

Salone Nautico Venezia (Venice boat show): Bosch presents sustainable electric drives for yachts and recreational boats

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- ▶ Bosch supplies components and system development for ship electrification
- ▶ Proven technologies from the automotive sector ensure high profitability, reliability, and robustness
- ▶ Compact dimensions allow easy and fast system integration into the boat
- ▶ First application successfully in production, more to follow in the coming months

Abstatt – Ever stricter legal requirements and increasing customer demand for eco-friendly and low-noise motorization are also strengthening the trend toward electric drives in the maritime industry. Bosch therefore offers solutions for recreational boats and motorized yachts up to 24 m long, enabling shipyards, shipbuilders, and system integrators to implement drive electrification quickly and easily. In many regions around the world, new environmental laws for inland and recreational boating will come into force in the coming years, promoting the use of alternative powertrain systems or even banning conventional engines altogether. “With our solutions, we offer an efficient way to meet these requirements. We are also making a valuable contribution to further reducing greenhouse gas and noise emissions in the maritime sector,” says Philipp Kurek, who is responsible for off-highway and maritime solutions at Bosch Engineering.

The overall system for boat drive electrification from Bosch consists of an electric motor with an optional gearbox, an inverter with an integrated DC/DC converter, and an electric control unit as the system’s core component. This includes the hardware and a scalable software platform that allows the system to be tailored to the requirements of the application. The specific design of the 400-volt permanent magnet synchronous motor is characterized by its high power density and very high efficiency. The motor is available in two power ratings, with 90 and 140 kW. The compact dimensions allow both versions to be integrated into tight engine compartments, thus facilitating the retrofitting of existing applications. The dynamic behavior of the electric drive offers a new level of enjoyment when piloting

yachts and recreational boats. Moreover, when developing the inverter, particular emphasis was placed on compactness and ease of installation. The low overall weight of the Bosch components helps to increase the maximum range of the boat.

All components of the electric drive system offer very high profitability, reliability, and robustness, because they are based on the proven technologies that Bosch has been using successfully for years in the passenger car and commercial vehicle segments, as well as in other commercial applications such as construction machinery. The Bosch concept for electric boat drives also offers great flexibility, as customers can use the overall drive system as a customized complete package or just integrate individual components into their own system. On request, Bosch Engineering supports customers in integrating the drive into the boat and in applying the system to the specific operating conditions of the application.

Bosch's electric drive system went into series production at a pilot customer at the beginning of the year; further applications are currently in the testing phase and will follow in the next few months.

Further information is available to interested visitors at Salone Nautico in Venice at Tesa 92 of San Cristoforo.

Further information:

<https://www.bosch-engineering.com/stories/stories-detailpages/marine.html>

Press photos: #dad5af5a, #2fdb34be

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About Bosch Engineering GmbH

Bosch Engineering GmbH is a wholly owned subsidiary of Robert Bosch GmbH and is headquartered in Abstatt, Germany. As a systems development partner to the automotive industry since 1999, the company with its more than 3,300 associates offers development services for powertrains, safety and convenience systems, and electrical and electronic systems – from the original concept to series production. Specialized in electronics and software, it draws on Bosch's proven large-scale series production technology to develop tailored solutions for a wide variety of applications in passenger cars, commercial vehicles, off-highway and recreational vehicles, and in rail applications, ships, and industry. Bosch Engineering GmbH also coordinates all the Bosch Group's motorsports activities.

Additional information can be accessed at www.bosch-engineering.com

Mobility is the largest Bosch Group business sector. It generated sales of 52.6 billion euros in 2022, and thus contributed almost 60 percent of total sales. This makes the Bosch Group one of the leading automotive suppliers. The Mobility business sector pursues a vision of mobility that is safe, sustainable, and exciting, and combines the group's expertise in the domains of personalization, automation, electrification, and connectivity. For its customers, the outcome is integrated mobility solutions. The business sector's main areas of activity are injection technology and powertrain peripherals for internal-combustion engines, diverse solutions for powertrain electrification, vehicle safety systems, driver-assistance and automated functions, technology for user-friendly infotainment as well as vehicle-to-vehicle and vehicle-to-infrastructure communication, repair-shop concepts, and technology and services for the automotive aftermarket. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 421,000 associates worldwide (as of December 31, 2022). The company generated sales of 88.2 billion euros in 2022. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 136 locations across the globe, Bosch employs some 85,500 associates in research and development, of which nearly 44,000 are software engineers.

Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPress