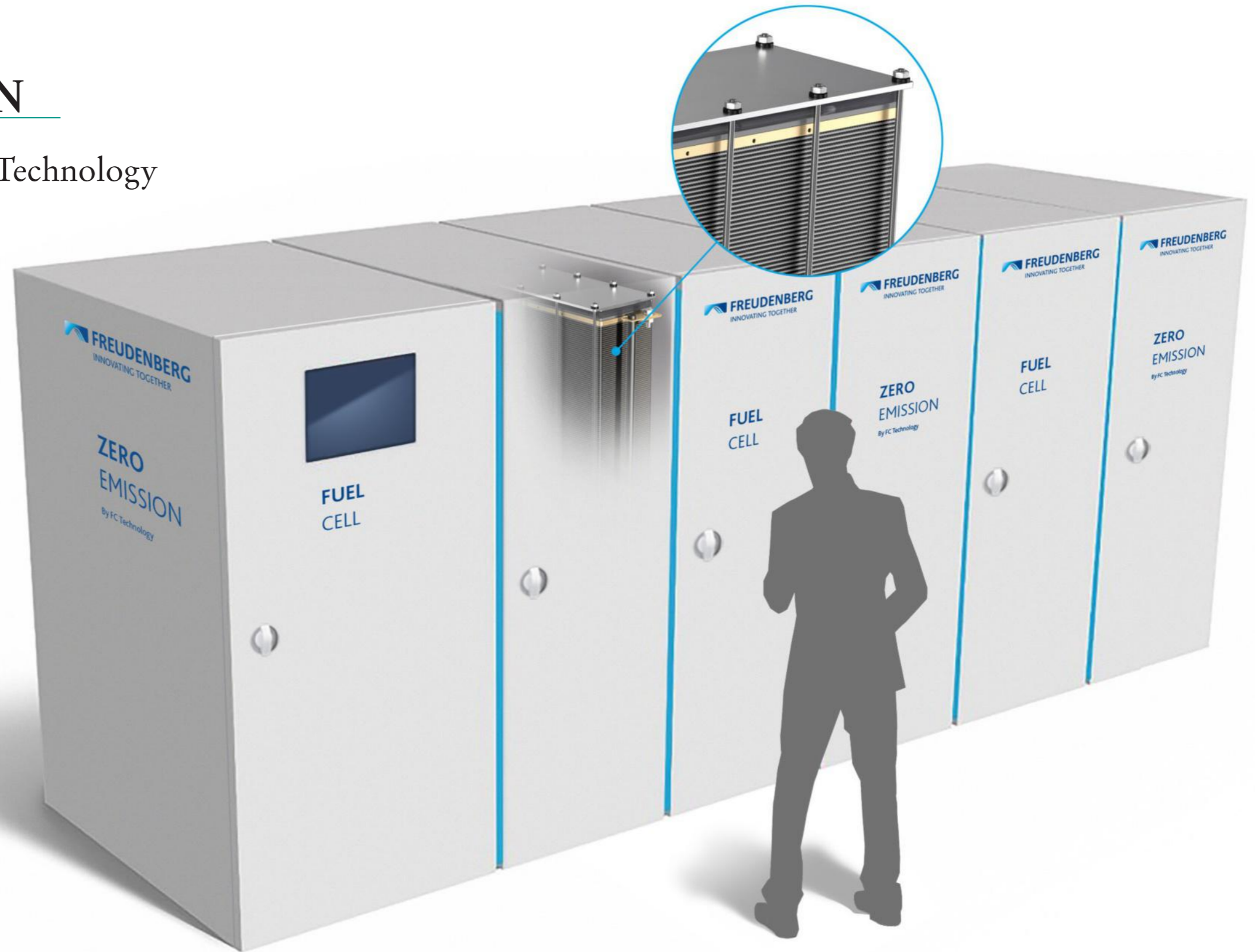


LÜRSSEN

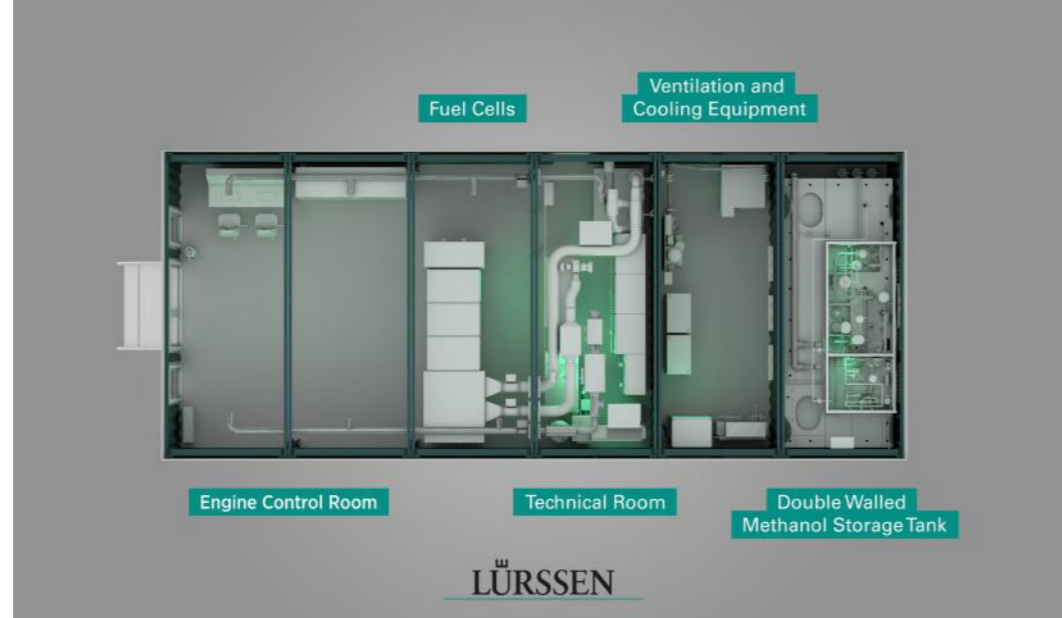
Lürssen – Fuel Cell Technology



Lürssen paves the way to emission-free yachting.



On the journey to net zero, alternative sources of energy will play an integral role in reducing carbon emissions and the superyacht industry has an opportunity to be at forefront of this development with the support of some visionary owners. Paving the way for change, Lürssen has been researching the potential of hydrogen fuel cells alongside its partners since 2009.



When exploring alternative fuels for superyachts, a key consideration is ensuring maximum energy generated as efficiently as possible. Philipp Himmelein, head of project design and naval architecture yachts at Lürssen, explains, "The hydrogen fuel cell has a long history of providing an efficient, sustainable solution across many varied applications. As well as the environmental considerations, an additional benefit of a fuel cell is that it is practically silent compared to a diesel engine, meaning that on-board comfort can be significantly improved."

Pursuing this potential, Lürssen has committed to a strategic partnership with Freudenberg – one of the leading experts for maritime fuel cells. With the aim of bringing fuel cells on board its yachts, a unique state-of-the-art innovation laboratory has been built onsite. Under real-life ambient conditions and with all required auxiliary systems, this demonstration plant will be the final preparation necessary to bringing fuel cells on board.

The fuel cell concept being developed by Lürssen and Freudenberg is driven by hydrogen, which is continuously reformed from methanol. "The choice of methanol rather than elemental hydrogen is due to its higher energy density, the simplicity of handling and its wider availability," adds Himmelein. "While the lighter energy density of methanol compared to diesel requires increased tank storage volume, it has significantly less impact on guest spaces than gases such as elemental hydrogen and LNG."



Furthermore, the sustainability of an energy source must be judged across the entire life cycle. As methanol is a by-product of many other chemical reactions, it can be produced completely carbon neutral.

Lürssen is currently incorporating this technological research and development into a revolutionary new-build project for a technology driven client. In this yacht, the fuel cell flanks the conventional generators and enables the yacht to anchor carbon neutral for 15 days or cruise 1000 miles at slow speed.



About Lürssen

The German yacht builder Lürssen has earned a leading international reputation as the specialist for exclusive, bespoke yachts of outstanding engineering mastery. The development of sustainable technologies and innovations in yacht building are firmly anchored in Lürssen's DNA.

The privately owned company was founded in 1875 and remains solely in the hands of the fourth generation of the Lürssen family. With a workforce of 1800, Lürssen maintains three state-of-the-art production facilities in northern Germany. Lürssen also offers unique facilities and unrivalled potential for carrying out multiple refits simultaneously - whether a yacht is a Lürssen yacht or one built by another shipyard.

The latest generation of Lürssen superyachts boasts improved fuel efficiency and lower emissions as well as a reduction in noise levels. The innovative company does not however lose sight of its heritage and takes care of the minute details with many elements of their vessels being completed by hand and employing the skills of unique craftsmen to deliver a yacht that every owner dreams of.

Their connection to shipbuilding is as deep-rooted and individual as only family bonds can be, the commitment is deep, the approach individual. When the company founder Friedrich Lürssen said, "Leading in quality and performance, that should be my company's reputation," he was expressing the values Lürssen continues to uphold to this day.

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