

# Erla Kongsdóttir

## Plug-in Hybrid Catamaran



Illustration: Ingebjørn Aasheim Ship Design

|                                  |   |
|----------------------------------|---|
| Owner                            | Strandfaraskip Landsins, Faroe Islands          |
| Shipyard                         | GS Marine, Norway                               |
| Hull Number                      | 49  |
| Year Built                       | 2020  |
| Ship Design                      | Ingebjørn Aasheim Ship Design, Norway           |
| Class                            | DNVGL +1A HSLC Battery Ferry Passenger Craft R3 |
| Engine                           | 2x Volvo Penta                                  |
| Gearbox                          | 2x Kumera Gear box                              |
| Propeller                        | 2x Helseth CP Propellers                        |
| <b>BRUNVOLL SCOPE OF SUPPLY:</b> |   |
| PTO/PTI                          | 2x 90kW PM EI Motor                             |
| Battery System                   | Corvus Dolphin Power Cells 124Wh/kg, 220kWh     |
| Remote Control                   | Triton CPP Control System                       |
| Steering gear                    | Triton SG Steering Gear                         |
| Energy Management                | Triton EMS                                      |
| Power Management                 | Triton PMS                                      |
| Manoeuvre station                | Triton CHR Manoeuvre Chair                      |
| Inverters & DC Switchboard       |   |

### Triton Battery Hybrid Propulsion

Hybrid propulsion systems benefit of the best from two systems - the combination of electric propulsion and diesel drive.

The Plug-in Hybrid Catamaran for Strandfaraskip Landsins will use batteries when operating close to shore, while the diesel engines will be used to achieve top speed.

A Hybrid system enables ships with variable power requirements to run at high propeller efficiency. In such a system-design the vessel can utilize the power required for the specific operation in pure electric mode, or in diesel mechanical mode, or in a boost mode by engaging both systems.

The Hybrid system configuration is a fuel efficient and flexible system, with full redundancy, with a split battery package, with no requirements for additional generator sets.

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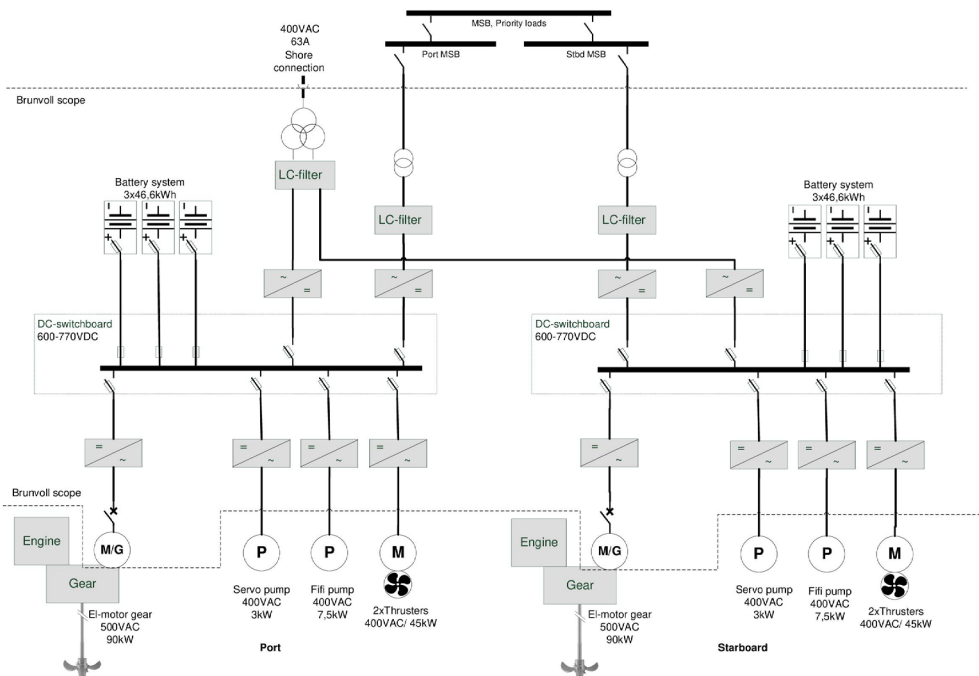
### Strandfaraskip Landsins

has ordered a 27 m hybrid catamaran from the Norwegian shipyard GS Marine. The vessel is designed for 97 passengers and 3 cars. This pioneering project from Strandfaraskip Landsins will be the first plug-in hybrid catamaran used in commercial traffic with a redundant hybrid system that allows the vessel to operate without generators. The hybrid catamarans will use batteries when operating close to shore while the diesel engines will be used to achieve top speed.

### The Brunvoll delivery

is a redundant hybrid package for propulsion with hotel load supply and charge interface to shore connection. Integrated system design with focus on control philosophy, fuel savings and ergonomics.

The system is a fully redundant system with a split battery package with no requirements for generator sets.



### Operation modes

#### DM-mode

For diesel mechanical fuel-optimized propulsion of the CP propellers up to design speed. The PTO PM-machine may be used for battery charging at optimal SFOC.

#### EL-mode

Electrical propulsion for slow steaming powered from battery. The rpm and pitch are optimized for maximum efficiency.

#### Hybrid mode

A mix with EL- mode on one propeller and DM- mode on the other. It increases the redundancy of the vessel and makes it possible to operate with only one engine available.



The Brunvoll delivery includes a Brunvoll Triton Manoeuvre Chair, which is a pre-designed chair with all Triton bridge control panels integrated. This ensures easy installation and compact arrangement of the control panels. The chair itself is fully adjustable and ensures ergonomically operation of the vessel.