

The autonomous vessel -

An opportunity for new business models?

A large, stylized blue wave graphic that spans across the bottom half of the slide, partially overlapping the text.

Tom Løwehr
CSO Offshore, Telenor Maritime

Telenor Maritime – The Mobile Operator at Sea

Passengers & crew



Offshore operations and crew



Fisheries



Building standardized, cross-industry connectivity solutions

Trondheimsfjorden – Kongsberg's test-lab...



... representing a fantastic potential for modernizing the shipping industry

Brevikfjorden – First unmanned commercial electrical vessel





Yara Birkeland. Foto: Yara / Kongsberg Maritime

- Testing planned end 2018
- Fully electrical
 - Reduced emissions
- Moving goods (fertilizers) from road to sea
 - ~100 trucks daily
- Purpose built design
- Significant operational gain and cost saving

Remote operation of vessels will happen – But how?

- Fully autonomous operation from Day 1?
 - Continuous monitoring and surveillance from onshore control center
 - Action will be taken when required
- Just automated copies of today's vessels?
 - Ship design will be different –No people on-board
 - Complete transportation systems – vessels, harbors and digitalization
- New business models?
 - Digitalization and collaboration

- 
- It will save costs and improve productivity
 - But It's a long way to go from remotely operated vessels to autonomous ships



To what extent will this drive new business models?

Sharing economy models has one common element

- An advanced digital platform

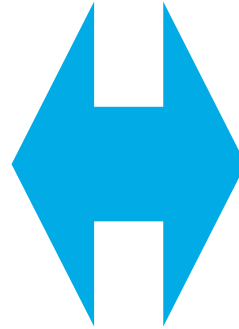
- Economic and social activity - Involving online transactions.
- Peer-to peer based - Sharing of access to goods and services
- Now used in a broader sense to describe any transactions that are done via online market places, including business to business
- From non-profit to profit-driven



The Uber business model – It's not only about a cheap taxi

How the customers perceive it

- No waiting
 - Capacity issues on conventional taxis
- Lower prices
 - Driven by shared economy model
- Customer experience
 - Uber's tagline – Your personal driver



How the Driver utilizes it

- Availability
 - Paid to be online
 - Flexible working schedules.
- Additional source of income.
 - Easy payment procedure.

Uber's customers

- Don't own a car, or
- Don't want to drive themselves, or
- Like to travel in style, or
- Want a cost-efficient cab at their doorstep.

Special segments

- Uber for kids
- Uber for seniors:
- Uber Rush delivery services

But it's (first of all?) about utilizing available capacity

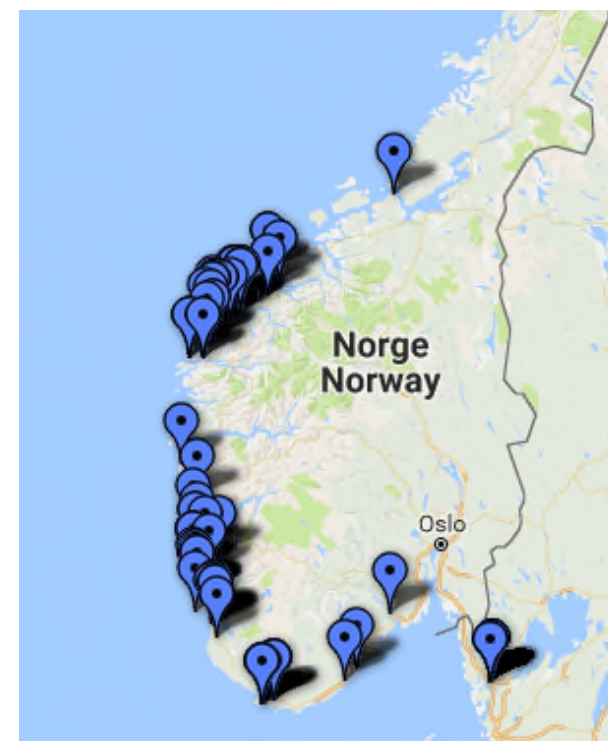
Digital platforms will play a significant role if the shipping industry shall transform



- Supply - What is available
 - Where and when
- Demand - What is needed
 - Where and when
- Efficient planning and improved logistics
- Transparency

Vessels in lay-up - when will they get back in operation?

OPPDATERT 805 <hr/> 2017	OPPLAGSSTATUS Brønnintervensjon:1 Seismikk:17 PSV:73 AHTS:36 Flerbruksskip:6 Subsea:4 Beredskap:5	TOTALT: 142
---	---	----------------------------------



And how will the business be?

- Long-term charter?
- Spot?

The marketplace will be digitalized in the future
- Autonomy will be on of the drivers

