



NEWS RELEASE

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Methanol engine, fuel cells, hybrid systems - Rolls-Royce presents new mtu propulsion solutions for ships at SMM

- Launch from 2026: Methanol engines based on mtu Series 4000
- Launch from 2028: mtu fuel cell systems
- Available from 2023: mtu Hybrid PropulsionPack for mtu Series 2000 and 4000

Rolls-Royce will be showcasing new sustainable mtu marine solutions for propulsion, automation and service at SMM, the international maritime industry trade fair, in Hamburg, Germany, from 6 – 9 September 2022, under the slogan ‘Pioneering the journey to Net Zero’. At booth 307 in Hall 3A, Rolls-Royce will present methanol engines, fuel cell concepts, hybrid systems, diesel engines with exhaust aftertreatment and for use with sustainable fuels, as well as mtu NautIQ marine automation products.

Market launch from 2026: Methanol engines based on the mtu Series 4000

E-methanol is a CO₂-neutral fuel due to its production via renewable energies. It has the potential to shape the energy transition in marine propulsion systems, for example for tugs, yachts, fast ferries and coastal shipping. “We are clearly committed to methanol as a marine fuel for the future and want to be a pioneer here,” said Denise Kurtulus, Vice President Global Marine at Rolls-Royce. Rolls-Royce Power Systems is initially developing methanol engines based on the mtu Series 4000 and will launch them on the market from 2026. The energy density of this fuel is high compared to other sustainable fuels, and its liquid state makes it easy to store and refuel at ambient temperatures. In addition to reduced complexity, the more attractive investment costs are another advantage of the methanol tank system.

Market launch from 2028: mtu fuel cell systems



Rolls-Royce Power Systems is already working on the development of fuel cell systems for marine applications and will launch its own mtu fuel cell systems for main propulsion and on-board power generation from 2028. Fuel cells powered by hydrogen do not produce any harmful emissions, neither CO₂ nor nitrogen oxides or particulates. Fuel cells powered by green methanol emit only small amounts of CO₂ due to the required methanol reformer, but no more than was previously bound in the e-methanol and are thus operated in a CO₂-neutral manner. Their low noise emissions and vibrations and their very high efficiency (approx. 50 - 60 %) are further advantages that make fuel cell systems interesting for shipping. Due to its physical properties, the introduction of hydrogen as a fuel for ships still poses some challenges, for example with regard to infrastructure and on-board bunkering.

Available from 2023: mtu Hybrid PropulsionPack for mtu Series 2000 and 4000

The mtu Hybrid portfolio offers flexible propulsion solutions for yachts, ferries, tugs and windfarm vessels. The system intelligently combines diesel engines with electric propulsion modules, batteries, gearboxes, control and monitoring systems and other electronic components to provide speed, comfort, efficiency and local emission-free cruising as required. The mtu Hybrid PropulsionPack is offered in a power range from 1,119 kW to 4,300 kW by the diesel engines plus 165 kW to 743 kW by the electric motors per powertrain. The maximum propulsion power is 10,000 kW per vessel. To ensure the optimum propulsion solution for each type of ship, Rolls-Royce offers a modular kit with standardized components.

Rolls-Royce had announced in 2021, through its 'Net Zero at Power Systems' sustainability program, that it would realign the Power Systems business unit's product portfolio so that by 2030, sustainable fuels and new mtu technologies would reduce greenhouse gas emissions by 35 percent compared to 2019 levels. "Since the last SMM in 2018, we have completely realigned our marine portfolio to actively support our customers on their journey to carbon neutrality," said Denise Kurtulus, Vice President Global Marine at Rolls-Royce Power Systems.

Press photos are available for download from

<https://www.mtu-solutions.com/eu/en/news-and-media/media-center.html>



[Complete SMM press kit for download](#)

Learn more about sustainable mtu solutions for shipping in our special: [Pioneering the Journey to Net Zero \(mtu-solutions.com\)](#)

About Rolls-Royce Holdings plc

1. Rolls-Royce pioneers the power that matters to connect, power and protect society. We have pledged to achieve net zero greenhouse gas emissions in our operations by 2030 (excluding product testing) and joined the UN Race to Zero campaign in 2020, affirming our ambition to play a fundamental role in enabling the sectors in which we operate achieve net zero carbon by 2050.
2. Rolls-Royce Power Systems is headquartered in Friedrichshafen in southern Germany and employs around 9,000 people. The product portfolio includes mtu-brand high-speed engines and propulsion systems for ships, power generation, heavy land, rail and defence vehicles and for the oil and gas industry as well as diesel and gas systems and battery containers for mission critical, standby and continuous power, combined generation of heat and power, and microgrids and is intensively engaged in the development of climate-neutral solutions.
3. Rolls-Royce has customers in more than 150 countries, comprising more than 400 airlines and leasing customers, 160 armed forces and navies, and more than 5,000 power and nuclear customers.
4. Annual underlying revenue was £10.95 billion in 2021, underlying operating profit was £414m and we invested £1.18 billion on research and development. We also support a global network of 28 University Technology Centres, which position Rolls-Royce engineers at the forefront of scientific research.
5. Rolls-Royce Holdings plc is a publicly traded company (LSE:RR., ADR: RYCEY, LEI: 213800EC7997ZBLZJH69).

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