This abstract will be presented during LNG2023 conference on 10-13 July in Vancouver, Canada among many other innovative projects, ideas and outlooks. LNG2023 will provide a unique platform for the global LNG industry and key stakeholders to discuss, debate, and showcase the latest industry developments and opportunities.

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LNG CARGO CONTAINMENT SYSTEMS EVOLUTION

The LNG shipping industry has significantly evolved since 1964 when the first commercial cargo was loaded in Algeria. One of the key elements of the LNG carriers has been the cargo containment systems. In particular in the last few years we have seen many new containment systems and more specifically for membrane type which has become the most popular solution.
Very large tanks have been developed as well as aiming to minimize the vaporization of the LNG and to prevent as much as possible potential issues related to sloshing. The cargo containment systems should be reliable regarding strength for safety reasons to prevent a leak of LNG which would be catastrophic for the LNG carrier integrity.
The detailed involvement of Bureau Veritas in the assessment of following innovative applications of membrane containment systems for LNG carriers will be introduced in the presentation:
-The largest FSRU of 263,000 m3
-The largest FSU of 360,000 m3
-The largest LNG carrier of 200,000 m3 with 4 tanks
-The largest LNG bunkering vessel of 18,600 m3
-The largest LNG fuel tank of 18,600 m3
Bureau Veritas has developed a detailed methodology, guidelines and CFD tools to verify the sloshing effects in the cargo tanks for specific applications of large tanks and in many cases considering also no restrictions regarding cargo level. The added value of independent analysis and strength assessment required for these novel membrane tank concepts will also be mentioned.