



Press release

## **GST® Membrane technology chosen for Liquid Argon onshore tank construction**

Paris – December 18<sup>th</sup>, 2014. GTT (Gaztransport & Technigaz) (ISIN FR0011726835 Euronext Paris: GTT), world leader in the design of membrane containment systems for the maritime transportation and storage of LNG (Liquefied Natural Gas) is pleased to announce that the GTT Membrane system has been chosen by the particle physics scientific consortium LBNO-DEMO, including CERN (European Centre for Nuclear Research) and ETH Zurich (Swiss Federal Institute of Technology) to be employed in a small tank to contain liquid Argon in order to qualify it for future large scale implementations.

GTT has been selected for its capacity to provide a customized solution for LBNO-DEMO: a small rectangular liquid argon cryostat with a very high insulation performance. The Membrane tank is also designed for integration of a TPC (Time Projection Chamber).

The scientific consortium intends to study particle physics, particularly neutrinos, which are the fundamental constituents of matter and the forces acting between them. In that scope, the new liquid argon cryostat will serve as an experimental device for validating the feasibility, before implementing it in much larger scale.

Mr Philippe Berterottière, Chairman and CEO of GTT said *“Our cooperation with CERN demonstrates the GTT ability to offer Membrane technology for other liquefied gases such as Argon. We are proud to see the use of our technologies serving a major European scientific initiative”*.

Prof. Dr. André Rubbia, from ETH Zurich and spokesperson of the scientific consortium, said: *“Detecting neutrinos is a very tricky business: neutrinos rarely interact with other particles of matter and we will eventually need to build very large liquid argon chambers of tens of thousands of cubic meters to truly study and understand them. Today we are extremely excited to lead the tests that will allow certifying the use of the GTT membrane technology for the future projects of the worldwide neutrino physics community”*.

### **About GTT**

GTT (Gaztransport & Technigaz) is the world leader in cryogenic membrane containment systems used in the shipbuilding industry for the transport of LNG. For over 50 years, GTT has offered to its customers technologies which allow them to optimize storage space and reduce the construction and operation costs of ships or tanks equipped with these systems. GTT operates in several sectors: LNGCs (Liquefied Natural Gas Carriers) and VLECs (Very Large Ethane Carriers), Multi-gas carriers, FLNGs (Floating Liquefied Natural Gas units), FSRUs (Floating Storage and Regasification units), onshore storage tanks and the use of LNG as a fuel.

### **About CERN**

CERN, the European Organization for Nuclear Research, is the world's leading laboratory for particle physics. It has its headquarters in Geneva. At present, its Member States are Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Israel, Italy, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom. Romania is a Candidate for Accession. Serbia is an Associate Member in the pre-stage to Membership. India, Japan, the Russian Federation, the United States of America, Turkey, the European Union, JINR and UNESCO have Observer Status.

### **About ETH Zurich**

ETH Zurich is one of the leading international universities for technology and the natural sciences. It is well known for its excellent education, ground-breaking fundamental research and for implementing its results directly into practice.

**About LBNO-DEMO project**

The European neutrino community has early on recognized the importance of this science and has been supported by the European Commission to prepare the new experiment with two Framework Programme 7 design studies. The consortium has successfully concluded its design phase, including a detailed engineering study of large liquid Argon TPC detectors in the Pyhäsalmi (Finland) site. The consortium is now active in the construction of a large demonstrator LBNO-DEMO and is developing the plans for an underground pilot project (<http://www.cern.ch/wa105>).

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