

New energy mix in Solutions for Offshore Oil and Gas to Reduce Emissions and Costs



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Offshore Solutions

Integration of the Future Efficient Energy Mix in Offshore Power Solutions

Power to X
Silyser (PEM electrolysis)

Wind turbine integration

High temperature heat pump

Integration of Power from shore

Flexibel DC Power grids
Advanced AC Power grids

Thermal Storage

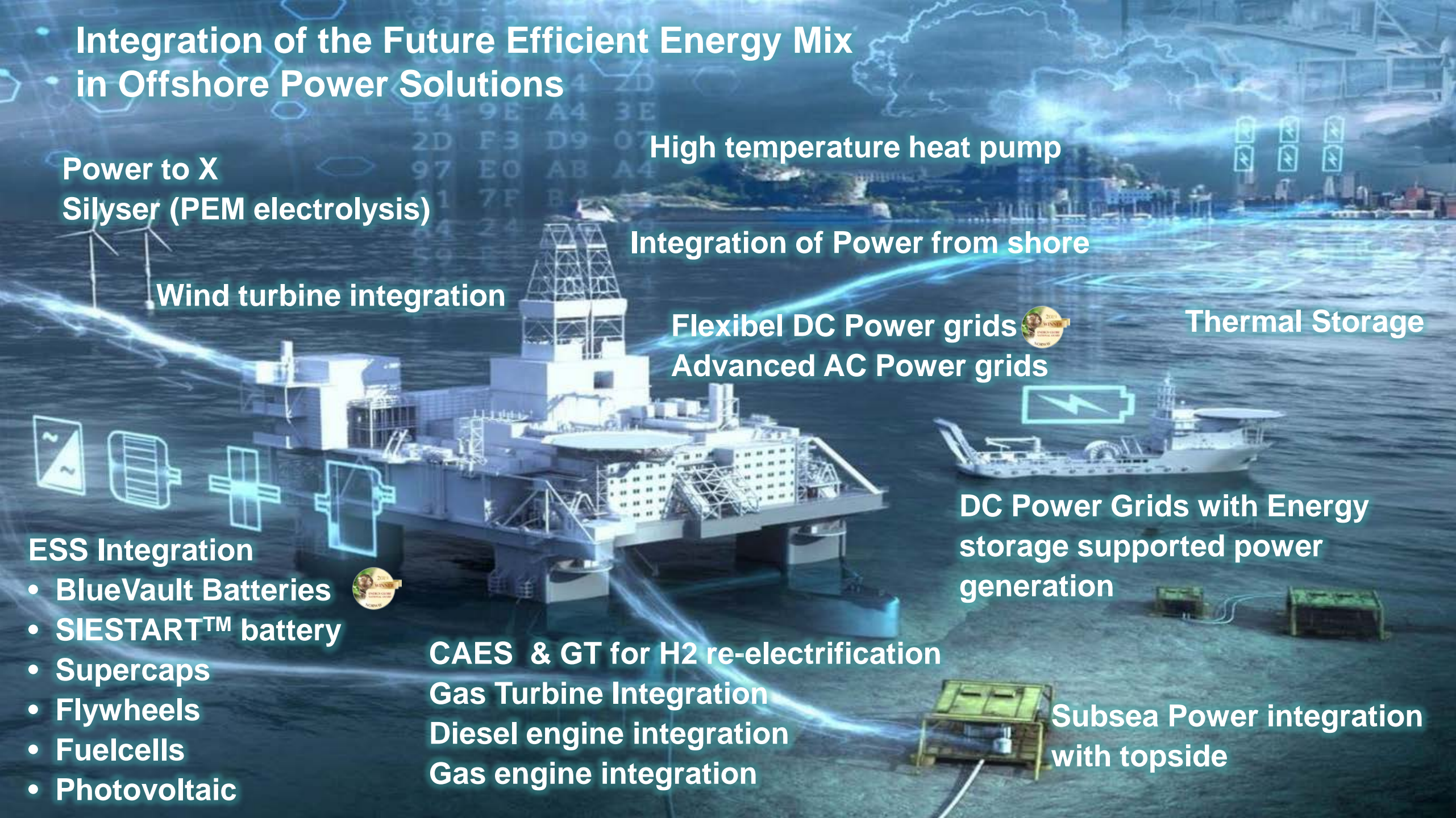
ESS Integration

- BlueVault Batteries
- SIESTART™ battery
- Supercaps
- Flywheels
- Fuelcells
- Photovoltaic

CAES & GT for H2 re-electrification
Gas Turbine Integration
Diesel engine integration
Gas engine integration

DC Power Grids with Energy storage supported power generation

Subsea Power integration with topside



1st of 35 hybrid or full electric ferries

Reduce fuel consumption with 100 000 tons

Reduce emissions of CO₂ with 300 000 tons



Fuel cost savings 60%

AMPERE
STAVANGER

**Siemens DC Power Grids combined with Energy Storage Systems
Creating the future efficient energy mix for Coastal transportation**

Pioneer in Green Solutions for Coastal transportation

Reduce fuel consumption with 100 000 tons
 Reduce emissions of CO₂ with 300 000 tons

Zero emission ferry "MF Ampere"

Capacity Distance Fuel Cost savings

120 6 km
 360 (in 20 min)

60%

Operation since March 2015

"Elfrida" for fish farming

Distance

12 km
 (in 50 min)

Operation from Feb 2017

Two ferries for Fosen Namsos

Capacity Distance

130 8 km
 390 (in 25 min)



Fishing boat "Karoline"

Diesel consumption

0,04 l per kilogram of fish*

*measured by the first 30 operating days

Ferry for FinFerries

Capacity Distance

90 1,6 km
 372

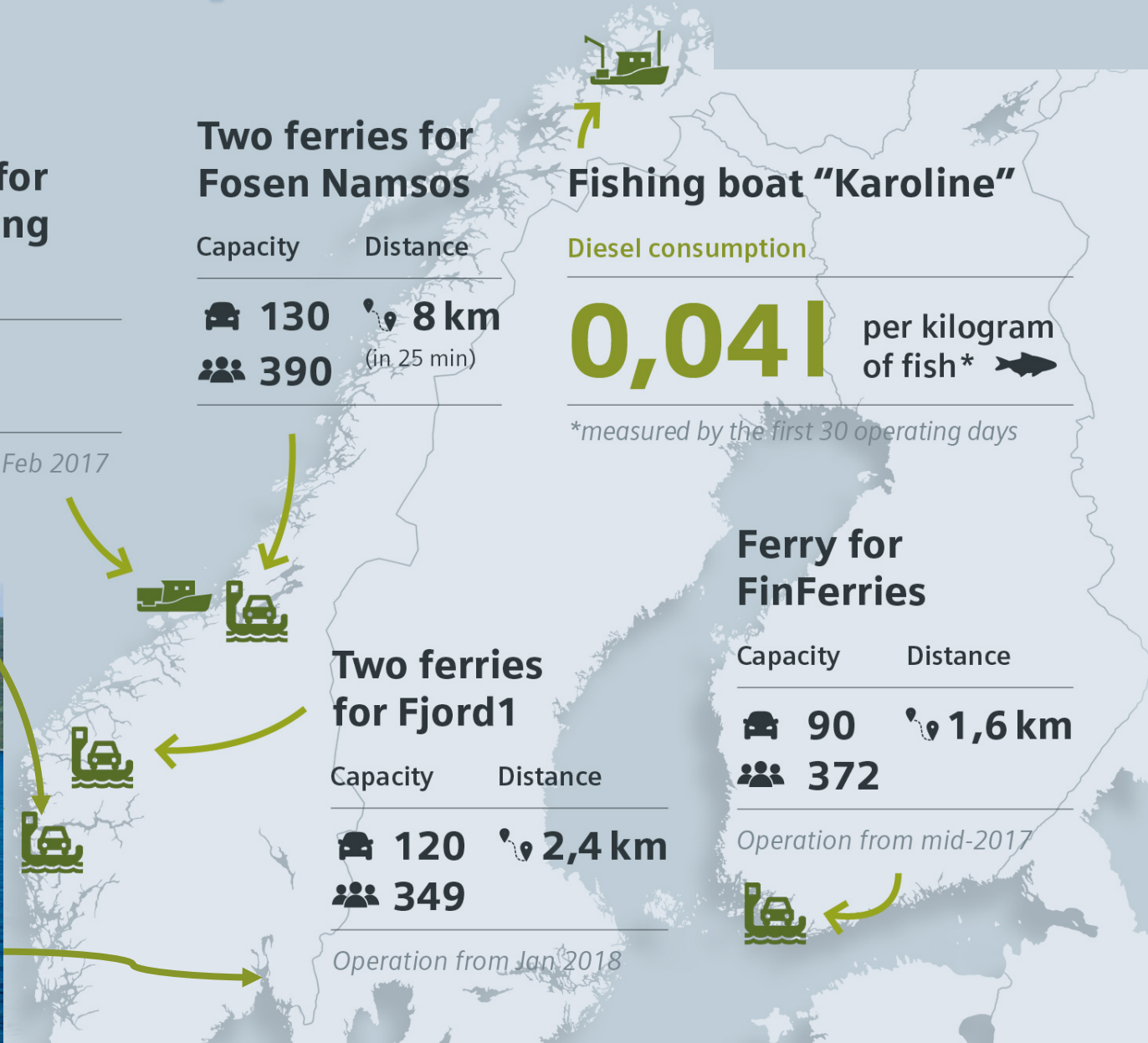
Operation from mid-2017

Two ferries for Fjord1

Capacity Distance

120 2,4 km
 349

Operation from Jan 2018



Color Hybrid, Ship of the Year @ Norshipping

5MWh energy storage

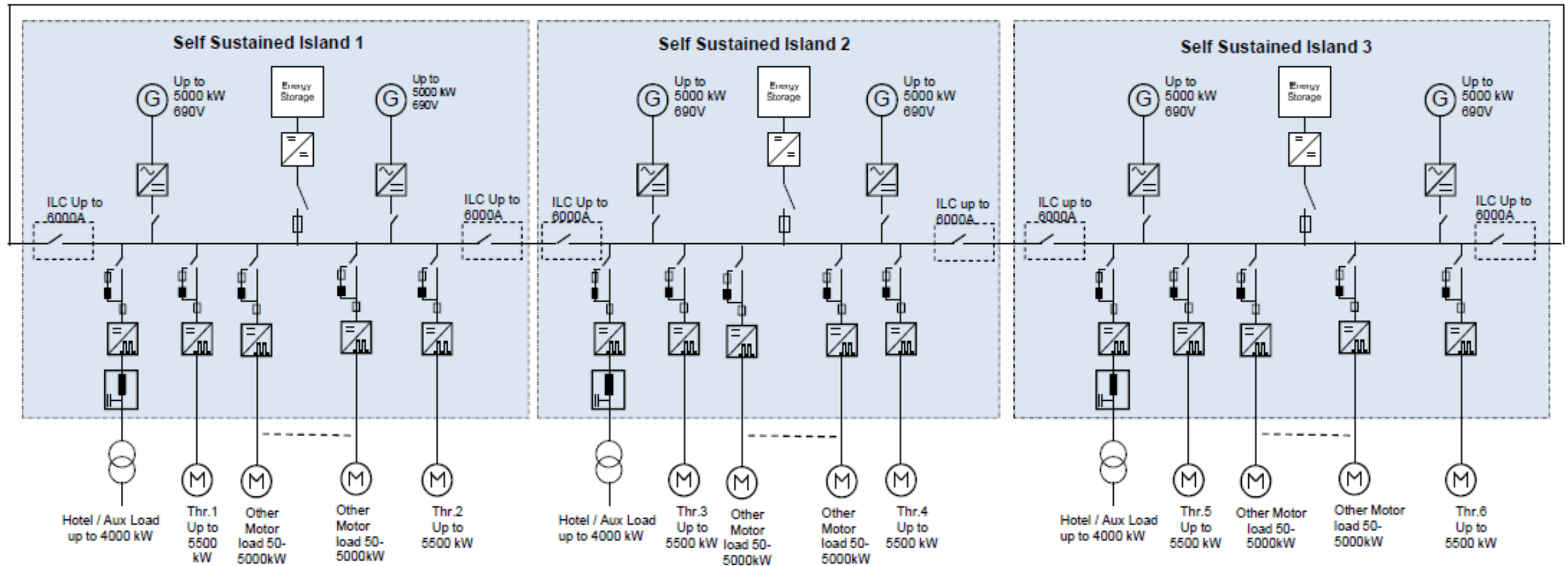
Siemens DC Power Grid with Energy Storage Solutions Creating the future energy mix for offshore vessels



23MW LV DC Power Grid with Battery Energy Storage System integrated

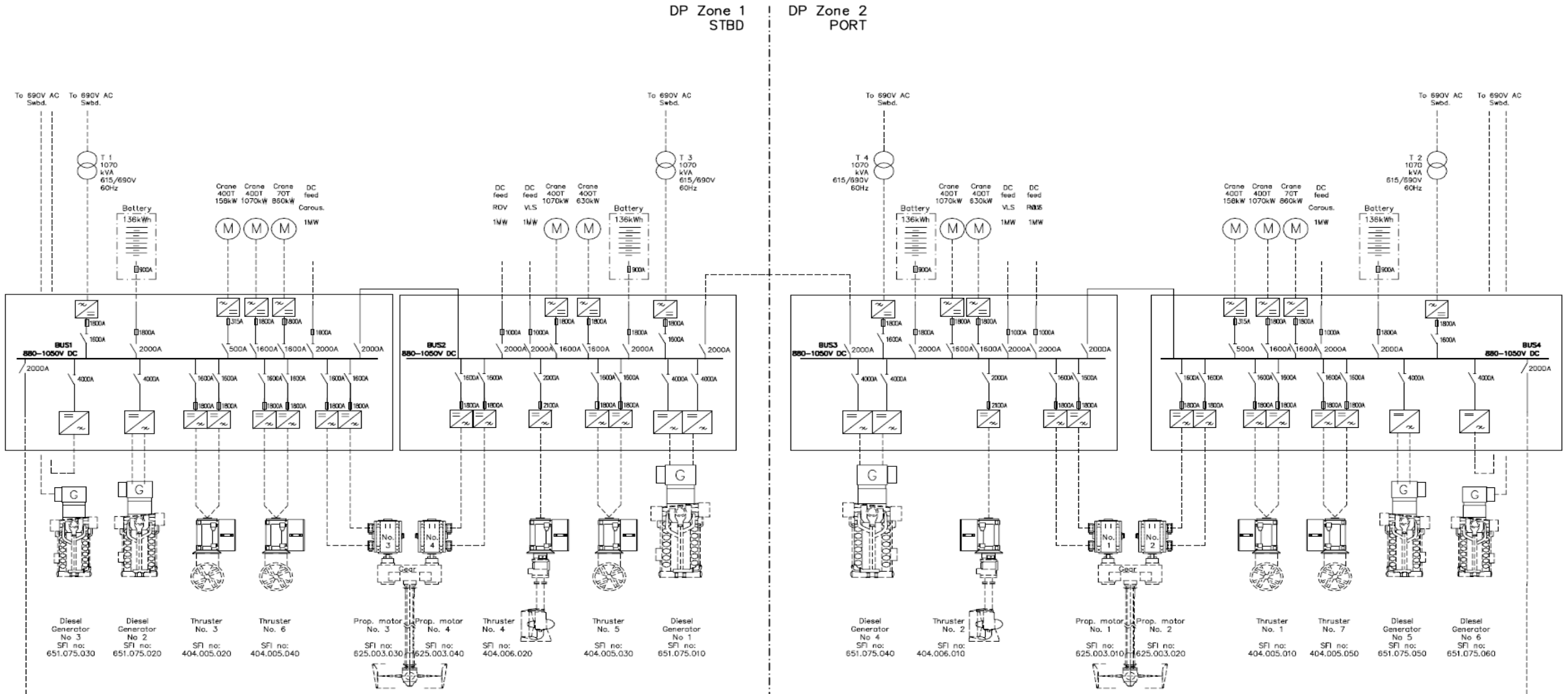
BlueDrive PlusC - DC power grid for Marine & Offshore

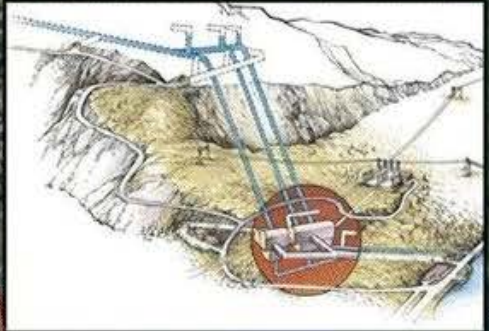
ESS – ESS integrated into BlueDrive PlusC



BlueDrive PlusC

DC power grid for Marine & Offshore





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