

Finland's first battery-powered ferry represents milestone towards clean shipping

- **Siemens delivers complete integrated electric power and control system**
- **Ferry to go into operation in mid-2017**

Siemens has been commissioned to provide the complete electro-technical solution for Finland's first battery-powered car ferry. The Finnish shipping company FinFerries has ordered the newbuilding from the Polish shipyard CRIST S.A. The environmentally-friendly ferry will improve the transport options between Nauvo and Parainen in the Turku Archipelago. It will be approximately 90 meters long by 16 meters wide with capacity for a maximum of 90 cars. Operation on the 1.6 kilometer-long route will begin in summer 2017.

The ferry will be equipped with the Siemens electric propulsion system BlueDrive PlusC. It includes an energy storage system, variable speed drive technology for the propellers and an integrated alarm and monitoring system. FinFerries will benefit from lower operational costs, maintenance and repair cost savings as well as improved control and safety through its energy management and thruster control systems. The complete electro-technical solution includes the remote access monitoring system EcoMain. Siemens will also be supplying a WiFi solution to connect with the shore-based charging stations controlled by the ferry's energy management system in order to secure automated fast charging.

The ship's energy storage system is charged at each side of the crossing, with a shore connection to the local grid. Due to the harsh winter conditions in Finland, the ferry will have the possibility to utilize a diesel engine to support the onboard batteries which will serve as an extra boost when breaking and traveling through ice. The ferry is then operated as a plug-in hybrid vehicle.

Based on positive experience gained with the world's first battery-powered car ferry "Ampere", Siemens has tailor-made a suitable technical solution for Finland's first emission-free ferry. Ampere was put into operation in Norway in May 2015, and has traveled a distance equivalent to more than 1.5 times around the equator. It uses only 150 kilowatt hours (kWh) per route, and with the change from diesel propulsion to battery, ship owner Norled has reduced the cost of fuel by 60 percent. This follow-up order confirms Siemens' pioneer position delivering green solutions in the shipbuilding industry.

"I am extremely satisfied that the long and thorough selection process is now finished. We've chosen Crist to deliver the vessel because of the competitive price and their ability to provide us with a vessel of excellent quality. Siemens will provide the new technology for the ship. It is a company that has plenty of experience and an excellent reputation with a similar application on the Norwegian ferry," states FinFerries CEO Mats Rosin.

"Battery-powered ferries offer a great new way to provide sustainable, efficient and reliable water transportation. As we have already proven, this project will be another milestone in environmentally-friendly technologies," says Dr. Juergen Brandes, CEO of the Siemens Process Industries and Drives Division.

This press release and a press picture are available at
www.siemens.com/press/PR2016030188PDEN

All press materials concerning battery-powered ferries at
www.siemens.com/press/e-ferry

For further information on naval and commercial vessels, please see
www.siemens.com/marine

Contact for journalists:

Ines Giovannini

Phone: +49 911 895-7946; E-mail: ines.giovannini@siemens.com



Further milestone towards clean shipping: The Finnish shipping company FinFerries has opted for environmentally-friendly technology by ordering the country's first battery-powered car ferry. Siemens will provide the complete electro-technical solution for this ferry. This draft shows a part of the 1.6 kilometer long Parainen – Nauvo route, where operation will begin in summer 2017.

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