAL ASSETS</b>		<b>159 292</b>	<b>110 008</b>	<b>130 940</b>

In thousands of euros	Notes	As at 31 December		
		2012	2011	2010
Share capital	11	370	370	370
Share premium		1 109	1 109	1 109
Reserves		17 634	14 962	44 774
Profit for the year		39 577	18 386	23 185
<b>Total Equity</b>		<b>58 691</b>	<b>34 827</b>	<b>69 439</b>
Non-current provision	15/ 16	13 984	25 078	27 051
Deffered tax liabilities	17	-	-	-
Other non-current liabilities		2 588	2 536	2 565
<b>Non-current liabilities</b>		<b>16 572</b>	<b>27 614</b>	<b>29 616</b>
Current provision	15/ 16	-	-	-
Trade and other payables	9	8 909	9 871	7 006
Other current liabilities	9	75 120	37 697	24 879
<b>Current liabilities</b>		<b>84 029</b>	<b>47 567</b>	<b>31 885</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>159 292</b>	<b>110 008</b>	<b>130 940</b>



## INCOME STATEMENT

In thousands of euros	Notes	As at 31 December		
		2012	2011	2010
<b>Revenue from operating activities</b>		<b>89.486</b>	<b>55.758</b>	<b>74.677</b>
Costs of sales		(2.192)	(1.674)	(1.466)
External charges	4.2	(32.246)	(18.373)	(19.446)
Personnel expenses	4.1	(24.259)	(18.084)	(16.820)
Taxes		(1.634)	(1.182)	(1.403)
Depreciations, amortisations and provisions	4.3	8.073	(1.329)	(9.608)
Other operating income and expense	4.4	8.082	2.036	3.191
<b>Operating profit</b>		<b>45.310</b>	<b>17.151</b>	<b>29.125</b>
Net financial income	5	676	1.029	1.013
<b>Profit before tax</b>		<b>45.986</b>	<b>18.180</b>	<b>30.138</b>
Income tax	17	(6.409)	206	(6.953)
<b>Net profit</b>		<b>39.577</b>	<b>18.386</b>	<b>23.185</b>
Basic earnings per share	12	1.710	794	1.002

	As at 31 December		
	2012	2011	2010
<b>Net profit</b>	<b>39.577</b>	<b>18.386</b>	<b>23.185</b>
Other comprehensive income	-	-	-
<b>Total comprehensive income</b>	<b>39.577</b>	<b>18.386</b>	<b>23.185</b>

## CASH FLOW STATEMENT

(In thousands of euros)

	December 31		
	2012	2011	2010
<b>Profit for the year</b>	<b>39 577</b>	<b>18 386</b>	<b>23 185</b>
Adjustements for :	-	-	-
- Depreciations, amortisations and provisions	(7 955)	1 329	13 314
- Proceeds on disposal of assets	(4)	(9)	-
Financial income/expense	308	358	305
Income tax	6 409	(206)	6 953
<b>Internally generated funds from operations</b>	<b>38 335</b>	<b>19 858</b>	<b>43 757</b>
Income tax paid	(8 368)	(4 535)	(7 229)
Movements in working capital :			
- (Increase) / decrease in trade and other receivables	(17 246)	(2 800)	8 631
- Increase / ( decrease) in trade and other payables	1 875	2 569	(6 443)
- Decrease/increase in other assets and liabilities	26 058	9 885	613
<b>Cash flow from operating activities (Total I)</b>	<b>40 654</b>	<b>24 977</b>	<b>39 329</b>
<b>Investing activities</b>			
Acquisition of property, plant and equipment	(7 732)	(1 507)	(1 250)
Proceeds from disposal of property, plant and equipment	56	10	-
Decrease of other financial assets	69	110	296
<b>Cash flow from investing activities (Total II)</b>	<b>(7 607)</b>	<b>(1 388)</b>	<b>(954)</b>
<b>Financing activities</b>			
Dividends paid to owners of the company	(15 714)	(52 997)	(30 248)
Interest paid	(10)	(2)	(21)
<b>Cash flow from financing activities (Total III)</b>	<b>(15 724)</b>	<b>(52 999)</b>	<b>(30 269)</b>
<b>Net increase in cash and cash equivalents (I+II+III)</b>	<b>17 323</b>	<b>(29 410)</b>	<b>8 106</b>
Cash and cash equivalents at the beginning of the year	55 414	84 824	76 718
Cash and cash equivalents at the end of the year	72 737	55 414	84 824
<b>Net increase / (decrease) in cash and cash equivalents</b>	<b>17 323</b>	<b>(29 410)</b>	<b>8 106</b>

## STATEMENT OF CHANGES IN EQUITY

In thousands of euros	Share capital	Reserves	Net result	Total equity
<b>As at 31 December 2009</b>	<b>370</b>	<b>12 158</b>	<b>63 973</b>	<b>76 501</b>
Profit for the period			23 185	23 185
Other comprehensive income			-	-
<b>Total comprehensive income</b>			<b>23 185</b>	<b>23 185</b>
Allocation of previous year profit		33 725	(33 725)	
Dividends			(30 248)	(30 248)
<b>As at 31 December 2010</b>	<b>370</b>	<b>45 883</b>	<b>23 185</b>	<b>69 439</b>
Profit for the period			18 386	18 386
Other comprehensive income			-	-
<b>Total comprehensive income</b>			<b>18 386</b>	<b>18 386</b>
Allocation of previous year profit		23 185	(23 185)	
Dividends		(52 997)		(52 997)
<b>As at 31 December 2011</b>	<b>370</b>	<b>16 071</b>	<b>18 386</b>	<b>34 827</b>
Profit for the period			39 577	39 577
Other comprehensive income			-	-
<b>Total comprehensive income</b>			<b>39 577</b>	<b>39 577</b>
Allocation of previous year profit		18 386	(18 386)	
Dividends		(15 714)		(15 714)
<b>As at 31 December 2012</b>	<b>370</b>	<b>18 743</b>	<b>39 577</b>	<b>58 691</b>

## NOTES TO THE FINANCIAL STATEMENTS

### NOTE 1 GENERAL PRESENTATION

Gaztransport et Technigaz-GTT (the “Company” or “GTT”) is a simplified limited company under French law, whose registered office is domiciled in France, at 1 route de Versailles, 78470 Saint-Rémy-lès-Chevreuse.

The Company is specialized in the production of services related to the construction of storage facilities for transporting liquefied natural gas (LNG). It offers engineering services, technical assistance and patent licenses for the construction of LNG tanks installed mainly on LNG carriers.

The Company is based in France and operates mainly with shipyards in Asia.

These financial statements are presented for the period beginning on 1 January and ending 31 December 2012.

Consolidated financial statements including the company’s subsidiary “Cryovision” established on 2 February 2012 have not been prepared due to the immaterial level of activity of Cryovision in 2012.

In its first year, the subsidiary’s revenues amounted to 860 314 euros and net income amounted to 16 171 euros (figures extracted from the financial statements as at 31 December 2012 prepared in accordance with French accounting standards).

## NOTE 2 ACCOUNTING POLICIES

### 2.1 Basis of Preparation of the Financial Statements

The consolidated financial statements for all the periods presented have been prepared in accordance with the international financial reporting standards (IFRS) as adopted by the European Union on December 31, 2012.

These are available on the website of the European Commission: [http://ec.europa.eu/internal\\_market/accounting/ias/index\\_fr.htm](http://ec.europa.eu/internal_market/accounting/ias/index_fr.htm)

Since January 1, 2012, the Group adopted the IFRS amendments, standards and IFRIC interpretations presented below.

The application of these standards had no significant impact on the financial statements of the Group.

N° of standard	Name
Amendment IFRS 7	Disclosures - Transfers of Financial Assets

The Company has elected not to adopt a retrospective application of the standards, interpretations and amendments, the application of which is not compulsory.

N° of standard	Name
Amendment IAS 1	Presentation of items of other comprehensive Income
IAS 27 (2011)	Separate Financial Statements
IAS 28 (2011)	Investments in Associates and Joint Ventures
IFRS 10	Consolidated Financial Statements
IFRS 11	Joint Arrangements
IFRS 12	Disclosure of Interests in Other Entities
IFRS 13	Fair Value Measurement
Amendments IAS 12	Deferred tax - Recovery of Underlying Assets
Amendments IAS 32	Offsetting Financial Assets and Financial Liabilities
Amendments IFRS 1	Severe Hyperinflation and Removal of Fixed Dates for First-time Adopters
IFRIC 20	Stripping Costs in the Production Phase of a Surface Mine
Amendments IFRS 7	Disclosures — Offsetting Financial Assets and Financial Liabilities
Amendments IAS 19	Employee Benefits

The Company does not apply the standards, amendments and interpretations published by the IASB but not yet adopted by the European Union.

N° of standard	Name
Amendment IFRS 1	Government loans
Amendments IFRS 10,11,12	Transitional provisions
Amendments IFRS 10,11,12	Investment Entities
IFRS 9	Financial instruments : Classification and Measurement
Limited amendments to IFRS 9	Financial instruments : Classification and Measurement Annual improvements ( 2009-2011)

Management anticipates that the application of these standards will have no significant impact on the IFRS financial statements.

The financial statements are presented in thousands of euros, rounded to the nearest thousands euros, unless otherwise indicated.

The first IFRS financial statements of the Company have been prepared with a transition date of December 1, 2009.

IFRS financial statements of the Company are prepared in accordance with the going concern principle and on a historical cost basis except for certain financial instruments and financial assets available for sale that are measured at fair value.

The financial statements were approved by the Board of Directors as at 13 November 2013.

## **2.2 Use of judgment and estimates**

In preparing these IFRS financial statements, management has made judgments, estimates and assumptions that affect the book value of assets and liabilities, income and expenses and the information mentioned in the notes.

Certain financial accounting information has required significant estimations to be made: mainly deferred tax assets, provisions for risk and retirement benefit plans.

## **2.3 Functional and presentation currency**

These financial statements are presented in euro, which is the Company's functional currency.

Almost all of the company's transactions are denominated in euros.

## **2.4 Revenue recognition**

Contracts between GTT and shipyards are based on royalties, whereby the shipyards pay royalties for the use of the Company's technology. GTT also provides experts (engineers and technicians) in order to accompany shipyards (GTT's customers) to apply its technology.

A general contract / TALA, (Technical Assistance and License Agreement) defines the general relationship between the parties. The contract provides the basis of calculation of the royalties (based on the number of ships built by the shipyard) and also indicates the terms of payment of royalties.

Subsequently, for each ship, a special contract / MoU, (Memorandum of Understanding), is signed which defines the specific conditions of application of the general contract.

Under licensing agreements for the construction of LNG tanks with shipyards, GTT:

- realize engineering analysis for the implementation of its patents, and deliver to the shipyard detailed specifications (including plans and nomenclature necessary to build the tanks using GTT's patented technology) at the moment of steel cutting,
- grant a non-exclusive license to use their patents with the support of its engineers and technicians for the construction of tanks (from the moment of steel cutting) and
- carries out technical assistance services by providing skilled engineers and technicians, whereby the number of man days are contractually defined from the "launching" phase until

receipt of the final LNG tanks which comply with GTT technology as ordered by the ship-owner, being the shipyard's customer.

All of these services are subject to recurring royalties whose amount is proportional to the number of square meters of tanks under licensed construction and based on a man/day rate for technical assistance, with may be adjusted for example, in the case of the construction of a series of identical LNG carriers. The billing is payable following a contractual schedule based on the key phases of the construction of the LNG:

- *Effective date of the contract*
- *Steel cutting*
- *Keel laying*
- *Launching*
- *Delivery*

Billing is recognized as revenue from operating activities as and when the services are performed:

- the part corresponding to the presentation of the specifications, which is only applicable to the first LNG carrier in a series, is recognized "prorata temporis" from the date of signature of the license agreement (which marks the beginning of activity with the shipyard for the fabrication of the tanks), to delivery of the final specifications at the moment of steel-cutting,
- the part corresponding to the non-exclusive license to use the patents with the support of GTT engineers and technicians is recognized "prorata temporis" from the moment of steel-cutting until the final delivery of the final LNG carrier,
- finally, the part corresponding to the technical assistance provided during the project is recognized as such assistance is performed, generally on-site, by GTT's engineers and technicians from the launch of the LNG until final delivery and acceptance by the customer.

Beyond the volume of contractual technical assistance, GTT can offer further technical assistance, upon request, which is recognized as revenue when such assistance is effectively performed by the engineers and technicians on-site.

## **2.5 Other revenues**

Other revenues include the amounts for the Research Tax Credit (CIR) granted to companies by the French Tax Authorities in order to encourage technical and scientific research activities.

Companies that justify eligible expenses receive a tax credit that can be credited against the income tax due for the period in which the expenditure was incurred. Any unutilized amount may be carried forward for offset in the following three years, with any excess beyond this date, being reimbursed. Only research expenditure is taken into account for the basis of calculating the research tax credit.

## **2.6 Royalties**

GDF SUEZ has provided technical and financial support to GTT for the development of technologies NO96, CS1, GT 2000 and the Multiplex product. To date, only the first two technologies have been commercialized.

A protocol was signed on 4 November 2008 which put an end to all agreements between GDF SUEZ and GTT prior to this date in order to:

- recognize the property of GTT developed technologies,
- cancel the future consequences of prior agreements,
- establish the GDF royalty remuneration for the exploitation of technologies NO96 and CS1,
- define the payment terms

Fees representing a percentage of royalties recognized as revenue by GTT for the use of the relevant technologies, limited to a defined number of LNG carriers either built or ordered, before a certain date, will be paid to GDF SUEZ by GTT.

The resultant liability for fees due to GDF/Suez is determined from the royalties recognized by GTT on the relevant technologies under the conditions and limits set by the protocol. The fees due by GTT to GDF SUEZ are recognized as an expense as and when GTT recognize the royalty revenues from the sale of GDF SUEZ related technology.

The amounts recognized as expenses are as follows (in thousands of euros):

- as at 31 December 2010:	844
- as at 31 December 2011:	539
- as at 31 December 2012:	0

All payments related to the NO96 technology were completed as at 31 December 31 2011. Only the future commercialization of the CS1 technology would lead to additional royalties being paid to GDF SUEZ under the terms of the Protocol.

## **2.7 Intangible assets**

Intangible assets are recorded at their acquisition cost less any accumulated amortization and any accumulated impairment losses.

Intangible assets with finite lives are amortized over their useful economic life, using the straight-line method.

### **– Research and development costs**

The Company regularly incurs research and development costs. Research costs are expensed as incurred. Development expenditures are recognized as an intangible asset when the Company can demonstrate:

- the technical feasibility of completing the intangible asset so that it will be available for use or sale,
- its intention to complete and its ability to use or sell the asset,
- capacity to use the intangible asset,
- the probability of future economic benefits being generated,
- the availability of resources to complete the asset,

- the ability to reliably measure the expenditure during development.

At the date of preparation of these financial statements, the Company considers that these criteria were not met before the research & development costs were incurred.

As a result, development costs have been recognized as an expense in the period in which they were incurred.

The Company spent 8 million euros in research and development costs during the year ended December 31, 2010, 10 million euros during the year ended December 31, 2011 and 14 million euros during the year ended December 31, 2012.

## – Software

Software acquired from third parties are capitalized and amortized over a period of one year.

At the year-end, intangible assets recorded in the balance sheet comprise exclusively of software.

## 2.8 Property, plant and equipment

Property, plant and equipment are initially accounted for at their acquisition cost.

With regard to the building used since 2003 as the headquarters of the Company, its historical cost under the first time application of IFRS, has been determined using the transfer price paid by GTT in January 2003 to the previous tenant in order to obtain the rights and obligations relative to the leasing contract of this building, increased by the outstanding capital element of the lease at the date of the lease transfer, to be amortized over the remaining term of the lease contract. GTT became the owner of this building at the end of contractual lease period in December 2005.

Depreciation, calculated from the date of commissioning of the building, is recognized as an expense to reduce the book value of assets over their estimated useful lives, on a straight-line basis over the following period:

•	Buildings:	20 years
•	Financial-leased assets:	15 years
•	Technical installation:	5 to 10 years
•	Other assets	
	▪ Transport vehicles	3 years
	▪ Computer and office equipment	3 years
	▪ Office furniture	6 years and 8 months

Amortization expense is recognized within the Income Statement as “Amortizations”

## 2.9 Leases

Assets financed through finance lease contracts which transfer substantially all the risks and rewards due to ownership of the leased item to the Company, are recognized in the balance sheet at the lower of (i) the fair value of the assets or (ii) the present value of the minimum lease payments.

The corresponding debt is recognized as a liability. At the date of closing the financial statements, there were no contracts of this nature.

Leases where the lessor retains substantially all the risks and rewards of ownership of the asset are operating leases. The operating lease payments are recognized as an expense in the income statement over the lease term on a straight-line basis, corresponding to the useful life of the asset.



## **2.10 Impairment of non-financial assets**

An impairment test is performed:

- at least once a year, for assets with indefinite lives, mainly non depreciable intangible assets and also assets under construction;
- if an indicator of impairment exists for assets with an indefinite or finite economic useful life.

The Company does not have assets with an indefinite useful life that require an impairment test. Furthermore, no indicators of impairment have been identified which would justify an impairment test of the other assets with a finite life.

## **2.11 Financial assets and liabilities**

Financial assets include financial investments; loans and other financial receivables; and financial derivative instruments.

Financial liabilities include borrowings, bank overdrafts and financial derivative instruments.

Financial assets and liabilities are presented in the balance sheet as current assets/liabilities or non-current liabilities depending on whether or not they fall due more than one year, with the exception of derivatives which are classified as current.

The fair value is determined using the following hierarchy:

- quoted (unadjusted) prices on "liquid" active markets for identical assets or liabilities (Level 1);
- other data than market prices included within Level 1 that can be observed either directly or indirectly (Level 2); and
- data relative to the asset or liability that are not based on observable market data (Level 3).

### **– Financial assets recorded at fair value, with movements taken to the income statement**

Financial assets and liabilities measured at fair value, for which movements in fair value are booked to the income statement, are designated as such when the transaction is initiated. These assets are initially recognized at fair value and are remeasured at each reporting date. The change in fair value is recognized in the income statement under "Other financial income" or "Other financial expenses".

### **– Held to maturity investments**

These financial assets are investments, other than loans and receivables, that the Company intends to hold to maturity and has the capacity to do so. These investments have fixed or determinable income streams. These financial assets are initially booked at fair value and subsequently measured at amortized cost using the effective interest method.

### **– Loans and receivables**

Loans and receivables are measured at amortized cost less any necessary impairment charge.

### **– Available for sale financial assets**

Available for sale financial assets correspond to non-consolidated equity securities and any other instruments not classified as loans and receivables, held-to-maturity investments or financial assets at fair value, where fair value movements are taken to the income statement

– **Trade payables and financial liabilities**

Financial liabilities and trade payables are measured at amortized cost. Interest is calculated using the effective interest rate and is recognized as financial expenses in the income statement.

**2.12 Trade and other receivables**

A provision for depreciation is recognized when there are objective indicators which indicate that the amounts due cannot be recovered fully or partially. In particular, the process of assessing the recoverable amount of receivables balances due at the balance sheet date is subject to individual consideration and the necessary provisions are recognized if there is a risk of non-recovery.

**2.13 Cash and cash equivalents**

The caption "Cash and cash equivalents" includes cash and readily available money market investments, subject to a negligible risk of change in fair value, which can be readily used to meet existing cash outflow requirements.

Monetary investments are valued at their market value at the balance sheet date. Changes in value are recorded in "Other financial income" or "other financial liabilities".

**2.14 Share capital**

Ordinary shares are classified as equity instruments.

**2.15 Employee Benefits**

– **Retirement indemnities**

The Company applies the relevant legal obligations or provides customary supplementary pension schemes or other long-term benefits to employees. The Company offers these benefits through defined contribution plans.

Contributions relating to defined contribution plans are expensed as and when they become due for services rendered by employees.

Indemnities within the collective agreement which apply to the Company relate to retirement indemnities or indemnities due in the case of voluntary departure or their forced retirement. Such indemnities are considered to be defined benefit plans.

Liabilities arising from defined benefit plans and their costs are determined using the projected unit actuarial valuation method. Valuations are carried out annually. Actuarial calculations are provided by external consultants.

These plans are funded, with the net obligation (or asset) being recognized in the balance sheet.

The main plan concerns retirement benefits paid upon retirement. If the plan assets are insufficient to cover the amount of the plan's obligations, any annual movement of the corresponding liabilities comprises of:

- the service cost recognized in operating expenses;
- the financial cost, in financial income;
- the actuarial gains and losses directly recognized in "Other comprehensive income".

Actuarial gains and losses arise mainly from changes in actuarial assumptions, being the difference between the results based on actuarial assumptions and the actual results of the defined benefit plans.

## **2.16 Other provisions**

A provision is recognized when, at the end of the period, the Company has a present obligation (legal or implied) arising from past events and it is probable that an outflow of future economic benefits will be required to settle the obligation.

Litigation is provided for when an obligation of the Company to a third party exists at the balance sheet date. The measurement of provision is based on the best estimate of projected expenditure.

Contingent liabilities represent potential obligations arising from past events whose existence will be confirmed only by the occurrence of uncertain future events which are not under the control of the entity or existing obligations where an outflow of resources is not probable. With the exception of those recognized as a result of a business combination, contingent liabilities are not recognized in the accounts but are described in a note to the financial statements.

## **2.17 Government grants and conditional advances**

Between 1987 and 2001, the Company received advances subject to reimbursement conditions from Hydrocarbons Support Fund (FSH). These advances were intended to finance investment projects in the framework of research programs approved by the French State.

The repayment of these advances is based on the sales generated by the relevant projects which have been funded. They are recorded in "Other non-current liabilities" at their present value discounted at a rate of 2%, being amortized as reimbursements are made.

No refunds will be required at the end of the 20th year following the year of approval of the funding, the amount of non-refundable advances being recognized as other income on that date.

## **2.18 Income Tax**

"Income tax expense" includes current income taxes payable and deferred tax.

Deferred tax is recognized, using the liability method, for temporary differences existing at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts; and unused tax losses.

A deferred tax asset is recognized for tax losses and unused tax credits to the extent that it is probable that the Company will have future taxable profits against which these tax losses and unused tax credits can be utilized.

Deferred tax assets & liabilities are measured at the tax rates expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been adopted or substantively adopted at the balance sheet date.

Deferred taxes are recognized as income or expense in the income statement except where it relates to a transaction or event that is recognized directly in equity.

Deferred tax assets and liabilities are presented in specific balance sheet items included in non-current assets and liabilities.

Given its activity, GTT is taxed at the reduced rate applicable to long-term capital gains applied on its net revenue from license royalties. The tax losses available at the normal rate are offset against profits taxed at the reduced tax rate in accordance with French tax rules. The valuation of deferred taxes generated by temporary differences takes into account this allocation mechanism to reflect the charge or tax savings that will actually be supported or obtained ( at the normal rate or at the reduced rate ) when the liability is settled or the asset is realized.

## **2.19 Segment reporting**

The Company operates in one business segment: the performance of services related to the construction of storage and transportation facilities for liquefied natural gas.

Assets and liabilities are located in France. Fees and services rendered are invoiced to companies predominantly based in Asia.

## **2.20 Other items of comprehensive income**

Income and expenses of the period which are not recognized in the income statement are presented as "Other comprehensive income" in total comprehensive income.

## **2.21 Earnings per share**

Earnings per share is calculated by dividing net income by the weighted average number of shares of the Company.

Diluted earnings per share is calculated by dividing net income by the weighted average number of ordinary issued shares, plus the weighted average number of ordinary shares that would be issued on conversion of all the dilutive potential ordinary shares into ordinary shares.

To date, the Company has not issued any dilutive instruments.

## **NOTE 3 EVENTS AFTER THE REPORTING PERIOD**

No significant events have occurred after the balance sheet date: From a commercial perspective, 10 new orders (LNG carriers) have been notified and / or invoiced since the beginning of 2013, and from a technical perspective, the activities of innovation continues in accordance with the Company's development plan.

## **INFORMATION RELATING TO COMPREHENSIVE INCOME**

### **NOTE 4 OPERATING INCOME**

#### **4.1 Personnel expenses**

Personnel expenses are presented as follows:

In thousands of Euros	<b>2012</b>	<b>2011</b>	<b>2010</b>
Wages and salaries	13 993	11 493	9 837
Social security costs	7 808	6 195	5 421
Profit-sharing and incentives scheme	2 458	397	1 562
<b>Personnel expenses</b>	<b>24 259</b>	<b>18 084</b>	<b>16 820</b>

## 4.2 External charges

In thousands of Euros	2012	2011	2010
Tests and studies	17 324	8 104	6 368
Leasing, maintenance & insurance	3 958	2 596	7 333
External Staff	1 313	842	719
Fees	3 857	2 024	752
Transport, travel and reception expenses	4 649	3 221	2 700
Postal charges	140	80	138
Other	1 005	1 507	1 436
<b>Total</b>	<b>32 246</b>	<b>18 373</b>	<b>19 446</b>

## 4.3 Amortisations and provisions

In thousands of Euros	2012	2011	2010
Amortisation	3 138	3 302	3 779
Provisions	238	322	9 534
Reversal of provisions	(11 449)	(2 295)	(3 706)
<b>Provision (Reversal) of amortisation</b>	<b>(8 073)</b>	<b>1 329</b>	<b>9 608</b>

Reversals of provisions correspond to:

- for 5,2 million euros of remaining provision for litigation initially booked in 2009 for 15 million euros in anticipation of costs to be incurred because of the probable damage caused by the movement of LNG on the primary membranes constructed using the insulation system Mark III technology (Note 16);
- for 4,5 million euros from the dispute between GTT and Chantiers de l'Atlantique CAT (Note 16).-

## 4.4 Other operating income and expenses

In thousands of Euros	2012	2011	2010
Research tax credit	2 818	1 987	2 350
Other	5 265	49	842
<b>Other operating income and expenses</b>	<b>8 082</b>	<b>2 036</b>	<b>3 191</b>

"Other operating income" relates to:

- Cancellation of the expense booked in 2011 relative to shipyard repairs reimbursed by the Company's insurers for an amount of 1 379 thousands euros,
- Chantiers de l'Atlantique was sentenced to support litigation costs related to a dispute with GTT. Costs related to this dispute were previously expensed for 3 883 thousands euros.

## NOTE 5 FINANCIAL INCOME

In thousands of euros	2012	2011	2010
Exchange gains and losses	2	2	4
Other financial charges	(32)	(5)	(28)
<b>Short term deposits</b>	995	1 196	1 167
Discounting of cash advances ( Support Fund Hydrocarbons )	(52)	(51)	(61)
Proceeds on disposal of securities	9	192	154
Changes in the fair value of retirement plan assets ( see note 15.2)	(246)	(305)	(223)
<b>Financial income</b>	<b>676</b>	<b>1 029</b>	<b>1 013</b>

## INFORMATION RELATING TO THE BALANCE SHEET

### NOTE 6 INTANGIBLE ASSETS

In thousands of Euros	Gross Value	Amortisation	Net value
<b>Values as at 31.12.2009</b>	<b>3 142</b>	<b>3 105</b>	<b>38</b>
Acquisitions	104	95	9
Disposals	-	-	-
<b>Values as at 31.12.2010</b>	<b>3 247</b>	<b>3 199</b>	<b>47</b>
Acquisitions	106	87	19
Disposals	-	-	-
<b>Values as at 31.12.2011</b>	<b>3 353</b>	<b>3 287</b>	<b>66</b>
Acquisitions	103	117	(14)
Disposals	-	-	-
<b>Values as at 31.12.2012</b>	<b>3 456</b>	<b>3 404</b>	<b>52</b>

Intangible assets are mainly comprised of software.

## NOTE 7 PROPERTY, PLANT AND EQUIPMENT

In thousands of Euros	Land and Buildings	Technical Installations	Leased assets	Other	Total
<b>Gross Book value as at 31.12.2009</b>	<b>3 739</b>	<b>21 510</b>	<b>3 593</b>	<b>3 816</b>	<b>32 659</b>
Acquisitions	17	1 439	-	102	1 558
Disposals	-	-	-	475	475
<b>Gross Book Value as at 31.12.2010</b>	<b>3 757</b>	<b>22 949</b>	<b>3 593</b>	<b>3 443</b>	<b>33 742</b>
Acquisitions	-	1 041	-	309	1 350
Disposals	-	-	-	121	121
<b>Gross Book Value as at 31.12.2011</b>	<b>3 757</b>	<b>23 990</b>	<b>3 593</b>	<b>3 631</b>	<b>34 971</b>
Acquisitions	-	909	-	963	1 873
Disposals	-	5	-	150	155
<b>Gross Book Value as at 31.12.2012</b>	<b>3 757</b>	<b>24 895</b>	<b>3 593</b>	<b>4 444</b>	<b>36 689</b>
<b>Accumulated depreciation as at 31.12.2009</b>	<b>209</b>	<b>11 762</b>	<b>1 257</b>	<b>2 655</b>	<b>15 883</b>
Depreciation	85	3 040	180	380	3 684
Reversal	-	-	-	63	63
<b>Accumulated depreciation as at 31.12.2010</b>	<b>294</b>	<b>14 802</b>	<b>1 437</b>	<b>2 972</b>	<b>19 504</b>
Depreciation	85	2 658	180	293	3 215
Reversal	-	-	-	121	121
<b>Accumulated depreciation as at 31.12.2011</b>	<b>379</b>	<b>17 459</b>	<b>1 617</b>	<b>3 144</b>	<b>22 598</b>
Depreciation	85	2 448	180	308	3 021
Reversal	-	1	-	102	103
<b>Accumulated depreciation as at 31.12.2012</b>	<b>464</b>	<b>19 906</b>	<b>1 796</b>	<b>3 350</b>	<b>25 516</b>
<b>Net Book Value as at 31.12.2009</b>	<b>3 530</b>	<b>9 749</b>	<b>2 335</b>	<b>1 162</b>	<b>16 776</b>
<b>Net Book Value as at 31.12.2010</b>	<b>3 463</b>	<b>8 147</b>	<b>2 156</b>	<b>471</b>	<b>14 237</b>
<b>Net Book Value as at 31.12.2011</b>	<b>3 378</b>	<b>6 531</b>	<b>1 976</b>	<b>487</b>	<b>12 372</b>
<b>Net Book Value as at 31.12.2012</b>	<b>3 293</b>	<b>4 988</b>	<b>1 796</b>	<b>1 095</b>	<b>11 173</b>

In the absence of external debt related to the construction of property, no interest expense was capitalized in accordance with IAS 23 - Borrowing Costs.

Assets acquired under finance leases correspond to the building used since 2003 as the headquarters of the Company described in Note 2.8.

For the first time application of IFRS, the historical cost of the building was determined using the transfer price paid by GTT in January 2003 to the previous tenant in order to obtain the rights and obligations relative to the leasing contract of this building, increased by the outstanding capital element at the date of the lease transfer, to be amortized over the remaining term of the lease contract. GTT became the owner of this building at the end of contractual lease period in December 2005.

## NOTE 8 NON-CURRENT FINANCIAL ASSETS

In thousands of Euros	Loans and receivables	Held-to-maturity financial assets	Fair value of other financial assets	Total
<b>Values as at 01.01.2009</b>	<b>802</b>	-	<b>941</b>	<b>1 743</b>
Acquisitions	38	-	-	<b>38</b>
Disposals	101	-	-	<b>101</b>
Other variations	-	-	(46)	-
<b>Values as at 31.12.2009</b>	<b>739</b>	-	<b>895</b>	<b>1 633</b>
Acquisitions	-	-	-	-
Disposals	295	-	-	<b>295</b>
Other variations	-	-	(223)	-
<b>Values as at 31.12.2010</b>	<b>443</b>	-	<b>672</b>	<b>1 115</b>
Acquisitions	50	-	-	<b>50</b>
Disposals	110	-	-	<b>110</b>
Other variations	-	-	(305)	-
<b>Values as at 31.12.2011</b>	<b>384</b>	-	<b>367</b>	<b>750</b>
Acquisitions	755	5 000	-	<b>5 755</b>
Disposals	69	-	-	<b>69</b>
Other variations	-	-	(246)	-
<b>Values as at 31.12.2012</b>	<b>1 070</b>	<b>5 000</b>	<b>121</b>	<b>6 190</b>

The Fair value of other financial assets relates to the excess of retirement plan assets over the Company's corresponding retirement obligations.

"Loans and receivables" includes the investment in Cryovision (50 000 €), and the amount of advances granted to this subsidiary company in 2012 (750 000 €).

The increase for 5 000 000 euros of held-to-maturity financial assets corresponds to a short term cash investment with a 5 year term

## NOTE 9 WORKING CAPITAL

### 9.1 Trade receivables and other current assets

Gross book value	2012	2011	2010
<b>Trade and other receivables</b>	<b>40 728</b>	<b>23 638</b>	<b>21 782</b>
Trade and other operating receivables	146	144	120
Tax and social security receivables	14 949	8 795	4 886
Other receivables	4 281	3 196	3 006
Prepaid expenses	1 755	430	460
<b>Total other current assets</b>	<b>21 130</b>	<b>12 563</b>	<b>8 471</b>
<b>Total</b>	<b>61 858</b>	<b>36 201</b>	<b>30 254</b>



	2012	2011	2010
Depreciation			
<b>Trade and other receivables</b>	-	117	117
Trade and other operating receivables			
Tax and social security receivables			
Other receivables			
Prepaid expenses			
<b>Total other current assets</b>	-	-	
<b>Total</b>	-	117	117

	2012	2011	2010
Net Book value			
<b>Trade and other receivables</b>	40 728	23 521	21 665
Trade and other operating receivables	146	144	120
Tax and social security receivables	14 949	8 795	4 886
Other receivables	4 281	3 196	3 006
Prepaid expenses	1 755	430	460
<b>Total other current assets</b>	21 130	12 563	8 471
<b>Total</b>	61 858	36 084	30 136

The ageing of trade receivables as at 31 December is presented as follows:

	2012	2011	2010
<b>Not yet falling due</b>	17 738	7 838	6 338
Due since 2 months or more	10 540	1 805	1 572
Due since 2 months but less than 6 months	6 290	581	11 107
Due since 6 months but less than 1 year	6 101	176	618
Due since 1 year	59	502	138
<b>Total amount falling due</b>	22 990	3 064	13 435
<b>Total</b>	40 728	10 902	19 773

## 9.2 Trade payables and other current liabilities

	2012	2011	2010
<b>Trade and other payables</b>	8 909	9 871	7 006
Tax and social security payables	13 542	8 999	9 970
Other debts	1 344	1 308	335
Deferred income	60 234	27 390	14 574
<b>Other current liabilities</b>	75 119	37 697	24 879
<b>Total</b>	84 028	47 567	31 885

## NOTE 10 CASH AND CASH EQUIVALENTS

In thousands of Euros	2012	2011	2010
Short-term deposits	68 724	49 235	80 029
Cash and cash equivalent	4 013	6 179	4 795
<b>Cash in balance sheet</b>	72 737	55 414	84 824
Bank overdrafts and equivalent	-	-	-
<b>Net cash position</b>	72 737	55 414	84 824

Short term deposits and other cash instruments consist of deposits which meet the criteria of classification as cash equivalents.

## **NOTE 11 SHARE CAPITAL**

As at 31 December 2012, the share capital is composed of 23 143 shares with a nominal value of 16 euros.

## **NOTE 12 EARNING PER SHARE**

	<b>2012</b>	<b>2011</b>	<b>2010</b>
Net income (in euros)	39 577 206	18 386 022	23 185 366
Average number of shares	23 143	23 143	23 143
Number of diluted shares	23 143	23 143	23 143
<b>Basic earnings per share (in euros)</b>	<b>1 710</b>	<b>794</b>	<b>1 002</b>
<b>Diluted earnings per share (in euros)</b>	<b>1 710</b>	<b>794</b>	<b>1 002</b>

## **NOTE 13 FINANCIAL INSTRUMENT MEASURED AT FAIR VALUE**

Information relative to the fair value of financial instruments concerns only cash and short-term investments that are measured at fair value.

## **NOTE 14 FINANCIAL RISK MANAGEMENT**

### **14.1 Credit risk**

Direct customers of GTT are essentially shipyards. As at 31 December 2012, the Company has 24 shipyards under license, located mainly in China, Japan and South Korea. Of these 24 sites, 6 sites are active and have notified GTT of orders for LNG tanks.

Due to the limited number of customers, the majority of which are historical customers with which the company has built strong links, being business partners for which there has been no incidents of unpaid billings for 10 years – (with the exception of those related to the dispute between the Company and Chantiers de l'Atlantique (CAT)), nor has the Company historically recorded any bad debt, or faced significant difficulties in recovering payment from its customers.

Furthermore, in the case of late payment the TALA (license agreement) may be cancelled, which prevents the shipyard to commercialize the Company's technologies.

In case of order cancellation, the amount corresponding to the services performed are due and payable by the client. From this point of view, the fact of billing in accordance with five milestones helps to spread the risk. Billing is aligned with construction milestones of the vessel; any delay in the construction automatically causes a postponement of billing.

The Company therefore considers that is not exposed to any significant credit risk.

### **14.2 Interest rate risk**

The Company has no debt and therefore is not exposed to a risk of change in interest rates.

### 14.3 Exchange rate risk

Purchases and sales are carried out almost entirely in euros, which is also the functional currency of the Company. Most contracts are denominated in euros.

The Company therefore considers that it is not exposed to significant exchange rate risk.

### 14.4 Liquidity risk

At the date of this base document, the net cash position of the Company allows it to face its commitments. The Company considers that it is not exposed to any significant liquidity risk.

## NOTE 15 EMPLOYEE BENEFITS

### 15.1 Principal actuarial assumptions

	2012	2011	2010
Discount rate	2.69%	3.50%	4.83%
Retirement age	62 to 63 years	62 to 63 years	60 to 65 years
Rate of salary increase	3.64%	3.91%	3.75%
Rate of social charges	45.00%	45.00%	45.00%
Mortality table	INSEE 2012	INSEE 2010	INSEE 2009

### 15.2 Analysis of variation of employee benefit

In thousands of euros	2012	2011	2010
Actuarial value of the retirement obligation at the beginning of year	990	667	424
Cost of services provided	161	129	89
Benefits paid	(5)	(8)	(19)
Actuarial gains and losses	92	173	154
Effect of discounting	35	29	19
<b>Actuarial value of the retirement obligation at the end of the year</b>	<b>1 272</b>	<b>990</b>	<b>667</b>
Plan assets fair value	1 393	1 357	1 339
<b>Net value of obligation</b>	<b>121</b>	<b>367</b>	<b>672</b>

## NOTE 16 OTHER PROVISIONS

In thousands of Euros	Provisions for litigation	Other	Total	Current	Non current
<b>Values as at 31.12.2009</b>	<b>16 917</b>	<b>600</b>	<b>17 517</b>	-	<b>17 517</b>
Allocation	9 534	-	<b>9 534</b>	-	9 534
Required reversal	-	-	-	-	-
Non required reversal	-	-	-	-	-
<b>Values as at 31.12.2010</b>	<b>26 451</b>	<b>600</b>	<b>27 051</b>	-	<b>27 051</b>
Allocation	322	-	<b>322</b>	-	322
Required reversal	-	-	-	-	-
Non required reversal	2 295	-	<b>2 295</b>	-	2 295
<b>Values as at 31.12.2011</b>	<b>24 478</b>	<b>600</b>	<b>25 078</b>	-	<b>25 078</b>
Allocation	238	-	<b>238</b>	-	238
Required reversal	-	600	<b>600</b>	-	600
Non required reversal	10 732	-	<b>10 732</b>	-	10 732
<b>Values as at 31.12.2012</b>	<b>13 984</b>	-	<b>13 984</b>	-	<b>13 984</b>

Provision for a litigation initially booked in 2009 for 15 million euros in anticipation of costs to be incurred because of the probable damage caused by the movement of LNG on the primary membranes constructed using the Mark III insulation system technology.

It is based on the probable rate of damage to the fleet of ships equipped with the Mark III insulation system which will be inspected up until 2015, and an average cost of repair that GTT may have to assume.

The provision was increased by 5 million euros in 2010, with 2,295 million euros being released in 2011.

Since 2011, in the absence of the use of the provision, the provision is released in proportion to the boats inspected up until 2015.

Other provisions are intended to cover potential risks in disputes between GTT with former employees, as well as a claim made by a legal expert involved in an action brought by a third party against a repair shipyard.

## NOTE 17 INCOME TAX

### 17.1 Analysis of Income Tax

In thousands of Euros	2012	2011	2010
Current tax	(8 368)	(4 535)	(7 229)
Deferred tax	1 959	4 741	276
<b>Total</b>	<b>(6 409)</b>	<b>206</b>	<b>(6 953)</b>

### 17.2 Income and Deferred Tax

The current tax expense is equal to the income tax due to the tax authorities for the fiscal year, based on the rules and tax rates present in the various countries.

The applicable tax rates are:

Royalties are taxed at a reduced rate of 15%,

Other operations are taxed at the ordinary tax rate of 33.33%.

At the end of the period, the eventual fiscal deficit at the rate of 33.33% is offset on income taxable at 15%.

The current tax liability is obtained by reducing the tax expense by the amount of withholding tax levied on payments received for activities performed in China and South Korea, in accordance with agreements concluded between France and these countries.

Deferred taxes identified in the balance sheet and income statement are calculated at the reduced tax rate of 15% which corresponds to the tax rate of GTT's principal activity.

### 17.3 Tax on added value

The specific French tax based on the added value generated by the company (CVAE) is recognized as an operating expense under "Taxes".

### 17.4 Reconciliation of income tax charge

	2012	2011	2010
Net income	39 577	18 386	23 185
Income tax charge	6 409	(206)	6 953
<b>Profit before tax</b>	<b>45 986</b>	<b>18 180</b>	<b>30 138</b>
Ordinary tax rate	15.00%	15.00%	15.00%
<b>Theoretical tax burden</b>	<b>6 898</b>	<b>2 727</b>	<b>4 521</b>
Permanent differences	(78)	3	(2)
3.3% tax supplement	241	121	212
Tax audit adjustments	65	-	(173)
Research tax credit	(423)	(307)	(352)
Reversal of unused provision for investment	(295)	-	-
Loss carryforward	-	(2 749)	2 748
<b>Total income tax charge</b>	<b>6 409</b>	<b>(206)</b>	<b>6 953</b>

The valuation of deferred tax assets and liabilities is based on the way that the Company expects to recover or settle the carrying amount of assets and liabilities, using tax rates expected to apply to the year in which the asset is realized or the liability settled.

A deferred tax asset is recognized only if it is probable that the Company will have future taxable profits against which the asset can be utilized.

Tax loss carry forwards are recorded as assets when the business plan envisaging a recovery of these losses over a maximum period of 5 years. At the end of 2011 and 2012, prospective ship orders for the next 5 years allow the Company to consider the use of such tax losses on future taxable results as being probable. Loss carry forwards are recognized as deferred tax assets only to the extent that there future use is probable.

### 17.5 Deferred tax assets and liabilities

The following table presents the deferred tax assets and liabilities in the balance sheet:

In thousands of Euros	2012	2011	2010
<b>Deferred tax assets</b>			
On deficits	7 290	5 061	
On other temporary difference	1 450	2 101	2 730
Buildings acquired via financial lease	108	81	54
On retirement obligation	40	40	40
On fair value of short-term investments	13	2	10
<b>Deferred tax liability</b>			-
On investment provision	(1 150)	(1 449)	(1 685)
On retirement plan assets	(59)	(95)	(141)
Effect of discounting advances from Hydrocarbons Support Fund	(34)	(42)	(50)
On leasing	(377)	(377)	(377)
<b>Deferred tax Assets/(liabilities)</b>	<b>7 281</b>	<b>5 322</b>	<b>581</b>

Other temporary differences relate mainly to non-deductible provisions (provision for ship risk, employee profit share scheme).

#### 17.6 Deferred tax asset not recognized

	Deficits	Deferred tax assets
As at 31 December 2010	(18 320)	2 748
As at 31 December 2011	-	-
As at 31 December 2012	-	-

#### NOTE 18 SEGMENT REPORTING

The Company has only one operating segment as defined in IFRS 8 - "Operating Segments".

- Information relative to products and services

The activities of the Company are closely related, being services performed in the construction of storage and transport facilities of liquefied natural gas. Currently, there is no « principal operating decision maker", who receives specific reporting with several types of products and services.

In fact, and in view of IFRS 8 - Segment Information, the Company operates only in one business segment

- Information relating to geographical areas

Information is not monitoring on a geographical basis. Almost all customers are located in Asia (China, Korea). It is not considered relevant to make a distinction between these specific countries.

- Information relating to major customers

Concentration within the shipbuilding sector reduces the number of customers.

In 2012, one customer contributed more than 40% of total company sales, and five customers contributed 96 % of total sales.

	<b>2012</b>	<b>2011</b>	<b>2010</b>
One customer	43%	43%	42%
The 4 following customers	54%	46%	47%
Total	96%	89%	89%

## **NOTE 19 RELATED PARTY TRANSACTIONS**

### **19.1 Related Party transactions**

GTT accounts are consolidated using the equity method in the consolidated accounts established by both GDF SUEZ and TOTAL.

Transactions with these companies are detailed below:

	<b>GDF SUEZ</b>	<b>TOTAL SA</b>	<b>H&amp;F</b>	<b>2010</b>
Suppliers	1 158	-	-	1 158
Royalties paid (expenditures)	844	-	-	844
External staff (expenditures)	176	174	-	350
Outsourced tests and studies	135	-	-	135

	<b>GDF SUEZ</b>	<b>TOTAL SA</b>	<b>H&amp;F</b>	<b>2011</b>
Suppliers	559	-	-	559
Royalties paid (expenditures)	539	-	-	539
External staff (expenditures)	44	172	-	216
Outsourced tests and studies	60	-	-	60

	<b>GDF SUEZ</b>	<b>TOTAL SA</b>	<b>H&amp;F</b>	<b>2012</b>
Suppliers	2	-	-	2
Royalties paid (expenditures)	220	165	138	523
External staff (expenditures)	-	196	-	196
Outsourced tests and studies	72	-	-	72

### **19.2 Remuneration of Executive Directors**

	<b>2010</b>	<b>2011</b>	<b>2012</b>
Wages and bonuses	384	409	462
Other long-term benefits	43	42	37

The remuneration shown above is the remuneration of Mr. Philippe BERTEROTTIERE, President of the Company.

## **NOTE 20 PROVISIONS AND CONTINGENT LIABILITIES**

### **20.1 Commitments related to operating lease**

Operating lease payments are not significant.

## **20.2 Obligations under other contracts**

In the event of the CS1 technology being commercialized in the future, GTT is committed to pay royalties to GDF SUEZ relative to the CS1 technology in accordance with the following conditions:

- 10% of total royalties (excluding taxes) on service revenues recognized by GTT from the construction of LNG vessels equipped with CS1 Technology (provided these are collected from the customer). The amount to be paid to GDF Suez is determined upon the total amount of service revenues generated by GTT from firm orders for the first five tankers equipped with CS1 Technology. Currently, there are firm orders for three LNG vessels using the CS1 technology.
- 3% of total fees (excluding taxes) on service revenues recognized by GTT from the construction of LNG vessels equipped with CS1 Technology (provided these are collected from the customer). The amount to be paid to GDF Suez is determined upon the total amount of service revenues generated by GTT from firm orders for tankers equipped with CS1 Technology up until 31 December 2016 over and above the first five firm orders. In addition the payment of these fees to GDF Suez is limited to the service revenues generated from firm orders up to a maximum of 20 tankers (from the 6<sup>th</sup> firm order to the 20<sup>th</sup> firm order).

### **20.1.2 Report of the statutory auditor on the financial statements prepared in accordance with IFRS for the financial years ended 31 December 2010, 2011 and 2012**

*Gastransport & Technigaz*  
*GTT*

*Years ended December 31, 2010, 2011 and 2012*

*Statutory auditor's report on the financial statements prepared in accordance with IFRS as adopted by the European Union*

*To the President,*

*In our capacity as statutory auditor of GTT and in accordance with your request related to its project of Initial Public Offering, we hereby report to you on the audit of the accompanying IFRS financial statements prepared in accordance with IFRS as adopted by the European Union for the years ended December 31, 2010, 2011 and 2012.*

*The preparation of these financial statements is the responsibility of your board of directors. Our role is to express an opinion on these financial statements based on our audit.*

*We conducted our audit in accordance with professional standards applicable in France. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement. An audit involves performing procedures, by audit sampling and other means of testing, to obtain audit evidence about the amounts and disclosures in the financial statements. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as the overall presentation of the financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.*

*In our opinion, the financial statements prepared for the needs of the Initial Public Offering present fairly, in all material respects, the assets, liabilities and financial position of the company at December 31, 2010, 2011 and 2012 and the results of its operations for the years then ended, in accordance with IFRS as adopted by the European Union.*



### 20.1.3 Condensed financial statements as at 30 September 2013 prepared in accordance with IFRS

#### BALANCE SHEET

In thousands of euros	Notes	30 September 2013	31 December 2012
Intangible assets		314	52
Property, plant and equipment	5	10 380	11 173
Non-current financial assets		6 118	6 190
Deferred tax assets		4 260	7 281
<b>Non-current assets</b>		<b>21 072</b>	<b>24 696</b>
Trade and other receivables	6.1	57 858	40 728
Other current assets	6.1	20 768	21 131
Cash and cash equivalents	7	76 197	72 737
<b>Current assets</b>		<b>154 822</b>	<b>134 595</b>
<b>TOTAL ASSETS</b>		<b>175 895</b>	<b>159 292</b>

In thousands of euros	Notes	30 September 2013	31 December 2012
Share capital	8	370	370
Share premium		1 109	1 109
Reserves		(34 620)	17 634
Profit for the year		86 632	39 577
<b>Total Equity</b>		<b>53 491</b>	<b>58 691</b>
Non-current provisions	10	10 555	13 984
Other non-current liabilities		2 588	2 588
<b>Non-current liabilities</b>		<b>13 143</b>	<b>16 572</b>
Current provisions	10	-	-
Trade payables	6.2	11 518	8 909
Other current liabilities	6.2	97 743	75 120
<b>Current liabilities</b>		<b>109 261</b>	<b>84 029</b>
<b>Total Equity and Liabilities</b>		<b>175 895</b>	<b>159 292</b>

## INCOME STATEMENT

In thousands of euros	Notes	30 September 2013	30 September 2012
<b>Operating activities</b>		<b>156 942</b>	<b>54 551</b>
Costs of sales		(1 479)	(1 637)
External charges	4.2	(28 355)	(24 392)
Personnel expenses	4.1	(24 949)	(15 975)
Taxes		(2 832)	(1 021)
Depreciations, amortisations and provisions	4.3	967	1 574
Other operating income and expense	4.4	1 885	3 175
<b>Operating profit ( EBIT )</b>		<b>102 179</b>	<b>16 275</b>
Net financial income		1 083	679
<b>Profit before tax</b>		<b>103 263</b>	<b>16 953</b>
Income tax	11	(16 631)	(4 410)
<b>Net profit</b>		<b>86 632</b>	<b>12 543</b>
Basic earnings per share ( in euros )	9	3 743	542
Diluted earning per share ( in euros )	9	3 743	542

In thousands of euros		30 September 2013	30 September 2012
<b>Net profit</b>		<b>86 632</b>	<b>12 543</b>
<b>Other comprehensive income</b>		-	-
<b>Total comprehensive income</b>		<b>86 632</b>	<b>12 543</b>
Basic earnings per share ( in euros )		3 743	542
Diluted earning per share ( in euros )		3 743	542

## CASH FLOW STATEMENT

(In thousands of euros)	30 September 2013	30 September 2012
<b>Net income</b>	<b>86 632</b>	<b>12 543</b>
Adjustments for :		
- Depreciations, amortisations and provisions	(1 070)	(1 658)
- Proceeds on disposal of assets		
Other income / expenses	64	71
Income tax expense	16 631	4 410
<b>Internally generated funds from operations</b>	<b>102 257</b>	<b>15 366</b>
Income tax paid	(13 609)	(5 023)
Movements in working capital :		
- Increase in trade and other receivables	(17 149)	(5 631)
- Decrease/ (increase) in trade and other payables	2 609	(2 216)
- Increase/ Decrease in other operating assets and liabilities	23 004	22 137
<b>Cash flow from operating activities (Total I)</b>	<b>97 111</b>	<b>24 632</b>
<b>Investing activities</b>		
Acquisition of property, plant and equipment	(1 938)	(1 127)
Proceeds from disposal of property, plant and equipment	117	149
<b>Cash flow from investing activities (Total II)</b>	<b>(1 821)</b>	<b>(978)</b>
<b>Financing activities</b>		
Dividends paid to owners of the company	(91 831)	(15 714)
<b>Cash flow from financing activities (Total III)</b>	<b>(91 831)</b>	<b>(15 714)</b>
<b>Net increase in cash and cash equivalents (I+II+III)</b>	<b>3 460</b>	<b>7 940</b>
Cash and cash equivalents at the beginning of the period	72 737	55 414
Cash and cash equivalents at the end of the period	76 197	63 354
<b>Net increase in cash and cash equivalents</b>	<b>3 460</b>	<b>7 940</b>

## STATEMENT OF CHANGES IN EQUITY

In thousands of euros	Share capital	Reserves	Net result	Total equity
<b>As at 31 December 2011</b>	<b>370</b>	<b>16 071</b>	<b>18 386</b>	<b>34 827</b>
<b>Profit for the period</b>	-	-	<b>12 543</b>	<b>12 543</b>
Allocation of previous year profit	-	18 386	(18 386)	-
Dividends	-	(15 714)	-	(15 714)
<b>As at 30 September 2012</b>	<b>370</b>	<b>18 743</b>	<b>12 543</b>	<b>31 657</b>
<b>Profit for the period</b>	-	-	<b>27 034</b>	<b>27 034</b>
Dividends	-	-	-	-
<b>As at 31 December 2012</b>	<b>370</b>	<b>18 743</b>	<b>39 577</b>	<b>58 691</b>
<b>Profit for the period</b>	-	-	<b>86 632</b>	<b>86 632</b>
Allocation of previous year profit	-	39 577	(39 577)	-
Dividends	-	(40 153)	-	(40 153)
Interim dividend	-	(51 678)	-	(51 678)
<b>As at 30 September 2013</b>	<b>370</b>	<b>(33 511)</b>	<b>86 632</b>	<b>53 491</b>

## NOTES TO THE FINANCIAL STATEMENTS

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### NOTE 1 GENERAL PRESENTATION

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Gaztransport et Technigaz-GTT (the “Company” or “GTT”) is a simplified limited company under French law, whose registered office is domiciled in France, at 1 route de Versailles, 78470 Saint-Rémy-lès-Chevreuse.

The Company is specialized in the production of services related to the construction of storage facilities for transporting liquefied natural gas (LNG). It offers engineering services, technical assistance and patent licenses for the construction of LNG tanks installed mainly on LNG carriers.

The Company is based in France and operates mainly with shipyards in Asia.

Due to the immaterial level of activity of the subsidiary companies “Cryovision” (French subsidiary of GTT) and GTT North America (American subsidiary of GTT) at the end of September 2013, the company has not prepared consolidated financial statements for the period.

These financial statements are presented for the period beginning on 1 January and ending 30 September 2013

### NOTE 2 ACCOUNTING POLICIES

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#### 2.1 Basis of Preparation of the Financial Statements

The consolidated condensed interim financial statements for all the periods have been prepared in accordance with the international accounting standards (IFRS) as adopted by the European Union on September 30, 2013.

These standards are available on the website of European Commission: [http://ec.europa.eu/internal\\_market/accounting/ias/index\\_fr.htm](http://ec.europa.eu/internal_market/accounting/ias/index_fr.htm)

The condensed interim financial statements, on September 30, 2013, as presented, have been prepared in compliance with IAS 34 "Interim Financial Reporting". The financial statements were approved by the Board of Directors as at 13 November 2013.

These interim financial statements do not include all the information required by IFRS for the preparation of financial statements and should therefore be read in conjunction with the IFRS financial statements established for the year ended 31 December 2012.

The financial statements are presented in thousands of euros, rounded to the nearest thousands euros, unless otherwise indicated.

The financial statements are prepared in accordance with the same accounting principles and methods applied in the preparation of the Company's IFRS financial statements for the year ended 31 December 2012 (as described in Note 3 of these financial statements), with the exception of the following standards and amendments which are applicable from 1 January 2013:

N° of standard	Name
Amendment IAS 19	Employee Benefits
Amendment IAS 12	Deferred tax : recovery of underlying assets
Amendment IAS 32	Compensation of financial assets and liabilities
Amendment IFRS 7	Disclosures - Transfers of Financial Assets
IFRS 13	Fair value measurement

The application of these standards and amendments has not had a significant effect on these financial statements.

## 2.2 Use of judgments and estimates

In preparing these interim financial statements in accordance with IFRS, management has made judgments, estimates and assumptions that affect the book value of assets and liabilities, income and expenses, and the information mentioned in the notes.

Certain financial accounting information has required significant estimations to be made: mainly deferred tax assets, provisions for risk and retirement benefit plans.

### NOTE 3 EVENTS AFTER THE REPORTING PERIOD

In the context of criminal proceedings for fraud brought by CAT, CAT filed a complaint for fraud which led to the Company and two of its former directors being summoned by the Criminal Court. On October 4, 2013, the Paris Criminal Court acquitted the Company and two former directors; and dismissed the claims of CAT and ruled that any civil claims would not be heard. CAT and the office of public prosecutions appealed against this decision on October 11, 2013.

In the context of criminal proceedings for theft of confidential documents filed by GTT, CAT, and several individuals, including a former Alstom employee and former employees of GTT were indicted. On 29 October 2013, the magistrate referred all indicted parties to be heard before the Criminal Court of Nanterre.

## INFORMATION RELATING TO THE INCOME STATEMENT

### NOTE 4 OPERATING INCOME

#### 4.1 Personnel expenses

The amount of personnel expenses for the period is detailed below:

In thousands of euros	September 2013	September 2012
Wages and salaries	12 345	9 767
Social security costs	7 766	5 259
Profit-sharing and incentives scheme	4 838	949
<b>Personnel expenses</b>	<b>24 949</b>	<b>15 975</b>

## 4.2 External charges

In thousands euros	September 2013	September 2012
Tests and studies	15 179	13 466
Leasing, maintenance & insurance	3 319	3 152
External Staff	748	1 040
Fees	2 667	2 705
Transport, travel and reception expenses	5 433	3 156
Postal charges	117	94
Other	892	779
<b>Total</b>	<b>28 355</b>	<b>24 392</b>

## 4.3 Amortisations and provisions

In thousands of euros	September 2013	September 2012
Amortisation of fixed assets	2 463	2 342
Provisions	177	238
Reversal of provisions	(3 607)	(4 154)
<b>Provisions ( Reversal ) of amortisation and provisions</b>	<b>(967)</b>	<b>(1 574)</b>

Allocations and reversals of provisions mainly concern litigations and risks of current assets.

## 4.4 Other operating income and expenses

In thousands of euros	September 2013	September 2012
Research tax credit	2 125	1 691
Competitiveness and employment tax credit	154	-
Other operating income / (expense)	(394)	1 485
<b>Other operating income and expenses</b>	<b>1 885</b>	<b>3 175</b>

## INFORMATION RELATING TO THE BALANCE SHEET

### NOTE 5 PROPERTY, PLANT AND EQUIPMENT

In thousands of euros	Land and Buildings	Technical Installations	Leased assets	Other	Total
<b>Gross book value as at 31.12.2011</b>	<b>3 757</b>	<b>23 990</b>	<b>3 593</b>	<b>3 631</b>	<b>34 971</b>
Acquisitions	-	909	-	963	1 873
Disposals	-	5	-	150	155
<b>Gross book value as at 31.12.2012</b>	<b>3 757</b>	<b>24 895</b>	<b>3 593</b>	<b>4 444</b>	<b>36 689</b>
Acquisitions	-	1 117	-	884	2 001
Disposals	-	-	-	602	602
<b>Gross book value as at 30.09.2013</b>	<b>3 757</b>	<b>26 012</b>	<b>3 593</b>	<b>4 727</b>	<b>38 088</b>
<b>Accumulated depreciation as at 31.12.2011</b>	<b>379</b>	<b>17 459</b>	<b>1 617</b>	<b>3 144</b>	<b>22 598</b>
Depreciation charge	85	2 448	180	308	3 021
Reversal of depreciation charge	-	1	-	102	103
<b>Accumulated depreciation as at 31.12.2012</b>	<b>464</b>	<b>19 906</b>	<b>1 796</b>	<b>3 350</b>	<b>25 516</b>
Depreciation charge	64	1 802	135	294	2 295
Reversal of depreciation charge	-	-	-	103	103
<b>Accumulated depreciation as at 30.09.2013</b>	<b>528</b>	<b>21 708</b>	<b>1 931</b>	<b>3 541</b>	<b>27 708</b>
<b>Net book value as at 31.12.2011</b>	<b>3 378</b>	<b>6 531</b>	<b>1 976</b>	<b>487</b>	<b>12 372</b>
<b>Net book value as at 31.12.2012</b>	<b>3 293</b>	<b>4 988</b>	<b>1 796</b>	<b>1 095</b>	<b>11 173</b>
<b>Net book value as at 30.09.2013</b>	<b>3 229</b>	<b>4 303</b>	<b>1 662</b>	<b>1 186</b>	<b>10 380</b>

Assets acquired under finance leases correspond to the building used since 2003 as the headquarters of the Company.

### NOTE 6 WORKING CAPITAL

#### 6.1 Trade receivables and other current assets

Net value	September 2013	December 2012
<b>Trade and other receivables</b>	<b>57 858</b>	<b>40 728</b>
Trade and other operating receivables	3	146
Tax and social security receivables	19 126	14 949
Other receivables	300	4 281
Prepaid expenses	1 340	1 755
<b>Total other current assets</b>	<b>20 768</b>	<b>21 131</b>
<b>Total</b>	<b>78 626</b>	<b>61 859</b>

## 6.2 Trade payables and other current liabilities

In thousands of euros	September 2013	December 2012
<b>Trade and other payables</b>	<b>11 518</b>	<b>8 909</b>
Tax and social security payables	17 587	13 542
Other debts	3 005	1 344
Deferred income	77 151	60 234
<b>Total of other current liabilities</b>	<b>97 743</b>	<b>75 120</b>
<b>Total</b>	<b>109 261</b>	<b>84 029</b>

## NOTE 7 CASH AND CASH EQUIVALENTS

In thousands of euros	September 2013	December 2012
Short-term deposits	67 366	68 724
Cash and cash equivalents	8 831	4 013
<b>Cash in the balance sheet</b>	<b>76 197</b>	<b>72 737</b>
Bank overdrafts and equivalent s	-	-
<b>Net cash position</b>	<b>76 197</b>	<b>72 737</b>

Short term deposits and other cash instruments consist of deposits which meet the criteria of classification as cash equivalents.

## NOTE 8 SHARE CAPITAL

### 8.1 Share capital

As at 30 September 2013, the share capital is composed of 23 143 shares with a nominal value of 16 euros.

### 8.2 Dividends

The shareholders' meeting as at 29 April 2013 approved the payment of an ordinary dividend of 1 735 euros per share for the year ended 31 December, 2012 payable in cash. The payment was made on 15 May 2013.

The board of directors held on 29 July 2013 decided to pay an interim dividend of 2 298 euros per share. The interim dividend was paid on 5 September 2013.

## NOTE 9 EARNINGS PER SHARE

	September 2013	September 2012
Net income (in euros)	86 631 781	12 543 440
Weighted average number of shares in issuance	23 143	23 143
Number of shares on a fully diluted basis	23 143	23 143
<b>Basic earnings per share (in euros)</b>	<b>3 743</b>	<b>542</b>
<b>Diluted earnings per share (in euros)</b>	<b>3 743</b>	<b>542</b>



## NOTE 10 OTHER PROVISIONS

In thousands of euros	Provisions for litigation	Other	Total	Current	Non current
<b>Values as at 31.12.2011</b>	<b>24 478</b>	<b>600</b>	<b>25 078</b>	-	<b>25 078</b>
Provision	238	-	<b>238</b>	-	238
Reversal of provision	10 732	600	<b>11 332</b>	-	11 332
<b>Values as at 31.12.2012</b>	<b>13 984</b>	-	<b>13 984</b>	-	<b>13 984</b>
Provision	177	-	<b>177</b>	-	177
Reversal of provision	3 606	-	<b>3 606</b>	-	3 606
<b>Values as at 30.09.2013</b>	<b>10 555</b>	-	<b>10 555</b>	-	<b>10 555</b>

## NOTE 11 INCOME TAX

### 11.1 Income tax

In thousands of euros	September 2013	Septembre 2012
Current tax	(10 854)	(5 023)
Deferred tax	(3 021)	613
<b>Income tax charge</b>	<b>(13 876)</b>	<b>(4 410)</b>
Distribution tax	(2 755)	-
<b>Total income tax charge</b>	<b>(16 631)</b>	<b>(4 410)</b>

The distribution tax is the tax on dividends paid during the period amounted to 3% of the total amount distributed.

### 11.2 Deferred Tax assets and liabilities

In thousands of euros	September 2013	December 2012
<b>Deferred tax assets</b>		
On deficits	3 438	7 290
On other temporary differences	1 908	1 450
Buildings acquired via finance lease	128	108
On retirement obligations	50	40
On fair value of short-term investments	9	13
<b>Deferred tax liabilities</b>		
On investment provision	(803)	(1 150)
On retirement plan assets	(59)	(59)
Effect of discounting advances from Hydrocarbon support fund	(34)	(34)
On leasing	(377)	(377)
<b>Deferred tax assets/liabilities</b>	<b>4 260</b>	<b>7 281</b>

### 11.3 Reconciliation of income tax charge

	September 2013	September 2012
Net income	86 632	12 543
Income tax charge	16 631	4 410
<b>Profit before tax</b>	<b>103 263</b>	<b>16 953</b>
Ordinary tax rate	15.00%	15.00%
<b>Theoretical tax</b>	<b>15 489</b>	<b>2 543</b>
Permanent differences	(336)	(218)
Foreign tax	34	-
3.3% tax supplement	322	136
Unrecognized deferred tax assets	-	2 203
Tax on dividends	2 755	-
Research tax credit	(319)	(254)
Other	(1 314)	-
<b>Total income tax charge</b>	<b>16 631</b>	<b>4 410</b>

### NOTE 12 RELATED PARTIES DISCLOSURES

#### 12.1 Transactions with related parties

GTT accounts are consolidated using the equity method in the consolidated accounts established by both GDF SUEZ and TOTAL.

Transactions with these companies are detailed below:

	GDF SUEZ	TOTAL SA	H&F	December 2012
Suppliers	2	-	-	2
Customers	220	165	138	523
External staff (expenditures)	-	196	-	196
Outsourced tests and studies (Expense)	72	-	-	72

	GDF SUEZ	TOTAL SA	H&F	September 2013
Suppliers	23	-	-	23
Customers	434	-	-	434
External staff (expenditures)	-	167	-	167
Outsourced tests and studies (Expense)	26	-	-	26

#### 12.2 Remuneration of Executive Directors

	September 2013	December 2012
Wages and bonuses	307	462
Other long-term benefits	10	37

The remuneration shown above is the remuneration of Mr. Philippe BERTEROTTIERE, President of the Company.

### NOTE 13 SEGMENT INFORMATION

As the activities of the company are closely related, the Company has only one operating activity: services within the construction of storage and transport facilities of liquefied natural gas.

Currently, there is no “principal operating decision maker”, who receives specific reporting with several types of products and services.

In fact, and in view of IFRS 8 - Segment Information, the Company operates in only one sector of activity and therefore only has one operating segment as defined in IFRS 8 - "Operating Segments".

Information is not more monitoring on a geographical basis. Almost all customers are located in Asia (China, Korea). It is not considered relevant to make a distinction between these specific countries.

Assets and liabilities are located in France.

#### **20.1.4 Report of the statutory auditor on the condensed financial statements as at 30 September 2013 prepared in accordance with IFRS**

***Gaztransport & Technigaz***

***GTT***

##### ***Statutory auditor’s review report on the condensed interim financial statements***

*To the President,*

*In our capacity as statutory auditor of GTT and in accordance with your request related to its project of Initial Public Offering, we have performed a review of the accompanying condensed interim financial statements, for the period from January 1<sup>st</sup> to September 30, 2013.*

*The preparation of these condensed interim financial statements is the responsibility of your board of directors. Our role is to express a conclusion on this Financial Information based on our review.*

*We conducted our review in accordance with professional standards applicable in France. A review consists of making inquiries, primarily of persons responsible for financial and accounting matters and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with professional standards applicable in France and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.*

*Based on our review, nothing has come to our attention that causes us to believe that the accompanying condensed interim financial statements prepared for the needs of the Initial Public Offering project are not prepared, in all material respects, in accordance with IAS 34 – IFRS as adopted by the European Union applicable to interim financial information.*

*Paris- La Défense, November 13, 2013*

*The statutory auditor*  
**ERNST & YOUNG Audit**

*Philippe Hontarrède*

## 20.2 DIVIDENDS

### 20.2.1 Dividends paid in the last six financial years

Dividends paid by the Company for the past six financial years were as follows:

	Financial year ended 31 December					
	2012	2011	2010	2009	2008	2007
Total dividend payout (in euros)	40,153,105	15,714,097	23,004,142 <sup>35</sup>	30,247,901	161,005,851	144,018,889
Net dividend per share (in euros)	1,735	679	994	1,307	6,957	6,223

In the financial year ended 31 December 2011, the Company also paid an exceptional distribution of EUR 29,993,328 drawn from distributable reserves, corresponding to a net amount of EUR 1,296 per share, pursuant to a resolution adopted by the shareholders at the extraordinary shareholders meeting dated 12 December 2011.

An interim dividend distribution of EUR 51,678,319 was decided on 29 July 2013.

### 20.2.2 Dividend distribution policy

See section 12.2.5 – *Outlook for dividend policy* of the present base document.

### 20.2.3 Dividend lapse date

Dividends that have not been claimed within five years of their payment date will lapse and become the property of the State.

## 20.3 JUDICIAL AND ARBITRATION PROCEEDINGS

### 20.3.1 Litigation management policy

The Group may be involved in legal, administrative or arbitration proceedings in the ordinary course of its business. Group companies book a provision where it is probable that such proceedings will trigger costs for one of the Group companies and a reliable estimate can be made of the amount (see section 9.2.2.4 – *Non-current liabilities* of the present base document).

Subject to the proceedings described in this section, the Company is not aware of any legal, governmental, administrative or arbitration proceedings involving the Company or its Subsidiaries, either pending or threatened, which may have or have had in the past twelve months significant effects on the financial situation or profitability of the Company or its Subsidiaries. The Company could take any action it considers necessary to protect its interests and enforce its rights.

### 20.3.2 Dispute between the Company and the company *Les Chantiers de l'Atlantique* (CAT)

Under a licence agreement entered into on 17 December 2001, the Company granted CAT a licence to use its membrane containment technologies for the transportation of LNG. As required by the license agreement, CAT notified GTT of three orders placed by three shipbuilding companies, two of which are 100% owned by Gaz de France, for the construction of LNG carriers using the CS 1 system, a technology newly developed by GTT.

<sup>35</sup> This amount includes EUR 260,565 of distributable reserves.

The CS 1 containment system comprises a primary barrier that contains the liquefied gas and a secondary barrier for protection against leakage of the primary barrier. The CS 1 secondary barrier is practically identical to that of the Mark III technology, GTT's historical and proven technology that has been used on many vessels. At the end of May 2013, 110 vessels equipped with Mark III technology were in service and 46 were on order.

The dispute between CAT and the Company arose when disorders of the secondary barrier were reported in November 2004. During 2005, the two parties sought a technical solution to remedy the disorders (the **Technical Solution**). The Technical Solution was described in appendix to an agreement entered into on 19 July 2005 between CAT, GTT and GTT's insurers, under which GTT and its insurers agreed to pay CAT a lump-sum compensation of EUR 18,335,000.

Further disorders appeared during implementation of the Technical Solution, which led CAT to refer the matter to the International Chamber of Commerce's International Court of Arbitration on 28 July 2006, in accordance with the terms of the licence agreement entered into between GTT and CAT.

Despite the construction difficulties encountered, CAT was able to deliver, with some delay, the three LNG carriers known as M32, N32 and P32 on 12 November 2006, 22 December 2006 and 5 March 2007 respectively.

#### **20.3.2.1 Company's analysis and assessment of the risk**

The dispute between the Company and CAT has resulted in a large number of legal proceedings both in England and France.

It is worth noting that since the beginning of the litigation stage initiated by CAT, the courts have confirmed the Company's positions. The key ruling arising from these actions was that of the court of arbitration in London in 2009, which validated GTT's technology and rejected CAT's claims.

Whilst CAT was claiming around 300 million euros from the Company, the court of arbitration ruled on 3 February 2009 that GTT was not at fault as there was no evidence of any design fault, economic fault or any failure by GTT to meet its contractual obligations. The court therefore ordered CAT to pay GTT the sums of 3,345,278 euros for unpaid royalties and 1,087,048 euros for unpaid services. Furthermore, CAT was ordered to pay 60% of GTT's costs, i.e. 3,883,000 euros including 193,000 euros in late interest. As all possible legal remedies against this arbitration ruling have been exhausted, the London High Court's 2011 decision upholding the arbitration ruling has become final and binding and the subject matter of the action has now the force of *res judicata*.

In France, various proceedings are still pending: criminal and civil proceedings.

#### **■ Criminal action filed by CAT for attempted fraud**

On 19 October 2009, CAT filed a complaint against GTT and brought a civil action. This complaint is based on the allegation of CAT that GTT falsified reports on certain tests and concealed other tests, thereby committing forgery, use of false documents and obtaining a ruling through fraud in the context of the arbitration.

In particular, CAT filed a complaint of obtaining a ruling through fraud and the Company and two of the Company's former executives were referred to the criminal court (*Tribunal correctionnel*). In addition to the fine of one million euros sought by the public prosecutor against the Company, CAT also sought the *in solidum* conviction of the Company and its two former executives to pay approximately EUR 9.5 million plus the sum of EUR 250,000 in respect of article 475-1 of the French Code of Criminal Procedure. On 4 October 2013, the criminal court of Paris acquitted the Company and its two former executives, rejected CAT's claims and held its civil action inadmissible. CAT and the public prosecutor appealed against this ruling on 11 October 2013.

### ■ ***Criminal action filed by GTT for theft of confidential documents***

During the High Court proceedings, CAT produced many documents belonging to GTT and partially revealed the identity of the GTT employees who had supplied them and how they had come to be in CAT's possession. On 21 June 2010, therefore, GTT filed a complaint against CAT for theft and brought a civil action.

CAT and several other people, including a former Alstom executive and former employees of GTT, were investigated by the district court (*Tribunal de grande instance*) of Nanterre. By order of the investigating judge (*juge d'instruction*) dated 29 October 2013, all the investigated parties were referred to the criminal court (*Tribunal correctionnel*) of Nanterre for most of counts.

### ■ ***Civil action brought by CAT for late delivery of the LNG carriers***

As CAT had delivered three LNG carriers with delay, the shipbuilding companies filed a claim against CAT and its parent company Alstom Holdings, as guarantor, in the commercial court (*Tribunal de commerce*) of Paris for the payment of late delivery penalties. On 28 March 2008, Alstom Holdings petitioned to bring GTT as guarantor into the proceedings on the grounds of the alleged design faults reported during construction of the LNG carriers. GTT's position was that this action was both inadmissible and unfounded.

The commercial court of Paris and then the Court of appeal of Paris rejected Alstom Holdings' petition to involve GTT and ordered CAT and Alstom Holdings to pay the contractual late penalties to the shipbuilding companies (i.e. EUR 46,962,162.66 with interest). CAT and Alstom Holdings have appealed to the Court of cassation (*Cour de Cassation*) against this ruling. By a judgment of 5 December 2013, the Court of cassation rejected CAT and Alstom Holdings' appeal.

In parallel, CAT and Alstom Holdings have applied for a revision of the order of the Court of appeal (*Cour d'appel*) rendered for them to pay the late penalties alleging that the ruling was obtained fraudulently because the shipbuilding companies had submitted statements to the Court of appeal after the closing date of pleadings which contained new information on which the court based its ruling. In extension to this application for revision, Alstom Holdings is seeking an order for the Company to indemnify it against any conviction in connection with these proceedings. CAT and Alstom Holdings are also claiming the sum of EUR 250,000 from the Company in respect of article 700 of the French Code of Civil Procedure. The case is due to be heard on 29 January 2015. The decision of the criminal court (*Tribunal correctionnel*) on 4 October 2013 will only have a limited influence on the Court of appeal's decision as regards the application for revision.

### ■ ***Action in the commercial court (Tribunal de commerce) of Paris for fraud***

On 16 February 2012, CAT took action against GTT in the commercial court of Paris on the grounds that GTT concealed the results of the test demonstrating the defective nature of the CS 1 technology, with the aim of persuading CAT to sign the settlement agreement dated 19 July 2005. CAT is claiming payment of additional compensation estimated at around EUR 133 million plus the sum of EUR 250,000 in respect of article 700 of the French Code of Civil Procedure.

GTT is pleading inadmissibility of the claims for compensation that have already been judged in the arbitration ruling of 3 February 2009. On the substance of the matter, GTT claims that CAT has suffered neither fraud nor loss. CAT provided revised submissions at the procedural hearing in the commercial court of Paris on 18 November 2013 and the case was referred to a new procedural hearing to be held on 27 January 2014 to set the next steps of the procedure and appoint, if appropriate, a reporting judge (*juge rapporteur*) who will hear the parties. The criminal court (*Tribunal correctionnel*) acquittal of 4 October 2013 could have an influence on these proceedings, but it will be limited to the extent that its ruling involved the alleged fraud at arbitration stage and not at the settlement stage.

## ■ *Action for cancellation of a patent registered by CAT*

Furthermore, in November 2005, CAT registered a patent for a gluing method for the CS 1 technology. GTT contests the inventiveness of this patent and argues that the improvements patented by CAT arose from the Technical Solution. Having lost in first instance in France, GTT won its case before the European Patents Office. Appeals are pending in the French and European courts. CAT has filed applications to extend the patent in several countries worldwide. Some of these applications have been granted and some refused. GTT continues to contest the patent applications in the various countries. However, it has developed an alternative gluing method, which means that it no longer has to use the method patented by CAT. The Company therefore considers that the patent does not pose any particular threat to its business.

At the end of 2010, the Company took a provision of EUR 4.5 million in relation to the dispute with CAT. This amount corresponded to a receivable due by CAT (royalties and services), which was ordered to be paid in 2010 under the arbitration ruling of February 2009. The provision covered the risk that GTT would have, due to an appeal against the initial ruling, to reimburse CAT for the receivable initially held by GTT against CAT, which was paid by CAT in 2010. The provision was reversed in 2012.

## **20.4 SIGNIFICANT CHANGE IN THE COMPANY'S FINANCIAL OR TRADING POSITION**

None.

## **20.5 FEES PAID BY THE GROUP TO THE STATUTORY AUDITOR AND MEMBERS OF ITS NETWORK**

	<i>Ernst &amp; Young</i>			
	Amount (excluding taxes)		%	
	2012	2011	2012	2011
<b>Audit</b>				
<ul style="list-style-type: none"> <li>• <u>Statutory audit and certification of the separate and consolidated financial statements</u></li> </ul>	€66,367	€45,283	20.18%	100%
- Issuer				
- Fully consolidated subsidiaries				
<ul style="list-style-type: none"> <li>• <u>Other audit-related work and services</u></li> </ul>	€262,450		79.82%	
- Issuer				
- Fully consolidated subsidiaries				
<i>Sub-total</i>	€328,817	€45,283	100%	100%
<ul style="list-style-type: none"> <li>• <u>Other services provided by network members to fully consolidated subsidiaries</u></li> </ul>				
- Legal, tax, employee-related	0	0	0	0
- Other				
<i>Sub-total</i>	0	0	0%	0%
<b>TOTAL</b>	€328,817	€45,283	100%	100%

## **CHAPTER 21**

### **ADDITIONAL INFORMATION**

At the registration date of the present base document, the Company is a French *société anonyme à conseil d'administration* (joint stock limited liability company with a board of directors) governed by applicable laws and regulations and its by-laws.

The Company's shareholders meeting held on 11 December 2013, adopted the by-laws that will be applicable to the Company upon fulfilment of the non-retroactive condition precedent of settlement and delivery of the shares allotted as part of the Company's initial public offering on the NYSE-Euronext regulated market in Paris.

#### **21.1 SHARE CAPITAL**

##### **21.1.1 Amount of the share capital**

At the registration date of the present base document, the Company's share capital is EUR 370,288 divided into 37,028,800 shares with a nominal value of EUR 0.01 each, fully subscribed and paid up, and all of the same class.

##### **21.1.2 Non equity securities**

At the registration date of the present base document, the Company has not issued any securities not representing the share capital.

##### **21.1.3 Treasury shares held by the Company**

At the registration date of the present base document, the Company does not hold any treasury shares.

##### **21.1.4 Potential share capital**

None

##### **21.1.5 Unissued authorised share capital, undertakings to capital increase**

None

##### **21.1.6 Information concerning the Company's or its subsidiaries' share capital subject to an option or a conditional or unconditional agreement to be subject to an option and details of such options (including the identity of the relating beneficiaries)**

None

##### **21.1.7 Changes in the share capital over the past three financial years**

The amount of the Company's share capital has not changed over the past three financial years. The ownership of the share capital over the past three financial years evolved as follows: (i) GDF International transferred one share of the Company to GDF Armateur 2 on 7 November 2013 and (ii) H&F Luxembourg 1 S.à.r.l. transferred one share of the Company each to H&F Luxembourg 2 S.à.r.l. and H&F Luxembourg 3 S.à.r.l. on 11 December 2013.

The nominal value of the Company's shares was split up by 1,600 on 11 December 2013.



## **21.2 BY-LAWS**

### **21.2.1 Corporate purpose (article 3 of the by-laws)**

The Company's purpose, directly or indirectly, in France and abroad, is:

- to conduct research and development on all processes, patentable or not, in the field of liquefied gases;
- to commercialise such processes in all fields;
- to provide services associated with such processes and sell services derived from the technologies developed by the Company in all sectors;
- to participate directly or indirectly in any transactions or activities of any kind associated to one of the foregoing objects or which might contribute to developing the Company's assets, including research and engineering activities, by means of creation of new companies or entities, contributions, subscription or purchase of shares or other corporate rights, acquisition of equity interests of any kind in any entities or companies whether existing or to be created, mergers, partnerships or any other means;
- to create, acquire, rent and management lease any movable, immovable, or businesses, lease, equip and operate all premises, businesses, plants or workshops associated to one of the foregoing objects;
- to take, acquire, exploit, license or sell any processes, patents and patent licences relating to activities associated to one of the foregoing objects;
- more generally, to conduct all industrial, commercial, financial, real or personal or research transactions and activities of any kind associated directly or indirectly, wholly or partly with one of the foregoing objects, any similar, complementary or related objects and any objects that might foster the development of the Company's business.

### **21.2.2 Administrative, management and supervisory bodies**

The key provisions of the by-laws and the internal regulations of the board of directors and general management are described in Chapter 16 – *Board and management practices* of the present base document.

### **21.2.3 Rights, preferences, restrictions and obligations attached to the shares**

#### ***21.2.3.1 Ownership rights and obligations attached to shares (article 12 of the by-laws)***

Each share confers a right of ownership in the assets, sharing the profits and the liquidation premium, in proportion to the amount of the share capital it represents.

Shareholders are only liable for the Company's liabilities up to the amount of their capital contribution.

Ownership of share automatically entails full acceptance of the by-laws and the decisions of the shareholders meeting.

Whenever it is necessary to hold several shares in order to exercise any right, particularly in the event of a share exchange, consolidation, split or allotment or as a result of a capital increase or reduction, merger, partial asset transfer, distribution or any other transaction, shares held in a number below the

requisite number of shares do not entitle their holder to any right against the Company. The shareholders are personally responsible for pooling together the required number of shares or rights, and, if necessary, for purchasing or selling the required number of shares or rights.

***21.2.3.2 Voting rights and information rights attached to shares (article 12 of the by-laws)***

Each share entitles the holder to attend the shareholders meetings and vote on resolutions, under the terms and conditions provided for in the applicable laws and regulations and in the Company's by-laws.

Each share also entitles the holder to receive information relating to the Company's operation and obtain the disclosure of certain corporate documents at the times and under the terms and conditions provided for in the applicable laws and regulations.

The rights and obligations attached to a share are transferred with title to the shares.

***21.2.3.3 Exercise of voting rights in cases of dismemberment of ownership and joint-ownership of shares (article 10 of the by-laws)***

Where a usufruct is attached to the shares, the voting right shall belong to the beneficial owner at the ordinary shareholders meetings and to the bare owner at the extraordinary shareholders meetings.

However, the bare owner and the beneficial owner may agree among themselves to any other distribution for exercising the voting right at shareholders meetings. In this case, they shall notify their agreement by registered letter with acknowledgment of receipt to the Company which shall apply the terms of this agreement to all shareholders meetings held as of one month after receipt of notice.

Shares shall be indivisible with respect to the Company. Joint-owners of undivided shares shall be represented at shareholders meetings by one of them or by a joint representative. In the event of disagreement, the representative is appointed by court order at the request of the most diligent joint owners.

The right to information or consultation may be exercised by each of the joint owners of undivided shares by the beneficial owner and bare owner.

***21.2.3.4 Statutory allocation of profits (article 38 of the by-laws)***

Distributable profits, as defined in the by-laws and the applicable laws and regulations, are available for allocation by the shareholders meeting of shareholders.

Save for any exceptions provided by applicable legal and regulatory provisions, the shareholders meeting of the shareholders shall decide on the appropriation of profits at its own discretion.

The shareholders meeting of shareholders may also resolve to grant each shareholder the option of receiving all or part of the dividend (including any distribution of reserves) or interim dividend in cash or in shares in accordance with the applicable laws and regulations.

Upon the proposal of the board of directors, the shareholders meeting of the shareholders may also decide a distribution of profits or reserves, in the form of assets, including negotiable securities, in which case the shareholders shall group their shares together to obtain a whole number of the assets or securities distributed.

No distribution may be made if it would cause the Company's equity fall below one half of the share capital plus any statutory or legal reserves.

#### ***21.2.3.5 Form of securities issued by the Company (articles 9 and 11 of the by-laws)***

Fully paid up shares may be held in registered or bearer form at the holder's option, subject, however, to any legal or regulatory provisions and internal regulations of the board of directors, governing the form of shares held by certain persons.

The shares, in registered or bearer form, shall be freely transferable, subject to any legal or regulatory provisions to the contrary.

They are registered in an account and transferred from one account to another in accordance with the applicable legal and regulatory provisions.

#### ***21.2.3.6 Double voting rights (article 31 of the by-laws)***

Any mechanism automatically conferring double voting rights to the shares registered in the name of the same shareholder for at least two years is expressly excluded by the by-laws in accordance with the applicable legal provisions.

#### ***21.2.3.7 Limitation on voting rights***

The by-laws do not contain any provisions limiting voting rights.

### **21.2.4 Changes in shareholders' rights**

The rights of the shareholders may be modified under the terms and conditions in accordance with the applicable legal and regulatory provisions. There are no specific provisions governing the changes in the shareholders' rights which are more stringent than the law requirements.

### **21.2.5 Shareholders meetings (Title IV of the by-laws)**

#### ***21.2.5.1 Ordinary shareholders meetings (article 33 of the by-laws)***

The ordinary shareholders meeting deliberates on any issues which do not fall within the exclusive authority of the extraordinary shareholders meeting.

The ordinary shareholders meeting shall:

- hear reports of the board of directors and the statutory auditors presented at the annual shareholders meeting;
- discuss, approve, amend or reject the financial year annual accounts and consolidated accounts and determine the dividends to be allocated and the amounts to be transferred to retained earnings;
- resolve to create any reserve funds, determine any deductions from them or their distribution;
- set the aggregate amount of the board of directors' attendance fees which will be allocated by it in accordance with provisions of the internal regulation of the board of directors;
- appoint, re-elect or dismiss the directors;
- ratify the temporary appointments of directors made by the board of directors;
- appoint the statutory auditors and vote, if applicable, on the special report issued by them in accordance with the law.

#### ***21.2.5.2 Extraordinary shareholders meetings (article 35 of the by-laws)***

The extraordinary shareholders meeting deliberates on any proposals relating to the amendment of any provisions of the by-laws, and the conversion of the Company into a company of any other form.

However, the extraordinary shareholders meeting may not, under any circumstances, increase the shareholders' commitments or alter the equality of their rights, unless the shareholders unanimously approve such decision.

#### ***21.2.5.3 Notices, attending and holding shareholders meetings (articles 28 and 31 of the by-laws)***

The shareholders meetings of the shareholders are convened under the terms and conditions provided for in the applicable legal and regulatory provisions.

The shareholders meetings shall be held at the registered office or at any other place in mainland France indicated in the notice of meeting.

Meetings are chaired by the chairman of the board of directors or, in his absence, by a director specially empowered to that effect by the board. Failing that, the shareholders meeting shall elect its own chairman.

The duties of tellers are fulfilled by the two members of the shareholders meeting, present and accepting such duties, who hold the largest number of shares. The officers of the shareholders meeting appoint a secretary, who may be chosen from outside the shareholders.

An attendance sheet duly initialled by the shareholders is certified as correct by the officers of the shareholders meeting.

The resolutions of the shareholders meetings are recorded in accordance with the legal provisions. The minutes are signed by the officers of the shareholders meeting. Copies or extracts of the minutes may be validly certified by the chairman of the board of directors or the secretary of the shareholders meeting.

#### ***21.2.5.4 Attendance at shareholders meetings (article 30 of the by-laws)***

Any shareholder is entitled to attend shareholders meetings and vote under the terms and conditions provided for in the by-laws and in accordance with applicable legal and regulatory provisions.

A shareholder may also under the terms set by applicable regulations, send a proxy form and a mail voting form for any shareholders meeting either in paper form or, if agreed by the board of directors and published in the notices of meeting, by electronic form. In the case of an electronic form, the shareholder's signature must either be in secured digital form or in the form of a reliable means of identification of the relevant shareholder such as a user ID and password.

The holders of shares for which amounts due have not been paid within thirty days of notification to this effect made by the Company, may not attend the shareholders meeting of shareholders or exercise their voting rights attached to the shares held. Their shares are deducted from the total number of existing shares for the purpose of calculating whether or not a quorum is present.

#### ***21.2.5.5 Quorum and majority***

The general or special meetings deliberate pursuant to the quorum and majority requirements provided by law.

### *Ordinary shareholders meetings (article 32 of the by-laws)*

On first notice, the ordinary shareholders meeting of the shareholders validly deliberates if the shareholders present or represented hold at least one fifth of the shares with voting rights. On second notice, the deliberation is valid regardless of the number of shares held by the shareholders present or represented.

Resolutions shall be adopted by a simple majority vote of the shareholders present or represented.

### *Extraordinary shareholders meetings (article 34 of the by-laws)*

On first notice, the extraordinary shareholders meeting validly deliberates if the shareholders present or represented hold at least one fourth of the shares with voting right, or on second notice, one fifth of the shares with voting rights.

Resolutions are passed by a two-third majority vote of shareholders present or represented.

The presence in person or by proxy of shareholders owning at least one quarter of the shares with voting rights upon first calling, and one fifth in the event of an adjournment, constitutes a quorum for an extraordinary shareholders meeting to transact business.

Resolutions are adopted by a two-third majority vote of the shareholders present or represented.

If the extraordinary shareholders meeting deliberates on the approval of a contribution in kind or the grant of a specific benefit, the contributor or beneficiary, who is a shareholder of the Company, may not vote either personally or as proxy for another shareholder. The relevant shares are not counted for calculating either the quorum or the majority.

### **21.2.6 Provisions of the by-laws that may have an impact on the occurrence of a change of control**

The by-laws do not contain any provisions that would have the effect of delaying, deferring or preventing a change of control of the Company.

### **21.2.7 Thresholds crossing (article 13 of the by-laws)**

In addition to the thresholds crossing notifications expressly provided for by the applicable legal and regulatory provisions, any person or legal entity acting either alone or in concert that comes to own, directly or indirectly through companies it controls as defined in article L. 233-3 of the French Commercial Code, a fraction of the share capital or voting rights equal to or more than 1% of the share capital or voting rights, or any multiple thereof, is required to inform the Company, by registered letter with acknowledgment of receipt, of the total number of shares and voting rights held and the number of securities giving future access to the Company's share capital held directly or indirectly, alone or in concert, and any associated voting rights, no later than four trading days from the occurrence of the threshold crossing.

The same requirement applies under the same delays and conditions when the shareholder's ownership of the share capital or voting rights, calculated in accordance with articles L. 233-7 and L. 233-9 of the French Commercial Code, falls below one of the thresholds referred to in the preceding paragraph.

In the event of non compliance with the above mentioned provisions, the sanctions provided by law in the event of non compliance with the requirement to notify the legal thresholds crossing shall only apply to thresholds defined by the by-laws upon request of one or more shareholders holding at least 1% of the Company's share capital or voting rights, duly recorded in the minutes of the shareholders' meeting.

Subject to the above mentioned provisions, the same provisions applicable to the legal requirement apply to the statutory requirement, including the cases of assimilation to shares held as provided by applicable laws and regulations.

#### **21.2.8 Identification of securities holders (article 9 of the by-laws)**

The Company may ask for identification of holders of securities conferring the right to vote at shareholders meetings either immediately or in the future, as well as the number of securities held, in accordance with the applicable legal and regulatory provisions. If the person who is asked to provide this information fails to do so within the time period prescribed by the applicable laws and regulations, or provides incomplete or false information about its capacity, the holders of the securities or the number of securities held by each of them, the shares or securities giving immediate or deferred access to the share capital and for which this person is registered will be deprived from voting rights for all shareholders meetings held until the correct information has been provided, and any dividend payments will be suspended until that date.

#### **21.2.9 Special provisions governing changes to the share capital (article 7 of the by-laws)**

The share capital may be increased, reduced or redeemed under the terms and conditions provided by law. The Company's by-laws do not contain any special provisions in that respect.

#### **21.2.10 Financial year (article 36 of the by-laws)**

The financial year begins on 1 January and ends on 31 December each calendar year.

## **CHAPTER 22**

### **MATERIAL CONTRACTS**

The Group has not entered into any material contracts in the past two years (other than in the ordinary course of its business).

## **CHAPTER 23**

### **THIRD PARTY INFORMATION AND STATEMENT BY EXPERTS AND DECLARATIONS OF ANY INTEREST**

The present base document contains information relating to the activities and segments in which the Group operates (see in particular Chapter 6 – *Overview of the activities of the Group* of the present base document) that derives from independent studies or information provided independently by the following consultants at the Company's request:

- Wood Mackenzie, having its registered office at 16 Charlotte Square, Edinburgh EH2 4DF, United Kingdom, a well-known consultant in the shipping field and a world leader in research and consulting in the energy, metals and mining sectors. On the registration date of the present base document, Hellman & Friedman, a shareholder of the Company, indirectly owns 73.12% of Wood Mackenzie's share capital;
- Poten & Partners, having its registered office at 101 Wigmore Street, London W1U 1QU, United Kingdom, a well-known consultant in the shipping field and a world leader in research and consulting in the energy sector;
- Clarkson Research, having its registered office at St Magnus House, 3 Lower Thames Street, London EC3R 6HE, United Kingdom, a well-known consultant in the shipping and the offshore and energy sectors. Clarkson Research is a Clarksons group company, a world leader in services to the shipping industry.

The information provided in the present base document derived from reports on the LNG sector prepared by Wood Mackenzie<sup>36</sup> and Poten & Partners<sup>37</sup> and the information provided by Clarkson Research has been drawn up from information held in their internal databases, research carried out by independent third parties and publicly available information from well-known organisations in the shipping sector. Peter Mackey (Vice President) and Andrew Buckland (Senior Analyst – LNG Shipping) representing Wood Mackenzie, Graham Hartnell (Manager of the LNG/Natural Gas Consulting Group) representing Poten & Partners and Stephen Gordon (Director of Clarkson Research Services Limited) representing Clarkson Research, all certify that the data and information derived from the reports or information provided to the Company have been faithfully reproduced in the present base document.

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<sup>36</sup> Report entitled “LNG Shipping Outlook” dated 29 August 2013.

<sup>37</sup> Report entitled “LNG Carrier Market & Terminal Storage Forecasts” dated September 2013.



## **CHAPTER 24**

### **PUBLICLY AVAILABLE DOCUMENTS**

The Company's by-laws, the present base document and other corporate documents to be made available to the shareholders in accordance with the applicable provisions, may be consulted at the company's registered office.

Copies of the present base document are available free of charge from the Company (1, route de Versailles - 78470 Saint-Rémy-lès-Chevreuse – Tel. : +33 1 30 23 47 89) and on the websites of the Company ([www.gtt.fr](http://www.gtt.fr)) and the *Autorité des marchés financiers* ([www.amf-france.org](http://www.amf-france.org)).

## **CHAPTER 25**

### **INFORMATION ON HOLDINGS**

Information relating to the companies in which the Company holds a portion of the capital which is likely to have a significant impact on the assessment of its own assets and liabilities, financial position or profits and losses is provided in chapter 7 – *Organisation Chart* of the present base document.



