

MARINE PROFILE

FOR SOUTH HAMPSHIRE AND THE ISLE OF WIGHT

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This document serves as a profile of the Marine sector for South Hampshire and Isle of Wight. Its purpose is to inform and provide key information on all aspects of the sector for a range of different audiences: local workers, existing businesses in the area, new businesses and start-ups, prospective workers, and potential businesses and investors wishing to relocate to the area.

SOUTH HAMPSHIRE AND THE ISLE OF WIGHT

South Hampshire and the Isle of Wight (Solent LEP area) have the potential to deliver sustainable economic growth for the UK economy. The strategy for growth is based on the need to make the best use of our outstanding assets of highly-skilled people, world-class businesses, land for development and world leading higher education establishments.

Since 2008 the area has witnessed strong private sector jobs growth driven by the development of more knowledge based industries and high value advanced manufacturing.

In the period to 2026 the area will capitalise on its strengths and through collaboration, commit to creating greater levels of wealth creation through additional private sector growth. In addition to current trends the Solent Local Enterprise Partnership is planning to create 10,000 new jobs, contributing to GVA growth of 2.1% which equates to an extra £1bn of economic value.

Key Facts:

1. A total population of 1.5 million (2011) of which 63% are of working age
2. Local GVA £23.7 billion, supporting 485,000 (FTE) jobs
3. Part of the wider South East regional economy valued at £187 billion (GVA, 2010)
4. 50,000 businesses (VAT registered stock)
5. Strategic sectors include - Marine, Aerospace, Defence-related industries, Advanced Manufacturing, Transport and Logistics
6. Leading companies include – IBM, BAE Systems, EADS Astrium, Boeing, Lockheed Martin, Zurich, Lloyds Register Group, Skandia, QinetiQ, Carnival UK and B&Q
7. 7 out of the top 10 global aerospace companies operate from the area
8. Southampton Airport services 43 European destination and 1.76 million passengers
9. The Port of Southampton is one of the largest in the UK, providing £1.2bn of local output per annum
10. The area has a number of strategic employment sites with over 110 hectares of land for development
11. The Solent Enterprise Zone now has in place a £27m infrastructure package to enable the delivery of 800 jobs by 2015
12. The University of Southampton is one of only 19 UK universities to be ranked among the top 100 in the world
13. The area is home to the universities of Southampton, Portsmouth, Winchester and Southampton Solent University
14. 55,000 students are educated in the area, a higher proportion than for the South East or Great Britain
15. 32% of the working age population hold higher level qualifications (degree level or higher)

THE SOLENT LOCAL ENTERPRISE PARTNERSHIP (LEP) (www.solentlep.org.uk)

The Solent Local Enterprise Partnership (LEP) was formed after the Government offered local areas the opportunity to take control of their future economic development. It is a locally-owned partnership between businesses and local authorities and plays a central role in determining local economic priorities and undertaking activities to drive economic growth and the creation of local jobs.

‘Our vision is to create an environment which will better facilitate growth and private sector investment in the Solent area, allow businesses to grow, become more profitable, greener and enable new businesses to form and prosper’.

1.0 INTRODUCTION

The South Hampshire and Isle of Wight's growing and well established marine sector continues to be a key driver of future local economic growth as well as making an important contribution to the UK economy and national growth.

Located on the south coast of England, South Hampshire and Isle of Wight is at the heart of a marine sector, which is worth £3.6 billion and comprises more than 48,000 jobs and over 3,000 businesses, with sub sector strengths in research, manufacturing, defence and commercial port activities.

UK Trade and Investment (UKTI) have identified the following sub-sectors for future investment into the UK:

- Offshore wind
- Oil and gas
- Marine energy

There is potential for investment in these sub-sectors across South Hampshire and Isle of Wight given the existing and well established cluster that has valuable industry links and supply chains in place.

Crucial to the continued strength of the marine economy is the presence of world-class marine education and research facilities.

The close links between the three universities, the National Oceanography Centre (NOCS), which is one of the world's top five oceanographic research institutions, and private sector expertise gives the region's businesses a competitive advantage and an international profile.

The sector has experienced employee and business growth over the last 10 years. To support this continued growth there are a number of key marine sites in the area identified for development (see page 34 for further detail).

- Centenary Quay, Southampton
- Cowes Waterfront and the Medina Valley, Isle of Wight
- Kingston Marine Park, Isle of Wight
- Marchwood Industrial Park, Hythe, Southampton
- Solent Enterprise Zone at Daedalus
- Trafalgar Wharf, Portsmouth

¹ **Gross Value Added, Solent Waterfront Strategy (p. 48, 2007)**

² **2010 Business Register and Employment Survey, Office for National Statistics**

³ **2008 Annual Business Inquiry Workplace Analysis, Office for National Statistics**

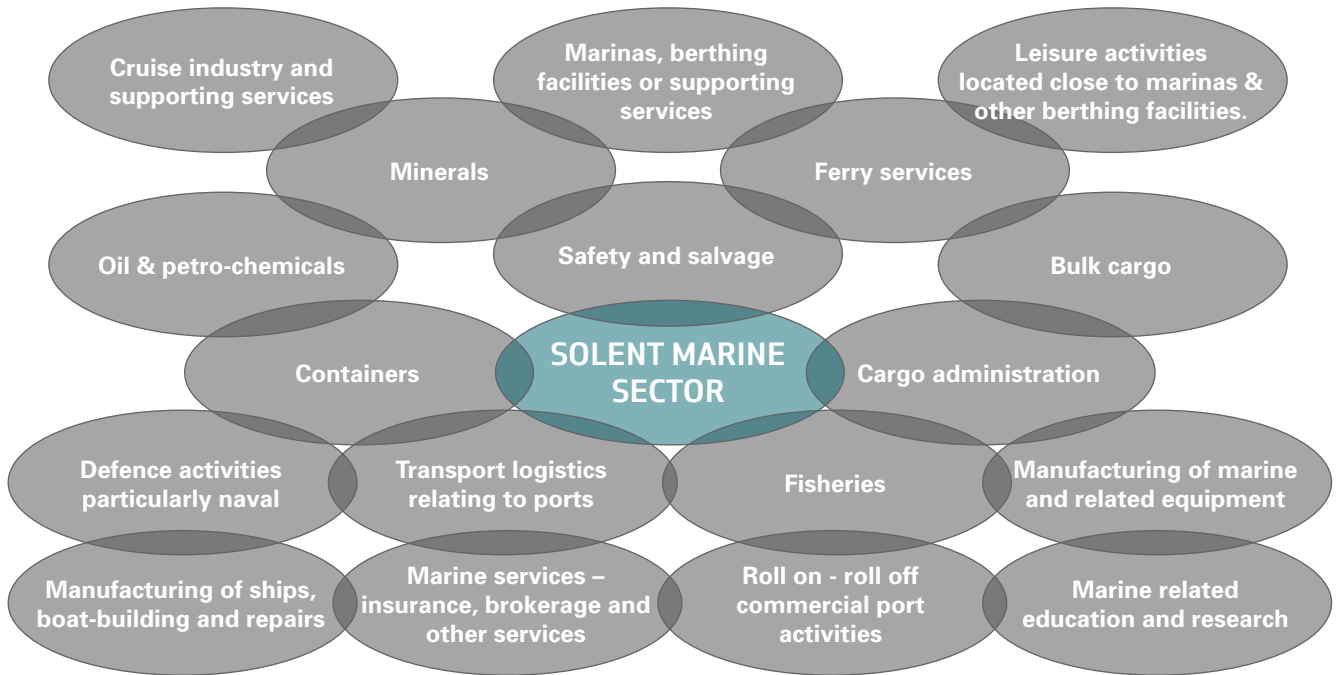
⁴ **Based on analysis of employment figures – see Table 2 in Section 4 (p.6) of this report**

⁵ **University of Southampton, Southampton Solent University, and the University of Portsmouth**

2.0 DEFINITION

The Marine Sector definition adopted by the Solent Waterfront Strategy⁶ best suits the activity and scope of marine in our sub-region. The sector is defined as being made up of the following 18 core marine activities:

Figure 2: Components of the Marine Sector in the Solent Sub-region



⁶Solent Waterfront Strategy (p. 33, 2007)

3.0 VALUE OF THE SECTOR

The value of the marine sector is compared against the total Gross Value Added (GVA)⁷ and this is shown in Table 1.

Table 1: Gross Value Added

	Total (£ million)	Marine Sector (£ million)
UK	1,301,118 a	46,000 b
South East	188,211 a	14,000 c
South Hampshire and Isle of Wight	9,500 d	1,948 d

Sources:

- a 2010 GDP Preliminary Estimate – Q4 2011, Office for National Statistics Statistical Bulletin, released 25th January 2012
- b Socio-Economic Indicators of Marine-related Activities in the UK Economy: The Crown Estate 2008
- c Opportunities for the Marine Industry, South East England, August 2010
- d Solent Waterfront Strategy, 2007 (p48). GVA contribution to the economy of the marine sector equates to approximately £1.9 billion which is equivalent to approximately 20% of GVA within the Solent economic study area. Total Turnover (GDP) is £3.5 billion. It is estimated that the marine sector accounts for approximately 17.8% of total GDP of £20.2 billion for the Solent economic study area.

Note: Values at city level are not available as GVA data from ONS is provided only at Broad Industry levels and SIC code level.

⁷ GVA measures the contribution to the economy of each individual producer, industry or sector in the United Kingdom and is used in the estimation of Gross Domestic Product (GDP). GDP is a key indicator of the state of the whole economy. The link between GVA and GDP can be defined as: $GVA + \text{taxes on products} - \text{subsidies on products} = \text{GDP}$.



4.0 MARINE EMPLOYMENT

Table 2 shows employment numbers for the marine sector and its sub-sectors – research, manufacturing, defence and commercial port activities.

Employment is high in the oil and petroleum industry for the Southampton city region (2,200) due to the Hamble Oil Terminal located on the east bank of Southampton Water and the Falvey Oil Refinery on the south eastern bank of Southampton Water.

There is a high number of marine related employment in education and research for both the Portsmouth (5,100) and Southampton (7,000) city regions as a result of the University of Southampton, Southampton Solent University, National Oceanography Centre and the University of Portsmouth located within the area.

The Ministry of Defence have announced redundancies in the British Army, The Royal Air Force and The Royal Navy. The majority of defence jobs in South Hampshire and Isle of Wight are within the Royal Navy and following the two waves of redundancies in 2011 and 2012, it is expected there will be a considerable decline in defence employment numbers in the Portsmouth city region during 2012 and 2013.

Table 2: Marine Sector Employment, 2010.

Industry	Portsmouth	Southampton	Portsmouth City Region	Southampton City Region	Isle of Wight	Solent	Hampshire	South East	Great Britain
Fisheries, Minerals, Oil & Petrochemicals	0	100	100	2,200	100	2,500	2,300	7,700	107,100
Transport & Logistics	600	700	1,300	2,100	200	3,800	3,600	23,600	166,300
Defence and Commercial Port Activities	1,900	200	3,700	1,400	100	5,600	4,300	14,800	91,500
Cruise Industry & Supporting Services	200	1,600	300	1,700	200	2,100	100	3,100	7,900
Manufacturing (marine equipment, ships, boatbuilding & repair)	1,500	700	3,300	3,700	500	7,900	6,200	32,200	216,600
Marine related education & research	700	2,500	5,100	7,000	1,300	15,200	16,100	92,200	606,600
Marine services (including business services, safety & salvage, and renting & leasing of marine equipment)	900	2,100	1,600	3,400	300	5,600	2,900	27,700	170,900
Total	6,000	7,900	15,300	21,500	2,700	42,700	35,600	201,300	1,366,800

Source: Business Register and Employment Survey 2010, Office for National Statistics

Notes: Figures have been added together into broader industry categories as some data at the lower SIC code level cannot be disclosed. This ensures the figures above are non-confidential and comply with the ONS user guide for BRES data.

All figures have been rounded to the nearest 100 to ensure data is non-confidential in compliance with the ONS user guide for BRES data. It is for this reason the actual sum of column figures does not match the figures in the "Total" row.

Employment includes employees + working proprietors. Working Proprietors are sole traders, sole proprietors, partners and directors. This does not apply to registered charities.

Southampton City Region includes the local authorities of Southampton, Eastleigh, New Forest and Test Valley.

Portsmouth City Region includes the local authorities of Portsmouth, Fareham, Gosport, Havant, and East Hampshire.

The Solent area is made up of the entire areas of Local Authorities in the Solent Local Economic Partnership which are Southampton, Portsmouth, Isle of Wight, Fareham, Havant, Gosport, Eastleigh, New Forest, Test Valley, East Hampshire and Winchester.

The area of Hampshire does not include the unitary authorities of Portsmouth and Southampton. It includes the district authorities only within the county.

THE NUMBER OF EMPLOYEES IN THE MARINE SECTOR

The data in Table 3 below uses "employee" data given that "employment" data is not available prior to 2008. Due to confidentiality issues associated with the data, sub-sector figures cannot be disclosed for previous years. Table 3 shows the trend of employees in the marine sector over the last 10 years from 2000 to 2010.

Table 3: Marine Sector Employee Trend, 2000 - 2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Portsmouth	8,616	6,279	6,684	6,266	6,762	6,443	6,603	6,522	7,300	6,000	5,800
Southampton	5,889	6,292	7,790	5,520	6,576	6,608	6,761	6,322	8,700	8,100	7,500
Portsmouth City Region	23,631	15,223	14,761	12,912	12,615	12,033	11,963	11,727	17,000	15,900	12,000
Southampton City Region	11,399	13,613	15,166	12,033	15,579	15,835	14,864	14,699	21,300	20,000	20,200
Isle of Wight	1,415	1,222	1,419	1,572	1,041	1,171	1,796	1,534	2,600	2,500	2,500
Solent	39,321	33,457	34,427	29,296	31,782	31,641	31,198	30,293	44,700	41,700	40,100
Hampshire	30,139	26,365	24,296	21,741	23,206	23,069	21,112	21,247	35,800	34,200	33,300
South East	153,094	139,983	142,818	129,494	127,828	127,982	126,051	126,748	195,800	208,100	188,000
Great Britain	888,570	832,295	831,453	824,943	835,718	824,601	835,818	861,059	1,356,800	1,293,100	1,282,800

Source: Business Register and Employment Survey 2008 - 2010 and Annual Business Inquiry Employee Analysis 2000 - 2007, Office for National Statistics

Notes: Data extracted from BRES has been rounded to the nearest 100 to ensure they are non-confidential and comply with the ONS user guide for BRES data.

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Table 4 calculates the change in employee numbers in the marine sector during a 10 year period. Southampton and the Isle of Wight have had an increase in employee numbers and Portsmouth has experienced a decline possibly as a result of job cuts in defence linked to the Royal Navy. Overall South Hampshire and the Isle of Wight has seen an increase in marine employees since 2000.

Table 4: Percentage Change of Marine Sector Employees

	2000	2010	Change	% Change
Portsmouth	8,616	5,800	-2,816	-32.68
Southampton	5,889	7,500	1,611	27.36
Portsmouth City Region	23,631	12,000	-11,631	-49.22
Southampton City Region	11,399	20,200	8,801	77.21
Isle of Wight	1,415	2,500	1,085	76.68
Solent	39,321	40,100	779	1.98
Hampshire	30,139	33,300	3,161	10.49
South East	153,094	188,000	34,906	22.80
Great Britain	888,570	1,282,800	394,230	44.37

Source: Calculated using data from the Business Register and Employment Survey 2008 - 2010 and Annual Business Inquiry Employee Analysis 2000 - 2007, Office for National Statistics

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5.0 MARINE BUSINESSES

Table 5: Marine Sector Businesses, 2008

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Portsmouth	268	261	269	229	231	240	245	236	248	250	265
Southampton	396	408	400	424	432	428	409	418	487	415	402
Portsmouth City Region	1,065	1,115	1,114	995	1,046	1,036	1,029	1,043	1,064	1,088	1,151
Southampton City Region	1,358	1,423	1,415	1,402	1,444	1,463	1,451	1,497	1,538	1,502	1,541
Isle of Wight	258	288	284	287	281	283	281	294	284	311	316
Solent	2,961	3,123	3,117	3,035	3,068	3,069	3,058	3,139	3,199	3,212	3,335
Hampshire	2,697	2,851	2,850	2,730	2,756	2,754	2,743	2,812	2,801	2,882	3,049
South East	16,357	16,866	16,873	16,703	16,694	16,788	16,453	16,625	16,779	17,163	17,808
Great Britain	95,895	99,744	99,537	99,041	98,101	98,927	98,084	99,201	101,183	105,504	110,525

Source: Annual Business Inquiry Workplace Analysis, Office for National Statistics

Notes: Southampton City Region includes the local authorities of Southampton, Eastleigh, New Forest and Test Valley.

Portsmouth City Region includes the local authorities of Portsmouth, Fareham, Gosport, Havant, and East Hampshire.

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Table 6 calculates the percentage change for this period where Southampton and the Isle of Wight have had an increase in marine businesses and Portsmouth has experienced a slight decrease. There is an increase of businesses for the Portsmouth City Region (8 percent) reinforcing the notion that the decrease in employment in Table 4 (p.8) is not necessarily a decline in the private sector but rather due to job cuts in Defence. The Solent region as a whole has shown an increase of 13 percent since 1998.

Table 6: Percentage Change of Marine Sector Businesses

	1998	2008	Change	% Change
Portsmouth	268	265	-3	-1.12
Southampton	396	402	6	1.52
Portsmouth City Region	1,065	1,151	86	8.08
Southampton City Region	1,358	1,541	183	13.48
Isle of Wight	258	316	58	22.48
Solent	2,961	3,335	374	12.63
Hampshire	2,697	3,049	352	13.05
South East	16,357	17,808	1,451	8.87
Great Britain	95,895	110,525	14,630	15.26

Source: Calculated using data from the Annual Business Inquiry Workplace Analysis, Office for National Statistics

Notes: Southampton City Region includes the local authorities of Southampton, Eastleigh, New Forest and Test Valley.

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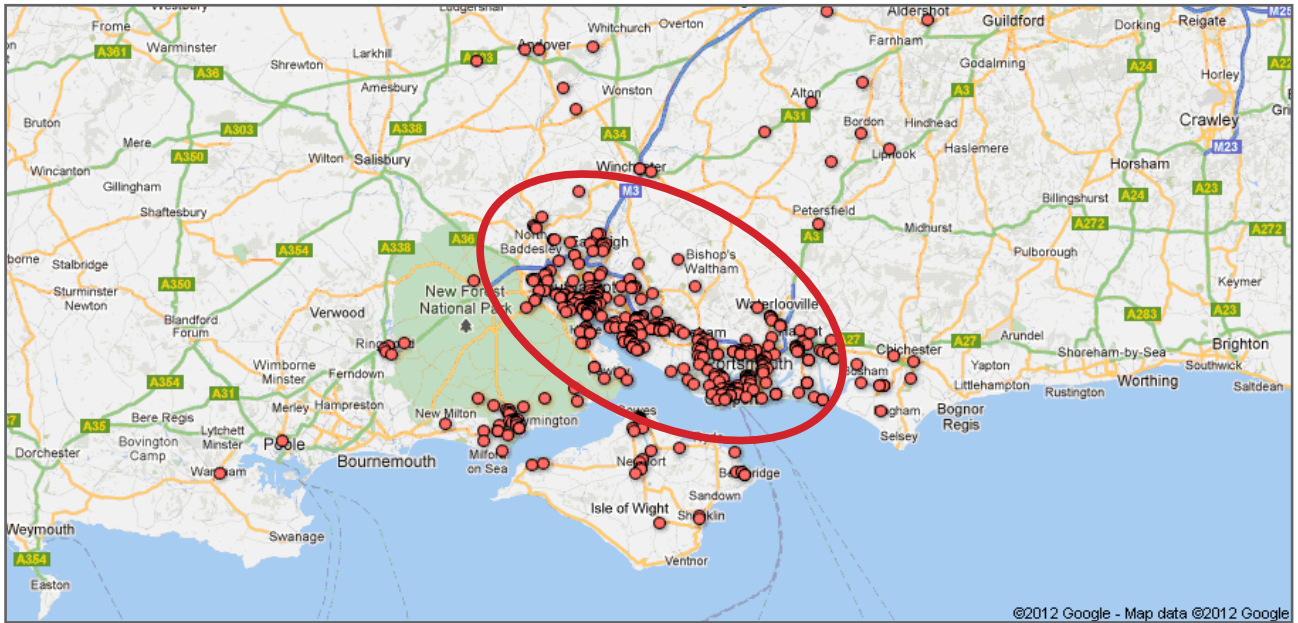
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6.0 LOCATION OF MARINE BUSINESSES

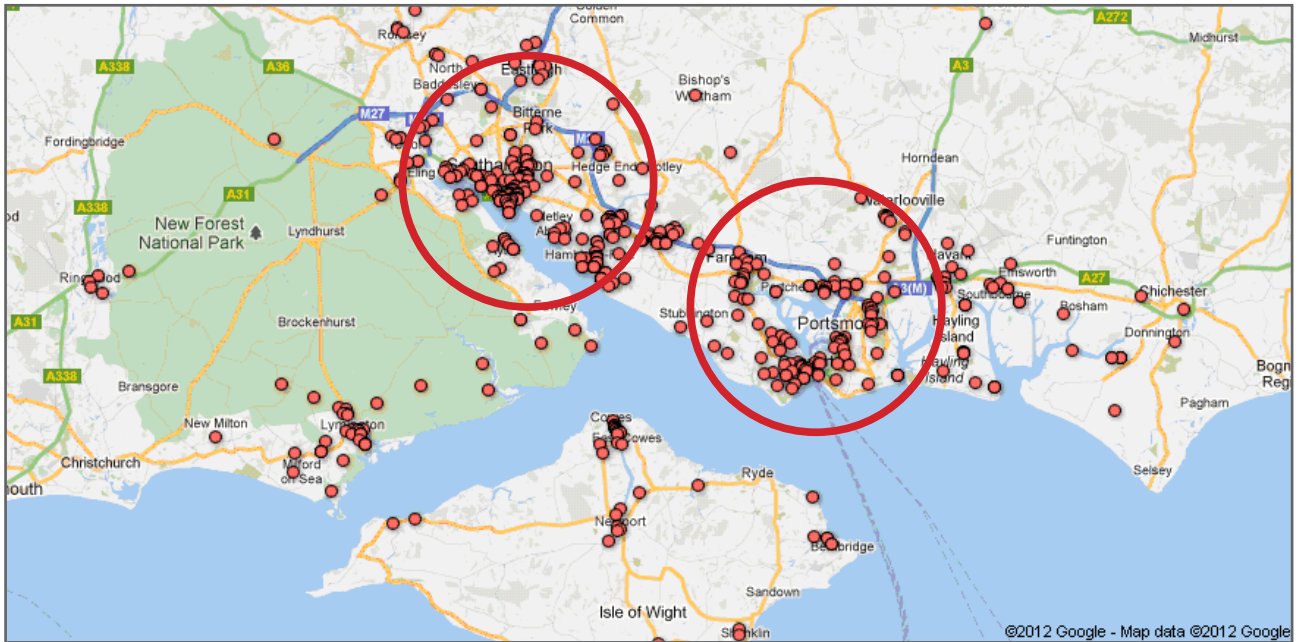
Figure 3 shows there is a cluster of marine businesses across the South Hampshire and Isle of Wight concentrated around the two cities of Southampton and Portsmouth and Isle of Wight.

Figure 3: Marine Businesses in the Solent region

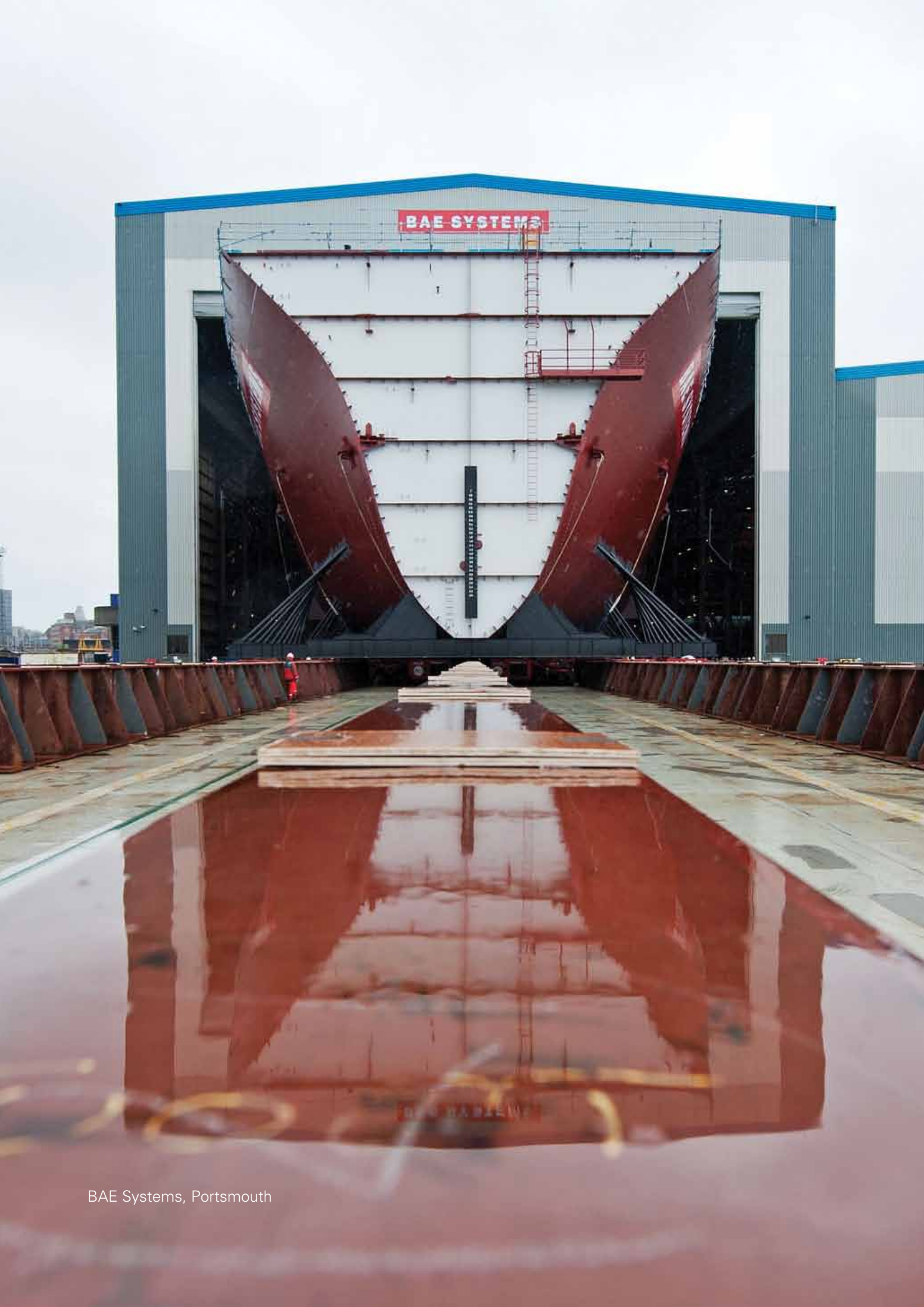


Source: Google Maps, 2012

Figure 4: Marine Businesses concentrated around Southampton and Portsmouth



Source: Google Maps, 2012



BAE Systems, Portsmouth

7.0 COMPETITIVE ADVANTAGE – THE MARINE SECTOR

A Location quotient (LQ) can be used to quantify how “concentrated” or “clustered” an industry is in a region compared to a larger geographic area, Great Britain for example. An industry LQ is calculated by comparing the sector share of sub-regional employment with its share of national employment. An LQ greater than 1.00 indicates that there are a higher proportion of workers or businesses locally than nationally.

Based on the data below, the marine sector is a strong and specialised sector in the Portsmouth and Southampton city regions, the Isle of Wight as well as the Solent region with a higher proportion of marine businesses than at GB level.

Table 7: Employment Location Quotient, 2010

	Sector Employment	Total Employment	LQ
Portsmouth	6,000	105,000	1.17
Portsmouth City Region	15,300	266,200	1.17
Southampton	7,900	111,900	1.43
Southampton City Region	21,500	299,000	1.46
Isle of Wight	2,700	50,800	1.08
Solent	42,700	689,500	1.26
Hampshire	35,600	590,300	1.23
East Hampshire	2,700	49,100	1.12
Eastleigh	3,900	63,200	1.24
Fareham	2,700	49,700	1.09
Gosport	1,900	21,200	1.78
Havant	2,100	41,200	1.04
New Forest	5,800	72,100	1.63
Test Valley	4,000	51,800	1.56
Winchester	3,200	73,500	0.88
South East	201,300	3,959,800	1.03
Great Britain	1,366,800	27,814,900	1.00

Source: Calculated using data from the Business Register and Employment Survey 2010

Notes: All figures have been rounded to the nearest 100 to ensure data is non-confidential in compliance with the ONS user guide for BRES data.

Southampton City Region includes the local authorities of Southampton, Eastleigh, New Forest and Test Valley. Portsmouth City Region includes the local authorities of Portsmouth, Fareham, Gosport, Havant, and East Hampshire. The Solent area is made up of the entire areas of Local Authorities in the Solent Local Economic Partnership which are Southampton, Portsmouth, Isle of Wight, Fareham, Havant, Gosport, Eastleigh, New Forest, Test Valley, East Hampshire and Winchester.

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Table 8: Business Location Quotient, 2008

	Sector Business	Total Businesses	LQ
Portsmouth	420	6,740	0.96
Portsmouth City Region	1779	24630	1.11
Southampton	529	7,640	1.06
Southampton City Region	2,077	27325	1.17
Isle of Wight	432	5,536	1.20
Solent	4,733	64,081	1.13
Hampshire	4,418	60,018	1.13
East Hampshire	456	6,369	1.10
Eastleigh	479	5,527	1.33
Fareham	415	4,879	1.31
Gosport	163	2,209	1.13
Havant	325	4,433	1.13
New Forest	681	8,332	1.26
Test Valley	388	5,826	1.02
Winchester	445	6,590	1.04
South East	26,439	395,591	1.03
Great Britain	159,245	2,446,015	1.00

Source: Calculated using data from the Annual Business Inquiry Workplace Analysis, Office for National Statistics

Notes: Southampton City Region includes the local authorities of Southampton, Eastleigh, New Forest and Test Valley. Portsmouth City Region includes the local authorities of Portsmouth, Fareham, Gosport, Havant, and East Hampshire. The Solent area is made up of the entire areas of Local Authorities in the Solent Local Economic Partnership which are Southampton, Portsmouth, Isle of Wight, Fareham, Havant, Gosport, Eastleigh, New Forest, Test Valley, East Hampshire and Winchester. The area of Hampshire does not include the unitary authorities of Portsmouth and Southampton. It includes the district authorities only within the county



University of Southampton, wind tunnel

8.0 WORLD CLASS RESEARCH AND KNOWLEDGE ASSETS

8.1 UNIVERSITY OF SOUTHAMPTON

The University of Southampton (UoS) is one of the top 15 research universities in the UK and has received consistently high scores for its teaching and learning activities. The university's record for success in spinning out its research excellence into business ventures has made it one of the leading entrepreneurial universities in the UK. UoS has spawned 12 successful spin-out companies since 2000, 2 of these being marine related (Offshore Hydrocarbon Mapping and Plexus Planning). Within UoS there are 7 highly respected professional consultancy units employing 125 staff generating £7.5 million revenue per annum in demand by both commercial and public sector organisations. UoS also boasts a Knowledge Transfer Partnership (KTP) portfolio worth over £1.7 million.

Marine Related Research Centres

Southampton Marine and Maritime Institute (SMMI) – Is an internationally recognised centre of excellence, bringing together research, innovation and education communities from universities, research institutes, industry and governments. The SMMI will eventually be located alongside Lloyds Register and will form the initial stage of the development of the Centre of Excellence on the redeveloped Boldrewood Campus of the University, due for completion in 2014. This creation will be the largest such business-focused endeavour in any UK university. With approximately 300 academics working together with society, industry and government, the SMMI will be the largest single such entity of its kind in the world integrating the different disciplines across the University.

Wolfson Unit for Marine Technology and Industrial Aerodynamics (WUMTIA) – Is one of the most respected marine design consultancies in the world, with clients including America's Cup teams and designers of yachts for the 2008/09 Vendée Globe race. The unit operates a consultancy service in ship design, small craft design, naval architecture, marine technology and industrial aerodynamics, providing Tank Testing, Wind Tunnel Testing, Consultancy, Design Software, Onboard Systems and Innovative Research to a world wide customer base.

Fluid Structure Interactions Research Group – Is a world-leading group of researchers in maritime engineering sciences focusing on understanding, analysing and assessing the behaviour of engineering artefacts such as boats, offshore structures, ships, submersibles or yachts in an ocean or maritime environment from functional, safety, economic and environmental viewpoints.

Centre for Maritime Archaeology – The Centre is embedded in one of the largest and most successful archaeology departments in Europe. In addition to providing a detailed window into past societies, the Centre also works in partnership with industry and government, including the Royal Navy, to develop innovative underwater technologies.

Lloyd's Register Educational Trust University Technology Centre (LRET UTC) – The work under the LRET UTC in ship design for enhanced environmental performance comprises of three principal themes: (1) better understanding the effects of hull shaping on the loads and motions of the vessel; (2) towards optimal use of materials in safe and reliable structural topologies; and (3) through better integration of different systems within the ship to enhance functionality.

Microsoft Institute for High Performance Computing – Established in 2005 as the only one of its kind in the UK, the Microsoft Institute for High Performance Computing works to push state-of-the-art technologies to tackle real-world scientific and engineering problems in the aerospace, automotive, bioengineering, marine and telecommunications sectors.

Royal National Lifeboat Institution Advanced Technology Partnership on maritime engineering and safety (RNLI ATP) – Aims to develop research and education on subjects of common interest and to raise the profile of the engineering sciences as an essential function in the design, build and operation of high-performance marine craft such as those used by the RNLI.

National Centre for Advanced Tribology (nCATS) – Is a multidisciplinary Tribology Centre and aspires to research and solve next generation tribological design issues and enable surface interactions to occur with minimal energy loss and impact on the environment. nCATS links world class research groups in key disciplines at the University to develop enhanced capabilities in advanced computational and experimental Tribology.

Institute of Maritime Law – Is a leading world centre for research, consultancy and training in maritime law. It was founded in 1982 to give focus to an existing interest in maritime and international trade law as these subjects had been an important feature of law at Southampton for some ten years.

Geodata Institute – The Geodata Institute is a University-based research and consultancy group which specialises in environmental data management, analysis and processing. GeoData designed, developed and host the Marine Information Hub website (www.marinesoutheast.co.uk).

Marine Research Facilities

Wind Tunnels – Southampton’s wind tunnels are used for yacht design, sail design and aerodynamics testing. Recent tests include working with UK Sport and the world-beating skeleton bob team who won Gold at the Winter Olympics in Vancouver in 2010. It has also been previously used by most of the Formula One teams since the 1980s. Marine Industries that have used the tunnel include Doyle Sails, Dubois Naval Architects, Marine and Coastguard Agency, North Sails, Team New Zealand, and Vosper Thornycroft.

Acoustic Test Facilities – The Institute of Sound and Vibration Research (ISVR) operates the Rayleigh Laboratories which include two reverberation chambers, a large anechoic chamber, a loudspeaker listening room, a product development lab for noise and vibration, a combustion noise rig and range of electrodynamic shakers. The marine related area it provides this service is for Automotive and Marine noise and vibration.

Human Factors Research Unit (HFRU) – Conducts fundamental and applied research related to human responses to vibration (whole-body vibration, hand-transmitted vibration, postural stability, and motion sickness) which includes the marine sector, marine craft and marine environments.

Transport Systems Research Laboratory (TSRL) – Provides a major regional and national centre for mechanics research with the primary objective of fostering scholarship and scientific enquiry into the behaviour of materials and structures.

Autonomous Vehicle Control Systems Laboratory (AVCSL) – Is a merger of all research efforts on intelligent control systems for autonomous vehicles developed at the University of Southampton. This includes Autonomous Underwater Vehicles (AUVs) where a large static water tank provides an ideal environment for AUV development and experimentation.

8.2 NATIONAL OCEANOGRAPHY CENTRE SOUTHAMPTON (NOCS)

NOCS is one of the world's leading centres for research and education in marine and earth science and for the development of marine technology, and provides large-scale infrastructure and support for the entire UK marine research community. NOCS represents a partnership between the University and the Natural Environment Research Council's National Oceanography Centre. As well as conducting world-leading research, NOCS has strong links with a variety of businesses, including offshore industries (oil, gas and communications), environmental technology companies and government agencies, in the UK and overseas.

NOCS Research Centres

Geosciences Advisory Unit (GAU) – Is an industry and government-agency focused organisation that offers specialist radioanalytical research and analytical services.

Integrated Ocean Drilling Programme – Is an international marine research program that explores the Earth's history and structure recorded in seafloor sediments and rocks, and monitors subsea floor environments.

The Centre for Coastal Processes, Engineering and Management (CCPEM) – Aspires to deliver world-class independent research, education and consultancy in coastal science. Its core function is to provide informed guidance on coastline character and coastal behaviour within a multidisciplinary context for purposes of better management.

Geochemistry Research Group – Applies state-of-the-art geochemical analysis and modelling to scientific questions of major societal, economic and environment importance.

Geology and Geophysics Research Group – Among the most active research groups in this field in Europe, their work is supported by world-class facilities for controlled source electromagnetic sounding, ocean bottom seismology, sea floor imagery, and analyses of cores and other sea-bottom samples.

Ocean Biogeochemistry and Ecosystems (OBE) Research Group – Is one of the largest and most active international multidisciplinary research teams studying biogeochemistry and biodiversity of pelagic and benthic ocean systems.

Physical Oceanography Research Group – Participating in a wide variety of oceanographic cruises using shipboard instruments, moorings, floats and AUVs to make in situ measurements of key ocean processes.

Palaeoceanography and Palaeoclimate Research Group – With state-of-the-art geochemical, micropalaeontological, core-processing and numerical modelling facilities, their research is global in scope and work in all ocean basins on key problems in Earth history spanning the Anthropocene to the Palaeozoic.

Coastal Processes Research Group – Deals with key coastal issues both nationally and internationally to enhance their understanding of the character and evolution of the coastal zone.

NOCS Research Facilities

Pressure Lab (hyperbaric aquarium) – Enables the study of deep-sea organisms under pressurised conditions.

Research Aquarium – Is a multi-use aquarium with a variety of tanks and facilities for keeping and handling live specimens.

Coral Reef Laboratory – Studies a broad range of corals and other cnidarians in a multi-compartment aquarium system circulating more than 4200 litres of artificial seawater.

Research Vessels – Used for a range of fieldwork and research, their vessels include R.V. Callista, a 19.75m catamaran designed and equipped for a range of coastal and shelf research, and a 12m research vessel, R.V. Bill Conway, for use in local waters, and a RIB for other nearshore work.

X-Ray Diffraction Facility – Provides a service for the qualitative or quantitative analysis of rock samples to determine bulk mineralogy and/or clay mineralogy.

Scanning Electron Microscope Facility – Allows the observation of inorganic and organic materials from the nanometer through to the micrometer using electrons rather than light to form an image.

Stable Isotope Ratio Mass Spectrometry (SIRMS) – The facility's function is to measure stable isotope ratios of various materials.

Multi collector-inductively coupled plasma mass spectrometry (MC-ICP-MS) – Examines standards and isotopic measurement techniques.

Carbonate Chemistry Facility – Analyses seawater samples for carbonate chemistry variables, and has state-of-the-art instrumentation.

Dissolved Organic Carbon and Total Dissolved Nitrogen Facility – This facility is used to analyse dissolved organic carbon and total dissolved nitrogen in seawater and freshwater samples.

8.3 SOUTHAMPTON SOLENT UNIVERSITY

Marine Research Centres

Warsash Maritime Academy Research and Consultancy - Provides first class training, consultancy and research to the international shipping and offshore oil industries. Some of their research projects include:

- **Horizon Project** – EU sponsored research looking into the concerns over human safety, environmental damage and commercial loss due to watch officer fatigue.
- **Maritime Human Factors** – Research and consultancy in the Human Factors analysis of casualties, development of near miss and incident reporting system.
- **Port Developments Projects** – Includes examining the operational aspects of changes in a port such as realigning existing berths, examining proposals for new berths, testing against specific combinations of meteorological conditions and investigating tug requirements and techniques.
- **Maritime Education** – Include researching human error and accident causation, the cultural aspects of maritime safety and human fallibility; decision-making in crisis; and the evaluation of human and organisational performance in a maritime context.
- **Maritime Human Resources** – Research in seafarer employment and human resource management issues such as recruitment, selection and retention of seafarers.

Technology Research Centre – The Centre supports postgraduate students studying for MPhil and PhD in the areas of the Built Environment, Computing and Digital Communications, Design, Maritime Environmental Policy, and Naval Architecture. Some of their research projects include:

- **Behavioural Markers** – Looks at the application of behavioural markers utilised in airline cockpit resource management in the development of maritime resource management and leadership training.
- **Pivot Points** – Involves the calculation of the pivot point location to enhance ship manoeuvring performance in confined areas.

Marine Related Research Facilities

Towing tank with wave generator and technical support – Suitable for evaluating hydrodynamic lift and drag components for small craft, sailing and motor.

Survey vessel with technical support – Available for marine surveying, environmental science work and navigation training.

8.4 UNIVERSITY OF PORTSMOUTH

Research at the University is world-class – with an average 40 per cent of the research rated internationally excellent or world-leading and 78 per cent rated internationally recognised or above.

The University undertakes research and development programmes for businesses of all sizes. More recently the University worked with BAC2 conductive composites and Rolls Royce on contract research programmes.

Marine Related Research

Institute of Marine Sciences – Is an internationally renowned marine station providing research and teaching facilities for marine sciences. IMS is situated in close proximity to an internationally protected wildlife designated area, a Site of Special Scientific Interest (SSSI) and Special Protection Area (SPA) of Langstone Harbour, as well as Chichester Harbour (SPA) and Portsmouth Harbour. The location allows investigation of the marine flora and fauna of habitats that are subject to wide ranging pressures.

Systems Engineering Research Group – Includes the areas of Automation and Robotics, Computing and Electronics, and Environmental Systems. The research group has extensive experience in energy and efficiency, sustainable development, environmental engineering, sensors, manufacturing, modelling, heat-recovery and sensor networks.

Mechanical Behaviour of Materials (MBM) Research – With an international reputation for applied research into fatigue and fracture of engineering materials and components, work has been carried out with industrial collaborators, including Rolls Royce plc, the US Air Force, the Ministry of Defence (MOD), QinetiQ, GKN Westland Aerostructures, amongst others.

Intelligent and Networked Systems Research – The main focus of this activity has been in radio spectrum management and optimisation, and the understanding the underlying physics of electromagnetic wave propagation.

Telecommunication & Networked Systems Research Activities – Includes research on Mobile and Fixed Earth-Space Communication and Active Noise Control.

Petroleum and Energy Engineering Research Activities – Includes research on Computational Fluid Mechanics, Multiphase Flow and Heat Transfer, Enhanced Oil and Gas Recovery, Thermal and Renewable Energy Systems

Knowledge Transfer Partnership with STS Defence – STS Defence is a contract manufacturer of electrical and electronic assemblies, focusing on the supply of low to medium volume products to sectors such as aerospace, defence, air traffic control, marine and subsea, where the reliability of its products is critical. The University of Portsmouth's Business School provided an Associate with experience in change management and strategic management, as well as being a chartered engineer, allowing an excellent understanding of all aspects of the project.

Marine Related Research Facilities

The University's laboratories, technical equipment and professional service suites number over 1,000 across the campus. Amongst the University's assets it can boast biomedical labs, virtual reality suites, a functioning courtroom, forensic interviewing suites, rapid prototyping machines and much more as well as conferencing and audio equipment. Many of these facilities are available through Purple Door for use by external organisations with expertise available to complement their use.

Fatigue and Fracture Laboratory (Mechanical Behaviour of Materials Research) – Contains equipment for aerospace applications. Unique facilities include two Major-Minor servo-hydraulic testing machines that simulate flight cycles. It has an international reputation for applied research into fatigue and fracture of engineering materials and components.

The Digital Electronics and Microprocessor Laboratory – Has 45 fully equipped benches including scopes, network analysers, PCs and other standard electronic equipment for measurement purposes.

The Analogue Electronics and Control Engineering Laboratory – Has 24 fully equipped benches for analogue testing and measurements and 8 benches for control system design, analysis and development.

The Telecommunications Laboratory – Facilities include a wide range of instruments for generating, receiving and analysing high-frequency signals.

The Digital Signal Processing Laboratory – Supports both hardware and software laboratory facilities.

Institute of Marine Sciences – In addition to the teaching facilities, there are two laboratories for studying fish biology and general research laboratories, four temperature and photoperiod controlled growth rooms, an image analysis suite, quarantine room, histology laboratory, wet laboratory, molecular laboratory and ecotoxicology facility, a large experimental raft, a six metre high-speed shallow draft launch (RV Calypso) for inshore work, and dingy for shallow beach sampling.

8.5 ABP MARINE ENVIRONMENTAL RESEARCH LTD

Is a leading UK marine environmental consultancy creating sustainable solutions for the marine environment. Offices are based in Southampton but provide services across the UK and overseas. They offer a tailor-made service which supports projects at all stages of their life cycle starting from field survey and analysis through to data management, interpretation and final reporting.

8.6 OIL SPILL RESPONSE

Undertake research and consultancy in the areas of Oil Spill Preparedness Assessments and Audits, Oil Spill Contingency Plans, Electronic Preparedness Tools, Oil Spill Response Exercises, Marine Emergency Response Plans, Oiled Wildlife Response Plans, and Environmental Services.

8.7 QINETIQ

Is a leading international provider and consultancy of technology-based services and solutions to the defence, security and related markets. They develop and deliver services and solutions for government organisations, predominantly in the UK and US, including defence departments, intelligence services and security agencies. Have produced the Paramarine which is an integrated naval architecture software for ships and submarines. In terms of marine they provide independent assessments of marine technologies from start to finish, investigating the technical and commercial aspects. They have developed propulsion systems for the Royal Navy and the commercial market. QinetiQ has a Land Based Test Site (LBTS) located at Portsmouth Technology Park providing a replica of RN ship's operation rooms for training. QinetiQ's work also covers wind, wave and tidal energy services and solutions where they have assessed tidal turbine designs and wave devices. QinetiQ have a physical modelling facility based at Hasler in Gosport for tidal energy.

8.8 ROKE MANOR RESEARCH LTD (DEFENCE)

Roke Manor Research Ltd is recognised as a worldwide centre of R&D excellence. They develop advanced sensors, communications systems, and network solutions for a diverse range of applications. Trusted by government and industrial partners worldwide, Roke provide independent advice, solve technically challenging problems and deliver innovative capability and products into the defence, national security, telecommunications, and healthcare markets.

8.9 BMT NIGEL GEE

BMT Nigel Gee, based in Southampton, UK, is one of the world's largest independent design consultancies offering a vast portfolio of services for advanced and specialised ships and boats, from initial concept to detailed design. With an established background in yachts, commercial and naval craft, and an unrivalled scope of technical capability, the company utilises state of the art technology to provide innovative design and consultancy for an international client base.

8.10 LLOYD'S REGISTER

Is one of the world leaders in assessing business processes and products. From design and new build to in-service operations and decommissioning, they aim to deliver complete lifecycle and risk management solutions to help ensure the safety, integrity and operational performance of assets and systems. Offices are located world wide with the Southampton office focusing on marine.

8.11 ROYAL NATIONAL LIFEBOAT INSTITUTE (RNLI) INSHORE LIFEBOAT CENTRE (ILC)

Designs and constructs up to 60 percent of the lifeboats it needs in its own purpose-built development facility, based in Cowes. The facility on the Isle of Wight is highly respected across the globe as a centre of excellence for the design, build and maintenance of inflatable and rigid inflatable lifeboats, including the Atlantic series and the D class. Not only does it make lifeboats for its own service, but it also designs and constructs them for others. Recently craft have been supplied to the Dutch and Icelandic lifeboat services, the Police and HM Coastguard. The Isle of Wight facility provides the RNLI with access to a number of leading local companies in the composites sector. High-end materials are becoming particularly important in the development of lighter, stronger and faster craft for the future.



Portsmouth Port

9.0 PHYSICAL ASSETS

9.1 PORTS

There are six main port areas located in the Solent (see Figure 5) all operating with different functions:

Port of Southampton – including

- Marchwood Military Port
- Fawley Oil Refinery Terminal
- Hamble Oil Terminal

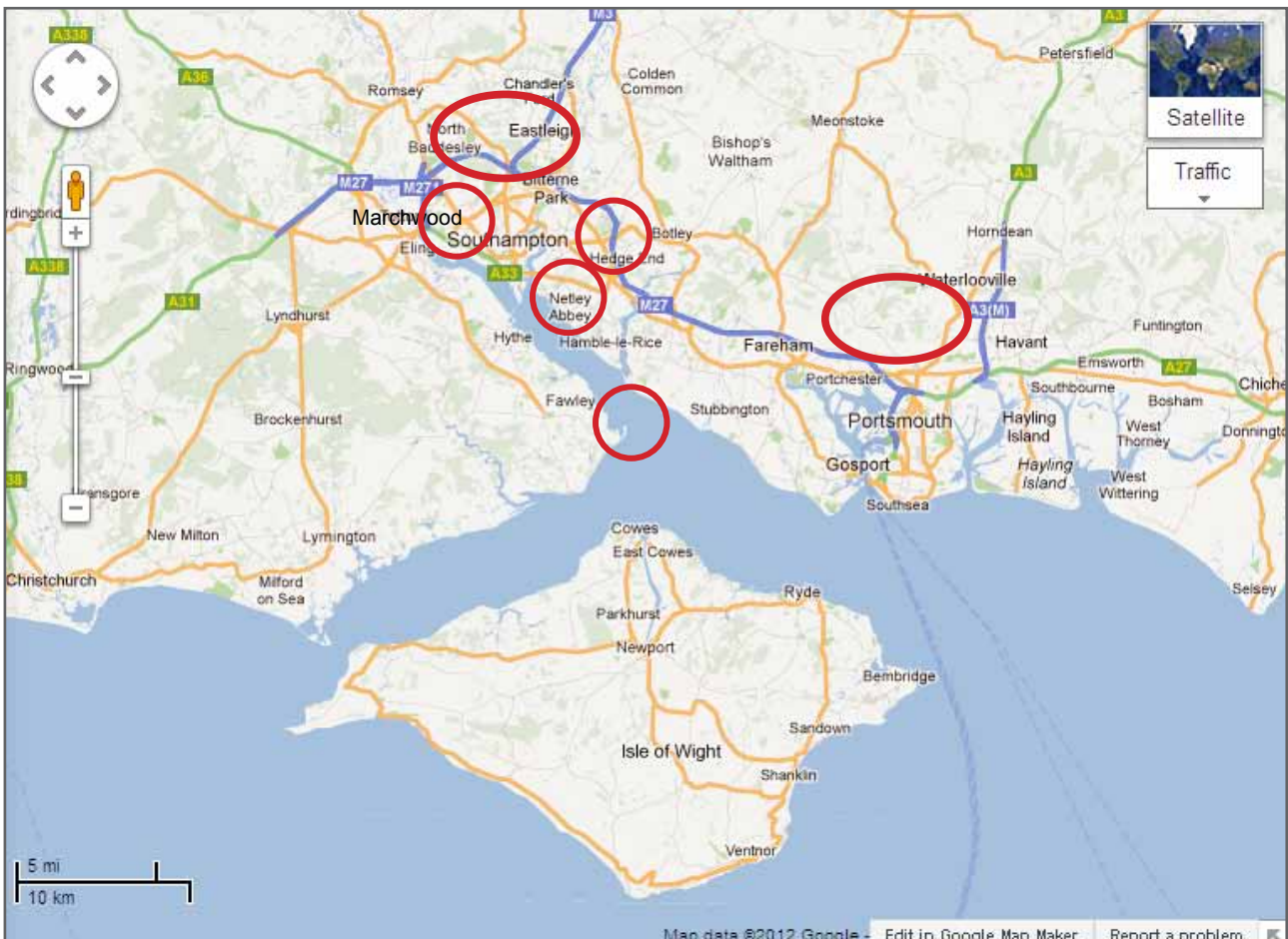
Portsmouth Port – including

- Portsmouth Naval Base

Cowes Port, Isle of Wight

In addition to these main ports, there are various commercial wharves along the Rivers Itchen and Test, and wharves in Langstone Harbour and the River Medina.

Figure 5: Location of Ports in the Solent area



Source: Google Maps, 2012

Port of Southampton

- The port is owned and operated by Associated British Ports (ABP).
- The port is in an excellent strategic position close to the main international shipping lanes and less than 100 nautical miles from mainland Europe. It is 28 miles from major European shipping lanes.
- As Southampton benefits from a deep main channel and all its berths are tidal and lock free, many of the worlds largest vessel experience unhindered access to the port. The depth of the main channel is 12.6m at low water (extra 4.54m available at mean high water springs).
- It benefits from a unique double tide providing 17 hours of high or rising water every day and allowing a longer operational window for ships to arrive and depart from the port. The maximum tidal range is 4m. The quay walls are 6.25m above lowest astronomical tide.
- Land access to the port is easy with excellent infrastructure connecting it directly to the motorways. There are direct motorway links and a fully operational rail network enabling swift and easy access to major industrial and commercial centres throughout the UK. Besides close proximity to the London airports of Heathrow and Gatwick, closer airport facilities can be found in Bournemouth and Southampton.
- Tables 9 and 10 provide information on the depths and lengths of terminals and berthing at Southampton Port.

Table 9: Depths and Lengths of Terminals at Southampton Port

Terminal	Depth of water alongside	Quayside length
QE II Terminal	10.5m	508m
Mayflower Terminal	10.2m	350m
City Terminal	10.2m	370m
Ocean Terminal	10.2m	480m

Table 10: Information on berthing at Southampton Port

Dock, Jetty or Quay	Berth No.	Nominal dredged depth at lowest low water (metres)	Length of Quays (metres)
Berths	201	10.2	280
	202	12.2	274
	203	9.1	274
Container Berths	204	13.6	310
	205	12.8	310
	206	13.6	310
	207	15.0	420
Western Docks	101-2	10.2	370
	102-3	10.2	310
	103-4	10.2	340
	105	11.7	200
	106	11.7	260
	106-7	11.7	110
	107-109	11.7	750
	110	10.2	
Ocean Dock (Entrance 121.9m wide)	43-44	11.7	480
	45	10.2	190
	46	10.2	230
	47	11.7	250
	48	7.1	100
Test Quays	49	7.1	120
	40	9.3	130
	41	8.7	172
	38-39	10.5	360
	37	7.8	143
Dock Head	20-21	7.5	258
	22-23	6.8	200
	24-25	7.1	190
	26-27	7.1	240
Itchen Quays	30-33	9.1	263
	34-36	9.9	480

Source: ABP Southampton Hand49book

Marchwood Military Port – Southampton

- Marchwood is an Army-run military port occupying 289 acres of land on the western side of Southampton water opposite Southampton Docks.
- The centre is the only military facility of its type in the UK and supplies ships taking part in Army and Navy operations around the world.
- The port is operated by 17 Port and Maritime Regiment RLC whose role is to load and discharge service or civilian shipping support of military administration, exercises and operations world wide.
- Marchwood is home to the Royal Fleet Auxiliary's six landing ships.
- Of major importance is the ports ammunition and explosives handling capability. Typically the port will handle 100k tonnes of military material a year.
- The port is a strategic asset developed and modernised to service most UK military requirements.
- Approximately 150 civilian and 600 military personnel are employed at the port.
- The Strategic Defence Review published by the Government in October 2010 included the sale of the Marchwood facility as part of the Ministry of Defence's planned cost-cutting measures. As a result, the future of the centre is currently unclear.
- The port consists of three main jetties:

Jetty	Length and Width	Details
First jetty	220m long	240 metres is maintained to 7 metres below chart datum. This was being extended to 9.5 metres in 2011
33m wide	Capable of accepting vessels up to 16,000 tonnes. It has a sophisticated Ro/Ro facility capable of handling vessels with various ramp configurations, and the jetty also has two 35-tonne rail mounted cranes and railway access.	7 metres below chart datum, being extended to 9.5 metres in early 2011. This quay takes vessels up to 156 metres long.
Second jetty	190m long	Has rail access and is capable of accepting vessels of up to 8,000 tonnes with limited Ro/Ro facilities.
Third jetty	117m long	Used to berth military landing craft and smaller vessels.

Fawley Oil Refinery Terminal

- Owned by Esso, the site also houses a chemical facility operated by Exxon Mobil and Nalco located on the south eastern bank of the Southampton Water. Most of the crude oil used to be from the Arabian Gulf but now comes from the North Sea, Russia, West Africa and South America.
- Esso Petroleum Company and ExxonMobil Chemical Limited operate one of the largest and most complex oil refining and petrochemical manufacturing sites in Europe.
- The chemical plant produces approximately 850,000 tonnes of chemical products every year. More than 90 percent of the chemical products manufactured at Fawley are exported by tanker.
- Products are shipped to ExxonMobil Chemical plants in Europe for further processing or to third party customers all over the world.
- Butene is also imported which is stored in seven large pressurised spheres – known as the seven sisters – that are a prominent feature of the Fawley site.
- The two key products produced at Fawley are MEK (methyl ethyle ketone) – a powerful solvent used in paints and adhesives – and halobutyl rubber. Fawley is the major European manufacturer of halobutyl rubber which is used to line tyres. The majority of tyres manufactured in Europe contain some Fawley halobutyl rubber. The refinery and chemical plants at Fawley are highly integrated.
- Tanker sizes tend to be smaller than the Arabian Gulf tankers that used to call with 100,000 dwt being average for current crude carriers. The largest vessel to call at Fawley is the 425,000 dwt Hellepont Grand. Such ships are often referred to Very Large Crude Carrier (VLCC) or Ultra Large Crude Carrier (ULCC).

Hamble Oil Terminal

- Controlled and operated by BP Oil UK, the terminal is located on the east bank of the Southampton Water and plays a vital role at both ends of the oil distribution process of crude oil for refining products for the customer.
- In 1990 it assumed responsibility for the export of the entire crude oil production from the Wytch Farm Oilfield 56 miles away in Dorset. The oil reaches the Terminal by underground pipeline. The Terminal also receives daily deliveries of crude oil by road from a number of small oil fields in the locality.

Portsmouth Port

- Portsmouth International Port is owned by Portsmouth City Council.
- Consists of nine commercial berths; five of them roll on-roll off (Ro-Ro) serving France, Spain and the Channel Islands.
- Two large conventional berths serve deep-sea world-wide refrigerated cargo and short-sea container vessels and two berths serving dedicated Isle of Wight car ferries. The Old Camber Dock also forms part of the Port and is regularly used as a fishing dock and leisure marina.
- Portsmouth is one of the UK's busiest and best connected channel ferry ports with over 2.6m passengers annually. Sailing times to Western Europe are 3 hours to Cherbourg, 3 hours 25 minutes to Caen, 5 hours 30 minutes to Le Havre, 8 hours 45 minutes to St Malo, 24 hours to Santander, and 35 hrs to Bilbao.
- The specifications of the two freight shipping berths are:

Quay	Length	Depth
Albert Johnson Quay	285 metres	240 metres is maintained to 7 metres below chart datum. This was being extended to 9.5 metres in 2011
Flathouse Quay	190 metres	7 metres below chart datum, being extended to 9.5 metres in early 2011. This quay takes vessels up to 156 metres long.

Portsmouth Naval Base

- The Port of Portsmouth also encompasses the Portsmouth Naval Base (HM Naval Base and Dockyard) which is home to almost two-thirds of the Royal Navy's surface ships, including the aircraft carrier HMS Illustrious, new formidable Type 45 destroyers, Type 23 frigates and mine countermeasures and fishery protection squadrons. It will be home to two new aircraft carriers – HMS Queen Elizabeth and HMS Prince of Wales – which are currently being built. At 65,000 tonnes they will be the biggest ships ever built for the Royal Navy.
- They base is a major employer with about 16,000 people working at peak times.
- It provides lodging facilities to RN personnel serving at the base and in Portsmouth-based ships.
- In preparation for Portsmouth Naval Base to be the home of the new 65,000-tonne aircraft carriers to safely and easily enter the harbour, major dredging work will take place in a couple of years. In February 2012 a specialist rig began six weeks of drilling to sample the seabed in the harbour and in the Solent. The existing channel used by ships needs to be widened and deepened to accommodate the new carriers. The berths in the base itself also need to be excavated and a suitable turning circle provided in the north of the harbour – the draught (the depth of a loaded vessel in the water taken from the level of the waterline to the lowest point of the hull) of the sisters will be 36 feet (11m).

Cowes Port, Isle of Wight

- The port is operated by Cowes Harbour Commission.
- Cowes is in the enviable position of being one of the UK's most popular destination harbours as being one of the most visited ports on the South Coast, famous for yacht racing, events and rallies. A full range of boating facilities and services are provided in Cowes Harbour and the River Medina through the many boatyards, marinas, and marine services operators.
- In addition to the recreational craft there are also a considerable number of commercial movements with high-speed ferries, car ferries, and commercial craft up to 100 metres in length moving in and out of the harbour and river.
- Cowes Harbour is the major port of entry for commercial shipping trading to the Isle of Wight.
- Approximately 600,000 tonnes of cargo are handled annually including such commodities as fuel, oil, stone, aggregates, timber, grain, and even wind turbine blades.
- Ships of up to 100 metres (330ft) in length and with a draft of up to 5.7 metres (18.7ft) use the port and mainly berth at Kingston or Medina Wharves. There are three main wharves and six tidal berths (Medina, Kingston and Trinity). The specifications of the port are:

Port Specifications	Measurements
Length of wharves	Range from 183m (600 feet) to 60m (197 feet)
Maximum ship dimension	Length 100 m (312 feet), Beam 15m (49 feet)
Minimum depth alongside	1.5 metres below chart datum

9.2 MARINAS

<p>Southampton Area</p> <p>Swanwick Marina Ocean Village Marina Saxon Wharf Marina Shamrock Quay Hamble Point Port Hamble Marina Mercury Yacht Harbour Hythe Marina Village Itchen Marine (Towage) Ltd Marina MBK Marine Dyer Bros (Marine) Ltd Marina Lauren Marine Services Universal Marina Stone Pier Boatyard Marina (Warsash Marine Ltd)</p>	<p>Portsmouth Area</p> <p>Port Solent Marina Gunwharf Quays Marina Southsea Marina Gosport Marina Royal Clarence Marina Haslar Marina Emsworth Yacht Harbour Marina Sparkes Marina Northney Marina</p>
<p>Isle of Wight</p> <p>Cowes Yacht Haven East Cowes Marina Shepards Wharf Marina Island Harbour Marina Newport Harbour Venture Quays Town Quay and Trinity Landing</p>	<p>Wider Solent Area</p> <p>Chichester Marina Yacht Havens Ltd Lymington Marina Buckler's Hard Marina Birdham Pool Marina</p>

10.0 KEY MARINE DEVELOPMENT SITES

Figure 6: Map of key marine development sites in the Solent area



Cowes Waterfront and the Medina Valley, Isle of Wight

Description: Development land is available at both Medina Wharf and Kingston Marine Park both with water and road access. The initiative centres on the regeneration of the Medina Valley, intended to create jobs, attract private investment and bring new facilities to communities. The partners have agreed a Strategic Development Framework to carry forward the Initiative based on a comprehensive review of the area. This sets out recommendations to make the best use of the available land to deliver the greatest most beneficial impact for the economy and the environment. There are five themed zones and 25 key sites. The East Cowes Project is the flagship project which has seen significant levels of development in and around the centre of East Cowes. The project presents a unique opportunity to improve East Cowes, secure new investment and provide an enhanced gateway to the Island.

Size: 16 hectares (40 acres)

Key Facts:

- Mixed-use development
- Marine workspace at Venture Quays
- A new 400+ berth marina
- Cowes Outer Harbour Project

Kingston Marine Park, Isle of Wight

Location: Located on the eastern edge of the River Medina and to the south of the Cowes Power station.

Description: The site offers serviced development land for businesses in the marine sector. In 2011 the South East England Development Agency submitted an additional application for development of up to 15,000m² of class B1, B2 and B8 employment uses with this development being named Kingston Marine Park. The 2011 application also sought full planning permission secure full permission for those elements required to enable the development of the site including the access, internal road and reworking of site levels including retaining structures, and construction of a jetty and hoist dock to provide a marine transfer facility. The marine related employment which this development will enable will be of significant benefit to the economy of the Isle of Wight and will maximise marine related development in the context of only a few remaining suitable sites across the central Solent sub-region. The project will help to promote the Isle of Wight as a strategic, high quality business destination, particularly reinforcing the Island's role as a marine business location.

Size: 6.84 hectares

Ownership: The site has recently transferred from the South East England Development Agency to the Homes and Communities Agency (HCA).

Planning: An outline permission was granted for residential and employment development in 2007. This approval provided for nearly 50,000m² of employment floor space on 9.9 hectares across the whole site.

Trafalgar Wharf, Portsmouth

Location: Is located in the upper reaches of Portsmouth harbour, opposite Port Solent and just 5 minutes from the M27.

Description: The site has around 80 tenants from Boat Builder to Boat Breaker and Accountants to Personal Trainers. The site has a boatyard, shipyard, and a drystack. The boatyard is designed for vessels up to 60 feet and 40 tons. They provide a variety of different package from lift outs, storage ashore, and trailer boat storage. The shipyard has an undercover facility and a wet dock. The drystack is the largest undercover drystack boat storage facility in the UK. At 70,000 square feet, the drystack can accommodate powerboats, motor yachts and RIBS of between 4 and 13 metres in length and up to 10 tons in weight, as well as flybridge motor yachts.

Marchwood Industrial Park, Hythe, Southampton

Location: Is situated on the western bank of Southampton Water, opposite Southampton Docks. It is within close proximity to Southampton City Centre, Southampton Airport (12 miles), Portsmouth (30 miles), Bournemouth (30 miles), and London (85 miles).

Description: The site forms part of the 48.56 hectares of Marchwood Industrial Park that includes a mix of heavy and light industrial premises, warehouse and distribution and office uses. There is direct access to the water.

Size: 3.64 hectares

Overview of Port Facility: The site is served by slipways into Southampton Water. Slip A is rated at up to 500 tons and Slip B at 1000 tons. They have a width of 60ft and length of 230ft. The slips can take a draft of 4.4 meters at high water but vessels of this depth can be moored on our jetty at low water. Blades could be barged to Southampton Docks opposite for trans-shipment.

Centenary Quay, Woolston, Southampton

Location: Is situated on the east bank of the River Itchen close to the Itchen Bridge and Southampton City Centre. It is within close proximity to Southampton Airport (5 miles), Portsmouth (18 miles), Bournemouth (34 miles), and London (86 miles).

Description: Centenary Quay is a 12.5 hectare regeneration site of which 5 hectares are to be developed for uses requiring access to the water. Outline planning approval has been given for these uses and a further planning application has been submitted.

Size: 5 hectares.

Overview of Port Facility: Direct quayside access to 230m length of quayside with deep water. The designed dredge level adjacent to the high level Centenary Quay is -8.7 meters AOD.

The Solent Enterprise Zone at Daedalus, Lee-on-the-Solent

Location: Daedalus is an ex-military airfield and is situated in Lee-on-the-Solent, a coastal location between the cities of Portsmouth and Southampton.

Description: The site has been designated by the Government as an Enterprise Zone. This will provide a unique opportunity for a mixed-use development with many benefits to businesses on the site and the wider area in the marine, aerospace and aviation sectors. The site has marine access and retains a private operational runway that we hope will be licensed for commercial flying in the near future. As an Enterprise Zone, Daedalus offer:

- A 100% business rate discount worth up to £275,000 over a five year period, for businesses that move into an Enterprise Zone during the course of this Parliament
- All business rates growth within the zone for a period of at least 25 years will be retained and shared by the local authorities in the LEP area to support their economic priorities
- Government and local authority help to develop simplified planning approaches in the zone
- Government support ensure superfast broadband is rolled out in the zone

Size: One site covering 82 hectares

Planning: A master planned site and the current planning applications are intended to provide outline planning consents for development over the long term.

Investment: UKTI have expressed their willingness to support international marketing effort and to support export-led businesses who locate within the zone.

11.0 MAJOR EMPLOYERS

These major employers have been identified based on employee numbers and have been sourced from the database of marine businesses described in Section 6.0.

Table 11: Top 10 Major Marine Sector businesses in the Solent Region based on Employee Numbers

Company	Location	Sector of activity	Description	Number of employees (as at Oct 2011)
1. BAE Systems	Portsmouth and Isle of Wight	Electronic Engineers and Engineering Services	Surface Ships is one of three businesses that form BAE Systems Maritime, along with Mission Systems and Submarine Solutions. Surface Ships is a through-life enterprise that crosses the traditional boundaries of shipbuilder and support services provider. They are the UK's premier designer, manufacturer, integrator and services provider delivering highly capable naval ships and supporting infrastructure to the UK Royal Navy and customers around the world. Offer a full range of naval vessels with through-life support factored into the design from the outset. This means they can deliver affordable cutting-edge maritime platforms to meet individual customer needs ranging from aircraft carriers to rigid inflatable boats and fast interceptor craft. BAE Systems Integrated System Technologies (Insyte) located in Cowes on the Isle of Wight specialises in radar programmes and manufacturing.	4000+ (Source: Company, 2012)
2. HMS Sultan	Gosport	Naval and Civilian Training Establishment	Naval and Civilian Training Establishment specialising in Marine Engineering.	2000+ (Source: Invest in Portsmouth, Major Employers 2010)
3. HM Naval Base and Dockyard in Portsmouth	Portsmouth	Defence Activities	Royal Navy base - HMS Nelson (main base) and other smaller bases (e.g. Whale Island, HMS Excellent).	1000+ (Source: Invest in Portsmouth, Major Employers 2010)

	Company	Location	Sector of activity	Description	Number of employees (as at Oct 2011)
4.	Carnival UK	Southampton	Cruise company	Carnival Corporation & plc is a global cruise company and one of the largest vacation companies in the world. It comprises the most-recognised cruise brands in North America, the United Kingdom, Germany, Southern Europe and Spain, which offers a wide range of holiday and vacation products to a customer base that is broadly varied in terms of cultures, languages and leisure-time preferences. They also own two tour companies that complement their cruise operations, Holland America and Princess Tours in Alaska and the Canadian Yukon. Their holiday companies together attract seven million guests annually.	1,100 (Source: Southampton Local Economic Assessment 2011 – 1,100 jobs at Carnival UK Headquarter office)
5.	DP World Southampton	Southampton	Cargo company	DP World Southampton is the second largest container terminal in the UK with a site of over 200 acres, four deep water berths, one short-sea berth, 13 quayside gantry cranes and a mobile harbour crane. DP World Southampton is managed by DP World with 51% shareholding and its partner Associated British Ports (ABP). With a team of nearly 30,000, DP World is one of the largest marine terminal operators in the world, with 50 terminals and 11 new developments across 31 countries. DP World aims to enhance customers' supply chain efficiency by providing quality services to effectively manage container, bulk and other terminal cargo. It also provides logistics, infrastructure development and consultancy services where its experience adds significant value for customers.	820 (Source: Company website, February 2011 – The terminal currently employs approximately 570 employees and uses around 250 permanently assigned contract stevedores to support their growing business)
6.	Lockheed Martin	Havant	Military Technology	Lockheed Martin is a global security company with customers around the world and partners in more than 50 countries outside the United States. Working with their partners, they are meeting a broad range of government priorities, from strengthening global security through defence system modernisation to air, marine and rail traffic management, and from military and civil command and control systems to building and launching satellites.	600 (Source: Invest in Portsmouth, Major Employers 2010)

	Company	Location	Sector of activity	Description	Number of employees (as at Oct 2011)
7.	National Oceanography Centre Southampton	Southampton	Research	Is a collaborative centre owned by the Natural Environment Research Council (NERC) and the University of Southampton. NOCS is based at a purpose-built waterside campus in Southampton. It is a national research organisation delivering world-class integrated marine science and technology from the coast to the deep ocean.	520 research scientists (Source: NOCS website, Feb 2011)
8.	Associated British Ports	Southampton	Cargo company	Associated British Ports (ABP) is the UK's largest and leading ports groups and owns and operates 21 ports all around the UK and handles approximately a quarter of the country's seaborne trade. ABP's ports, together with the other transport-related businesses that constitute the ABP Group, form a UK-wide network capable of handling every conceivable type of cargo. ABP is backed by investment in modern facilities and equipment, and supported by experienced staff. The Group's activities cover transport, haulage and terminal operations, ship's agency, dredging and marine consultancy. Each port also offers a well-established community of port-service providers.	475 (Source: FAME database, February 2011)
9.	Red Funnel	Southampton	Ferry Operators	Operates 24/7, 364 days a year with a modern fleet of passenger and vehicle ferries between Southampton and the Isle of Wight. Southampton is their home port and gateway to the Isle of Wight.	438 (Source: FAME database, February 2011)
10.	Gurit UK Ltd	Isle of Wight	Marine Advanced Composite Materials and Solutions	Is a global leader in the development and manufacture of advanced composite materials and solutions. Offer an unrivalled range of innovative composite materials, engineering solutions and technical support to a global customer base in their target markets of Wind Energy, Transportation, and Marine.	400+ (Source: Company Website, March 2011)



Offshore windfarm service vessel, designed and built, Isle of Wight

OTHER MAJOR EMPLOYERS IN SOLENT SUB-REGION

In addition to the above, it is recognised that some employers are considered important to our region in terms of their reputation and scope of services.

Table 12: Top 10 Major Employers in terms of Reputation and Activities (ranked in no particular order)

Company	Location	Sector of activity	Description	Number of employees (as at Oct 2011)
1. Raymarine	Fareham	Marine electronics manufacturer and supplier	Develops and manufactures the most comprehensive range of electronic equipment for the recreational boating and light commercial marine markets. Product lines include radar, autopilots, GPS, chartplotters, instruments, fishfinders, communications, software and systems. This is the corporate headquarters as well as the factory service, repair facility for eastern hemisphere, engineering, and design headquarters. Specialises in marine electronics.	251+ (Source: Invest in Portsmouth, Major Employers 2010)
2. QinetiQ	Portsmouth and Gosport	Marine Technology and Engineering Solutions	A leading international provider and consultancy of technology-based services and solutions to the defence, security and related markets. They develop and deliver services and solutions for government organisations, predominantly in the UK and US, including defence departments, intelligence services and security agencies. Among their products is the Paramarine which is an integrated naval architecture software for ships and submarines. In terms of marine they provide independent assessments of marine technologies from start to finish, investigating the technical and commercial aspects. They have developed propulsion systems for the Royal Navy and the commercial market. QinetiQ has a Land Based Test Site (LBTS) located at Portsdown Technology Park (Portsmouth) providing a replica of RN ship's operation rooms for training. QinetiQ's work also covers wind, wave and tidal energy services and solutions where they have assessed tidal turbine designs and wave devices. QinetiQ have a physical modelling facility based at Hasler (Gosport) for tidal energy.	251+ (Source: Invest in Portsmouth, Major Employers 2010)

	Company	Location	Sector of activity	Description	Number of employees (as at Oct 2011)
3.	Vestas Technology UK Ltd (Research)	Isle of Wight	Design of Wind Turbines	Undertake the design of wind turbines. The facility on the Isle of Wight is a research and development site where wind turbine blades are designed and tested. The company has 22,721 employees worldwide (as at 31 Dec 2011).	220 (Source: BBC, 2 Aug 2011)
4.	Marine Data Systems Ltd	Isle of Wight	Marine Navigation Equipment	Marine Data Systems designs, manufactures and sells electronic marine navigation equipment. The company won a Queens Award for International Trade in 2012 for its outstanding achievement having shown year on year growth of its overseas sales with overall growth of 134% recorded. The company has concentrated on improving its customer relations and extending its supply to OEM manufacturers and various navies. In addition the company has focused on the shipping refit business as a sales route given the prolonging of the working life of shipping stock in the current economic climate.	
5.	Meachers Group Investments Limited	Southampton	Logistics and Warehousing	A group engaged in road haulage, warehousing, shipping, freight forwarding. Meachers Services Southampton is one of the UK's leading independent providers of logistics services providing Freight Forwarding, Supply Chain Management, UK Warehousing, Distribution, Logistics and Contract Management, Training and Advisory requirements.	156 (Source: FAME database, February 2011, Note: This figure could include offices in other locations)
6.	Wärtsilä	Havant and Fareham	Manufacture of Marine Propulsion Systems	Wärtsilä in the UK is part of Wärtsilä Corporation and is a Finnish-based technology company that manufactures diesel and natural gas engines, complete propulsion systems and power plant solutions. In the Solent sub-region, Wärtsilä have offices in Havant (Wärtsilä Propulsion UK specialising in Ship Power) and Segensworth in Fareham (specialising in Seals and Bearings Factory).	150 (Source: Invest in Portsmouth, Major Employers 2010)

	Company	Location	Sector of activity	Description	Number of employees (as at Oct 2011)
7.	Roke Manor Research Ltd (Defence)	Romsey	Electronics Engineering Research	Roke Manor Research Ltd is recognised as a worldwide centre of R&D excellence. It is a world-class electronics engineering company that provides contract research, product development and manufacturing for a wide range of UK and international customers. They develop advanced sensors, communications systems, and network solutions for a diverse range of applications. Trusted by government and industrial partners worldwide, Roke provide independent advice, solve technically challenging problems and deliver innovative capability and products into the defence, national security, telecommunications, and healthcare markets.	
8.	BMT Nigel Gee	Southampton	Naval Architects	BMT Nigel Gee, based in Southampton, is one of the world's largest independent design consultancies offering a vast portfolio of services for advanced and specialised ships and boats, from initial concept to detailed design. With an established background in yachts, commercial and naval craft, and an unrivalled scope of technical capability, the company utilises state of the art technology to provide innovative design and consultancy for an international client base.	50+ (Source: Company website, October 2011)
9.	Lloyd's Register	Southampton	Marine Consultants and services	A world leader in assessing business processes and products from design and new build to in-service operations and decommissioning, they aim to deliver complete lifecycle and risk management solutions to help ensure the safety, integrity and operational performance of assets and systems. Offices are located world wide with the Southampton office specialising in marine.	10 – 50 (Source: Hampshire Business Directory, 2011)
10.	Garmin (Europe) Limited	Southampton	Electronic Systems and Equipment	Garmin is the World's leading mobile navigation device company and is a global manufacturer of in-car satellite navigation systems, portable navigation devices, handheld GPS units, and GPS products for the marine and outdoor sectors. For marine it includes GPS fishfinders, chartplotters and more.	



12.0 SKILLS IN THE MARINE SECTOR

12.1 TRAINING PROVIDERS

The following institutions provide training and courses for skills in the marine sector:

Training Provider	Description
University of Southampton	With eight faculties covering a wide range of subject areas, the University is one of the leading entrepreneurial universities in the UK as well as one of the top 15 research universities in the UK having achieved consistently high scores for its teaching and learning activities. A number of marine related courses include Maritime Law, Marine Engineering, Natural and Environmental Sciences, and Physical and Applied Sciences.
National Oceanography Centre, Southampton (NOCS)	NOCS is the integrated collaboration between the Southampton-based part of the Natural Environmental research Council's National Oceanography Centre and the University of Southampton's School of Ocean and Earth Science. The University of Southampton is a hosting partner of the National Oceanography Centre, which is a new, national research organisation created on 1st April 2010, delivering integrated marine science and technology from the coast to the deep ocean, working in partnership with the UK marine research community. NOCS is based at a purpose-built waterside campus in Southampton and is home to about 520 research scientists, lecturing support and seagoing staff as well as over 700 undergraduate and post-graduate students.
Southampton Solent University	<p>Maritime and Technology Faculty – Courses are designed to support technology-based careers in disciplines such as computing, construction, engineering, entertainment technology, geography, maritime and yacht design. The education and training of professional ships' officers takes place at the separate campus of the internationally renowned Warsash Maritime Academy. Training facilities include Hydrographic survey, Oceanographic survey, and Navigation training.</p> <p>Technology Research Centre – The Centre supports postgraduate students studying for MPhil and PhD in the following subjects, which are linked to the curriculum of the Maritime and Technology Faculty: Built Environment, Computing and Digital Communications, Design, Maritime Environmental Policy, and Naval Architecture.</p> <p>Global Maritime & Safety System (GMDSS) – Southampton Solent University has been delivering courses on GMDSS to the maritime community since 1991. Specialist GMDSS facilities are located at Warsash Maritime Academy (WMA), offering Maritime and Coastguard Agency (MCA) approved GOC, ROC, LRC and other related courses.</p> <p>Warsash Maritime Academy – The Academy provides internationally recognised certification programmes for both deck and engineer officers from cadet level to Master (Captain) and Chief Engineer. Short safety courses to develop skills such as fire fighting and sea survival, and continuous professional development modules for more experienced officers are also offered. Warsash pioneered the use of bridge and engine room simulators for higher level training, and the Liquid Cargo Operations Simulator, which is the most advanced of its kind, was developed in house. Their manned model ship handling training facility is the only one in the United Kingdom, and one of very few in the world. Training Facilities include: Engine Room Simulator, Full Mission Bridge Simulator, Steam Plant Simulator, Liquid Cargo Operations Simulator, Multi-purpose Simulator, Radio Communications Centre, Fully Equipped Fire School and Fire Ground, Engineering Workshop, Seamanship Centre, Pier Head with Lifeboats and Davits, Ship Handling Centre – Timsbury Lake</p>

Training Provider	Description
University of Portsmouth	<p>The University is a leading modern university with a strong reputation for teaching and research. Many of our academics are international leaders in their fields and our students learn from experts who are pushing forward the boundaries of knowledge. The University offers a range of marine related courses including Marine Biology, Marine Environmental Science, Marine Biogeochemistry and Ecosystem Research, Coastal and Marine Resource Management, and Marine Engineering.</p> <p>Institute of Marine Services (IMS) – Is an internationally renowned marine station providing research and teaching facilities for marine sciences and marine biology.</p>
Southampton City College	<p>The college offers a wide range of options for young people leaving school or college to older learners already in employment or for people looking for a change in career. The City College is also the lead partner in CoVE (Centre of Vocational Excellence) for Marine Industries confirming its commitment to working with local employers and training and developing people for the industry.</p> <p>Marine Skills Centre – Provides bespoke training solutions in marine. It is at the forefront of making sure employees, apprentices and future workers have the skills levels to compete in the marine sector. Training covers skills from across the industry from boat building to marine engineering, marine design to composites skills and computer studies, book keeping and leadership and management.</p> <p>National Skills Academy for Composites – The Marine Skills Centre is a Founder Member of the National Skills Academy for Composites. The college’s commitment to promote and develop the composites industry was fully justified through recent studies highlighting the needs of industry to develop skills in the use of advanced composites in product design, manufacture and maintenance.</p>
Isle of Wight College	<p>The College’s main campus is sited in a central island location on the outskirts of Newport on the Isle of Wight. As the only FE College on the Island it has a record of success that is currently the envy of the sector having achieved a Grade 1 at inspection. The Isle of Wight College is in the top 10 percent of colleges and achievement rates are above the national averages. The College has recently invested millions in new facilities, which includes the new LRC (Learning Resource Centre) and 6th Form college facility.</p> <p>Marine related courses include Marine Industry Leadership (Level 2) for careers in water sports instruction and outdoor pursuits, Engineering (marine, mechanical and electronic), and Plumbing and Gas (includes mechanical engineering in the marine, chemical and gas industries).</p>
Island Training	<p>Working for employers, Island Training is the specialist employer engagement training arm of the Isle of Wight College offering local business access to high quality training across a wide range of industry sectors, including marine. Island Training also offers bespoke training, tailored specifically to need, at a time and place to suit businesses and offers a wide range of work based training opportunities, including:</p> <ul style="list-style-type: none"> • Electrics and Electronics (Level 2 and 3) • Engineering Maintenance (Level 2 and 3) • Marine Engineering (Level 2 and 3) • Materials Processing and Finishing (Level 2 and 3) <p>Island Training also works in partnership with the UK Sailing Academy (UKSA) to deliver training for those wishing to work as professional crew on yachts and super yachts.</p>

Training Provider	Description
United Kingdom Sailing Academy (UKSA)	<p>Is the leading maritime charity in the UK and is dedicated to changing lives through personal development and maritime education. Based at the heart of the international sailing community in Cowes, the 3.5 acre campus is one of the largest residential maritime centres in Europe. UKSA offers Career Training for those in the maritime sector offering comprehensive career training programs leading to maritime certificates of competence, academic qualifications and employment. UKSA is an accredited MCA training provider offering professional courses for captain and crew from STCW95 to Master 3000gt. The STCW 95 course and modules form part of the statutory requirements for both deck and engineering qualification. It is a globally recognised qualification for working afloat on boats over 24m.</p> <p>UKSA also offers Industry Guidance which is a support service provided exclusively for UKSA career course graduates. With a reputation amongst employers for providing well trained staff, the number of jobs available has grown significantly year on year since the service began. UKSA has over 2,000 employer partner's through-out the world.</p> <p>UKSA also offers a wide range of RYA leisure courses including Day Skipper, Coastal Skipper and Yachtmaster, as well as courses in sea survival, marine engineering, communications and navigation.</p>
HMS Sultan Training Establishment	<p>Naval and civilian training establishment specialising in marine engineering. It is home of the Royal Naval School of Marine Engineering (RNSME) and the Royal Naval Air Engineering and Survival School (RNAESS) whose primary function is to supply the Fleet with engineering Officers and Ratings of the highest quality.</p>
HMS Collingwood Training Establishment	<p>Is the Royal Navy's largest training establishment. It is the headquarters of the Maritime Warfare School and Surface Stream which also has units in HMS Excellent, Longmoor, Temeraire, Horsea Island and Raleigh, delivering training in Warfare, Weapon Engineering, Diving, Physical Training, Chemical Biological Radiation Nuclear and Damage Control, Sea Survival, Seamanship and Military skills.</p>
HMS Excellent (Whale Island)	<p>In addition to the units of HMS Collingwood, HMS Excellent also provides training in damage control and fire fighting, and the South East Naval Military Training Centre.</p>

Training Provider	Description
VT Flagship Training	Headquarters for training and support services for the military sector. It is part of the Babcock International Group PLC, the UK's leading engineering support services organisation with an order book in excess of £12 billion.
Brockenhurst College – Marchwood Construction and Marine Technologies Training Centre	Based on Marchwood Industrial Park, Marchwood, the Centre boasts excellent opportunities for Construction Skills and IT training for 14-19, adult learners and employees. It offers a range of vocational courses allowing students to focus on the career path of their choice whilst developing the knowledge and skills relevant to their career. A range of marine based BTEC courses are on offer at the centre which offer practical work experience and tailored training with experienced tutors. The Advanced Vocational Pathway offers students options in: Boatbuilding, Marine Design, Marine Electrical, and Yacht Production Technology. The Intermediate Vocational Pathway offers options in: Boatbuilding, Performing Engineering Operations, Marine Engineering, and Marine Electronics. The college also offers apprenticeships with placements with local marine employers together with study at the Marine Skills Centre.
British Offshore Sailing School	Is a leading provider of Royal Yachting Association (RYA) sailing courses. BOSS has full RYA recognition and offer a comprehensive range of RYA practical and shore based sailing courses, starting with introductory sailing weekends for beginner's right through to sailing courses for Ocean Yachtmasters and RYA Instructors. Courses include sailing, shore based courses, STCW (Standards of Training, Certification and Watchkeeping), and Fastrak.
Maritime and Coastguard Agency (MCA)	In addition to implementing government's maritime safety policy in the UK to prevent the loss of life on the coast and at sea, MCA also provide certification to seafarers in the following areas: Merchant Navy - Deck, Merchant Navy – Engineering, and Yachts
Marine Accident Investigation Branch (MAIB)	Examines and investigates all types of marine accidents to or on board UK vessels worldwide, and other vessels in UK territorial waters. In addition to this role, MAIB also helps to educate seafarers by describing its work to maritime colleges and other groups of mariners from all sectors of the industry.

12.2 MARINE APPRENTICESHIPS

Southampton City College specialises in all aspects of apprenticeships, providing training opportunities in a wide range of occupational areas. City Apprenticeships has been an established training centre for over 25 years and is now one of the largest training providers in Hampshire.

The Marine Apprenticeship has several aspects of boat building, maintenance and repair, marine engineering, electrics and electronics, and maintenance. The apprentices learn a variety skills and techniques to build boats of all sizes and for all functions using carpentry, electrical, plumbing and welding skills as well as more traditional maritime craft skills like rigging and sailmaking. The work involves constructing frameworks, hulls and decks – even installing parts such as engines, propellers and steering systems. The Level 2 (Intermediate Apprenticeship) includes: Boat builder, Laminator, Marine Electrics, and Marine Engineer. The Level 3 (Advanced Apprenticeship) includes: Boat builder, Carpenter, Marine Electrics, and Marine Engineer

Brockenhurst College provide Intermediate Apprenticeships and/or Advanced Apprenticeship Frameworks in the area of marine.

Island Training (Isle of Wight College) also offers apprenticeships available in Fabrication and Welding, and Marine Engineering.

A number of marine companies offer apprenticeship programmes and some of these are listed here:

DP World Southampton – To enable to support the terminal’s growth, DP World Southampton needs a team of highly skilled engineering technicians to solve the challenges that arise as a result of a wide range of complex mechanical, electrical and electronic equipment. To meet this need, every year, DP World Southampton recruits two engineering apprentices and supports them through a four year Advanced Modern Apprenticeship in Engineering Maintenance to attain full combined electrical and mechanical status.

Southampton Yacht Services – Have an Apprenticeship Program and currently recruit apprentices through Southampton City College.

BAE Systems – Offer apprenticeships in the areas of Military Air & Information, Electronic Systems, Regional Aircraft, Submarine Solutions, and Surface Ships. Apprenticeships are offered at various locations in the UK however it is the Surface Ships apprentices offered in Portsmouth. BAE Surface Ships designs, manufactures and supports warships for the UK Ministry of Defence and other navies around the world. They are involved in building the entire spectrum of military vessels from fast, agile 9.5 metre boats for Special Forces, right through to work on the two new, 65,000 tonne Queen Elizabeth Class aircraft carriers for the Royal Navy.

13.0 BUSINESS SUPPORT

13.1 BUSINESS NETWORKS AND SUPPORT FOR THE MARINE SECTOR

Organisation / Network	Description
National:	
British Marine Federation (BMF)	The British Marine Federation is the trade association for the leisure, superyacht and small commercial marine industry with about 4,200 members. On behalf of their members, BMF promote the marine industry; provide showcases for its products, here and overseas; liaise with Governments, Authorities and Agencies; conduct research on UK and International marine markets; provide technical, regulatory and manufacturing information and advice; provide strategy, advice and practical assistance on environmental issues; assist with training and recruitment; and advise and represent on legal and financial matters.
UK Spill Association	Trade Association for the UK oil spill industry. It represents companies, organisations and individuals working in the oil spill industry in the UK and is recognised by the UK Environmental and Maritime Regulators as the national body for the commercial and related interests of the industry.
Marine Management Organisation	Has been established to make a significant contribution to sustainable development in the marine area and to promote the UK government's vision for clean, healthy, safe, productive and biologically diverse oceans and seas. It does this through planning, regulating and licensing activity in the marine area with the emphasis on sustainable development. It is a new executive non-departmental public body incorporating the work of the Marine and Fisheries Agency (MFA) and acquired several important new roles, principally marine-related powers and specific functions previously associated with the Department of Energy and Climate Change (DECC) and the Department for Transport (DfT).

Organisation / Network	Description
Local and Regional:	
Marine South East	A business-led consortium developed to address the needs of the marine sector in the South East region which include increasing productivity through innovation; increasing market share by promoting business support services, clusters, networks and joint venturing; developing skills for the marine sector and workforce development initiatives; cross sectoral collaboration to improve innovation, research and development; development of international trade opportunities; and liaison with Government to raise the profile of the industry.
Marine Management Organisation	A business-led consortium developed to address the needs of the marine sector in the South East region which include increasing productivity through innovation; increasing market share by promoting business support services, clusters, networks and joint venturing; developing skills for the marine sector and workforce development initiatives; cross sectoral collaboration to improve innovation, research and development; development of international trade opportunities; and liaison with Government to raise the profile of the industry.
COSMIC (Consortium of Sussex Maritime International Consultants)	An informal group of Maritime Consultants, situated in the UK in geographical proximity, that are engaged in providing specialist consultancy services to the Maritime and Transport industry.
Cowes Marine Cluster	A strategic alliance to provide solutions to marine businesses and clients. The Cluster can direct clients to specific companies or services as well as working collaboratively on marine projects and contracts including facilities sharing, workforce pooling etc. The cluster was established to facilitate strong, collaborative links and strategic alliances between Cowes-based marine businesses involved in the supply of a wide range of products and services. Members include boat builders, marine manufacturers and equipment and material suppliers, who together are able to provide clients with innovative solutions and exemplary service.
Solent Forum	Provides a platform to deliver Integrated Coastal Zone Management in the Solent sub-region of the South East. It operates at a strategic coastal management level, providing a network for closer working relationships, information dissemination and discussion of topical coastal issues.

Organisation / Network	Description
Local and Regional:	
MEREX – Marine Energy Resources Network	A Knowledge Network exploring the exploitation and use of marine energy resources offering key advantages to South East businesses and knowledge base partners. MEREX is a European project and is being run in partnership between Marine South East, Southampton University, Southampton Solent University, the Crown Estate, the Institute for Sustainability, Partnership for Urban South Hampshire, Thames Gateway Partnership, Veolia, B9, Ovendens and Ricardo.
SMARTA	SMARTA is a three year project aimed at helping marine companies in the South East to improve their profitability and sustainability. The project partly funded by the European Union offers practical assistance for marine businesses via free consultancy provided by experts in production optimisation, sustainable design and environmental best practice.
Solent Maritime Group	Consists of major players within the maritime sector to promote the maritime and logistics industries, their supply chains, users and employees within the Solent region; to foster good relations between the maritime industries; to lobby at an international, national, regional and local level on maritime issues concerning their well-being and efficient functioning; to facilitate liaison between the various groups and organisations contributing to and dependant on the maritime industries of the Solent region; to increase competitiveness through innovation, technology and lean processes; to forge increased commercial links with appropriate international partners; to assist with the enhancement of skills and workforce development relating to maritime operations and activities; and to access funding and resources on a project by project basis.

13.2 HARBOUR AUTHORITIES

Associated British Ports – Southampton, Hampshire

Beaulieu River Management – Beaulieu, New Forest, Hampshire

Bembridge Harbour – Ryde, Isle of Wight, Hampshire

Chichester Harbour Conservancy – Chichester, West Sussex

Cowes Harbour Commission – Cowes, Isle of Wight

www3.hants.gov.uk/hambleharbour – Warsash, Hampshire

www.langstoneharbour.org.uk/ – Hayling Island, Hampshire

www.lymingtonharbour.co.uk/ – Lymington, Hampshire

Queen’s Harbour Master – Portsmouth, Hampshire

Ryde Harbour – Ryde, Isle of Wight

Yarmouth Harbour Commissioners – Yarmouth, Isle of Wight

Newport Harbour – Newport, Isle of Wight

14.0 EVENTS

These major employers have been identified based on employee numbers and have been sourced from the database of marine businesses described in Section 6.0.

Table 11: Top 10 Major Marine Sector businesses in the Solent Region based on Employee Numbers

Event	Date and Location	Description
Southampton International Boatshow	The dates for the 2012 Southampton boatshow are from 14 – 23 September in 2012.	An annual event now in its 43rd year and is the on water, outdoor celebration of the boating calendar and a much anticipated event. As it is a celebration of all things boating, it provides real experiences both on and off the water and fun-filled day out for boaters, trade and the whole family. In 2010 the show attracted 123,000 visitors and netted around £16 million for the local economy. The event showcased over 1,000 boats of all sizes and classes and is Europe's largest Show Marina
Annual Seawork International Exhibition	Seawork 2012, Europe's only on-the-water exhibition for the commercial marine industry, was held from 22 – 24 May at ABP's Port of Southampton.	Seawork is the largest commercial marine and workboat event held in a European working port. Seawork offers a unique display of all aspects of the commercial marine industry including the offshore renewable energy sector and its wide-reaching supply chain. Seawork is an annual event, free to attend and is a great networking opportunity for leisure and commercial marine businesses that want to diversify and take advantage of new business opportunities. Now in its 15th year, Seawork 2012 will have a record number of vessels available for demonstration from the extended 300m on-site pontoons, plus 500 exhibitors in the halls and on the Quayside and a packed CPD-certified conference programme, including papers by the MoD, Maritime & Coastguard Agency, UK Trade & Investment Defence Security Organisation and Det Norske Veritas.
Unmanned Underwater Vehicles Showcase (UUVS)	National Oceanography Centre, Southampton (NOCS)	UUVS is an annual event held in Southampton at the National Oceanography Centre that brings together the leading oil and gas, academic, security and industry representatives to focus on cutting edge technologies and developments in underwater vehicles. The event includes presentations from leading organisations as well as an exhibition and demonstration area with companies displaying ROVs and AUVs along with bespoke component technologies. The demonstration area enables visitors to see the vehicles in operation and their full capabilities.
Titanic Centenary Celebrations	A number of events have been organised in Southampton for the 100 year anniversary in 2012 including the opening of Sea City Museum on 10th April	100 years after the tragic sinking of the White Star liner RMS Titanic, the city of Southampton recognises their unique link to the tragedy. The disaster struck at the heart of Southampton as hundreds of city residents went down with the fated vessel. A number of events have been organised across the city to connect with history, telling the story of that disastrous night. Among the events is the opening of Sea City Museum on 10th April 2012, exactly a century after the Titanic departed from Southampton. The museum features exhibitions about Southampton's maritime past and present, telling the stories of people who have travelled in and out of the city through the ages.

Event	Date and Location	Description
Southampton City College Marine Showcase	The 2012 Showcase was held on 29th March at Southampton City College.	Southampton's City College hold an annual Industry Showcase event for the Faculty of Engineering (Marine, Marine Engineering, General Engineering, Construction and Automotive). The event provides the opportunity for prospective students and apprentices to visit the College to discuss with employers in the industry they aspire to work within. Current students and apprentices at the College also appreciate the opportunity to talk with employers and sponsors at this event about the College and its successes.
Clipper Round the World Yacht Race	Held every 2 years where the current race began in August 2011 and is due to finish on 22nd July 2012. The race starts and finishes in Southampton and future races are confirmed for 2013-14 and 2015-16.	<p>The Clipper Round the World Yacht Race is the only race in the world where the organisers supply the fleet of identical, 68-foot, stripped down racing yachts – each sponsored by a city, region or country – and man them with 12 fully trained skippers, employed to lead the crews safely around the planet.</p> <p>The race is organised by Clipper Ventures which is the only organisation in the world to offer the opportunity for non-professional sailors to compete in a round the world yacht race. Clipper Ventures is based in Royal Clarence Marina, Gosport, and runs both the Clipper Race and VELUX 5 Oceans Solo round the world yacht race. To date they have successfully organised seven round the world yacht races for non-professional sailors.</p> <p>The 2011-12 race starts and finishes in Southampton and comprises of 40,000 miles making it the world's longest yacht race. The race started in August 2011 with a fleet of 10 sleek, stripped down 68-foot yachts with an eleven-month route around the globe from UK to mainland Europe, then across the Atlantic Ocean to South America, crossing the Equator along the way. Then on to South Africa, west coast Australia, New Zealand and east coast Australia before heading north and then west towards Singapore, followed by China. Crossing the Pacific Ocean brings the teams to California before they head south to the Panama Canal. Once through the canal, the race heads north to New York and Canada, before heading back across the Atlantic Ocean to Europe and the UK. The Clipper Race runs every two years with future one's confirmed for 2013-14 and 2015-16.</p>
Cowes Week	Held every August in Cowes, Isle of Wight	Held every year since 1826 Cowes Week has played a key part in the British sporting summer calendar and is one of the UK's longest running and most successful sporting events. It now stages up to 40 daily races for around 1,000 boats and is the largest sailing regatta of its kind in the world. 8,500 competitors range from Olympic and world class professionals to weekend sailors. In excess of 100,000 spectators come to watch the sailing, enjoy the parties and live entertainment, and to experience the unique atmosphere.

15.0 HOW WE CAN HELP

The Solent Local Enterprise Partnership (Solent LEP) and Partnership for Urban South Hampshire (PUSH) inward investment team represents the city regions of Portsmouth and Southampton and the Isle of Wight.

The team provides a comprehensive service for businesses considering relocating or expanding or investors seeking commercial development opportunities.

We can:

- Identify suitable business premises or sites and arrange viewings with commercial agents
- Provide tailored information on skills, industry strengths, the local economy and living in the region
- Identify grants and funding and provide support with recruitment and training
- Organise tours showcasing the region's offer to investors and businesses
- Make introductions to local business networks and local authority contacts

We recognise that each business has individual needs and can provide tailored information to assist with your relocation and / or development decisions. Please do not hesitate to contact the inward investment team if you require further assistance or information.

16.0 CONTACT DETAILS

For more assistance, please contact the inwood investment team:

Isle of Wight	Matthew Hill Isle of Wight Council Economic Development Tel: +44 (0) 1983 821000 info@isleofwight.co.uk www.investinisleofwight.co.uk
Portsmouth City Region	Ian Bridges Portsmouth City Council Business Team Tel: +44 (0) 23 9284 1074 info@invest-in-portsmouth.co.uk www.investinportsmouth.co.uk
Southampton City Region	Jeff Walters Southampton City Council Economic Development Tel: +44 (0)23 8083 2256 info@investinsouthampton.co.uk www.investinsouthampton.co.uk

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