

## ELMAR Online seminar

### Norway revisited: Next gen electric ferries & pax ships

16 June 2021, 9:00 - 12:00 h CEST

Seminar language: English

Time	Topic	Speaker
08:45	<i>Opening of the "venue" &amp; check-in</i>	
<b>Opening &amp; introduction</b>		
09:00	<a href="#">Welcome by the Lead Partner of the ELMAR project</a> <a href="#">Introduction to the agenda</a>	Mario Heinrich <i>Economic Development Corporation Vorpommern</i> Jens Masuch <i>ELMAR project management</i>
<b>Revisiting Norway: On the way to a comprehensive roll-out of electric ferries &amp; pax ships</b>		
09:05	<a href="#">Governmental actions to promote the wider roll-out of battery-electric &amp; hydrogen vessels on domestic ferry routes</a>  <i>Norway is the world's leading country in introducing and deploying electric ferries &amp; pax ships. Drivers of the "green shift" are governmental policies &amp; actions. A key actor is the <a href="#">Norwegian Public Roads Administration</a> (Statens vegvesen), which is, inter alia, responsible for the public procurement of domestic car ferry services. It had set the ambitious goal to get 50 battery-electric ferries into operation by 2021 – and this target has been even overachieved. In the further roll-out, also hydrogen-electric ferries will play an important role. The first pilot vessel, projected in the framework of a public development contract, is planned to enter service in 2021.</i>	Anders Sæternes <i>Special advisor &amp; Head of the "Ferry group" in Western Norway, Norwegian Public Roads Administration</i>
	Q & A / discussion	
09:45	<a href="#">Next generation battery-electric car ferries of the Norwegian domestic car ferry operator Fjord1</a>  <i>In 2020, Norway's domestic car ferry operator <a href="#">Fjord1</a> brought a series of 5 <a href="#">next generation battery-electric car ferries</a> into service. With their introduction, e-ferries left behind the testing &amp; pilot phase within Fjord1's operations. The 67-meter vessels for 50 cars serve lines at the Norwegian west coast, which have a sailing times of 13 to 30 min. Their propulsion systems were supplied by <a href="#">Norwegian Electric Systems</a> (NES). The system integrator delivered a complete on-board package incl. batteries, charging systems and a specially developed DC switchboard – as well as the on-shore charging infrastructure. A special feature of the latter are on-land battery packs that boost charging power while stabilising the grid – and thus address a challenge that will get more and more into focus when e-ferries are deployed at large scale.</i>	Stein Ruben Larsen <i>Senior Vice President Sales, Norwegian Electric Systems</i>
	Q & A / discussion	

Time	Topic	Speaker
10:30	<p><a href="#">The world´s largest hybrid RoPax ferry "Color Hybrid": Vessel design &amp; first operating experiences</a></p> <p>Since 2019, the cruise ferry "<a href="#">Color Hybrid</a>" operates on Color Line´s international Sandefjord (NO) – Strömstad (SE) route. The 27.000 GT vessel can carry up to 2.000 pax and 500 vehicles on the 2,5 hours crossing that includes passages through the archipelago. Her plug-in hybrid propulsion system includes a 5MWh battery pack and allows up to 60 min manoeuvring &amp; sailing in coastal waters at speeds of 0-12 kn. After two years of operation, first conclusions can be drawn regarding experiences with the operation scheme, battery use, savings in relation to internal combustion engine – and a first appraisal be made if the advantages of hybrid-electric propulsion could be validated for a large RoPax ferry, too.</p>	Robin Tomren Executive Vice President at Color Line
	Q & A / discussion	
11:00	Coffee break	
11:15	<p><a href="#">"Medstraum" – The world's first all-battery driven fast pax ferry in accordance with the HSC regulations</a></p> <p>The Norwegian shipyard <a href="#">Fjellstrand</a> is an innovator &amp; pioneer in the field of zero emission car ferries &amp; pax ships. In 2014, it delivered the world's first all-electric car ferry "Ampere" to the Norwegian ferry company Norled, followed by a pair of e-ferries for the operator Fjord1. Fjellstrand's newest project is the demonstrator vessel "<a href="#">Medstraum</a>", which will be tested by the public transport company <a href="#">Kolumbus</a> on the Stavanger - Byøyene - Hommersåk route. Upon its delivery in 2022, the ship will be world's first all-battery driven fast pax ferry in accordance with the HSC regulations – and a prototype for yet another vessel type needed to reach Norway's goal of emission-free domestic maritime transport.</p>	Edmund Tolo Sales Manager at Fjellstrand AS
	Q & A / discussion	
<b>...and a glimpse to Scotland: Prototyping a hydrogen-driven car ferry</b>		
11:35	<p><a href="#">HySeas III – The world´s first sea-going car &amp; pax ferry with hydrogen-electric propulsion</a></p> <p>For long-distance &amp; weather-sensitive ferry routes, hydrogen propulsion may be the first choice for zero emission operation. In parallel to the pilot of a domestic hydrogen ferry in Norway, the <a href="#">HySeas III</a> consortium in Scotland is constructing a hydrogen fuel cell full drive train on land for extensive testing, and integrating this into a ferry design to likely serve the Orkney Islands. The concept of HySeas III includes thereby to run the ferry with locally-produced „green hydrogen" from renewable sources (wind, wave, tide, solar).</p>	John Salton Fleet Manager / Project Director at Caledonian Maritime Assets Ltd Christina Mikkelsen Project Manager at Ballard Power Systems
	Q & A / discussion	
11:55	<a href="#">Summary &amp; farewell</a>	
12:00	End of the online seminar	

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Participation in the seminar is free of charge.