The Transformation of the Norwegian Maritime Industry to a Global Maritime Knowledge Hub

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ET KUNNSKAPSBASERT NORGE
A Global Race for Attractiveness

Nations and regions compete to be the most attractive locations for knowledge intensive industries
The Norwegian Challenge

How can we do business at all in a country with the world’s highest cost level?
Examples of global knowledge hubs

• Boston (Life sciences)
• Silicon Valley (IT)
• Houston (Oil & gas)
20 BEST PLACES FOR BIOTECH

From cities to small towns, everyone's getting in on biotech. A look at established regions and emerging clusters.

WELCOME TO Cape Codon
Biotech Capital of the World
Population 2,000,000 (mostly postdocs)

qPCR in the Clinic
How to Get Venture Funding
Global Knowledge Hubs are Centres of Gravity attracting talents, technology and competent ownership on a global scale
A Global Maritime Knowledge Hub shall propel the Singapore Maritime Cluster.
Norway is one of the few European countries with a complete maritime cluster (including shipbuilding)
Maritime: From ship tonnage to maritime technology and finance
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Maritime has a Strong Emerald Cluster Attractiveness

- Educational Attractiveness
- Talent Attractiveness
- R&D and Innovation Attractiveness
- Ownership Attractiveness
- Environmental Attractiveness

Knowledge Dynamics
Norway’s deepsea maritime cluster has transformed into a global maritime offshore cluster
Sunnmøre: A global maritime-offshore knowledge hub
Centers of industrial gravity in the Norwegian maritime industry

The map shows the number of maritime jobs in the Norwegian municipalities in 2008.

- **Maritime Møre:** Design, construction and operation of offshore vessels
- **Offshore West Coast:** All maritime activities in the exploration, development and operations of offshore oil & gas
- **Bergen & Oslo:** Deep sea shipping
- **Trondheim:** Maritime R&D
- **Oslo:** Maritime services (Financial, legal and technological)
- **Kongsberg:** Electronics and subsea equipment
- **Kristiansand:** Oil drilling cluster
What created the Norwegian Maritime Cluster?

- Maritime nation of seafarers since the Vikings
- Many risk taking ship owners and investors
- Many yards and ship equipment manufacturers with innovative technology
- Commercial strength in financial and maritime services
- Leading position in maritime R&D
Strong growth in maritime value creation

Value creation within the maritime industry from 2000 to 2009. Thousand million NOK

140% growth

- Industry's overall EBITDA
- Industry's total labor costs

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Maritime industry: A growing share of GDP

Norwegian maritime industrial share of GDP. Source: Menon and SSB.no

From 3.7% to 5.6%

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Strong growth in revenues and profitability for maritime equipment manufacturers
2009 was best year ever for Norwegian yards

Norwegian ship yard's total revenue and operating margin from 2000 to 2009. Thousand million NOK

- Operating margin
- Turnover
Norway has lost share of world fleet

Development in shares of the world fleet (DWT) from 1995 to 2010. Source: ISL Bremen/NSA

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Norwegian deepsea shipping has stagnated, while Norwegian offshore shipping has more than tripled.
Maritime offshore industry has grown more strongly in all sectors

Growth in value creation in % among 10 maritime groups in Norway from 2000 to 2009. OFFSHORE-RELATED GROUPS IN ORANGE, THE REMINDER IN BLUE
The Norwegian Maritime Clusters 2012

• A Maritime-Offshore Global Knowledge Hub at Norwegian West Coast (70% of maritime industry value creation)
• A Maritime-Offshore Financial Cluster in Oslo
• A Shipping Cluster in Bergen
• A Norwegian-controlled Global Maritime Network
  - ‘Singapore Little Norway’
  - ‘Cyprus-London Big John Norway’
Oslo Maritime-Offshore Financial Cluster

[Diagram showing various companies and logos related to maritime and offshore finance, such as DNV, BI, Imarex, GIEK, SEB, DNB, Nordea, HSH Nordbank, and others.]

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Global Maritime Knowledge Hub Initiative

Oslo Maritime Network/Maritime Forum
Norwegian Shipowners Association
Norwegian Maritime Knowledge Hub Initiative

- Initiative from Oslo Maritime Network and Norwegian Shipowner Association
- Maritime companies should fund 20+ Maritime Professorships and Research Centres at Norwegian universities
- Norwegian universities should develop Centers of Excellence in Maritime Research (NTNU and Marintek)
- Norwegian universities should develop Centers of Excellence in Maritime Education (BI Norwegian Business School)
- Norwegian government should launch a large Maritime Research Program (Maritime 21)
- Norwegian maritime industry and Norwegian government should develop World Ocean Space Centre to gain leadership in Ocean Space Technology
## Global Maritime Hub Hub Professorships

<table>
<thead>
<tr>
<th>No</th>
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<tr>
<td>1</td>
<td>Kongsberg Maritime AS</td>
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<td>Marine cybernetics</td>
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<td>Leif Höegh &amp; Co AS</td>
<td>NTNU - Norwegian University of Science and Technology</td>
<td>Green shipping</td>
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<td>Det Norske Veritas</td>
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<td>Marine transport in the Arctic</td>
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<td>Kr. Gerhard Jebsen Foundation</td>
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<td>Production and quality engineering</td>
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<td>Wilh. Wilhelmsen</td>
<td>BI – Norwegian Business School</td>
<td>Maritime competitiveness</td>
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<td>Knutsen O.A.S. Shipping, Østensjø Rederi, Eidesvik Offshore, Solstad Offshore</td>
<td>Stord/Haugesund University College</td>
<td>Quality assurance and risk management</td>
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<td>Olympic Shipping and STX Offshore Norway</td>
<td>Ålesund University College</td>
<td>Green shipping</td>
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<td>Ulstein Group AS</td>
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<td>Ship design</td>
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<td>NCE Maritime</td>
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<td>Product and systems design</td>
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<td>NODE</td>
<td>University of Agder</td>
<td>Mechatronics</td>
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<td>Bergen Rederiforening</td>
<td>Norwegian School of Economics</td>
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<td>Business development and maritime transport logistics in the High North</td>
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<td>University Technology Center (UTC)</td>
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<td>Det Norske Veritas</td>
<td>NTNU - Norwegian University of Science and Technology</td>
<td>Building technology</td>
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EXECUTIVE MBA
Shipping, Offshore and Finance

A joint programme between
BI Norwegian School of Management
and NTU-Nanyang Business School
Maritime 21: Norwegian Maritime R&D program

Maritime policies and regulations

Arctic transport and operations

Efficient energy

Innovation and maritime business development

LNG

Demanding maritime operations

Maritime knowledge hub and infrastructure
World Ocean Space Centre - Trondheim