

Foresighting Workshop

Digital / Autonomous Ship Development for
North Sea Operations

30th April 2019, Robert Gordon University

Today's Objectives

- Discuss the trends in adoption of digital vessel operation for offshore operators
- Discuss the issues and challenges these impose
- Increase visibility of the expertise within the innovation community
- Identify the key sector challenges
- Identify options for collaborative action and/or SMC led activities

Agenda

9.30	Welcome	Prof John McCall, RGU
9.40	Introduction to the workshop	Iain Weir, Optimat
9.45	Round table introductions	
9.55	Introducing the Scottish Maritime Cluster	Douglas Lang, Chairman
10.05	Insights from the Optimat Sectoral Review	Iain Weir, Optimat
10.20	Research and innovation expertise	
11.35	A case study – how partnership can work	Matthew Heyman, Tymor Marine
11.50	Perspectives from the vessel owners & operators	Round Table Discussion
12.20	Discussion - How can SMC help to develop initiatives that overcome the barriers?	
12.45	Lunch	
13.30	Discussion continued – further thoughts over lunch?	
13.45	Sources of support and advice	Jamie MacLeod, Scottish Ent.
14.15	Open discussion on implications and options for the Scottish maritime cluster	
14.45	Actions / Next Steps	
15.00	Close	

An Analysis of the Maritime Sector in Scotland

Iain Weir, Optimat Ltd.



Overview

An Analysis of the Maritime Sector in Scotland



A report prepared for the Scottish Maritime Cluster (SMC) and Scottish Enterprise



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Executive Summary

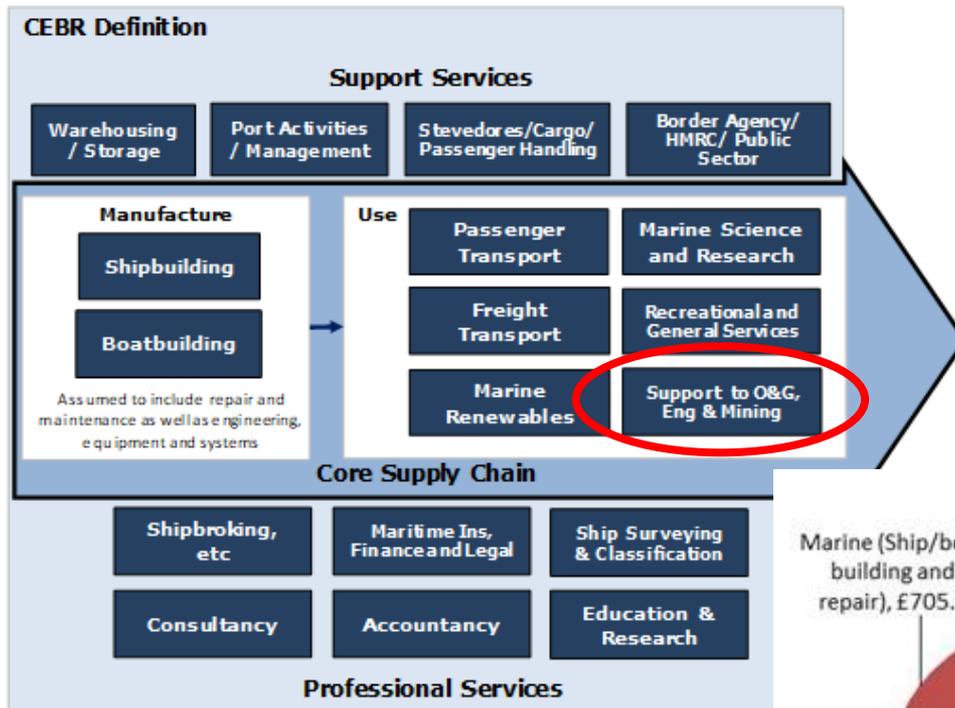
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Appendix A: Study Participants

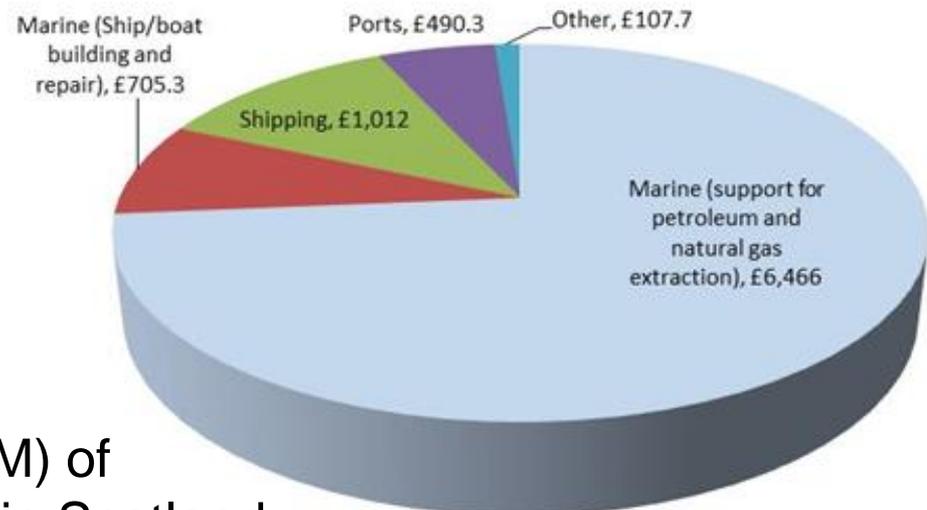
Appendix B: Market Review

Appendix C: A Review of Maritime Cluster Organisations

The Offshore Services Sub-sector



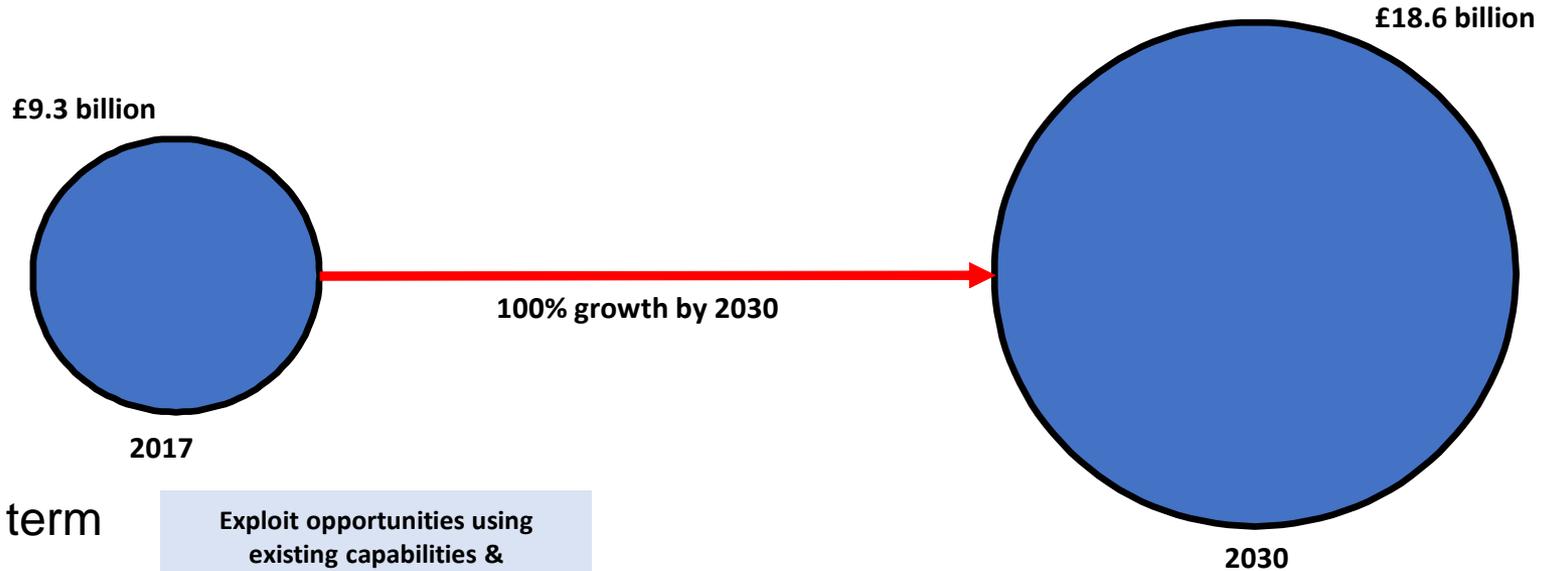
- Offshore service sector is a major part of the overall maritime sector



- Turnover (£M) of Companies in Scotland

Sector Development

- SMC targeting 100% growth by 2030
- Propose three stage approach



Short term



Longer term

Exploit opportunities using existing capabilities & collaborations

Address weaknesses and counter threats by developing a far-sighted strategy and collaborative R&D

Position the cluster to exploit future opportunities via collaborative R&D, inward investment and cross-sectoral innovation

Growth Strategies

1. Exploit UK ambitions for maritime leadership
2. Promote current sector strengths
3. Explore options to protect and grow the sector in Scotland
4. Establish special interest groups for skills, digitisation, autonomy and green ships
5. Mobilise and support cross-sectoral innovation activities
6. Identify opportunities for import substitution
7. Provide a focal point for intelligence on European and global markets

Digital / Autonomous Vessel Operation



- Remote machinery monitoring
- Remote machinery diagnostics
- Remote machinery control
- Automated ship-shore administration
- Machine collision avoidance
- Remote watch-keeping
- Shore-side Bridge Proxy
- Remote deep sea navigation
- Fleet monitoring & control
- Autonomous deep sea navigation

Extracts from Review: Digitisation

Key Threat: Disruptive Digitisation

The trend towards the use of ICT and automation technologies for both vessels and shipping operations is expected to have far reaching, disruptive consequences for the maritime industry and its workforce. Some are already feeling the pace of change and/or are preparing for an uncertain future. Of course, this could also be regarded as an opportunity for Scotland but a recent report indicates that Singapore, Oslo, Copenhagen and London are the best prepared regions. The same report mentions that “several shipping companies and maritime technology companies are adding Chief Digital Officer (CDO) to their management team”.

Skills, digitisation, automation and green shipping are key issues for the future and can be regarded as areas of both opportunity and/or threat for Scotland

These are obvious thematic areas for establishing special interest groups and SMC activities.

Establish special interest groups (SIGs) for skills, digitisation, autonomy and green ships

These are recognised as key issues for the sector going forward and can be considered, as already highlighted, as both opportunities and threats. Early action is more likely to ensure these are areas of opportunities. These themes should be addressed by interested parties in a collaborative way and, therefore, special interest groups with the purpose of identifying how the sector can work individually and collectively to respond to these issues should be set up at the earliest opportunity.

Other clusters are very active

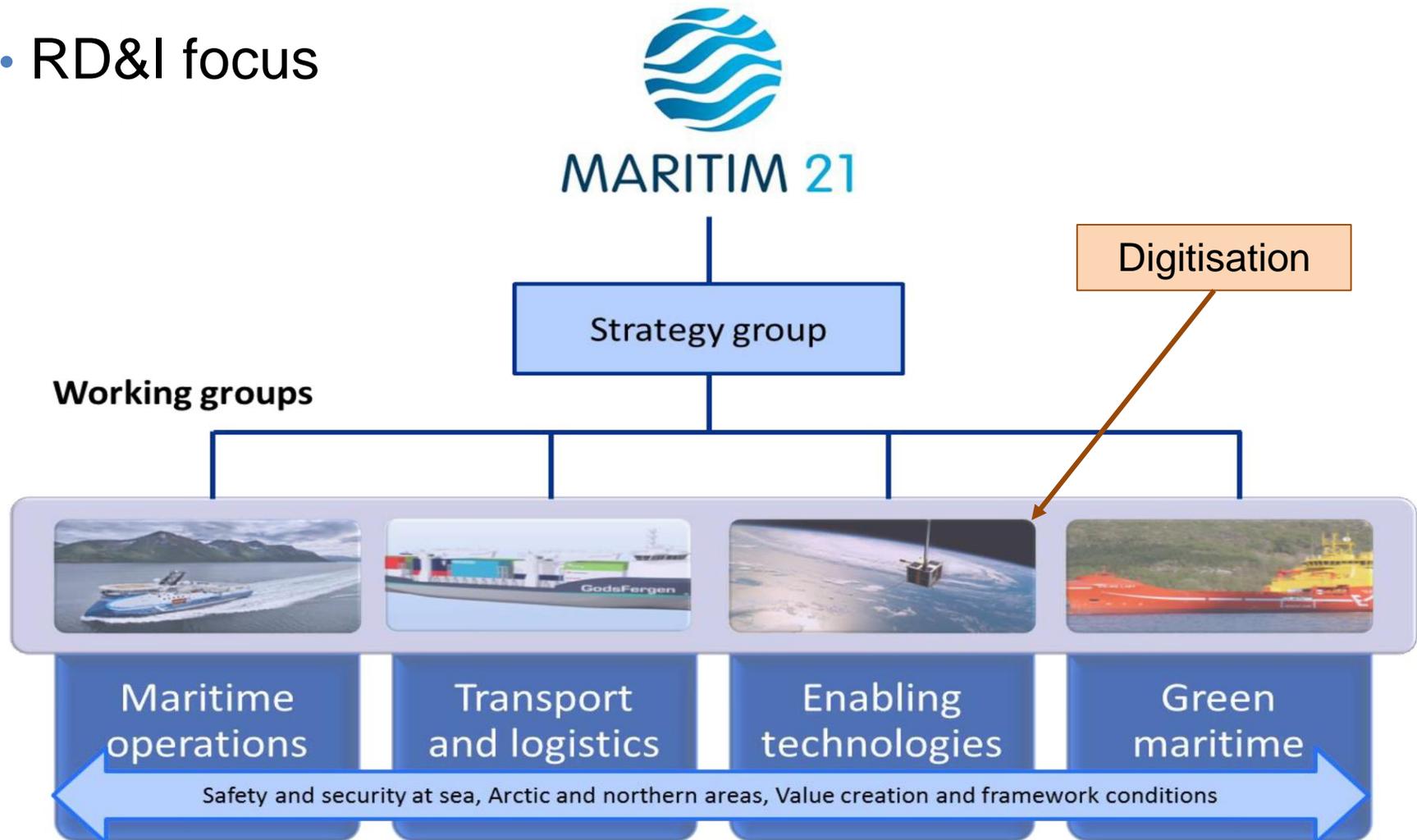
Maritime Norway – a national industry with increasing regional specialisation
Source: Menon Business Economics.

- e.g. Norway
 - Regional specialisation
 - Identified digitalisation as a key driver
 - Developed Maritim21 strategy
 - RD&I focus



Maritim 21

- RD&I focus



What can SMC do?

- Previous workshop on digital vessel operations
 - Digitisation is here to stay - an ongoing opportunity and challenge
 - Highly relevant expertise in Scotland's innovation community
 - Key role for digitisation to
 - Enhance operational efficiencies
 - Change operational procedures
 - Address environmental regulations
 - Collaborative opportunities identified
- ***Can we identify other areas for collaboration today?***
- ***SMC can help take them forward***
- ***Should we continue workshop programme?***

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