

E-ferry

The world's largest*
fully electric ferry



Serving commercial and industrial customers,
utilities and transport with high quality battery
storage systems since 1909.

The E-ferry is the world's* largest zero emission, fully electric ferry and is the result of an EU funded project.

Date of operation :	2019
Battery system :	4.3 MWh, G-NMC
Charging power :	3.9 MW DC
Propulsion power :	1.5 MW (2 x 750 kW)
Dimensions :	59.4m (length), 13.4m (width)
Capacity :	31 cars or 5 HGV trucks & 8 cars
Country of operation :	Denmark
Battery service life :	10 years
Maximum speed :	15.5 knots
Propulsion motor :	Liquid cooled electric motor (Synchronous reluctance assisted permanent magnet technology)
Light ship weight :	650 tons
Passengers :	198

* At time of construction

Leclanché Energy Storage Systems were selected to power the world's largest electric ferry, the E-ferry. With a 4.3MWh capacity, the E-ferry sets a new benchmark in marine propulsion applications. It will operate between the islands of Aero & Als in southern Denmark.



Replacing a diesel ferry results in annual emissions savings of :

- 2000 tons CO₂
- 42 tons NO_x
- 2.5 tons of particulates
- 1.4 tons SO₂.

The battery system provided by Leclanché uses high energy lithium-ion G-NMC cells with unique safety features including bi-cell laminate design and ceramic separators to ensure performance does not come at the cost of safety. Leclanché develops and manufactures its own cells with both graphite/NMC (Lithium Nickel Manganese Cobalt oxide) and LTO (Lithium Titanate Oxide) technologies.

Parallel, redundant battery and drivetrain systems makes the E-ferry exceedingly safe and reliable.

The E-ferry has been designed with uniquely integrated battery and drivetrain systems providing unparalleled operating efficiencies.

The Technology

With over 100 patents in lithium-ion battery cell technology and production, Leclanché batteries deliver exceptional safety, longevity and cycle life. Leclanché battery systems are manufactured in Germany & Switzerland, in compliance with the highest environmental standards.

Part of the EU Horizon 2020 initiative

The E-ferry is part of Danish Natura project aimed at providing green transport for local residents. This project has received funding from the European Union's Horizon 2020 Research and Innovation Program under grant #636027.



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