

Communiqué - Toyota develops specially designed Fuel Cell System for Energy Observer's 2020 Tour

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Toyota develops and delivers specially designed Fuel Cell System to Energy Observer, the first hydrogen vessel to sail around the world

Adding to the successful partnership since 2017, Toyota further supports the global voyage of Energy Observer with a hydrogen maritime application

The Toyota Fuel Cell System was designed as a modular solution which can also be considered for applications in trucks, buses, marine and stationary use

Toyota has been involved in the Energy Observer project from the start, because of hydrogen being at the very heart of this amazing journey. During a six-year odyssey, which started in 2017, the Energy Observer team is navigating the first energy-autonomous hydrogen boat around the globe. The electrically propelled vessel of the future operates by using a mix of renewable energies and a system that produces carbon-free hydrogen from seawater.

In line with Toyota's Environmental Challenge 2050, the Energy Observer demonstrates and shares solutions to champion an ecological and energy transition, supporting tomorrow's energy networks to make them efficient and applicable on a large scale. As the first French ambassador for the Sustainable Development Goals (SDGs), Energy Observer is searching for innovative solutions for the environment, to design tomorrow's future, and to prove that a cleaner world is possible.

For the next leg in the journey, Energy Observer and Toyota have worked closely together to introduce Toyota's leading fuel cell technology in the boat. Toyota Technical Center Europe has especially developed this fuel cell system, using components first introduced in the Toyota Mirai and fitted it into a compact module suitable for marine applications. It will deliver more power and efficiency, but also high reliability to cross the Atlantic and Pacific Ocean this year.

The R&D team in Europe managed within 7 months the design and component production, followed by the build and installation of the compact fuel cell module. This successfully demonstrates the adaptability of the Toyota fuel cell technology to a variety of applications.

At the end of last year, the fuel cell module was tested in the boat in the shipyard. Currently, the final full power testing is being done at sea before the Energy Observer sails off for their 2020 Tour from 17 February.

"We are very proud to embark the Toyota Fuel Cell System on our oceans passages, and test it in the roughest conditions. After three years and nearly 20 000 nautical miles of development, the Energy Observer energy supply and storage system is now very reliable and we look forward to the next step of the project : Get a reliable and affordable system available for our maritime community. We believe that the Toyota Fuel Cell System is the perfect component for this, industrially produced, efficient and safe. Being an ambassador for the SDGs, our mission is to promote clean energy solutions and we share with Toyota the same vision for a hydrogen society."

Victorien Erussard, founder and captain of Energy Observer

The Toyota Fuel Cell System has proven its benefits already for many years in the Mirai, but more recently also in other applications such as buses and trucks. Using it for maritime transportation is again another step closer to the development of the hydrogen society. Toyota believes that hydrogen is the catalyst for energy decarbonisation and the technology acceptance can accelerate with the Toyota Fuel Cell System modular solution, which can be considered for a multitude of applications.

"We are pleased to be able to further demonstrate the versatility of the Toyota Fuel Cell System. Our European R&D team has worked hard with the team of the Energy Observer to create and install this module in the existing boat. This project shows that the Toyota Fuel Cell technology can be used in any environment and can be spread throughout many business opportunities. It is always inspiring to work with people who aim for the same goals and this project supports even more our vision for a hydrogen society."

Dr Johan van Zyl, President and CEO of Toyota Motor Europe

VIDEO - The images of the Toyota Fuel Cell System integration into Energy Observer can be found [here](#).

About

Energy Observer

Energy Observer is the first energy self-sufficient vessel, with zero CO2 emissions, zero fine particles, and zero noise, producing its own hydrogen onboard from seawater using a mix of renewable energies. This vessel of the future has already traveled more than 18,000 nautical miles around the world.

Designed as a floating laboratory, Energy Observer experiments and validates all sorts of embedded soft mobility innovations. This real floating smart-grid, prefiguring the energy networks of tomorrow, draws its energy from nature without damaging it or wasting its resources.

She sails around the world, stopping in many iconic cities to meet the pioneers of the ecological and solidarity transition, but also elected officials, decision-makers, shipowners and major economic players. Energy Observer demonstrates on a daily basis that fully carbon-free, decentralized and digitized energy has become a reality within everyone's reach, applicable at various scales (remote sites, districts, cities...).

Next to its innovation program, Energy Observer is developing a mission of general interest to help raise awareness on the challenges of the ecological transition among all audiences, through its audio visual productions, exhibitions, and meetings with scientists. Like as modernday Calypso, the boat and her crew relate their journey around the world, in an original documentary series called « The Odyssey for the future® ». Energy Observer also produces a web-series "Solutions" with a permanent focus on the 17 Sustainable Development Goals, allowing as many people as possible to discover new concrete solutions for the future.

Energy Observer has received the High Patronage of Mr. Emmanuel Macron, President of the French Republic. French ambassador for the UN's sustainable development goals, supported by the Ministry for Ecological and Inclusive Transition, UNESCO, the European Union, Irena, Ademe , and all the institutions concerned with ecology, Energy Observer is the inspiring and positive voice of the vital ecological transition.

Toyota

Toyota has been pioneering hydrogen technology for the last 20 years. Carrying out considerable testing in demanding conditions to ensure hydrogen can work as a practical fuel alternative. Hydrogen allows for quick refuelling, a significant driving range and a great emission-free driving experience that is helping to power cars, buses, trucks and even forklifts.

Toyota Motor Europe NV/SA (TME) oversees the wholesale sales and marketing of Toyota and Lexus vehicles, parts and accessories, and Toyota's European manufacturing and engineering operations. Toyota directly employs around 20,000 people in Europe and has invested over EUR 9 billion since 1990. Toyota's operations in Europe are supported by a network of 29 National Marketing and Sales Companies across 53 countries, a total of around 3,000 sales outlets, and nine manufacturing plants. In 2019, Toyota sold 1,089,422 Toyota and Lexus vehicles in Europe.

For more information:

Toyota Europe Newsroom

Toyota Europe Website: <http://www.toyota-europe.com>

