Press Release
MAN Truck & Bus

MAN Engines expands hybrid portfolio for yacht applications with 30-litre MAN V12X engine

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- **System output of over 2 MW per powertrain possible**
- **MAN Engines as a full-service provider for a system from project planning to installation and service**
- **High flexibility thanks to a wide range of engines from 12 to 30 litres of displacement and electric motors with 200 and 400 kW**

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At the Cannes Yachting Festival 2025, MAN Engines is presenting the next stage of its modular hybrid system: The MAN Smart HYBRID Experience with the new 30-litre MAN V12X engine will be shown for the first time. With a possible system output of over 2,000 kW for a wide range of applications, MAN Engines is significantly expanding the power range of its hybrid portfolio. The combination of the most powerful 30-litre engine in MAN Engines' engine portfolio and an electric motor with 200 or 400 kW of power opens up new perspectives for larger yachts and demanding applications where performance, comfort and efficiency are required. "The new system shows where the journey is heading: With the V12X Hybrid, MAN Engines remains a strong partner in the future – and opens up exciting prospects for future projects," says Reiner Roessner, Head of Sales at MAN Engines. Parallel to the presentation of the V12X hybrid system, series production of the MAN Smart HYBRID Experience is already underway with the proven engine series with six, eight and twelve cylinders. These cover displacements of 12 to 24 litres and can be combined with electric motors of 200 or 400 kW.

Initial field tests in the workboat sector show that the hybrid system from MAN Engines has proven itself well even under the most demanding operating conditions. A key success factor of these practical tests is the extensive testing on the MAN test benches beforehand, during which the system was

tested with real load scenarios. In particular, the focus was on thermal stability, long-term behavior and the seamless integration of all system components. Thanks to these intensive preliminary tests, a high level of operational reliability and system maturity could be achieved – a decisive advantage for applications with high demands on reliability and efficiency in the yacht and workboat sector.

With the integration of the 30-litre MAN V12X engine into the MAN Smart HYBRID Experience, MAN Engines is showing how proven platforms can be consistently further developed. The MAN V12X is based on a newly developed basic engine and offers numerous technical advantages: it offers higher torque, an optimized coolant and oil supply and a new common-rail injection system with 2,200 bar injection pressure. Despite the high output of up to 1,618 kW (2,200 hp), the engine remains compact and lightweight – with almost identical installation dimensions to the V12 with a displacement of 24 litres. This simplifies integration into existing platforms enormously, which is particularly advantageous for ship designers and retrofit projects.

With the MAN Smart HYBRID Experience, customers of MAN Engines benefit from a complete hybrid system from a single source – including engine, electric motor, high-voltage batteries, power electronics, cooling and control system. This holistic system solution enables perfect coordination of all components and massively reduces complexity for shipyards and system integrators. Captains enjoy the smart operation on their bridge that they are used to from MAN. The modular architecture allows the system to be tailored precisely to the individual requirements of the ship and its driving profiles – whether with a focus on performance, comfort or efficiency. MAN Engines relies on proven series components that guarantee maximum reliability and ease of maintenance.

The versatility of the system in operation is particularly noteworthy: the various driving modes – from locally emission-free and almost silent battery-electric mode to diesel-electric operation with on-board units and cross-over mode, in which both powertrains operate in different modes – enable flexible use depending on the application scenario. In battery-electric mode, the entire supply of the ship can be represented purely by the battery, while in Boost

mode the combined power of the diesel and electric motor ensures maximum performance. Classic diesel operation also remains possible – with the option of charging the batteries in parallel. The possibility of charging the battery both via shore connection and while driving ensures maximum independence.

The system architecture of the MAN Smart HYBRID Experience allows hybridisation levels of up to 35% of the total output and is compatible with all common transmission configurations. The MAN hybrid system uses a high-voltage battery with a maximum voltage of 600 VDC. For optimal energy transfer and system efficiency, the DC-Link voltage is regulated via the converters from 660 DC to 780 DC as needed. This architecture enables powerful and flexible control of the electric powertrain, which enables fast charging as well as high power reserves for boost functions. In addition to increasing efficiency and range, noise emissions can be significantly reduced. Battery-electric operation can also provide access to water protection areas (Emission Controlled Areas). The globally expanded service network of MAN Engines is available for service and maintenance – a further advantage for shipyards and operators who rely on long-term availability and support.

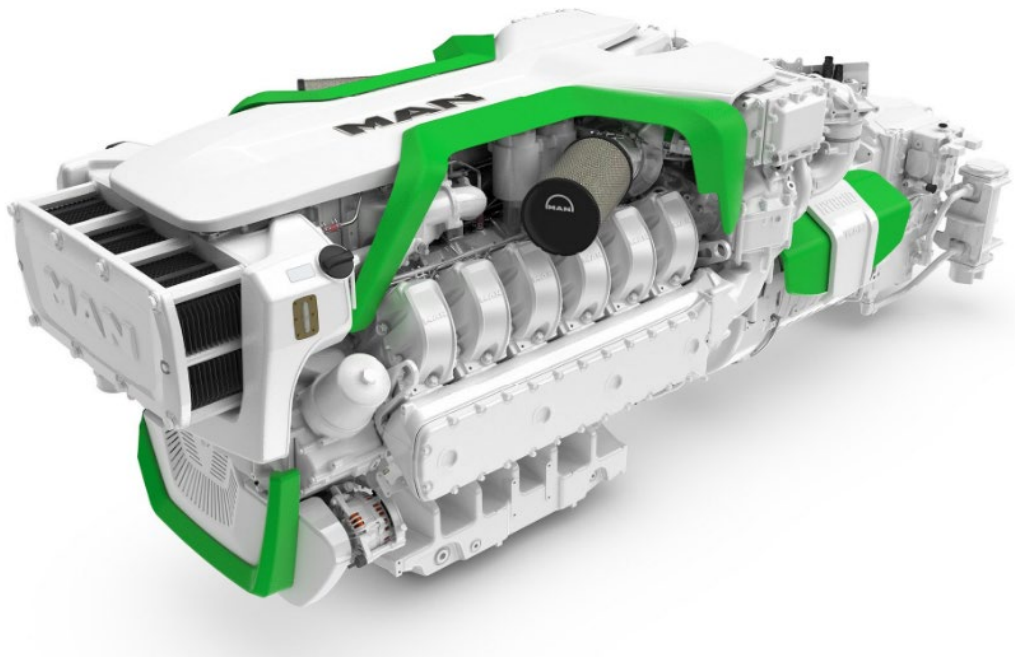
With the V12X as the new top model in the hybrid portfolio, MAN Engines is underlining its technological leadership in the field of maritime drive systems. The company not only offers powerful and efficient engines, but also future-proof solutions for the electrification of shipping. Customers benefit from a comprehensive system approach: from concept development and technical implementation to worldwide service and support. The MAN Smart HYBRID Experience stands for maximum flexibility, maximum efficiency and a new level of comfort on the water – now also in the highest performance class.

All marine engines from MAN Engines are approved for use with regenerative diesel in accordance with the EN15940 standard in Europe and the US specification ASTM D975 of the American Society for Testing and Materials (ASTM). This not only enables a significant reduction in CO_2 emissions, but also offers an immediately available solution for more sustainable drive con-

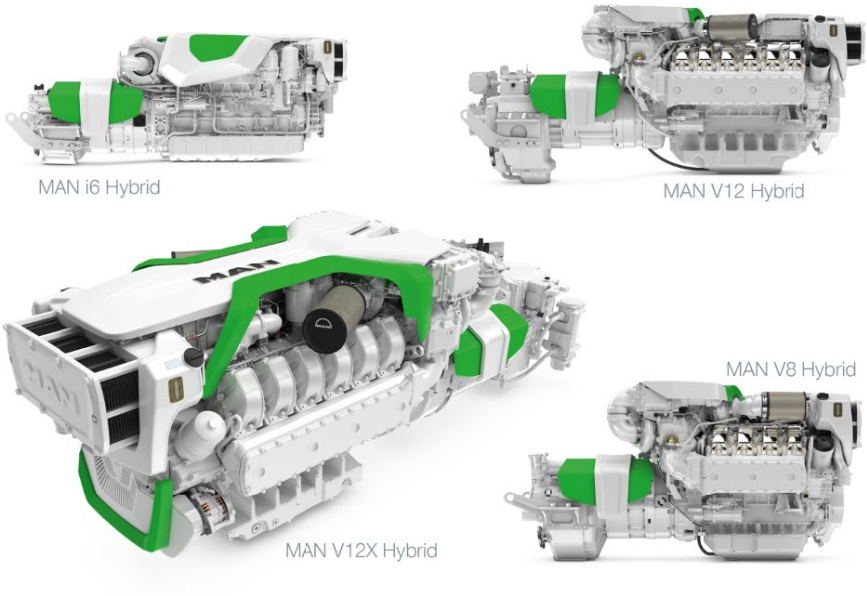
cepts. In addition, the engines meet the globally applicable emission requirements. In addition, propulsion variants are available for commercial operation in charter yachts.

The MAN Smart HYBRID Experience, consisting of the MAN V12X and a 400 kW electric motor, will be on display at the Cannes Yachting Festival at the MAN Engines stand (Palais 124) from 9 to 14 September 2025.

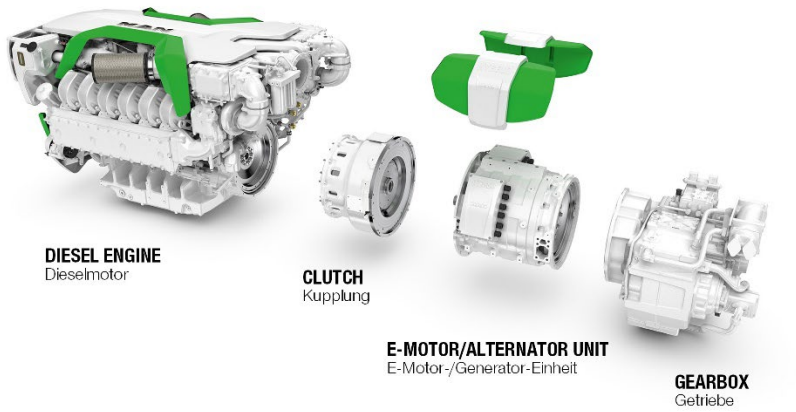
Pictures:



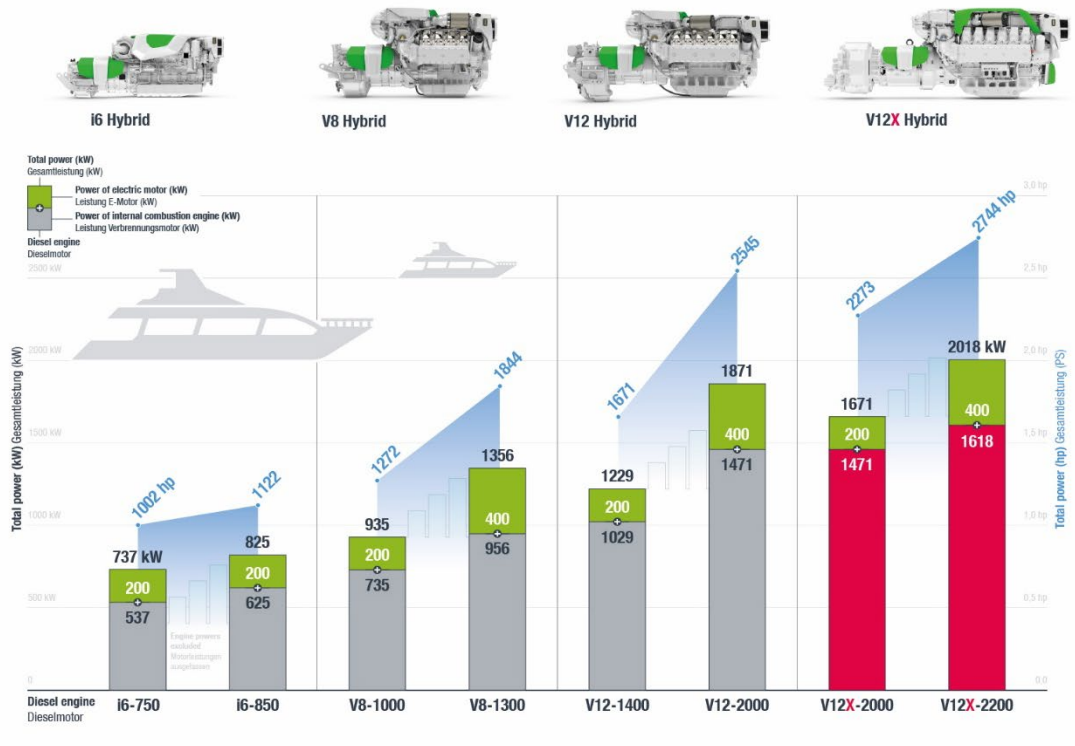
At the Cannes Yachting Festival 2025, MAN Engines is presenting the 30-litre MAN V12X engine in a hybrid version.



The MAN V12X Hybrid (bottom left) complements the existing yacht hybrid range of in-line six-cylinder, V12 and V8 (from top left to bottom right) to over 2,000 kW.



Exploited view of the MAN Smart HYBRID Experience



Overview of the MAN Smart HYBRID Experience power range for yachts