



Subsea UK

Neil Gordon

Chief Executive Officer

Championing the UK Subsea Sector Across the World

Overview

- About Subsea UK
- Facts and figures
- UK industry evolution
- Centre of Excellence
- Technology and Innovation
- Skills and Knowledge
- Global Market Overview

Subsea UK Profile

- Founded in 2004; industry partnership with government
- Self sustaining privately funded trade body
- Champions for the UK Subsea supply chain through:
 - Supporting Business Development
 - Innovation & Technology
 - Skills & Future Talent
 - Diversification
 - Exports & International Business



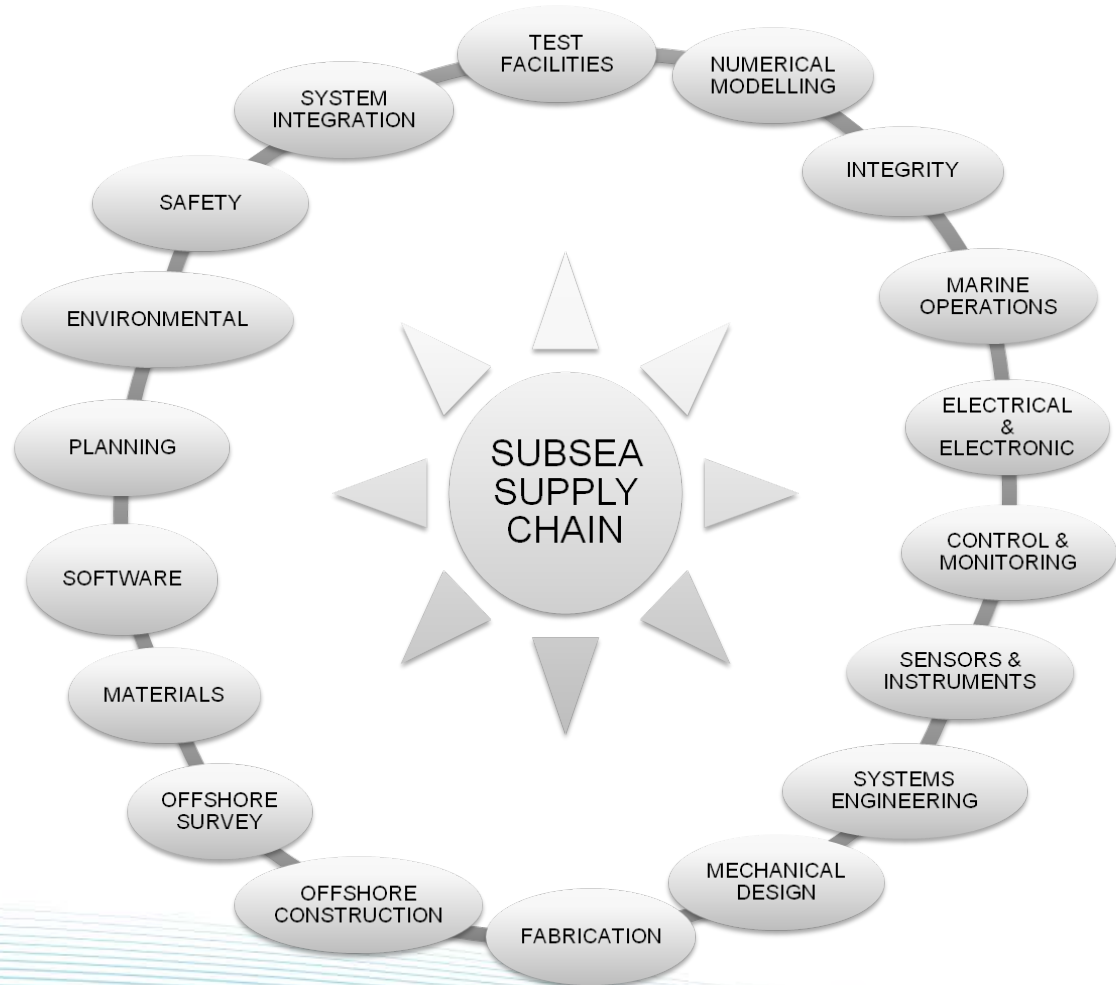
An aerial view of an offshore oil rig in the ocean. A large orange and blue supply vessel is positioned above the rig, connected by several thick cables. The rig itself is a complex of yellow and white structures, with numerous yellow pipes and cables extending across the water's surface. The background shows a dark blue sea and a distant shoreline with industrial buildings.

We act for the entire supply chain bringing together operators, contractors, suppliers and people in the industry

Subsea UK Membership Profile

Over 330 members

- Operators
- Main contractors
- Engineering houses
- Manufacturers
- Sub suppliers
- Component suppliers
- Academia
- Support services

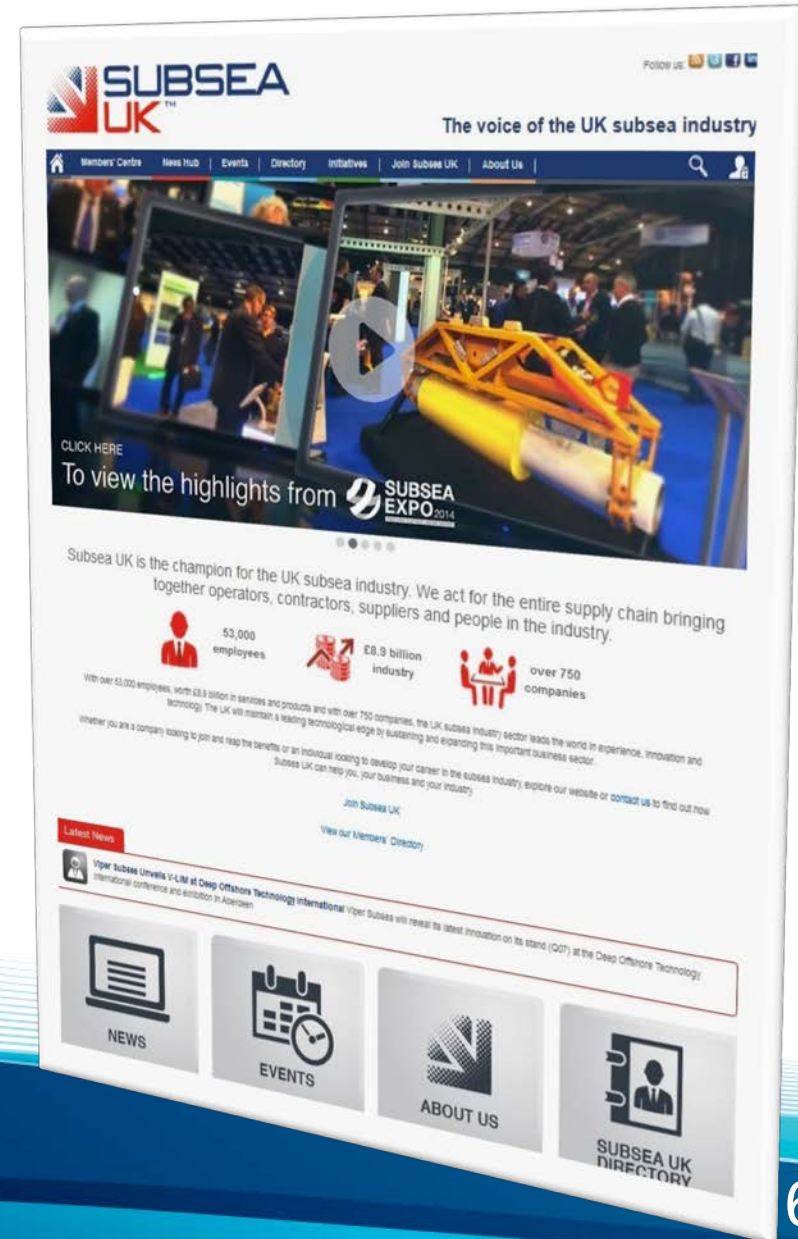


Subsea UK Website

Main communication tool attracting almost 20,000 unique visitors monthly.

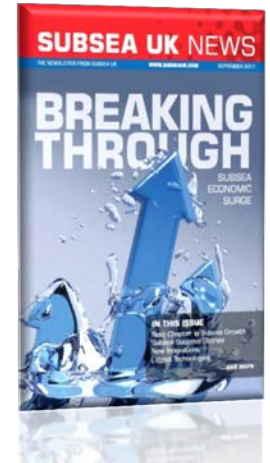
- Subsea Industry News HUB
- Subsea Company Directory
- Events, exhibitions, conferences
- SubseaIntel - Market Intelligence
- Resource Archives
- Subsea UK Magazine (print and online version)

www.subseauk.com



Subsea UK Magazine

- Quality magazine for subsea industry
- 2,500 printed copies
- Distributed at international events
- Electronic distribution to over 15,000 contacts
- Members news
- Advertising opportunities



Subsea Industry Sectors



Oil & Gas



Defence



Wave and Tidal



Mining



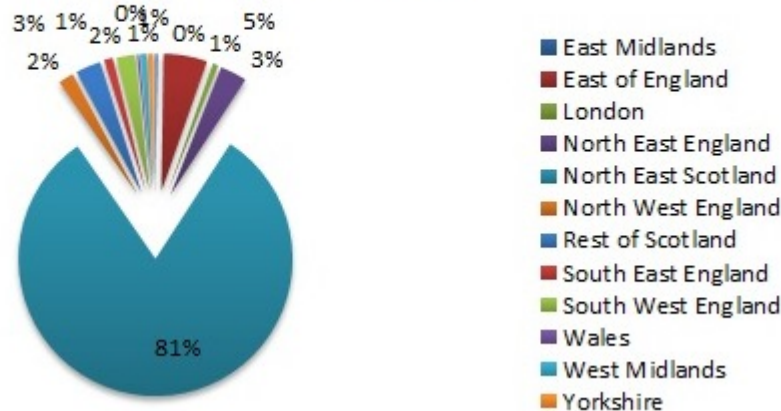
Ocean Science



Offshore Wind

Total UK Subsea Sector Output

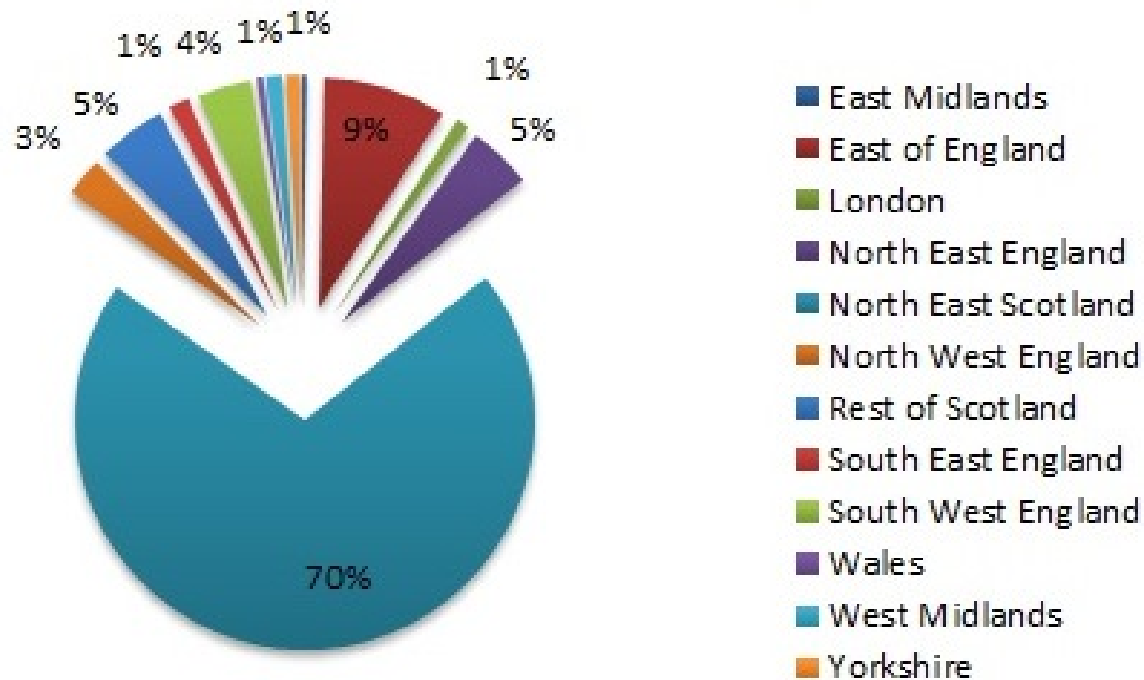
UK Subsea Sector Output by Region - Total £8.9 Billion
£5.9 Billion in 2010



- Over £8.9 billion - equal to 45% of world subsea market (£20 billion)
- Growth is due to both export and domestic market.
- North East Scotland dominates output due to presence of large contractors.

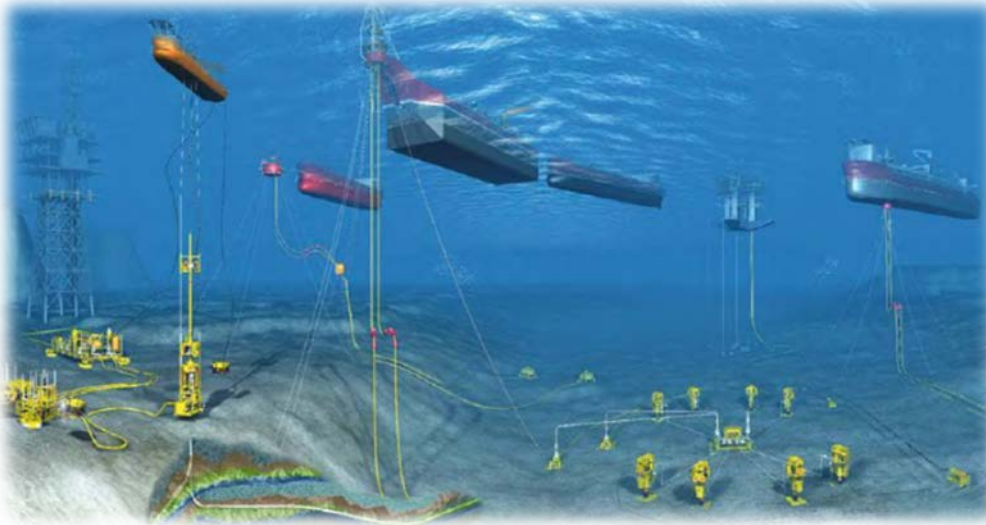
UK Subsea Sector Exports

**UK Subsea Exports by Region - Total £4.3 Billion
(£3.3 Billion in 2010)**



Subsea UK Business Report

Offshore Field Sectors



Topside

Platforms - Fixed, floating, land based

Subsea

Seabed to Surface (water column)

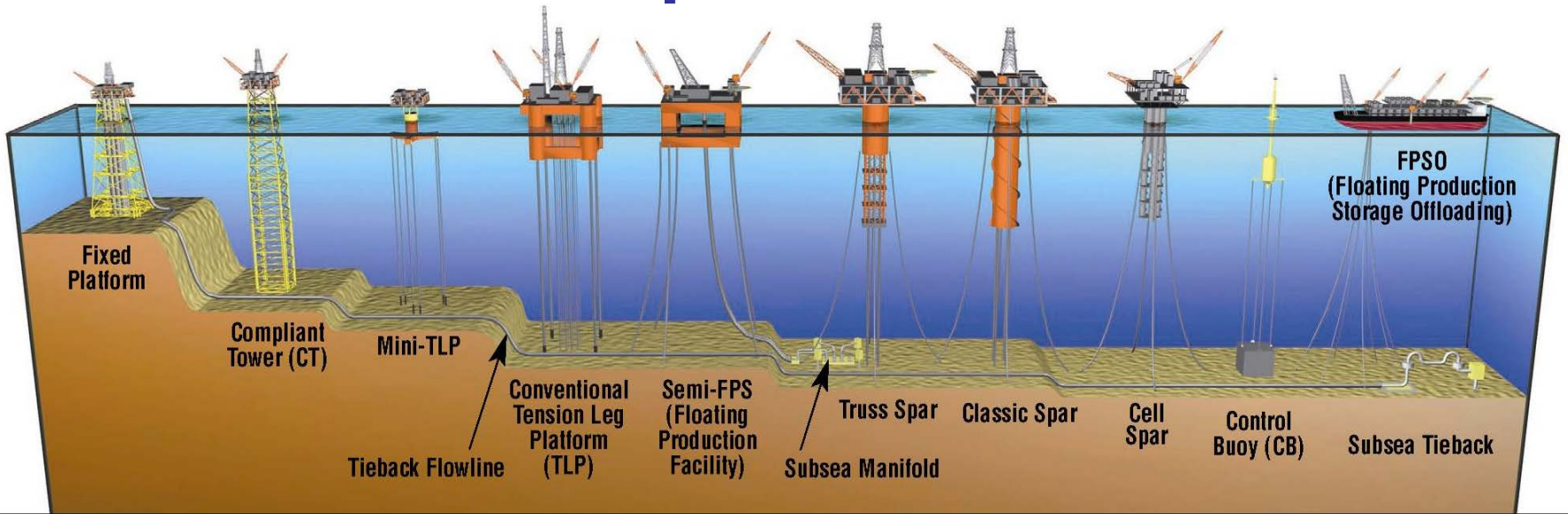
“SURF” (Subsea, umbilicals, Risers and Flowlines)

Manifolds, SCM's, Xtrees, wellheads, booster pumps, separation, pipelines etc.

Sub-Surface

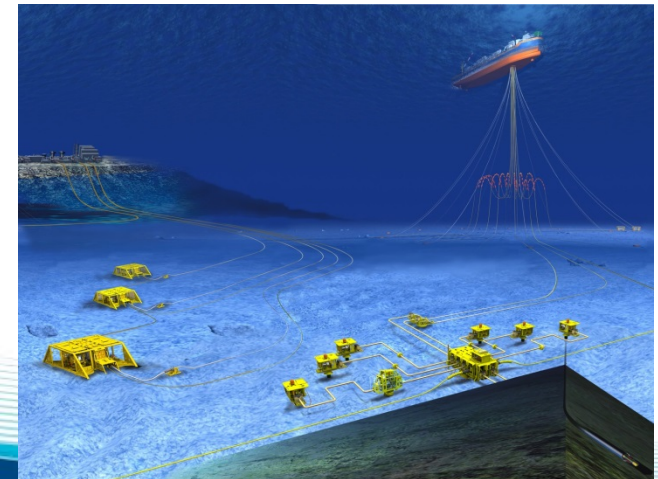
Downhole, drilling, casing, geology and reservoir, well intervention etc.

Offshore Development



System types can be grouped into 2 categories:

1. **Dry Tree Systems**
2. **Wet Tree Systems**



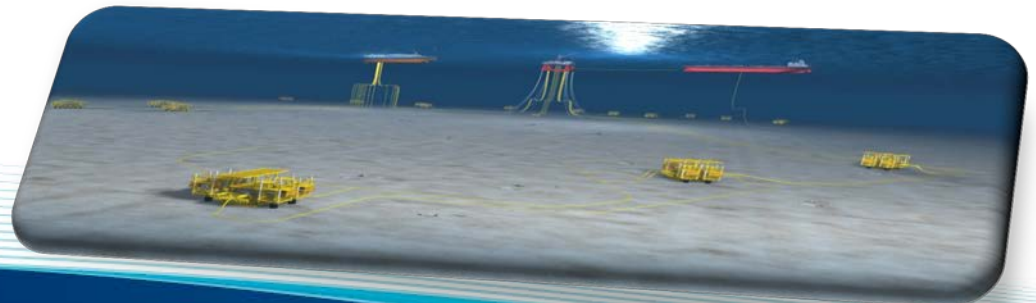
UK - Subsea Centre of Excellence

Envy of many countries around the world

New York Times July 2013

“The expertise generated by the North Sea continually influences undersea work across the globe” Peter Blake - Chevron

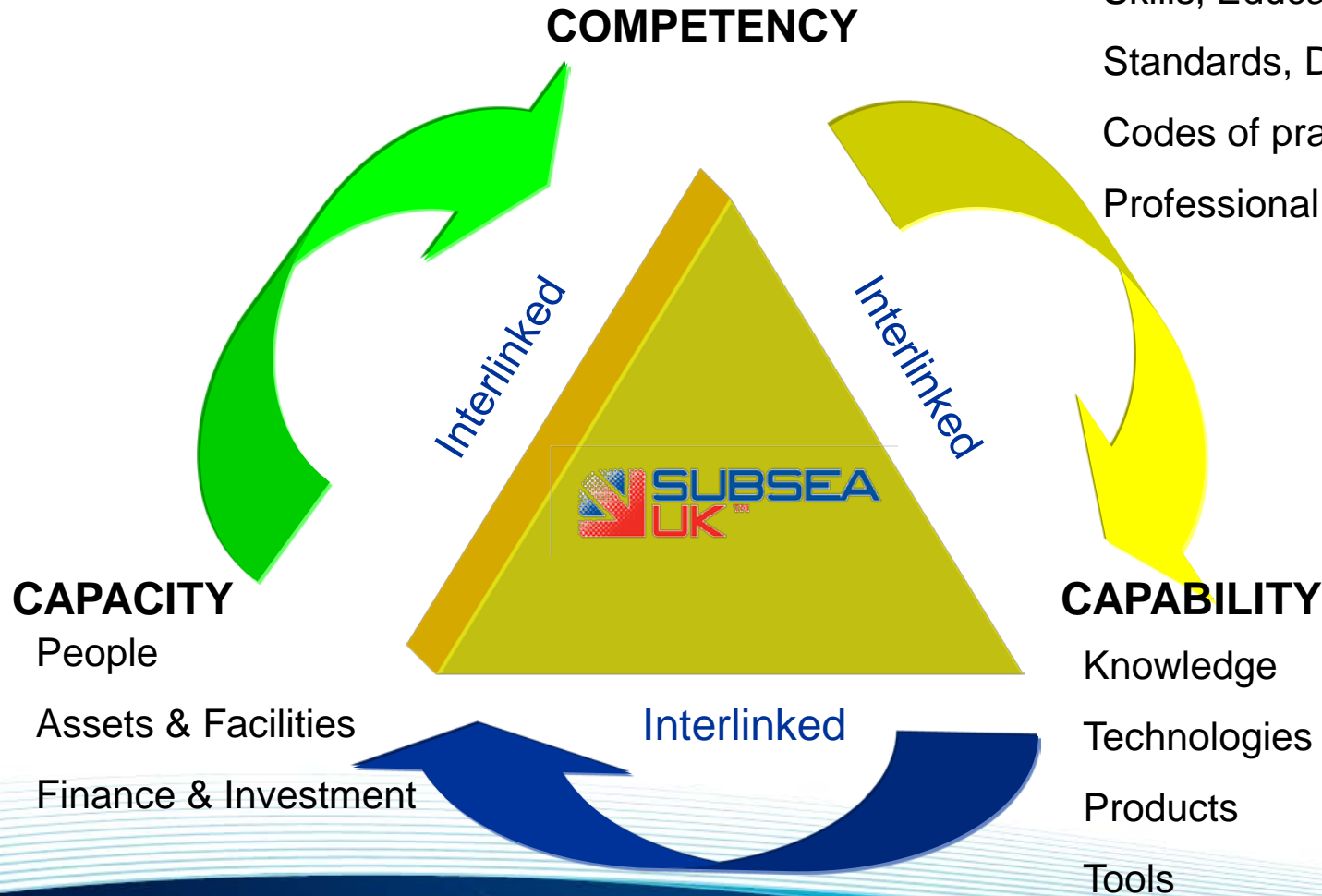
“We often try new technology in the North Sea - it is a test bed” Matt Corbin - AKER Solutions



Subsea Excellence – No Accident



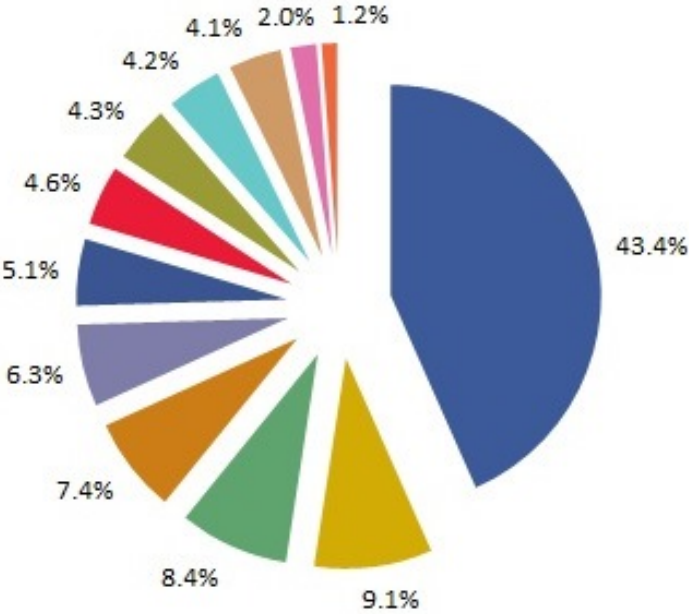
Skills, Education, Training
Standards, Design Norms
Codes of practice, Guidelines,
Professional Development



Subsea Companies in the UK



UK Subsea Companies by Region
(Sample of 761 companies)



- North East Scotland
- North East England
- North West England
- South East England
- Rest of Scotland
- West Midlands
- London
- South West England
- East of England
- Yorkshire
- East Midlands



Cluster or Hub?

- Supply Chain Mapping
- Connecting industry
- Information provision
- Exclusive V's Inclusive
- Market Intelligence
- Technology Roadmap

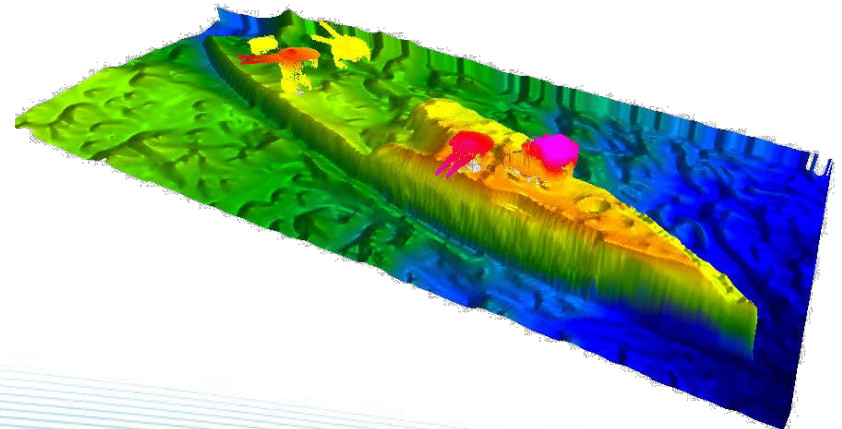
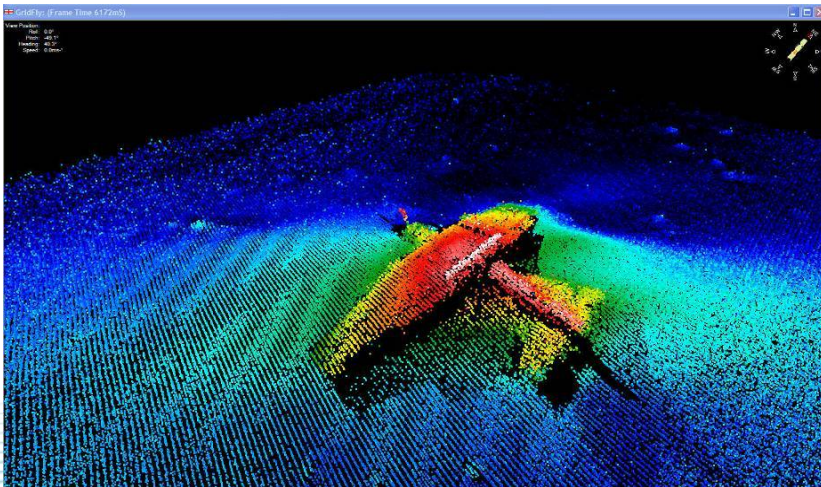


Supply Chain Segmentation

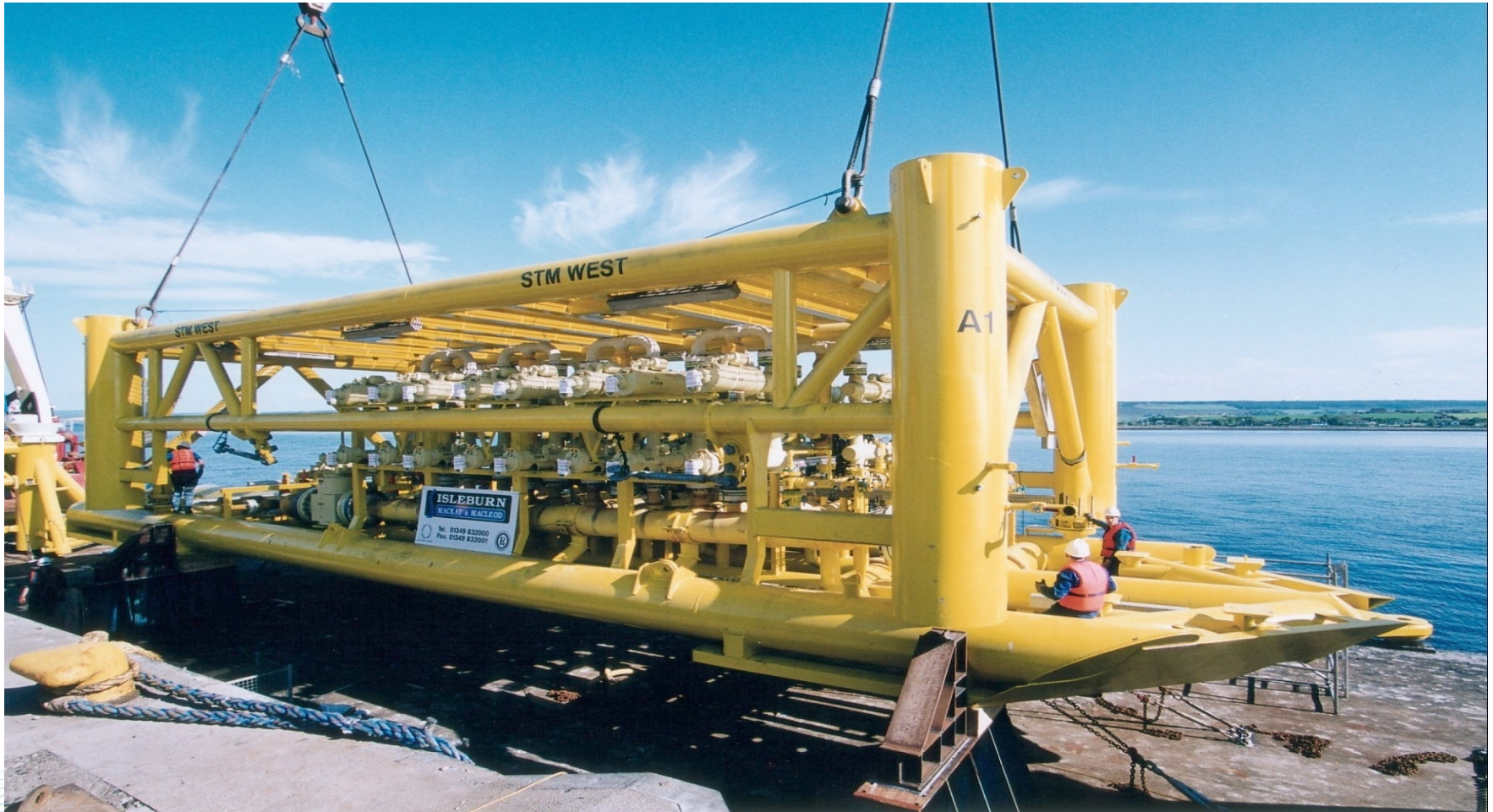


SUPPLY CHAIN CATEGORIES	MARINE, SUBSEA & PIPELINES
<ul style="list-style-type: none"> • <i>Main Contractor / Consultancy</i> • <i>Integrated Services</i> • <i>Project Management</i> 	<p style="text-align: center;">Engineering, Design and Construction</p> <p style="text-align: center;">Installation / Removal</p> <p style="text-align: center;">Operations, Maintenance, Modifications and Decommissioning</p>
<ul style="list-style-type: none"> • <i>Manufacturing</i> • <i>Fabrication</i> • <i>Machining</i> • <i>Precision Engineering</i> • <i>Supplier / Distributor / Stockist</i> • <i>Agent</i> • <i>Consultant</i> • <i>Services</i> • <i>Technology Provider</i> • <i>Specialist</i> • <i>R&D (to be identified separately)</i> 	<p style="text-align: center;">Vessels</p> <p style="text-align: center;">Mooring & Foundations</p> <p style="text-align: center;">Survey / Positioning</p> <p style="text-align: center;">Structures / Xmas Trees / Manifolds / Templates / Wellheads</p> <p style="text-align: center;">Process, Pumping and Power Systems</p> <p style="text-align: center;">Controls, Sensing, Monitoring & Communication</p> <p style="text-align: center;">Pipe / Flexibles / Risers / Flowlines</p> <p style="text-align: center;">Umbilicals / Cables</p> <p style="text-align: center;">Diving / ROV / AUV</p> <p style="text-align: center;">Subsea Inspection / Repair / Maintenance</p> <p style="text-align: center;">Subsea Well Intervention</p> <p style="text-align: center;">Buoyancy / Protection</p> <p style="text-align: center;">Environmental / Site Studies / Monitoring</p>

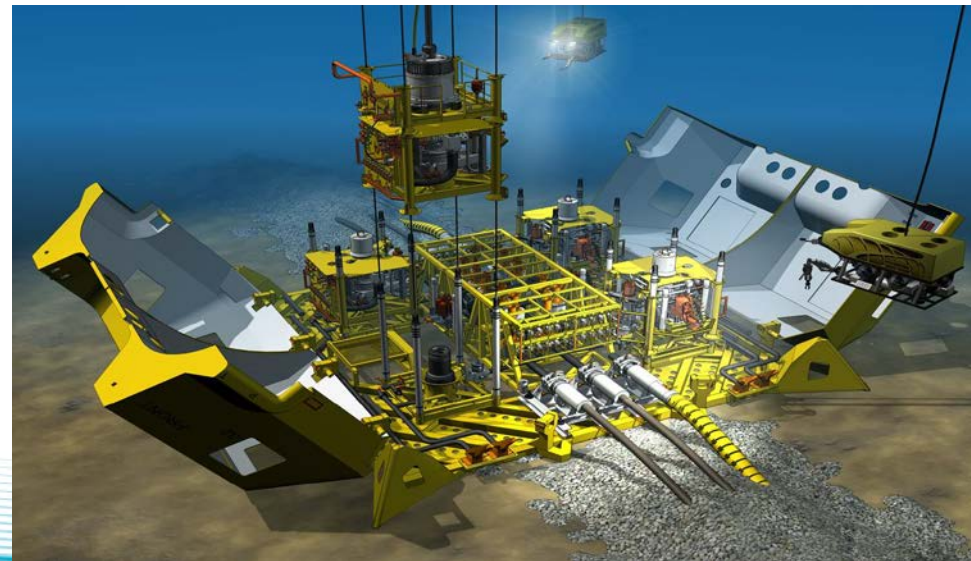
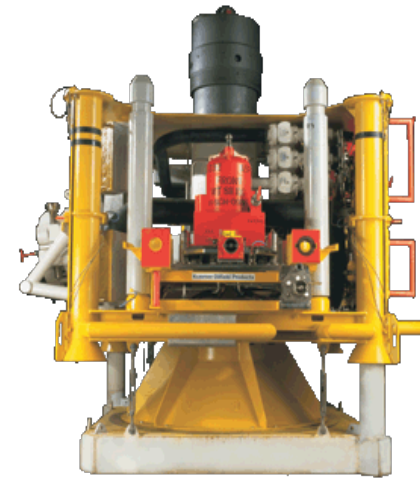
Underwater Survey



Engineering & Procurement



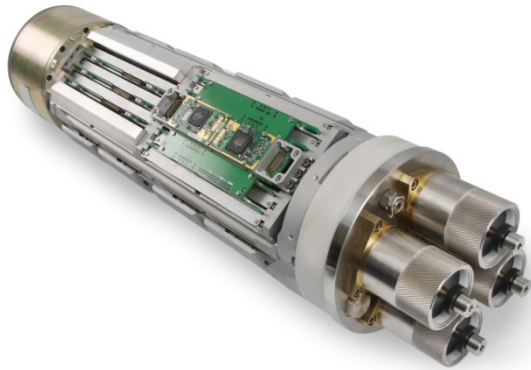
Trees, Manifolds & Templates



Subsea Instrumentation



Controls & Umbilicals



Subsea Construction



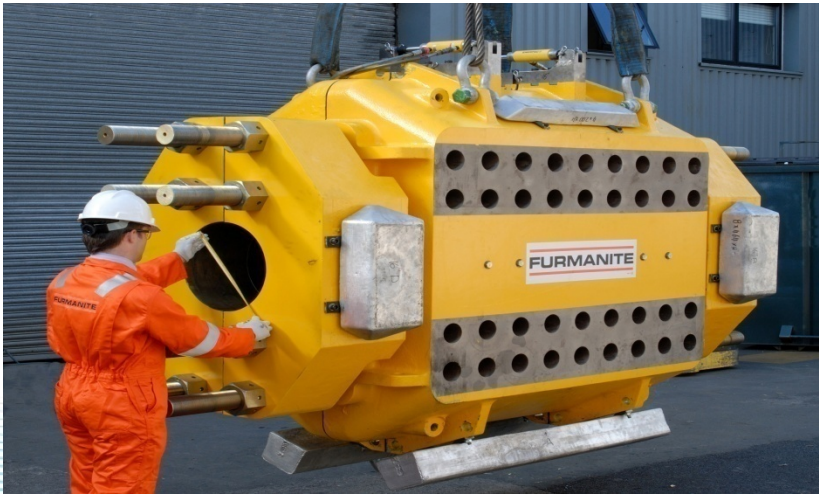
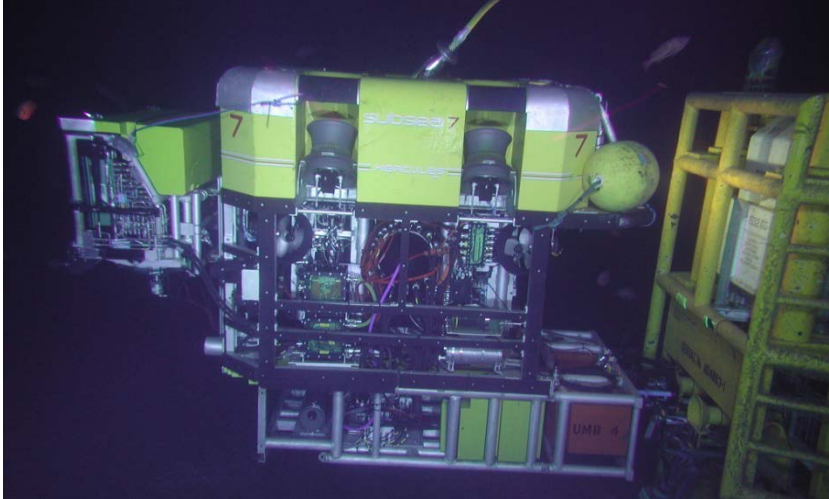
Flow-line & Umbilical Installation



Mooring & Connection Systems



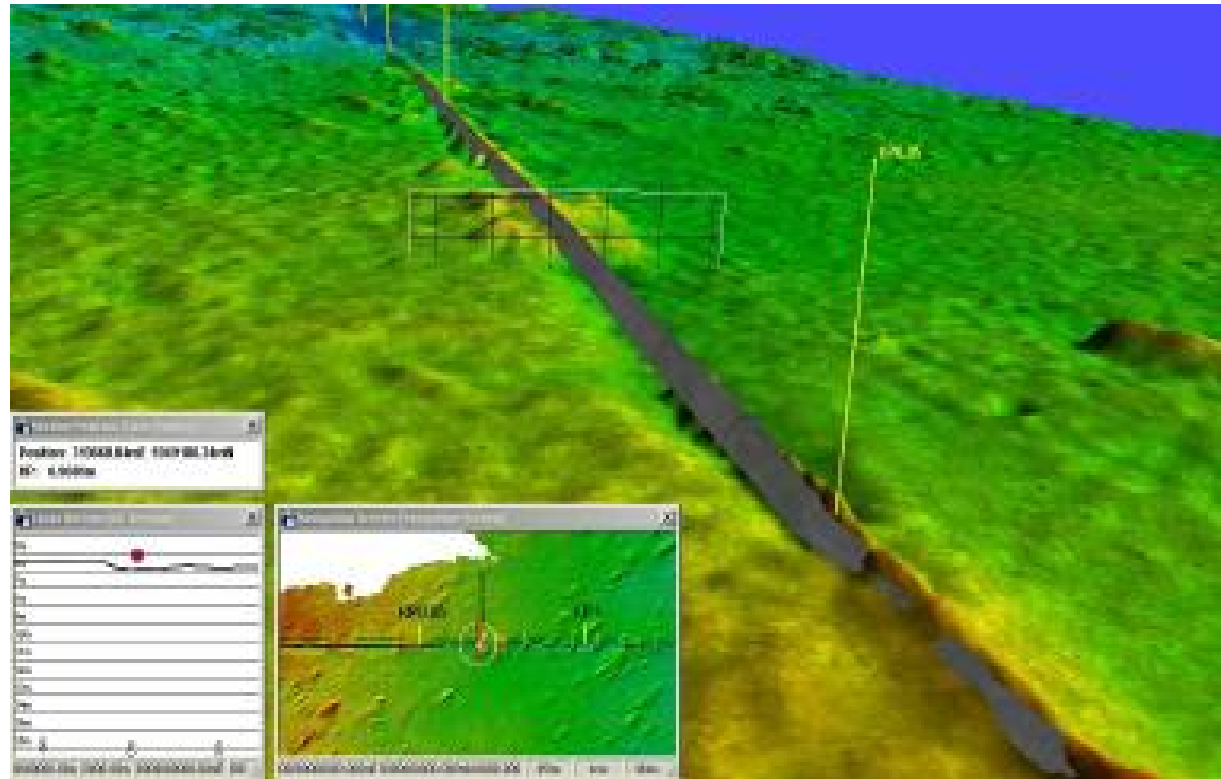
IRM Technologies



Well Intervention



Survey Sensor Technologies



UK Subsea Industry

- UK Leads the world in capability
- Technology & Innovation key focus
- UK Companies operating globally
- Track record in Partnerships and cooperation – now and for the future

Technology & Innovation



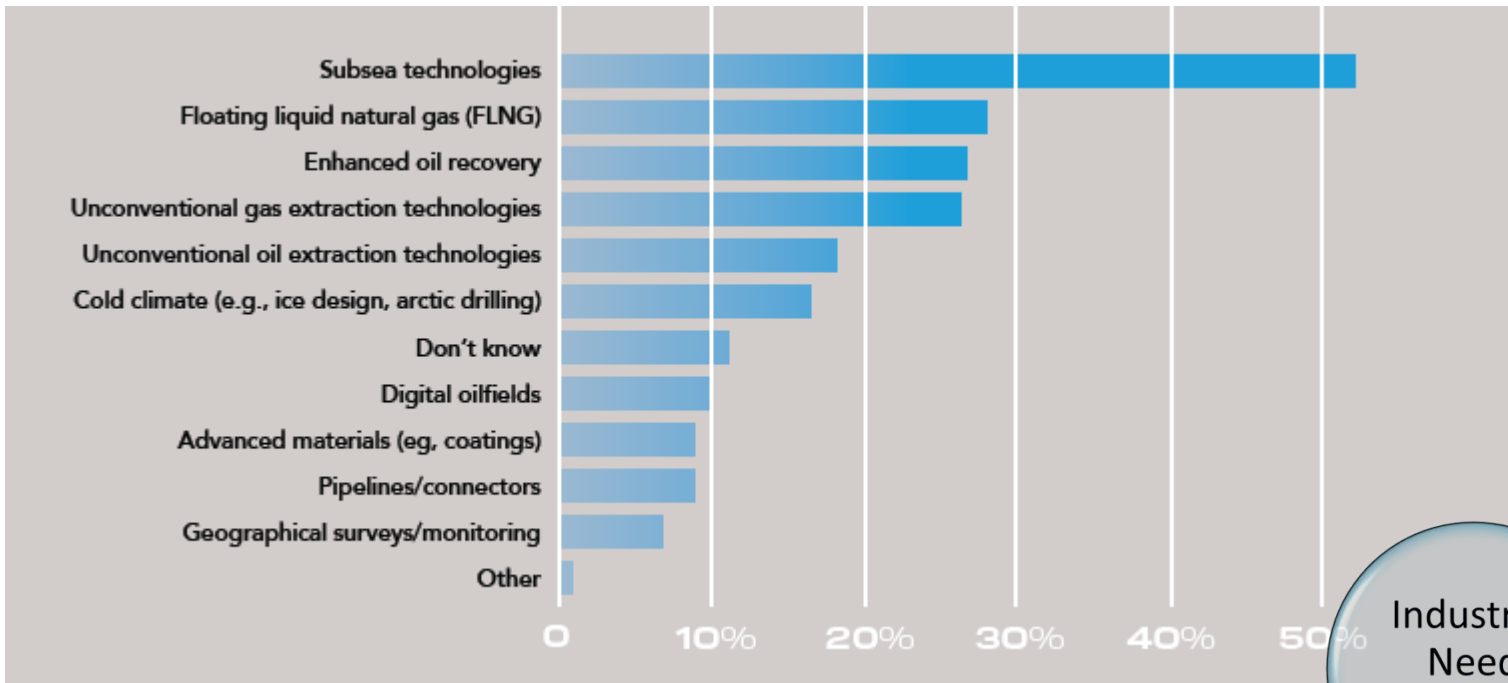
NSRI (National Subsea Research Initiative)

Focal point for the UK Subsea Industry promoting Research and Development activities and facilitating collaboration within the sector.

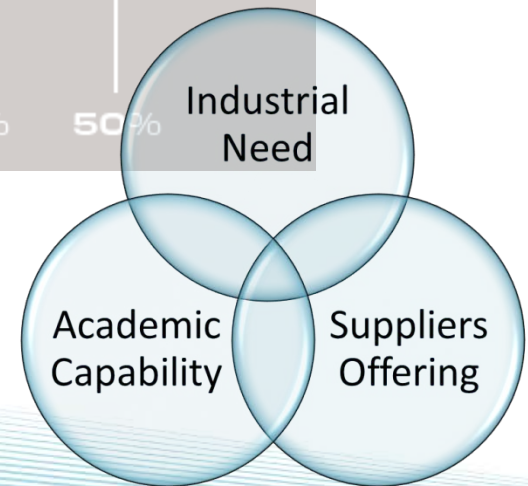
- Subsea UK's technology “arm”
- Recently established
- Act as a direct link between the subsea industry and academia
- Advisory body and knowledge centre for subsea technology
- Interface with government Facilitate the development of subsea technologies
- Linked to OGIC



Why we do it

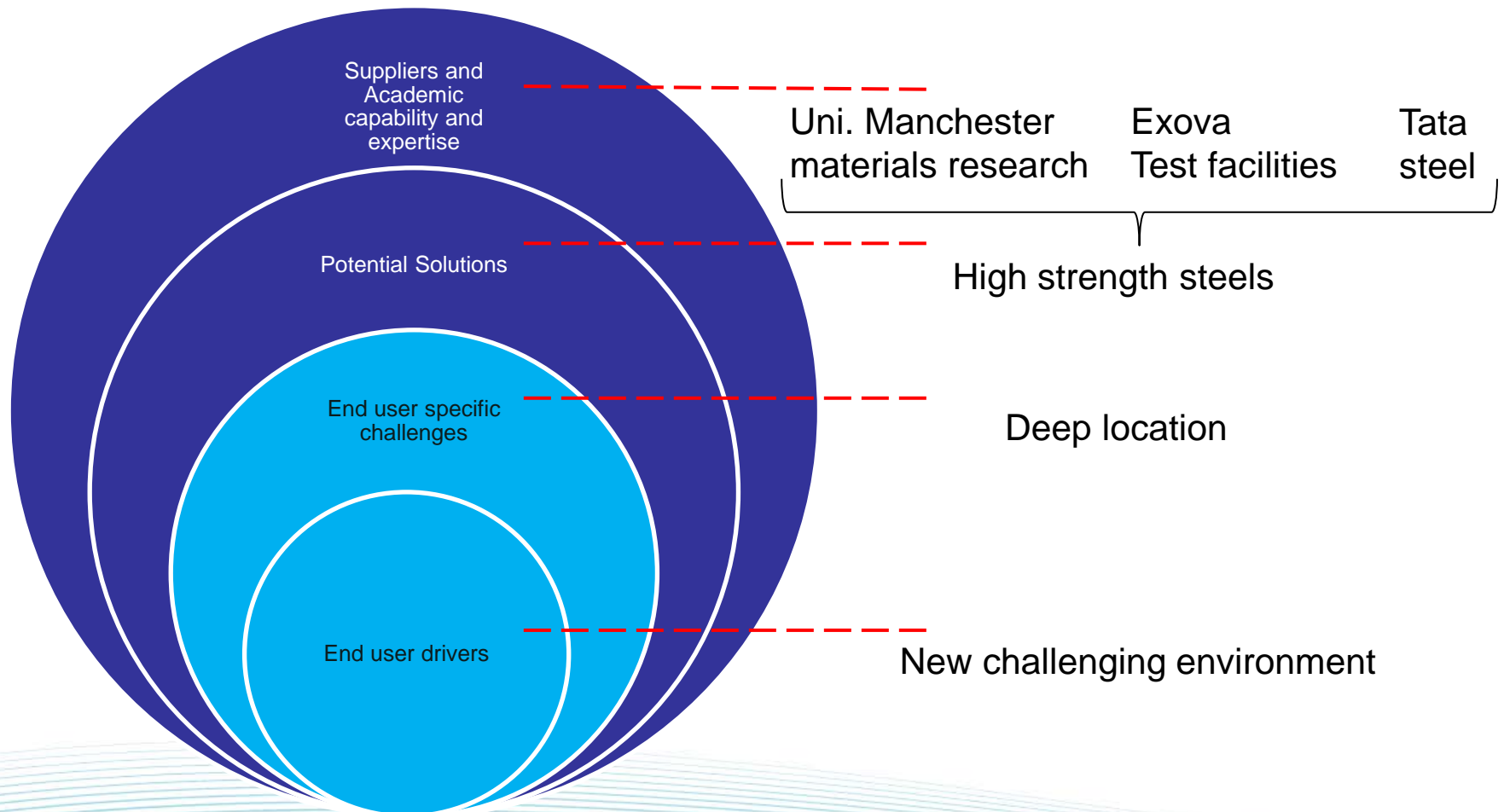


Ref: Challenging Climates; DNV- GL

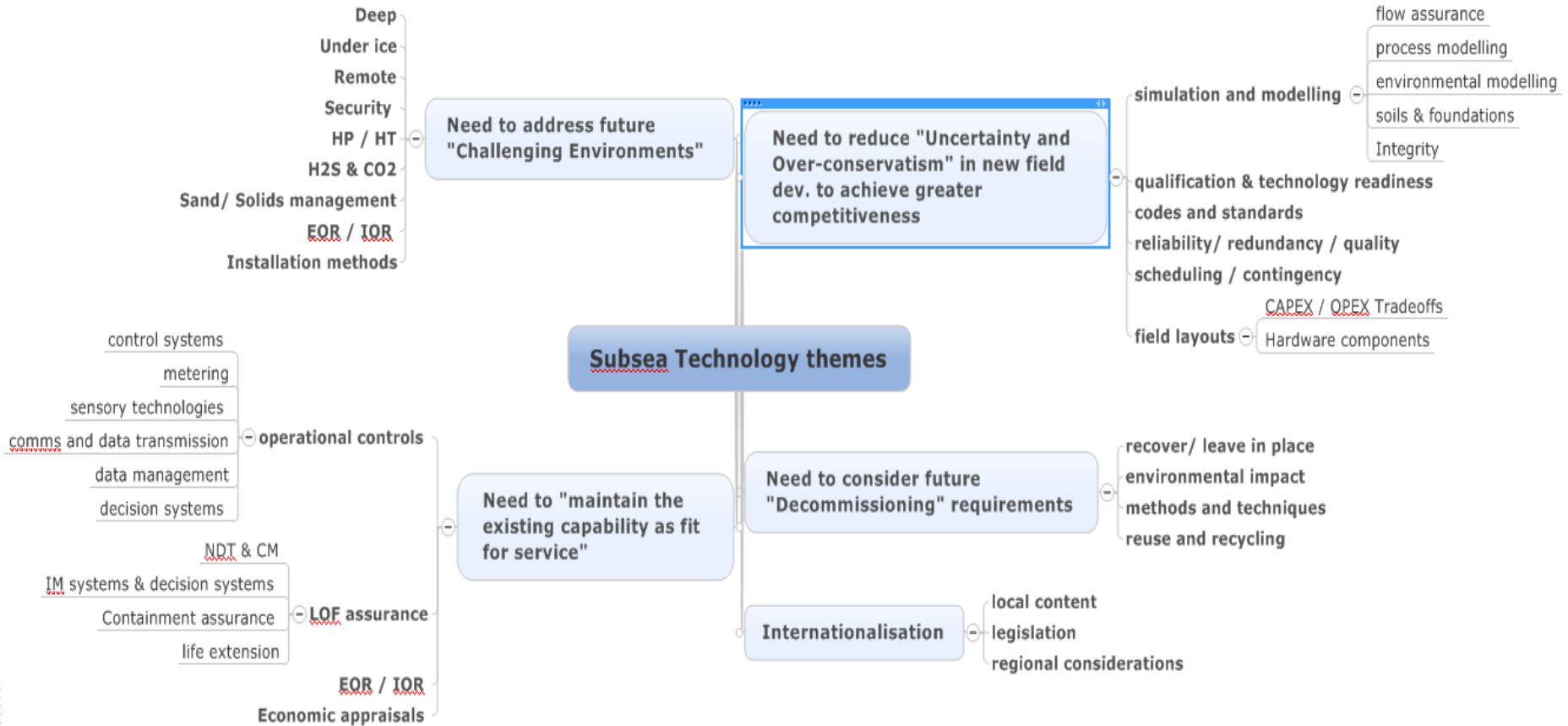




How we do it



Subsea Technology Themes

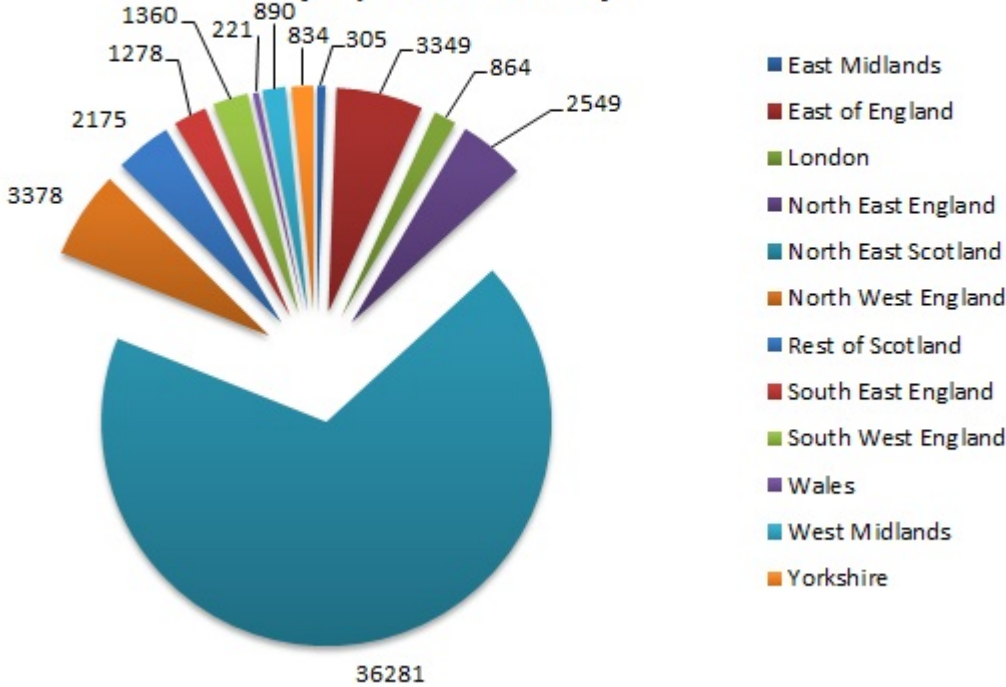


53,000 People Directly Employed



UK Subsea Sector Workforce by Region

Total = 53,000
(40,000 in 2010)



- Does not include an additional 13,000 employees who work for non-subsea companies that provide raw materials or support to the industry.

Skills & Future Talent

- Short Term
 - Conversion Programmes
 - Military personnel
- Medium Term
 - University Visits
 - Scholarships
 - Colleges
- Long Term
 - Subsea Career Website “Inside Industry”
 - School engagement



Career Information Website

www.Subsea Target.com



Education School Leavers Graduates Job Changers Already in Industry

How would a subsea career sit with you?

The subsea industry is a dynamic place and continually growing. It needs people with a range of skills and knowledge to support its activities onshore and offshore in technical and non-technical roles. If you'd like to find out more, please watch the video.

[Watch the video](#)

Subsea
Producing oil and gas below the seas surface

Home / Energy Industry / Subsea

Subsea

The subsea industry is involved in extracting oil and gas reserves which lie beneath the seabed, but also covers other sectors such as oceanology, marine renewables and defence.

People often think about oil rigs and platforms when they think of the subsea industry, and these have become a common site in UK waters since reserves were discovered in the north sea more than 40 years ago. These fixed constructions stand hundreds of miles offshore and are vital in extracting subsea oil and gas reserves.

www.subseauk.com

Future Growth and Trends

Global Subsea Output - 2014 to 2019

- Predicted to grow by 80 to 100% over five years
- £20 billion to £40 billion
- Opportunity for UK companies
- Challenge to retain 45% share of global market



Subsea - International Market

Global Regional Hubs

- Europe – UK/Norway
- North America - GOM
- South America - Brazil
- Asia - Malaysia/Singapore/Indonesia



Major Events Supported

- Subsea Expo - Aberdeen UK
- Subsea Asia – Singapore & Indonesia
- Subsea Tieback Forum – New Orleans USA
- Offshore Europe – Aberdeen UK
- Rio Oil & Gas - Brazil
- ONS - Norway
- OTC - Houston USA
- AOG - Perth Australia



Summary

- Subsea UK
- Facts and figures
- UK industry Centre of Excellence
- Technology and Innovation
- Skills and Knowledge
- Global Market Opportunities
- Partnering for mutual benefit





Image courtesy of Subsea 7

Thank You