



Computer animation of the battery-electric catamaran with ponton and charging station

The Vessel

- **Length** 32.3 m
- **Width** 9.6 m
- **Draught** 1.2 m (even keel, full load)
- **Hull shape** Catamaran (minimum draught and flow resistance)
- **Passengers** 150 (max capacity)
- **Travel time** 30 min (11 km)
- **Propulsion** 2x600 kW electric motor-driven propellers; 2x75 kW electric bow thrusters
- **Speed** 19 knots
- **Payload** 11250 Kg
- **Charging time** 28 min.
- **Enter in service** 2024

About us

The consortium	18 Partners from 10 EU countries
Project coordinator	Ikerlan s. COOP / Endika Bilbao
Start date	1. June 2022
Duration	42 months
Budget	9.35 M€
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The Consortium



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Hyper powered vessel battery charging system



The scope of the European project HYPOBATT (HYper POWered vessel BATTERY charging system) is to develop a modular, fast and simple multi-megawatt battery charging system for marine applications.

The fast-charging station will improve energy efficiency by 20%, charger availability by 95% and battery life by 10%.

To achieve these challenging goals the project joins forces of 18 renowned partners from 10 EU countries.

State of play

Limitations of multi-MW battery charging systems for marine applications

- Vessels with large battery systems have been in operation for more than a decade
- Vessels of different size and type require different battery and appropriate charging systems
- Marine charging systems require high charging power (1.2-4 MW) which is significantly higher than for road electric vehicles (600 kW)
- Marine charging systems require the integration of a quayside charging equipment (plug-in or pantograph) and a shipside receptacle
- Different standards are available, none of them are fully suitable for DC marine charging applications
- The lack of standards and modular solutions is penalizing the marine market: incompatibility of different systems, higher costs, no interchangeability

HYPOBATT targets

HYPOBATT will develop comprehensive technologies beyond the state of the art, combining and leveraging their complementary innovative potential:

- **Modular multi-MW marine chargers** for fast and easy charging of larger battery systems, reducing turnaround times of electric ships
- **Automated marine charging connections** minimizing the connection time to less than 30 seconds after safe mooring
- **Reduced operation and maintenance costs** up to 20% by innovative charging architecture with little to none human effort
- **Standardized charging infrastructure** to facilitate interoperability and system compatibility with various vessel types
- **Optimized daily operation of the multi-MW charger** by using a digital twin platform
- **Minimized battery ageing and impact on the electrical grid infrastructure** by adaptive energy management strategies
- **Demonstrated performance of the charging infrastructure as a whole** in two European ports.

HYPOBATT Methodology

HYPOBATT will focus on technical development of the energy charging systems and on the definition of new market and business mechanisms. HYPOBATT will test two systems in two European ports to demonstrate and confirm the validity of the results

