

Japan – Norway Maritime Innovation Seminar



- 75 employees
- Furthermore, plus 350-425 personnel from sub-contractors.
- Located at Omastrand, in Hardanger Fjord, Norway

Product range:

- Offshore Vessels
- Trimaran offshore / Wind crew vessels
- Battery ferry
- Offshore construction in aluminium and steel



Transportation development



Anyone driving this one from 1970 ?



The best selling car in Norway today is fully electric



Would people accept this tour bus today?



Norwegian ferry in daily operation this one built 1972....average age of ferries in Norway, approx 24 years



Sognefjorden served by battery ferry from 2015

Norwegian road authorities
launched in 2011
a tender for an
environmental friendly ferry
for the crossing of the
Sognefjord
-as one of 3 ferries



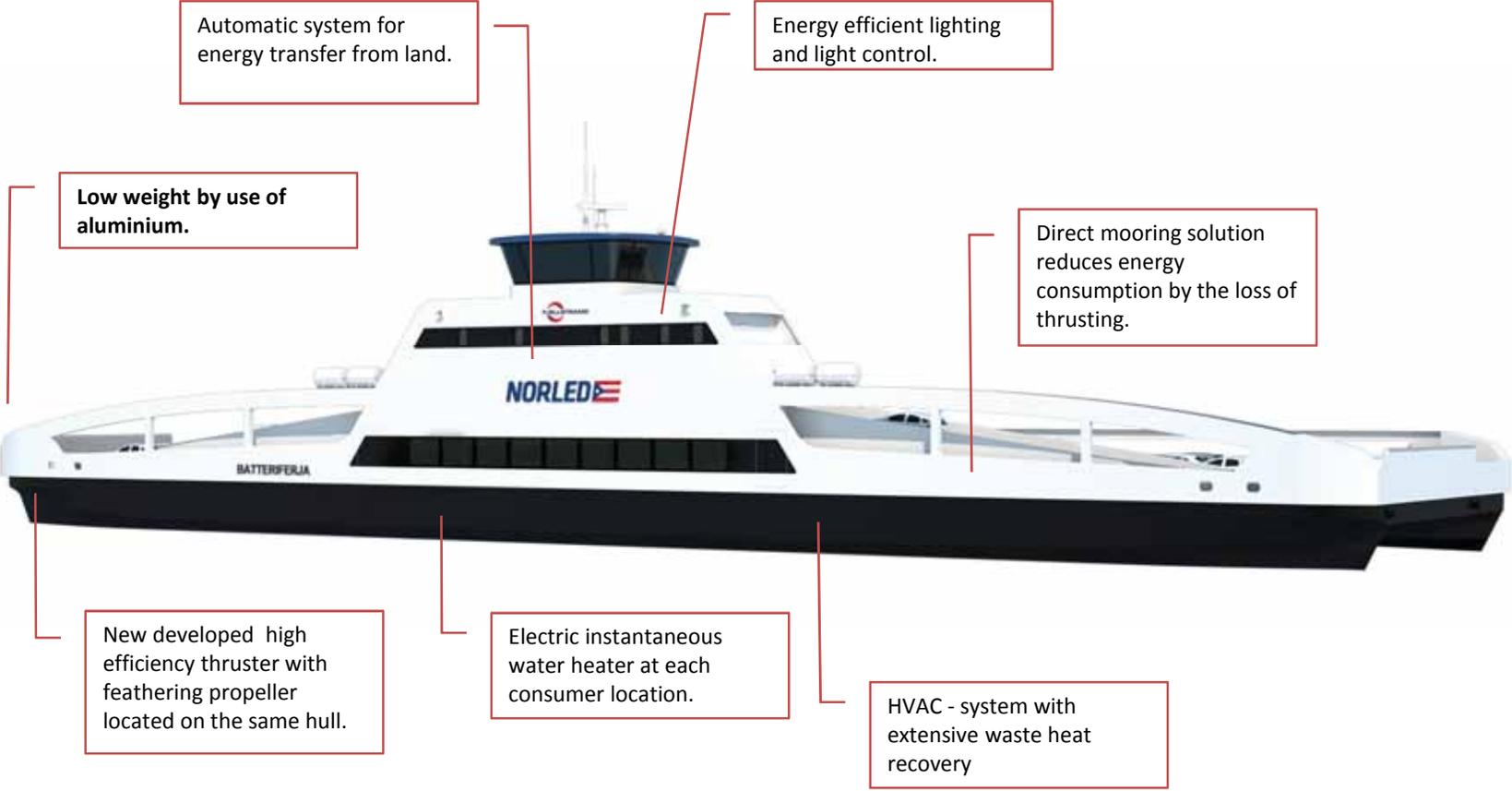
However the two
other vessels are
conventional diesel
driven ferries



Sailing distance 5,7 km



Fjellstrand solution - innovative factors



Project 1696 – ZeroCat™ , NORLED

- 80m long , 21 m wide
- 120 cars
- 360 passengers
- 140 chairs
- 7 crew cabins

- 2 x Rolls-Royce Azimuth thrusters with full feathering CPP

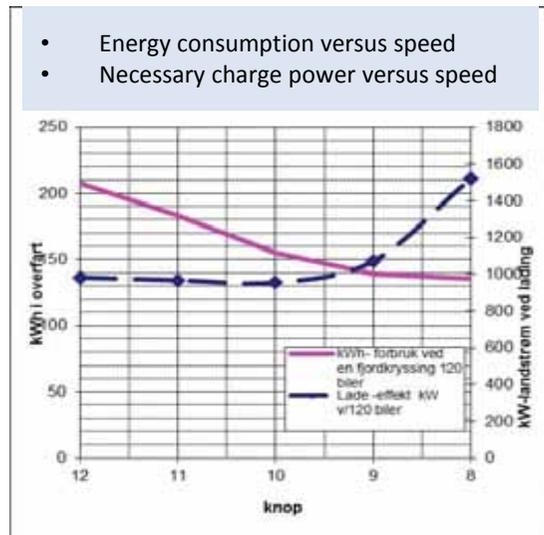
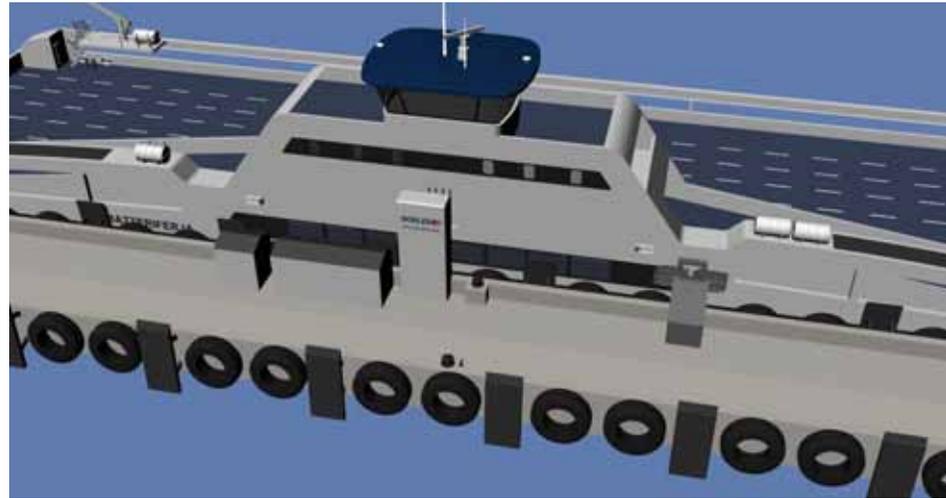
- 2 x 450 kW electric motors

- 1MWh batteries in Siemens total delivery (10 tons, 10 m³)



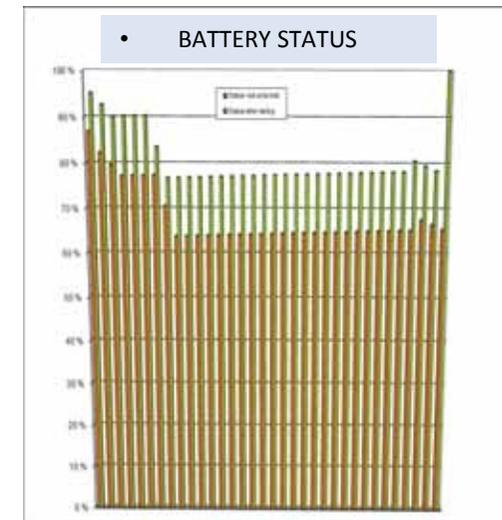
Prosjekt 1696 – ZeroCat™ battery package

- 30 minutes between each departure
- 20 min crossing,
- 10 min load/unload/charge
- Power when crossing 450 kW average
- Consumption 150 kWh per crossing
- Charging 9 minutes, at 1000 kW power

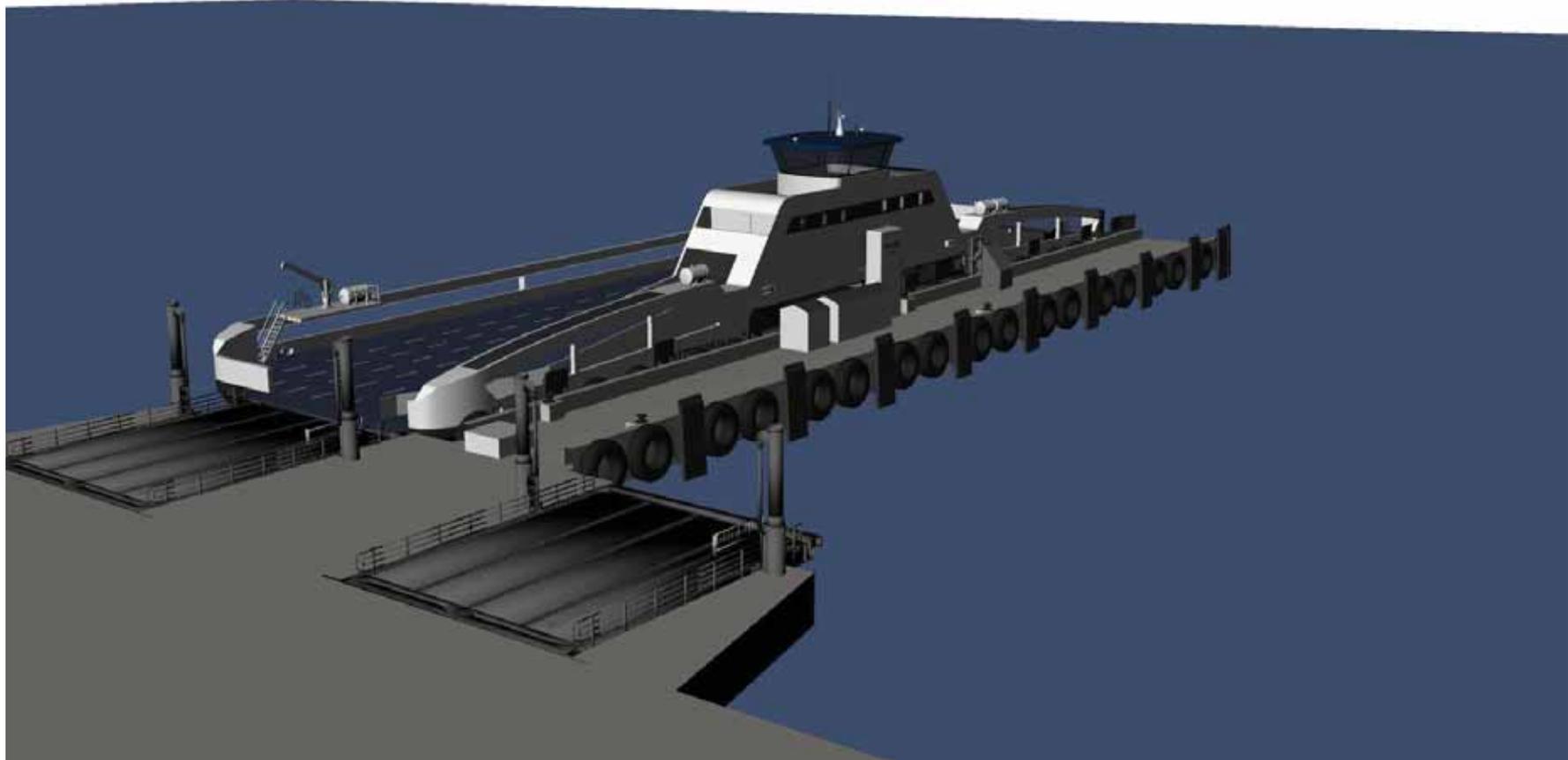


Quay side batteries:

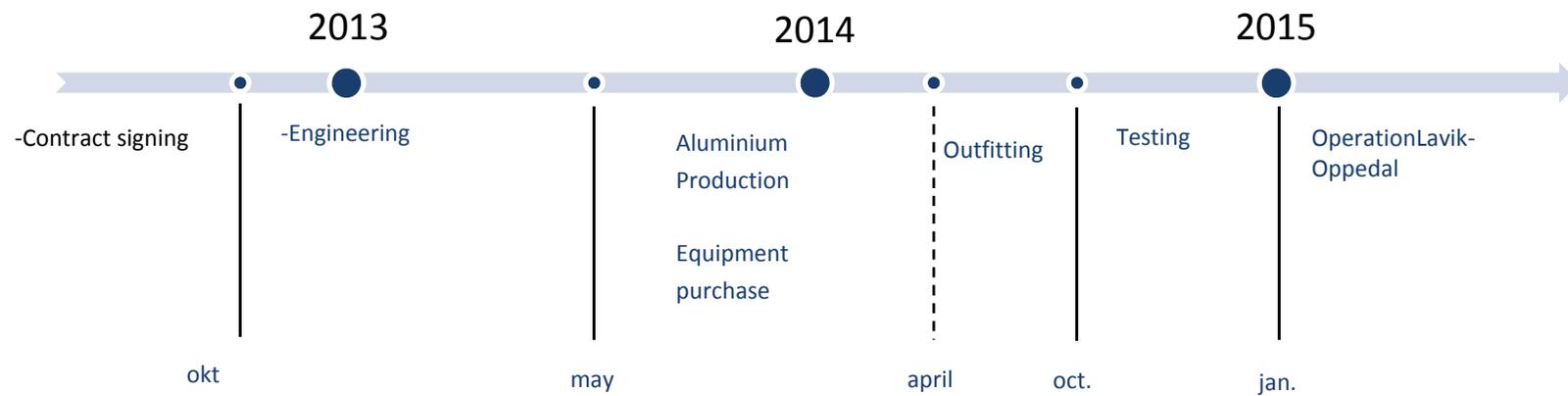
Charged 50 min at 180 kW giving the 150 kWh



Prosjekt 1696 – ZeroCat™ , NORLED



Production plan FC-120, Fjellstrand-Norled



1696 , ZeroCat™ , NORLED

Thank you for your attention!



EdmundTolo, Fjellstrand

