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Alternative fuels: present and future of containment technologies and impact on shipbuilding.

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In recent years there has been a strong move toward the adoption of LNG and other alternative fuels in the marine industry, mostly driven by new environmental regulations and the possibility, by doing so, to have overall cost competitive power systems. Different fuels have different storage requirements which may have a large impact on the ship design. Industry is now pushed both toward the introduction of containment technologies already used in other sectors, and the development of new ones. While today the mainstream technology is still based either on liquid fuels or physical containment means, such as liquefaction or compression of gases, future technologies may exploit chemical processes to absorb and release fuels in liquid or solid matrixes. This article provides a review of existing technologies and an oversight of the most promising coming ones, based on the experience and industry knowledge gained by Lloyd's Register in classing and working with ships projects involving the use of LNG, Ethane, Methanol and Hydrogen fuels.

Primary author: Mr CADENARO, Fabrizio (Lloyd's Register EMEA)

Co-author: Mr FORT, Edward (Lloyd's Register)

Presenter: Mr CADENARO, Fabrizio (Lloyd's Register EMEA)

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