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## LEAD AUTHOR

**Eduardo Andrade**  
Business Development Manager, GTT North America

## CO-AUTHORS

Thomas Conejero  
Project Manager GTT

Aziz Bamik  
General Manager GTT North America

## MODULAR MEMBRANE TANKS: A NEW APPROACH TO SCALABLE LNG STORAGE

Amid rising global energy prices and higher demand, new greenfield liquefaction and regasification projects running into inflationary headwinds have turned to modularization as a practical strategy to reduce execution costs, and enhance certainty of outcome. For Liquefaction projects, this drive to modularization is precipitating a fundamental shift in the way liquefaction trains are constructed, favoring a phased approach to deploy parallel trains to match any required capacity, as buyers grow wary of the high cost of security of supply, and long-term commitments. Since relatively little work has been done to develop cost effective LNG storage solutions that match such phased approach, this paper will present the feasibility analysis of a new modular, flat-bottom LNG storage tank with membrane technology. The new design seeks to reduce the unit cost of storage by re-thinking the tank as a fully pre-commissioned, movable asset, to construct in a controlled environment with high productivity a tank based on standard modular components, that can be adapted for up to 45,000 m<sup>3</sup> in capacity. Moreover, membrane represents an inherently safe system for transportation, since it is not highly stressed as shown by the studies performed to validate trans-oceanic shipping. Use of a 304L Stainless Steel in lieu of a triplex secondary barrier, along with the use of a movable, ASTM A131 FH36 carbon steel baseplate are additional cost optimization features.

To view the full conference agenda, visit <https://www.lng2023.org/lng-programme-overview>