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The South Coast Marine Cluster: Marine Inward Investment Evidence Study

June 2017

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Date of document: 29th June 2017
Version: Final

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Acknowledgements

We would like to thank the many individuals who gave their time to assist in the evaluation, including Julia Stuckey, Mark Pemberton, Alex Clothier, Thomas Clenaghan, Jim Grant, Sheldon Ryan, Steven Rice, Eifion Jones, Anthony Payne, Kevin Forshaw, and the other members of the SCMC partnership, all of whom were important in the writing of this report.

This evaluation would not have been possible without all of these contributions. We would also like to thank the generosity of the senior decision makers in the companies interviewed for workstream three, whose time and patience answering our detailed question contributed enormously to enriching the portrait of the SCMC as a vibrant and diverse home for Marine and Maritime related activities.

List of abbreviations

SCMC	South Coast Marine Cluster
MMS	Marine and maritime sector

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Executive summary

The South Coast Marine Cluster (SCMC) is a partnership between public authorities, local enterprise partnerships, and institutions of higher education and research that exists to promote the world leading excellence of the marine and maritime related activities that take place in the south and south west of the UK. The research undertaken for this report highlights the following:

- The marine and maritime sector (MMS) remains notoriously hard to define and quantify on a SIC code basis. Given that there are (a) no broad industrial groups – clusters of SIC codes – that coherently represent marine and maritime activities and (b) many cross-cutting activities contained within the marine and maritime sector, there are a range of possible methodological approaches that can be used, which generate widely fluctuating estimates of the overall economic contribution of the sector.

- Using a relatively conservative approach to avoid overestimation and inflation of results, this study finds that the MMS in the South Coast Marine Cluster;
  - Includes over 7,500 businesses in MMS related activity, almost 8% of the UK total
  - Provides over 105,000 direct, indirect, and induced jobs in the area
  - Contributes over 8% of the total MMS GVA in the UK

- The MMS sector in the SCMC has specific regional strengths, which include marine manufacturing, fishing, marine travel, offshore renewables, leisure, marine-related professional and legal services, and marine environmental technologies.

- There are significant opportunities to strengthen the supply chain within the SCMC, and to attract inward investment.

- Interviews with a cross-section of strategically important companies reveal a heavy investment in R&D, and close collaborations with HE and RI.

- The defence sector remains a strong partner in the MMS in the SCMC.

- The SCMC is characterised by world-leading marine and maritime education and research institutions in a number of fields.

- There are opportunities for the SCMC to refine and strengthen its mission in the future.

- There is room for the institutional development of the SCMC, including a reappraisal of governance arrangements.

1 Introduction

This report aims to map, quantify, and contextualise the contribution of the South Coast Marine Cluster (SCMC) to both the Marine and Maritime sectors (MMS) UK-wide, and also to the overall UK economy.

1.1 The South Coast Marine Cluster (SCMC)

The SCMC is a regional partnership of research institutions, Local Enterprise Partnerships, and local authorities that spans much of the south and south-west coastal areas of the UK.[1] The collaborative partnership aims to stimulate economic growth in Marine and Maritime-related activities, to attract significant increases in inward investment, and to foster the growth and expansion of export markets. Equally, the partnership has as a core goal to catalyse further innovation across the region and sectors, and to increase knowledge transfer and facilitate the bringing to market of new products, services, and ideas. The SCMC is dedicated, through these and other workstreams, to showcase the strengths of the region, both nationally and internationally, and to promote the importance of the sector to influential policy-makers.

Figure 1.1: The geography of the South Coast Marine Cluster (SCMC)

Although the SCMC has a coastline that stretches more than 2,000km, which encompasses major ports such as Penzance, Plymouth, Weymouth, Southampton, and Portsmouth – to name but a few – it also covers the five counties of Cornwall, Devon, Somerset, Dorset, and (most of) Hampshire, and as such, there are significant MMS activities that take place inland. Just as one example among many, the Leonardo manufacturing plant in Yeovil has produced the Lynx Wildcat, which has been primarily used by the Royal Navy as a reconnaissance, anti-submarine warfare (ASW) and anti-surface warfare (ASuW) helicopter (28 ordered to date), and continues to be the largest producer of marine helicopters/components in the UK.

[1] The full list of partner institutions, LEPs, and LAs is shown in Appendix 1 of this report.

1.2 Defining the Marine and Maritime Sector (MMS)

While the classification of much of the economic activity of businesses in the UK has been neatly subsumed into the 18 broad industrial groups used by the Office of National Statistics (ONS) on a Standard Industrial Classification (SIC2007) basis, those groupings do not adequately reflect the breadth and range of activity that takes place in the Marine and Maritime sectors. Thus, defining what is to be included within the MMS is the first step in moving to robust estimates of business activity, employment, and GVA, and estimating the overall contribution of the MMS to the UK economy.

Broadly speaking, there have been two avenues taken in response to the definitional question within the research industry, which we may term as the *intensive* and the *extensive* approaches. The intensive approach tends to build on a number of tight SIC codes that fall completely within the area of marine and maritime related activity; for example, the Oxford Economics series of reports adopt a scheme with three maritime-related activities (ports, shipping, and maritime business services) and six sets of marine activities (ship building and repairs, marine equipment, marine renewable energy servicing, leisure and small commercial craft, marine science, and marine technical consultancy).[2] The extensive approach, best reflected in the Marine Management Organisation's (MMO) series of Economic Baseline Reports, is built upon the incorporation of a wider number of sectors across specified geographies, which may or may not be explicitly marine or maritime specific; thus the MMO covers the following sectors under its definition; aggregates, aquaculture, carbon capture and storage, coastal protection, coastal tourism, defence, dredging, fisheries, marine recreation, nuclear, oil and gas, ports, renewables, shipping, and telecoms and communications.[3] These definitional differences result in non-trivial gaps between economic assessments; for example, the intensive approach yielded a **UK-wide** total GVA estimate (direct + indirect + induced) of £35bn, using 2012 GVA figures, whereas the extensive approach produced an estimate, for **England alone,** of over £86bn from the same underlying data sources.

Each approach has strengths and weaknesses, and it is not the role of this report to identify either as superior. However, in general, we make the following observations:

- The intensive approach is best thought of as an attempt to estimate economic activity levels for relatively narrow ranges of activities that are explicitly marine or maritime related; such an approach may not completely capture the cross-sectoral complexity of supply chains or new and emerging technologies and activity areas (such as marine biotechnology);

- The extensive approach is best thought of as a suite of economic activities that may or may not be explicitly marine or maritime related; such an approach may overestimate the impacts of (more classically defined) marine and maritime activities, while capturing the complexity of supply chains and the potential for incorporating new technologies.

[2] Oxford Economics, "The economic impact of the marine and maritime sector on the UK in 2011/12" (January 2013).
[3] Marine Management Organisation, "Economic baseline assessment for the North East, North West, South East and South West marine plans" (June 2016).

Both approaches still confront the dual problem that;

- Certain areas of marine and maritime related activity span multiple SIC codes (e.g. non-public sector defence-related activities.
- Other areas of marine and maritime related activities form partial subsets of broader SIC codes (e.g. offshore renewables).

Indeed, the case of offshore renewable industry is highly illustrative of the issues discussed above. Not only does the industry itself not fall easily into a SIC code, but the supply chain spans a wide range of seemingly diverse economic activities, all under their own SIC codes, as noted in Figure 1.2.

Figure 1.2: Illustration of the supply chain for offshore renewable energy[4]

Activity	Standard industry classification (SIC) code and description
Steel plate	SIC codes 24.1-24.3: Manufacture of basic iron and steel
Flanges	SIC code 25OTHER: Manufacture of fabricated metal products
Coatings	SIC code 20.3: Manufacture of paints, varnishes and similar coatings, printing ink and mastics
Internals	SIC code 25OTHER: Manufacture of fabricated metal products
Equipment (asset depreciation)	SIC code 28: Manufacture of machinery and equipment
Transport	SIC codes 49.3-49.5: Land transport services and transport services via pipelines, excluding rail transport
Labour and overheads	SIC codes 24.1-24.3: Manufacture of fabricated metal products

Given the overlap or under-specification of SIC codes in relation to the MMS, it is inevitable that all economic research in this area is reliant upon both a diverse set of data sources and also a range of different methodologies for the estimation of specific elements of economic activity within the MMS as a whole.

[4] BVG Associates, "A new economic impact methodology for offshore wind" (White Paper, January 2017).

1.3 Our methodology

1.3.1 The sectors

For this report, in consultation with the SCMC, we opted for a more intensive definition of the MMS, conforming to the Oxford Economics approach cited previously. After primary data collection, and an initial analysis, in consultation with the SCMC steering committee the relevant MMS activities were re-grouped into sectors for mapping purposes that reflect the overall priorities and engagements of the SCMC partners and businesses. The ten sectors that were identified are:[5]

- Defence
- Fishing and Aquaculture
- Leisure
- Marine Environmental Technologies
- Marine Manufacturing
- Marine travel
- Marine-Related Professional and Legal Services
- Offshore Renewables
- Oil and Gas
- Port activity

We were still confronted with the problem of SIC codes that encompass more than just the marine and maritime activities that do take place under them. Previous reporting of MMS (including those reports cited above) have relied upon a number of 'adjustment methodologies', which range from comparing government and private data sources, extrapolating from industry-specific reporting, cross-sector multipliers/divisors, ad hoc use of supply chain surveys to create adjustment rations, etc.

In the context of this evidence study, we were greatly assisted by the extensive data capture from the SCMC partners, including CRM details of companies that allowed us to devise a robust adjustment algorithm that was used throughout the mapping and sectoral activity analysis. That approach, which is described in more detail in Appendix 3 of this report, was based on the following steps:

1. In the initial phase of the mapping (see Chapter 2 below), we were supplied with CRM records from the SCRC partners of companies *that had been self-identified (through CRM registration) or identified by the partners (through other contact) as operating within the MMS*.

2. Those companies were then matched with SIC codes from the database of all companies registered with Companies House.[6]

[5] A full breakdown of SIC codes included in each of these sectors is given in Appendix 2 of this report.
[6] Using fuzzy matching (company name, address, and postcode as key fields), we were able to match 96% of the CRM records supplied and append primary SIC codes.

3. Thus, we were able to identify a set of companies *whose SIC code does not fall within the predefined SIC/sector matrix, and yet who are engaged in MMS related activity*.

4. Using ONS data, we then estimated the proportion that these businesses represent of the total business demography within those particular SIC codes, generating an adjustment ratio.

5. That adjustment ratio was then applied to ONS data from the Interdepartmental Business Register (IDBR), the Annual Business Survey (ABS), the Business Register and Employment Survey (BRES), the Business Structures Database (BSD), and the Labour Force Survey (LFS), to produce adjusted figures for the business demography, employment, and GVA data reported below.

While we recognise that all adjustment methodologies carry inherent risks of either over or under estimation, the approach applied in this study is grounded in an empirical approach that carefully examined, sector by sector, the proportion of businesses identified by partner institutions through engagement with those companies that would have escaped classification and inclusion using other more ad hoc or theoretically-rooted methods.

We referenced our methodological approach against that of the Oxford Economics (OE) sector report cited earlier. For comparison, using 2012 figures, OE estimated the UK-wide **direct** GVA of the MMS at £18.9bn, which would be the equivalent of £20.48bn in 2016 prices.[7] Our report, applying the methodology that has been described above, estimated the 2016 UK-wide MMS **direct** GVA at £31.6bn. Factoring in annual growth between 2012 and 2016, the difference between our sectorally-adjusted figure and the sectorally-adjusted figure using the OE reporting is approximately £7.3bn. A direct comparison with the (extensive) MMO approach is difficult as (a) the MMO baseline reports only covers England, and excludes Northern Ireland, Scotland, and Wales, and (b) the reporting does not include detailed estimates of direct, indirect, and induced GVA. Nonetheless, if we assume that together the other three home nations account for approximately 20% of total UK-wide MMS GVA (Wavehill estimate), and that the total (direct + indirect + induced) GVA figures included in the MMO report approximately 54% direct GVA[8], then the MMO approach would yield a UK-wide **direct** GVA of approximately £55.4bn in 2012 prices or £60.03bn in 2016 prices. Again, applying an annual growth factor, the MMO equivalent to our current prices estimate would be £67.5bn **direct** GVA contribution to the UK economy.

Table 1.1: Selected GVA estimate comparison with Wavehill estimate for total UK-wide GVA

Source	Estimate (£ bn)	(Current prices) Estimate	Difference from Wavehill estimate
Wavehill	31.6	31.6	-
Oxford Economics	18.9	23.3	(7.3)
MMO	55.4	67.5	36.1

[7] Calculated using the Bank of England yearly price inflation calculator: http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/default.aspx

[8] Based on the standard application of Type I and II multipliers, derived from Scottish Government input-output tables

Two key sectors that are investigated in the Wavehill reporting below that are particularly vulnerable to *under estimation* in the Oxford Economics approach are marine manufacturing (outside of traditional shipbuilding and boat repair activities) and marine-related professional and legal services (for example, insurance and non-scientific consultancy). Broad sectors such as telecoms and communications, prevalent in the MMO reporting, are excluded from the current approach except where our empirically-grounded adjustment methodology identified such companies with significant MMS activities.

In short, the approach in this study is robust because;

- **We include sectors that have been previously underestimated**
- **We exclude sectors that have been previously overestimated**

1.3.2 The special case of defence

Building on the methodological challenges discussed above, we highlight the special case of the defence industry. From Plymouth to Portsmouth, the SCMC area is home to large scale marine and maritime defence establishments; Plymouth is the home of over 2,500 Royal Navy personnel, and Babcock Engineering – the contractor that maintains the base facilities – has approximately 5,000 people employed there while Portsmouth is home to about 5,000 naval personnel and an additional 6,000 civilian contractors.[9] Each of these bases accounts for many more thousands of indirect and induced jobs, and are significant economic contributors to their respective areas. It is estimated, for example, that Plymouth naval base accounts for about 10% of all GVA in the city region, whilst the Portsmouth naval base has a direct economic output of approximately £958 million.

However, there is no specific set of SIC codes that isolate private sector defence related activity, let alone marine and maritime defence related activity. Public defence related activity is captured within one SIC code – 84220 -, but (being a public sector) does not allow for estimates of GVA. Traditionally, the set of SIC codes that most directly relate to private sector defence activity are;

- SIC 3721 Aircraft
- SIC 3724 Aircraft Engines & Engine Parts
- SIC 3728 Aircraft Equipment & Parts
- SIC 3761 Guided Missiles & Space Vehicles & Parts
- SIC 3764 Guided Missile & Space Vehicle Propulsion Units & Parts
- SIC 3769 Guided Missile & Space Vehicle Launch Parts & Auxiliary Equipment Not Elsewhere Classified

[9] University of Portsmouth, "Socio-Economic Impact Assessment of Portsmouth Naval Base" (2012)

However, these codes are clearly most relevant to aircraft and aerospace, and do not capture marine and maritime related defence activity so well. There are additional SIC codes that are often associated with defence – for example SIC25400 is "manufacture of weapons and ammunition", SIC 33200 is "installation of weapons and weapons systems", and 33100 is "repair of weapons and weapons systems". However, *there is no precision within SIC codes for whether these companies are engaged in specifically marine and maritime related manufacture, maintenance, and repair activities*.

The brief for this report was to investigate specifically marine and maritime related economic activity – including employment – in the SCMC area. In order to maintain clarity and to preserve the integrity and robustness of the data, we have chosen to retain the business and GVA contribution of these companies within the relevant top-level codes.

We can illustrate this decision with reference to QinetiQ, one of the most prominent defence related private sector employers in the SCMC. The company employs over 6,000 people, many of them based in the SCMC area engaged in maritime, robotics, cyber, or weapons research. However, the SIC code under which QinetQ is listed as 71122, which is "engineering related scientific and technical consulting activities". Even if we were to isolate a set of SIC codes relating to weapons manufacture, installation, and maintenance, we would miss one of the largest defence related employers in the SCMC in our reporting, clearly not an optimal approach.

Thus, we do not include defence activities as a comparison reporting category for business stock and GVA contribution in this report, but are confident that these companies are included in our analysis under the respective cross-cutting sector (e.g. marine manufacturing). Where relevant, we include employment figures for public sector defence (only) – however, we do acknowledge that there is a degree of conservatism in the official ONS figures, which makes regional estimates more complicated.[10]

1.4 The workstreams

The research underpinning this report was conducted in three related but distinct workstreams:

1. In the first instance, we conducted a census and mapping of the MMS-related business stock in the SCMC, by geography and by sector.

2. The second workstream comprised an extensive investigation of the economic contribution of the MMS across the SCMC to the UK economy as a whole and to the MMS-related economy in particular.

[10] The allocation of military personnel to home bases is not always perfectly reflected in the ONS data.

3. In the third workstream, we conducted a qualitative 'deep-dive' investigation into the activities and market operations of strategically important businesses[11] across the SCMC, intended to illustrate the complexities of research, production, and supply-chains in the MMS. As part of this workstream, we also investigated the relationships between research institutions/partners of the SCMC and businesses, both from a research support and knowledge-transfer perspective.

In the following sections, we will present data and analyses that emanate from each of these workstreams in turn. At the end of the report, we include a section that covers the special cases of defence and higher education/research institutions.

[11] Identified as such in consultation with the SCMC partnership and the research programme steering group.

2 Mapping the SCMC

In the first workstream of the research, Wavehill was asked to undertake a comprehensive mapping of the business demography of the SCMC and to compile a database of MMS identified companies across the area. To do this, we collated existing CRM information supplied by the partners of the SCMC, and supplemented this data with SIC-code based data obtained from Companies House. Geolocators were attached to all companies included in the resulting database, using postcode centroids.

2.1 Location of businesses across the SCMC

The location of businesses across the SCMC is reflected in Figure 2.1 below, which shows the postcode-based mapping of all businesses that were identified as MMS-related in the SCMC – it is important to note that each dot represents the centroid of a postcode that *contains one or more* MMS related businesses, and thus does not reflect the *density* of MMS-related activity.

Figure 2.1: Postcode based mapping of all businesses identified as MMS-related in the SCMC

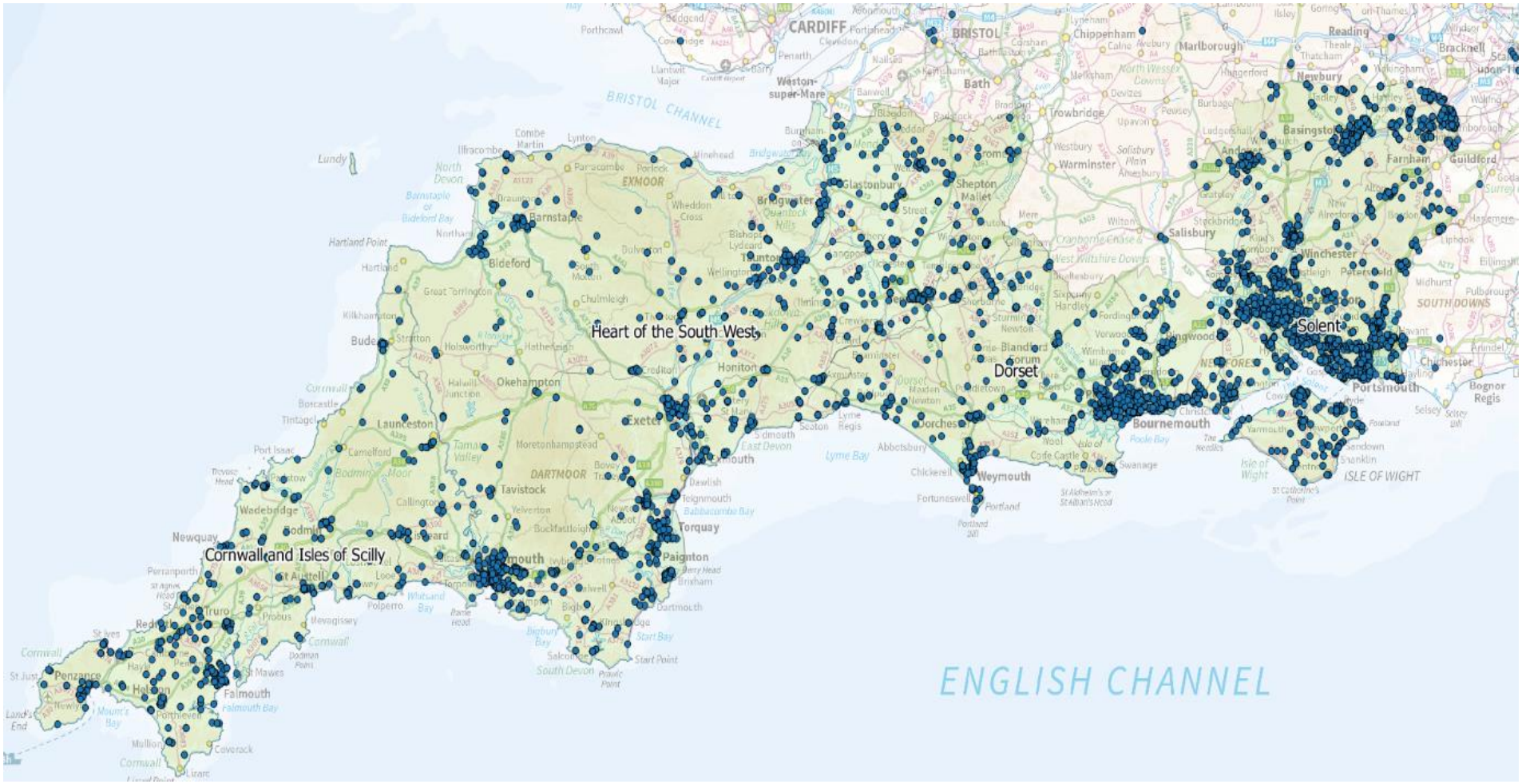
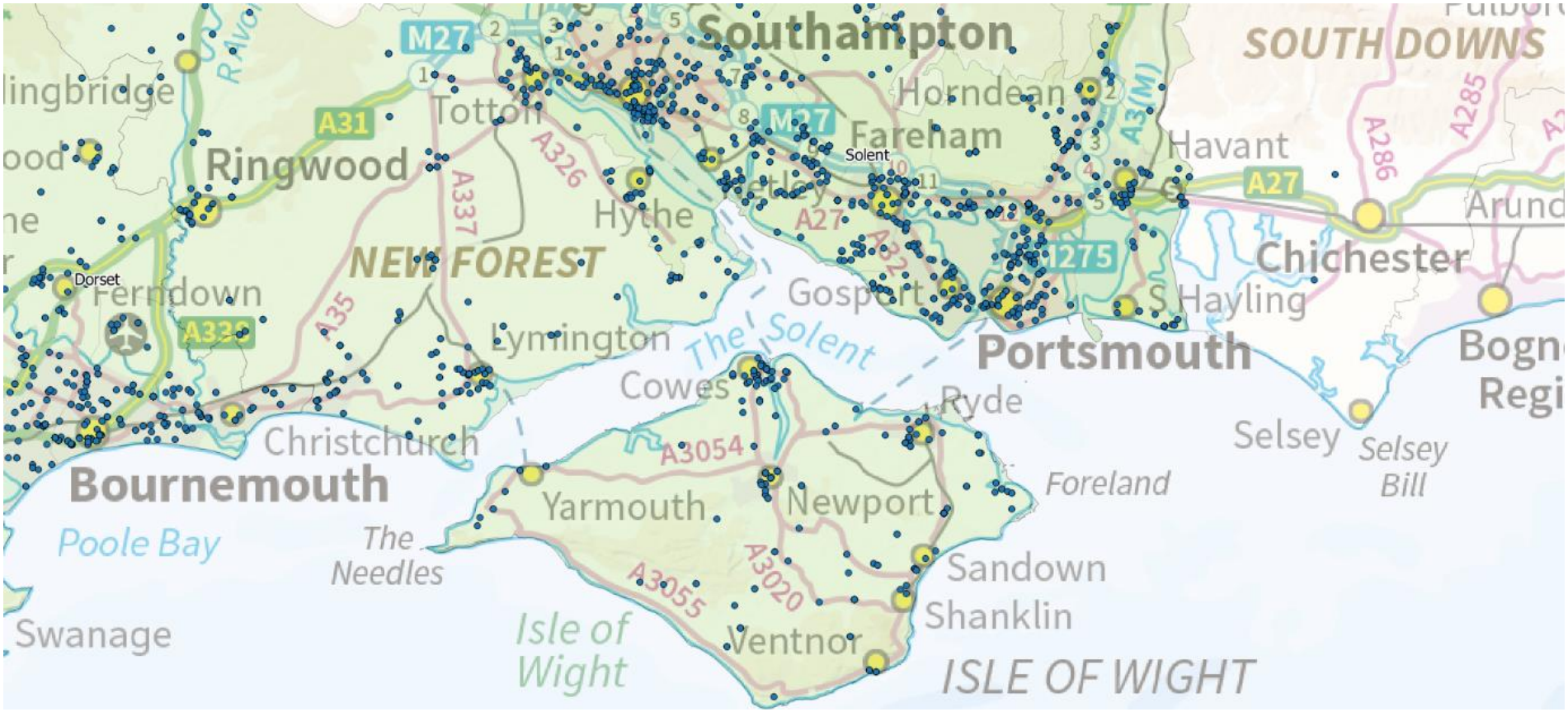


Figure 2.2: Postcode mapping of MMS-related business location, Cornwall and Scilly Isles

Figure 2.3: Postcode mapping of MMS-related business location, Dorset

Figure 2.4: Postcode mapping of MMS-related business location, Heart of the Southwest

Figure 2.5: Solent

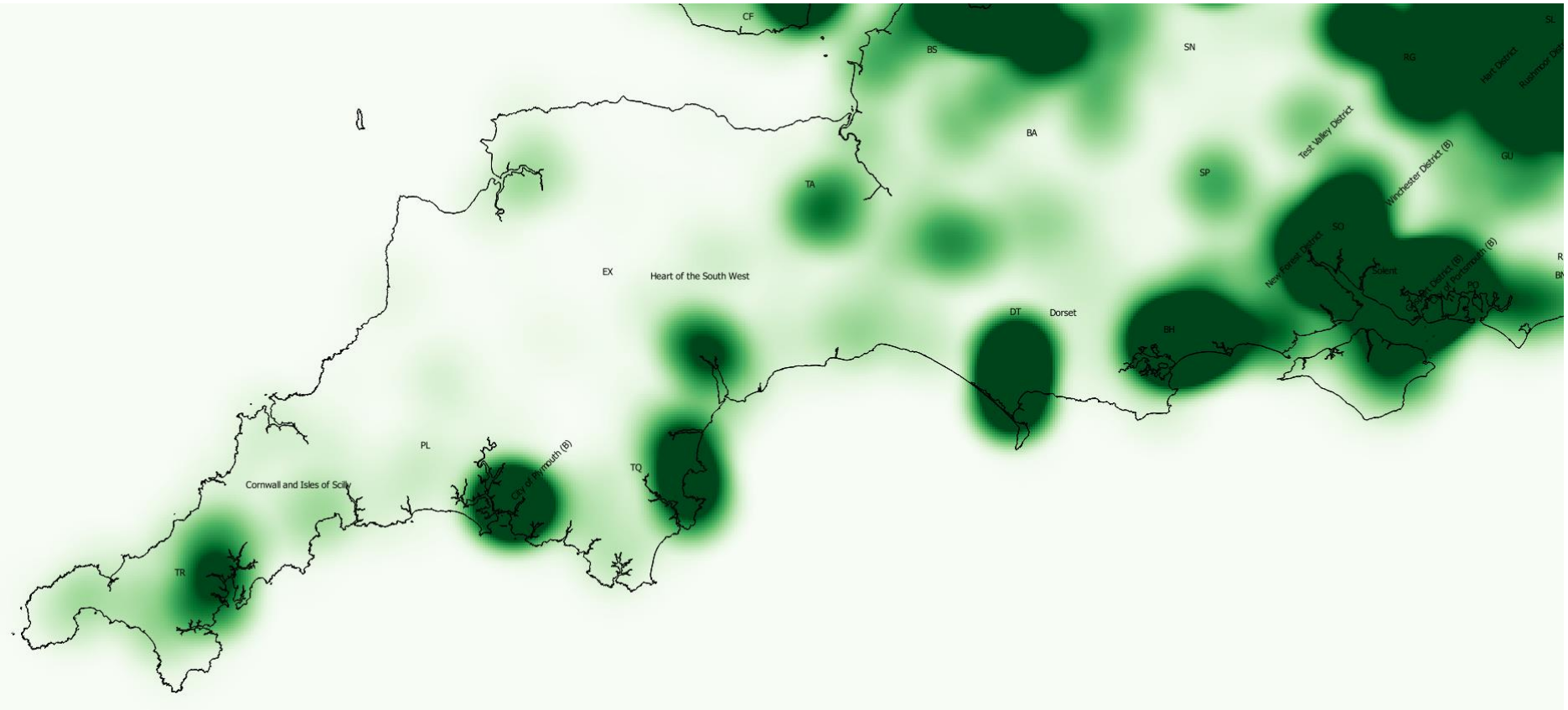


2.2 Density of MMS activity across the SCMC

Based on the resulting information, we were able to produce a 'heatmap' that reflects the density of economic activity (measured in terms of the number of businesses per geographic area), which is displayed in Figure 2.6 below.

As can be clearly seen, there are densities of MMS-related businesses clustered around the major ports and coastal conurbations, such as Falmouth, Plymouth, Torbay and Paignton, Exeter, Weymouth, Poole/Bournemouth, Southampton, Portsmouth, and the Solent. However, it is also evident that the observation made at the head of this report – that the SCMC also includes significant MMS-related activity that takes place further inland – is reflected in the densities observed around places like Taunton and Yeovil.

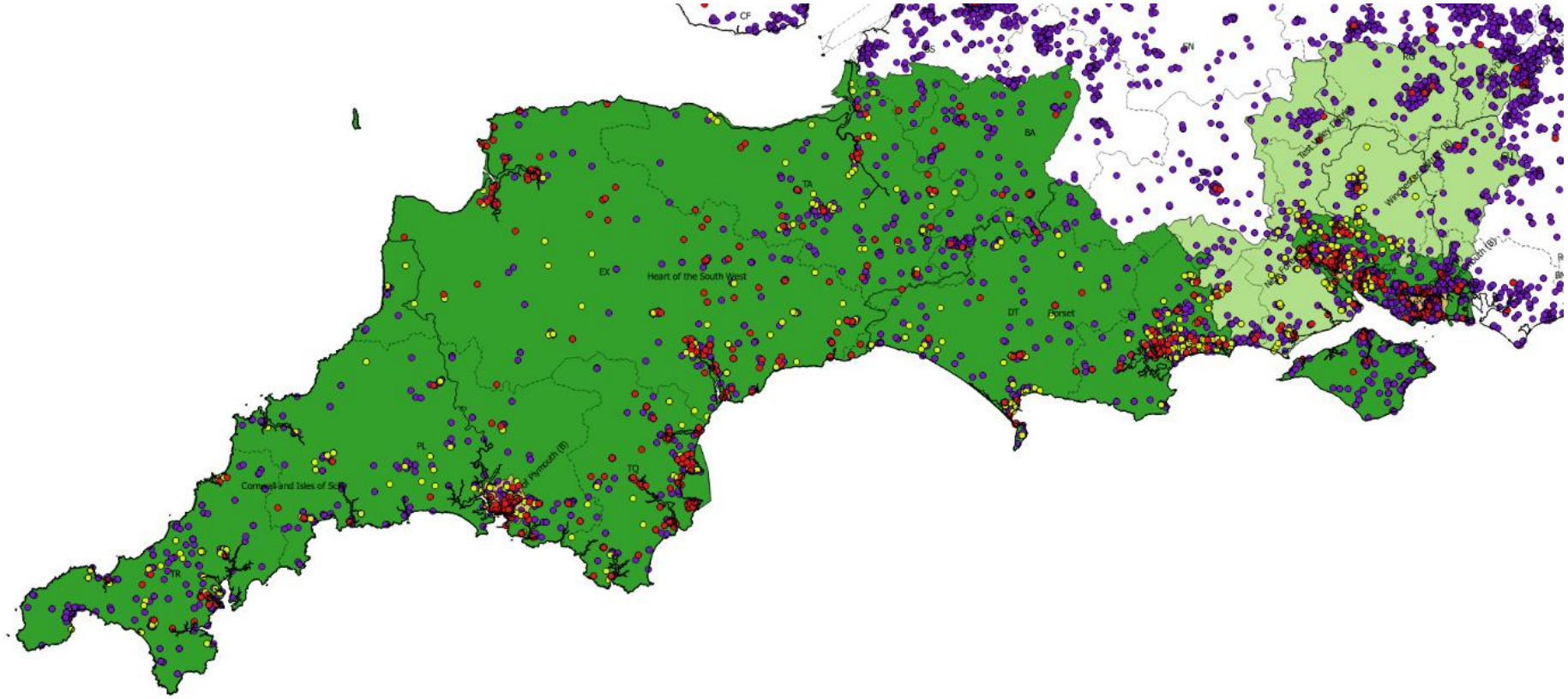
Figure 2.6: Heatmap of MMS related businesses across the SCMC



2.3 Mapping the prevalence of CRM data across the SCMC

As we described in Chapter 1 of this report, the methodology that we employed relied in part upon the comparison of SCMC-supplied CRM business location information with commercial registration data available through Companies House. In the first instance, we are able to identify postcode locations where one or more MMS businesses are located and that are reflected in the databases held by the partner institutions. These data are shown in Figure 2.7 below, with those postcodes that appear in the CRM data highlighted in yellow (the four LEPs wholly within the SCMC geography are shown in dark green, the eight LAs from Hampshire are shown in tan, as they from a partial subset of the Enterprise M3 LEP).

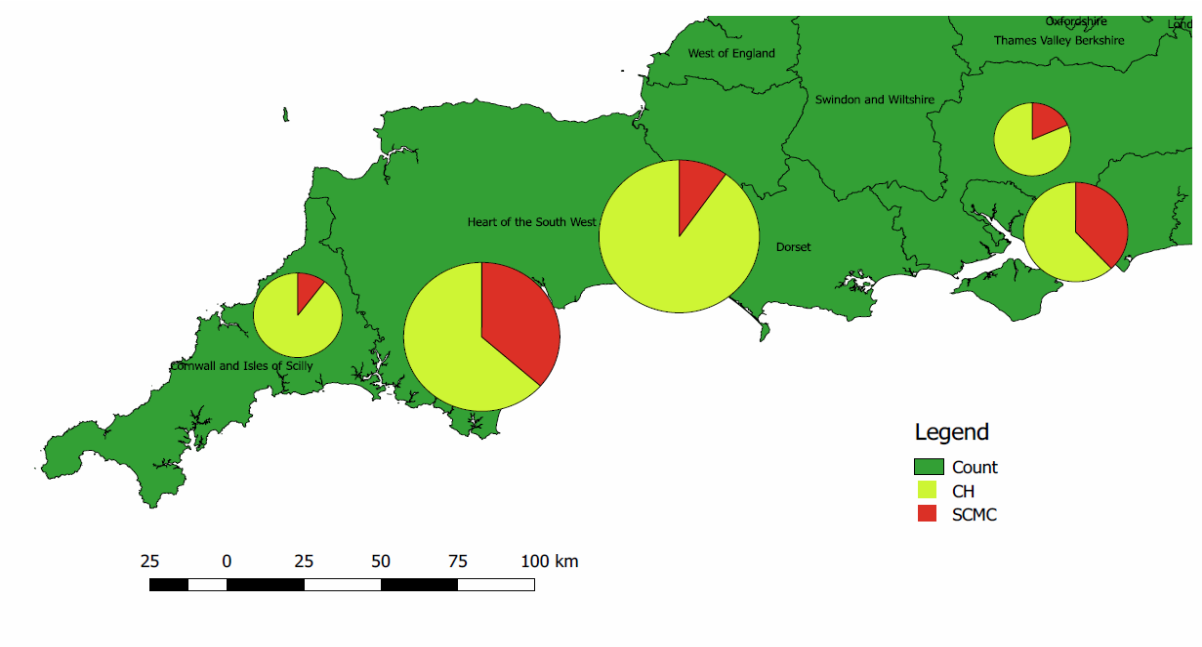
Figure 2.7: Postcodes reflected in SCMC-supplied CRM data



Key:
Blue dot = Companies House identified MMS-related businesses
Yellow dot = SCMC identified (CRM) MMS-related businesses (core MMS SIC codes)
Red dot = SCMC identified (CRM) MMS-related businesses (additional MMS SIC codes)

From this approach, we were then able to make the comparison with the Companies House data stored in our MMS database compiled for this research report, and produce an estimate of the proportion *of businesses* (not postcodes) that are captured in the data that were supplied to us. These data are displayed in Figure 2.8 below; the red portion of the overall figure indicates businesses who are present in SCMC CRM data systems.

Figure 2.8: Proportion of MMS businesses included in SCMC CRM data capture



While the proportions vary across partners (and may also reflect the non-presence in our data of CRM data capture that is either held by other entities not directly involved in the SCMC, and thus not explicitly MMS related, or data where postcodes were not able to be disclosed to us under the conditions of the data capture itself), the overall rate of business engagement – a meaningful support or communications relationship between partner and a specified business - is approximately 28%.

The percentage of MMS-related businesses present in SCMC partner CRM:
28%

This reflects the (successful) degree to which the SCMC has penetrated the MMS business sector across the region, and is engaged with regional businesses. Equally, the map also suggests that there are sub-regional areas where increased market penetration and further data capture efforts may be beneficial, while recognising that certain sectors (e.g. fisheries) may be more difficult to penetrate.

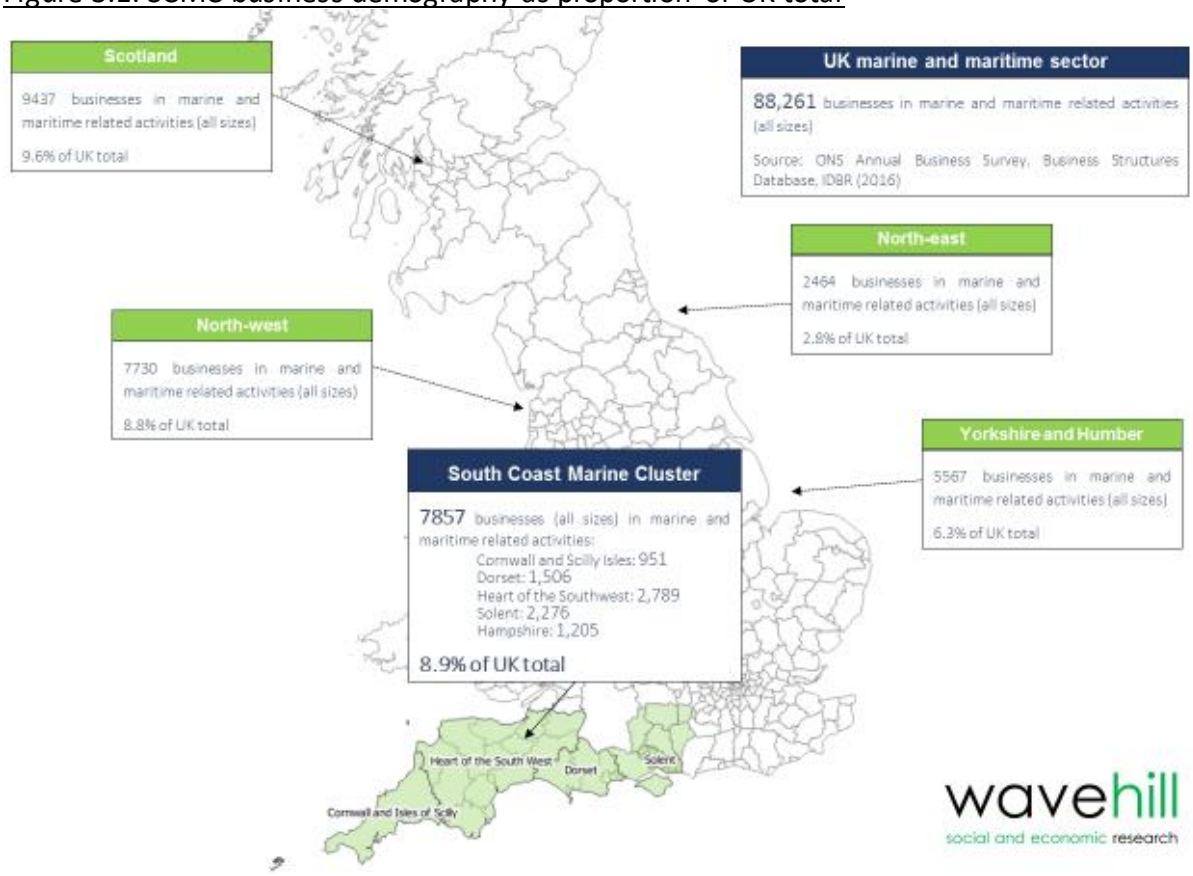
3 Demography

In this chapter, we explore the MMS business demography across the SCMC, and place it in the context of the MMS business demography UK-wide. In order to provide internal and external comparability, all data is taken from official government figures; where appropriate, we have relied on the methodology described in Chapter 1 of this report, as well as privately held data and sectoral estimates produced by independent research bodies to verify and validate our estimates.

3.1 MMS related business demography

In figure 3.1 below, we show the overall MMS related business demography of the SCMC as a proportion of the UK-wide total, and also in comparison to other selected areas from around the UK.[12]

Figure 3.1: SCMC business demography as proportion of UK total



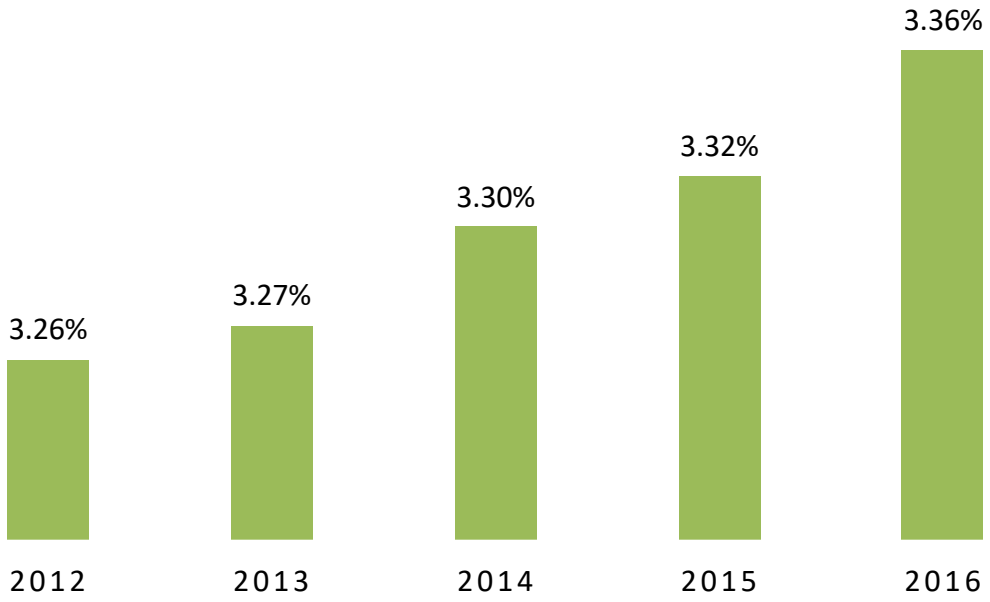
[12] The comparator geographies were selected from those 'MMS-heavy' geographies where robust (extensive, MMO) estimates exist of MMS-related activity (North-East, North-West), or where there have been intensive studies of MMS commissioned (Yorkshire and Humber, Scotland).

The data that we compiled for this research show that there are 7,857 identified businesses (all sizes) in marine and maritime related activities, with 951 in Cornwall and Scilly Isles, 1,506 in Dorset, 2,789 in the Heart of the Southwest, 2,276 in the Solent, and 1,205 in those parts of Hampshire not included in the Solent LEP but which still sit inside the SCMC. Altogether, these businesses account for about 8.9% of UK (estimated) total of just over 88,000 MMS related businesses of all sizes, more than the North-West, the North-East, or Yorkshire and the Humber, and only 0.7% less than Scotland.

3.1.1 Evolution of MMS business demography over time

In figure 3.2, we show the evolution of the contribution of MMS businesses to the overall business stock across the SCMC (MMS-related businesses as a proportion of the total number of businesses identified through the IDBR across all sectors).

Figure 3.2: Marine and maritime businesses as proportion of all businesses, SCMC 2012-2016



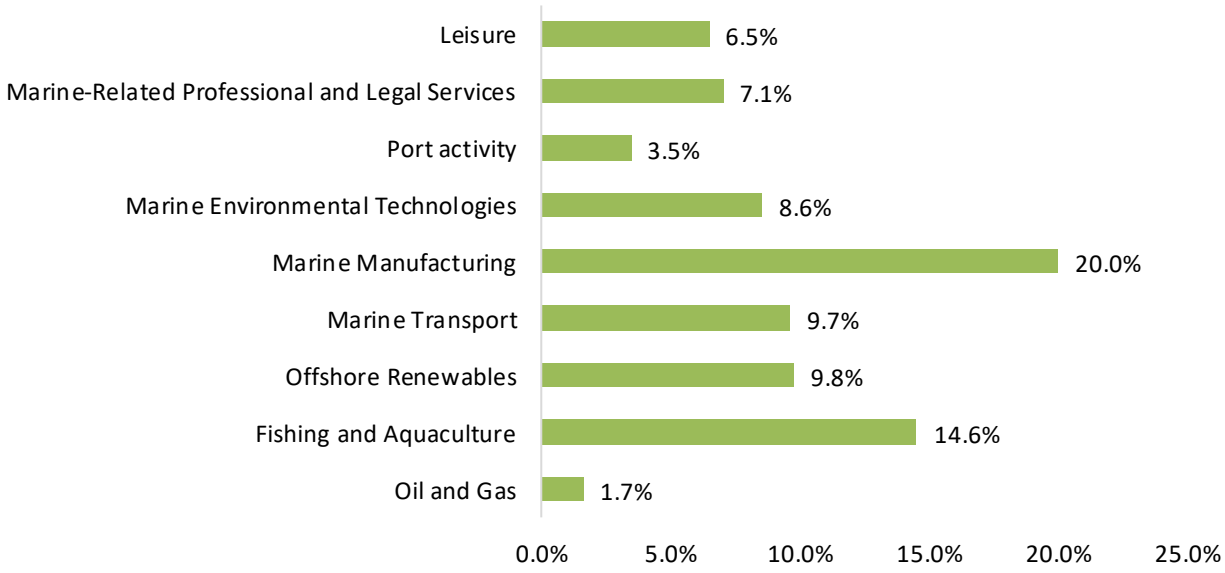
Over the five-year period for which we have consistent data, we can see that there has been a steady increase in the proportion of businesses in the SCMC region that are engaged in MMS related activities and a 12% overall increase between 2012-2016, attesting to the vibrancy and vitality of this sector for the region.

3.1.2 Local Enterprise Partnerships, evolution of MMS business demography 2012-2016

In this section, we present the equivalent data for the evolution of MMS business demographies for each of the constituent LEPs[13] of the SCMC by sector.[14] The relative contribution of the SCMC to the overall UK-wide business demography can be broken down by the sectors established for this research and described above in Chapter 1. In Figure 3.3 below, we present the relative contribution of each sector within the SCMC to the overall group of businesses operating UK-wide in that particular sector; this can be referenced against the mean across sectors (8.9%). Thus, for example, at the low end of the scale we estimate that just about 1.7% of all the businesses in the UK that operate in the oil and gas sector (4/211) are located within the SCMC; at the high end of the scale, it can be seen that almost 1 in 5 (515/2561) of the businesses that are classified as being in marine manufacturing are located within the SCMC. Fishing and Aquaculture is another sector with a substantial portion of UK-wide sectoral activity based in the SCMC (991/6809 firms), unsurprising given that Newlyn is the largest fishing port (number of registered vessels) in the UK, and 43 large beam trawlers are based in the SCMC (the largest single group of vessels in the English fishing fleet).

Other sectors that exhibit higher than average contributions to the UK-wide sectoral breakdowns are marine transport and offshore renewables, while business numbers in marine environmental technologies stands at just about the UK average. On the other hand, the number of business engaged in port activities, marine and maritime related professional services and marine-related leisure are all lower than the UK-wide average.

Figure 3.3: SCMC as a Proportion of UK business stock, by sector



[13] Hampshire is included with an asterisk to reflect the partial geography of the Enterprise M3 LEP that falls within the SCMC.
[14] Excludes public sector defence activities, as explained in chapter 1 above.

Using the most recent data available to the research team (2016), we were able to calculate the **Location Quotient (LQ)**[15] (business stock based) for each sector reflected in this research framework; those data are displayed in table 3.1 below, and reflect the *overall contribution made to MMS activity within each subsector*.

The LQs obtained are a good heuristic for quantifying and identifying the areas of strength of the SCMC, and may also be reflective of the particular demographic make-up of individual sectors; since these LQ calculations are based on the number of businesses, there is also the factor that business sizes in certain sectors – e.g. marine environmental technologies – may be much smaller than businesses in other – e.g. oil and gas.

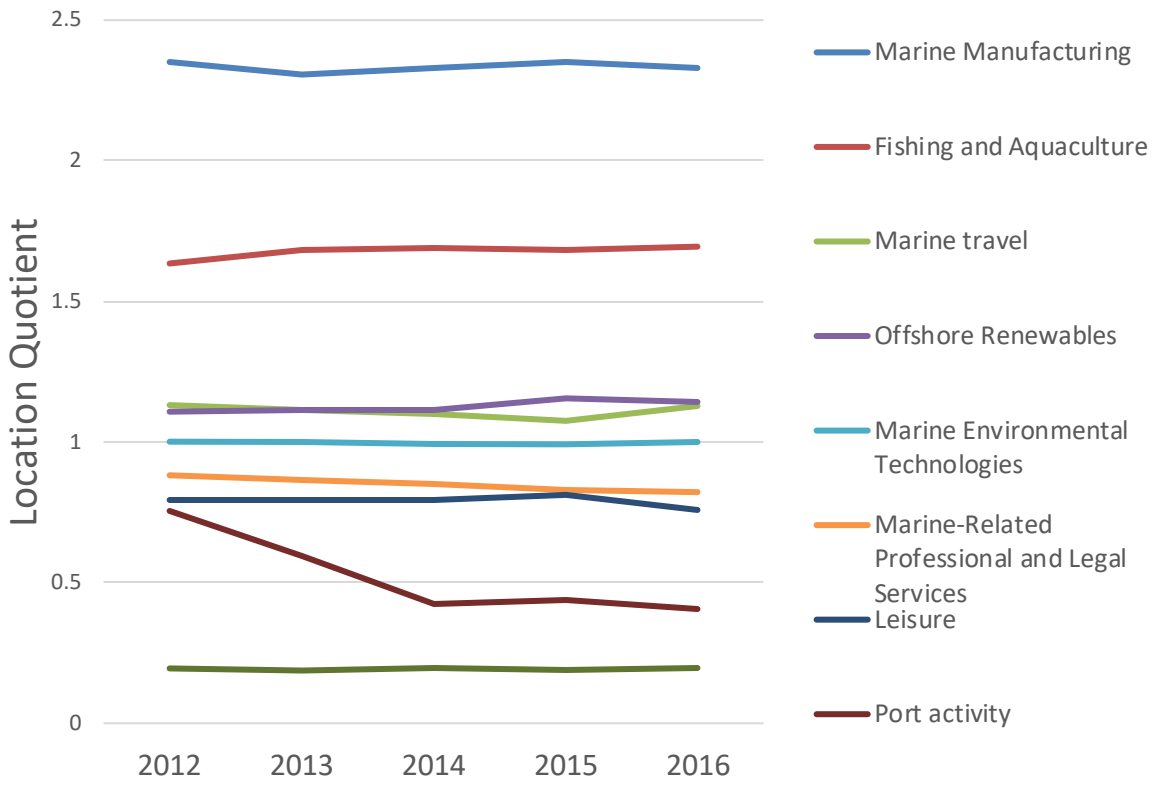
Table 3.1: Location quotients for SCMC subsectors

	SCMC LQ
Marine Manufacturing	2.33
Fishing and Aquaculture	1.71
Marine travel	1.23
Offshore Renewables	1.22
Marine Environmental Technologies	1.05
Industry wide business counts	1
Marine-Related Professional and Legal Services	0.89
Leisure	0.79
Port activity	0.44
Oil and Gas	0.20

The LQs shown above clearly show the subsectors of MMS-related activity where the SCMC as a whole demonstrates a comparative advantage, in terms of business stock, over the rest of the UK; it also shows the industries and subsectors where there are lower levels of business counts than elsewhere (e.g. oil and gas), and serves as a useful heuristic for policy making. We are also able to calculate the progression of these LQs over time (figure 3.4 below), which gives insights into growth and recession patterns across subsectors.

[15] **Location quotient** (LQ) is a means of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region or sub-geography as compared to the nation or the whole geography. It can reveal what makes a particular region or sub-geography "unique" in comparison to the national or geographical average.

Figure 3.4: Evolution of selected location quotients (LQ), 2012-2016



While the overall pattern is one of sectoral stability, there have been some notable changes; for example, port activity is clearly declining as an overall contributor to the MMS in the SCMC (relative to the rest of the UK), whereas there has been a recent growth in marine travel after a period of modest decline, probably associated with the increased volume of cruise ships and passengers transiting through the SCMC area.

3.1.3 Local Enterprise Partnerships

We performed a similar set of analyses in order to calculate the number of businesses by sector within each LEP/area within the SCMC. In the first instance, we estimated the number of businesses by LEP in each sector (as a proportion of all businesses in the SCMC in that sector), and then produced LQs for each LEP/sector. Those data are presented in table 3.2 below, retaining only figures that are at or above 1.0.

Table 3.2: LQ of subsector by LEP

	Cornwall and Isles of Scilly	Dorset	Heart of the South West	Solent	Hampshire*
Marine Manufacturing	2.97	1.86	1.94	4.22	1.45
Fishing and Aquaculture	5.90	1.94	1.73		
Marine travel	1.37			2.04	1.20
Oil and Gas					
Offshore Renewables	1.29	1.16	1.11	1.44	1.19
Port activity				1.63	
Leisure					
Marine-Related Professional and Legal Services				1.00	1.33
Marine Environmental Technologies				1.23	1.23
Industry wide business counts	1	1	1	1	1

Breaking the sectoral contribution figures down by constituent areas in this way shows that underlying the SCMC as a whole, there are some quite striking regional and geographical patterns. Notably, the LQs confirm our findings that the marine manufacturing sector is strong and vibrant across the whole geography, with LQs ranging from 4.22 in the Solent, 2.97 in Cornwall and the Isles of Scilly to 1.45 in the parts of Hampshire not in the Solent. Equally, the offshore renewables subsector shows LQs higher than average in all areas, although less strong than for marine manufacturing. Obvious strengths in fishing and aquaculture are distributed across the three most westerly geographical areas (Cornwall and Scilly Isles, Dorset, and the Heart of the Southwest), while the presence of major cruise and ferry terminals in Cornwall and the Solent is reflected in their higher-than-average LQ for marine travel. Marine environmental technologies are prevalent in the Solent and Hampshire, as are professional and legal services related to MMS activity. On the other hand, it is unsurprising that LQs for oil and gas fall below the mean across the SCMC. However, perhaps of more interest to local policy makers is the finding that the marine related leisure sector is also characterised by lower than average business counts, although it should be cautioned that this is a subsector of activity that is notoriously vulnerable to SIC definitional issues.

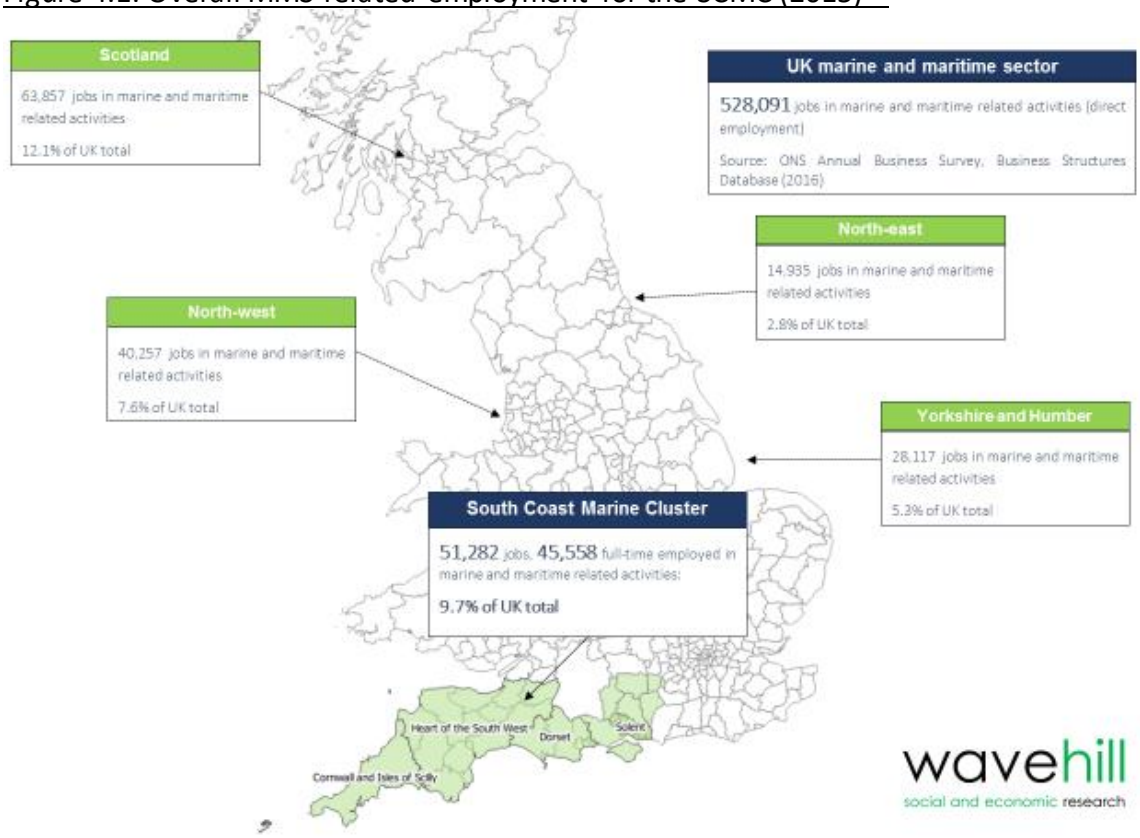
4 Employment

In this chapter of the report, we turn to the analysis of employment for the SCMC as a whole, and also for LEPs/areas and subsectors.

4.1 Overall

In figure 4.1, we show the overall contribution of the SCMC to the UK labour force, and include other selected areas for comparison purposes.

Figure 4.1: Overall MMS-related employment for the SCMC (2015)[16]

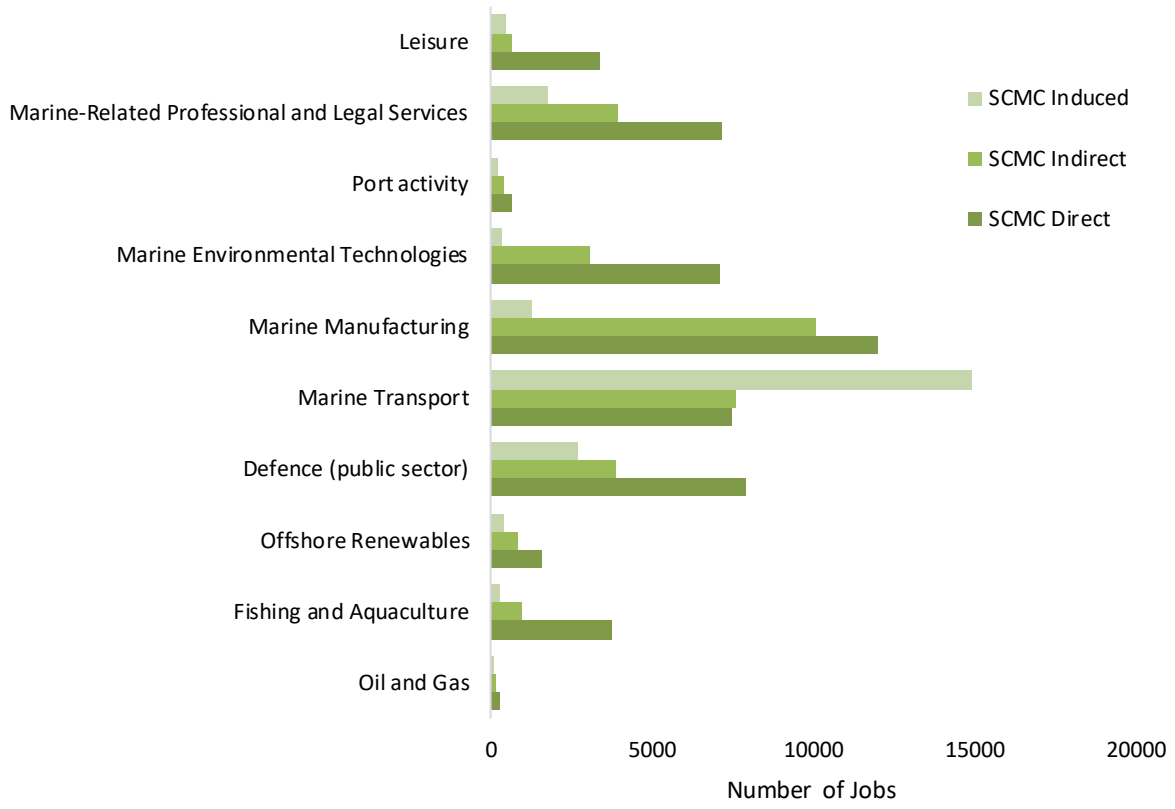


Our figures show that, of the 528,091 jobs that are situated within the definition of MMS related activities, 51,282 of them are located within the SCMC (9.7%). Again, by way of comparison, 7.6% are located in the North-West region, 2.8% in the North-East, and 5.3% within Yorkshire and the Humber.

[16] Excludes employment figure for public sector defence for UK-wide comparability.

Using the standard input-output tables compiled by the Input-Output statistics branch of the Office of the Chief Economic Advisor to the Scottish Government,[17] we calculated the direct, indirect, and induced[18] employment for the SCMC by sector, and this is presented in figure 4.2 below.

Figure 4.2: Direct, indirect, and induced employment by sector, SCMC



Overall, we estimate that there are an additional 31,680 indirect jobs that arise from MMS related activity, and 22,548 that are induced, making a total of over 105,000 jobs within the region.

[17] http://www.gov.scot/Topics/Statistics/Browse/Economy/Input-Output.

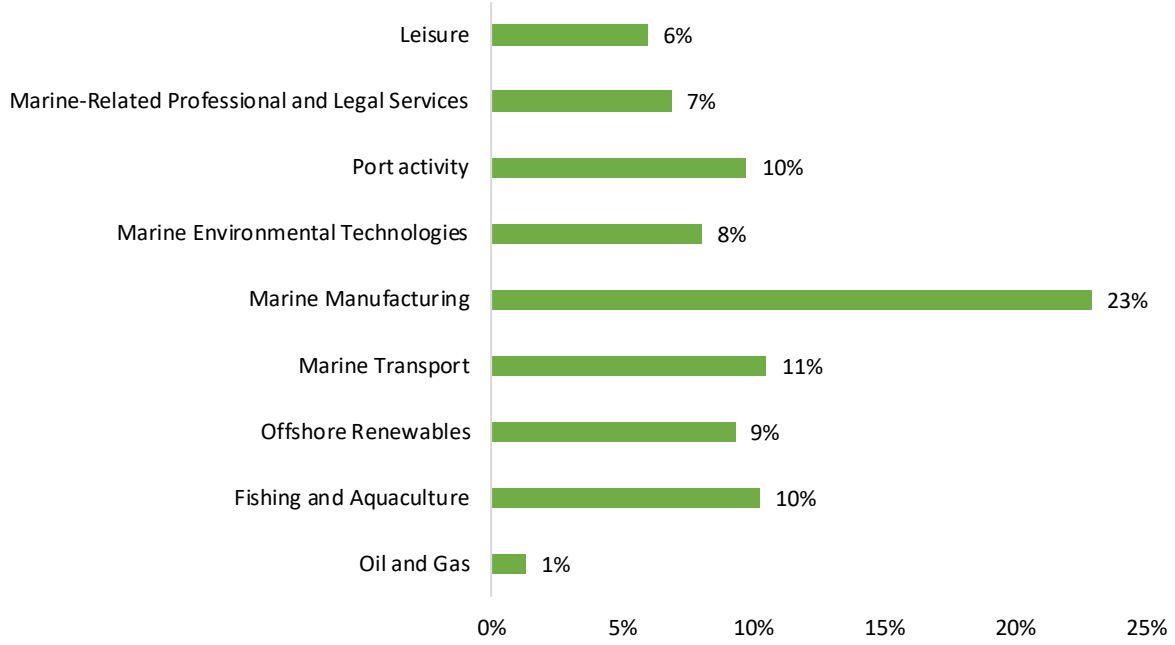
[18] Indirect employment is typically those jobs that depend upon supply chains directly related to the sector; induced employment are those jobs which then arise from the spending of income and profit generated by sectoral activities.

4.2 Sub-sectoral employment

4.2.1 South Coast Marine Cluster

Using the approach employed in the previous section, we were able to estimate how many direct jobs in each sector are located within the SCMC, as a proportion of total jobs in that sub-sector. The data are displayed in figure 4.3.

Figure 4.3: Percentage of sub-sector jobs located in the SCMC

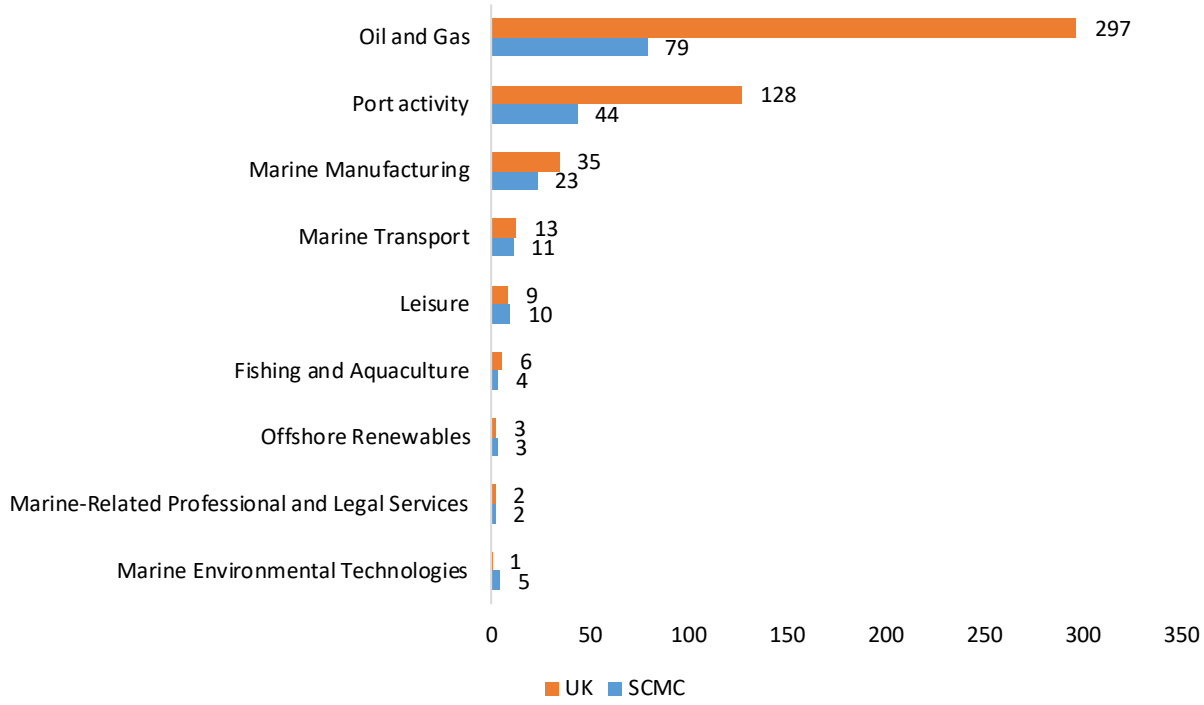


These data tell a similar story to the patterns that are described in chapter 3 above; almost one in four (23%) jobs in the marine manufacturing sector UK-wide are located within the SCMC, 10% of those in fishing and aquaculture, and only 1% of all jobs in the oil and gas sector.

Combining the two sets of data, we produced estimates of the average number of jobs per business across sectors[19], again benchmarked against the UK averages, and here we can see some quite striking patterns (figure 4.4).

[19] The figures are for 2015, the latest year for which both sets of data were available

Figure 4.4: Average number of jobs per business, MMS sub-sectors (2015)



Clearly, there is both a great disparity between the average sizes of businesses (measured by the number of employees) across the sub-sectors, as well as some interesting divergences between the SCMC and the UK. Unsurprisingly, the largest companies are found in sectors such as oil and gas (UK average: 297 employees) and port activity (UK average: 128 employees), while the smallest companies are found in sectors such as marine and environmental technologies and marine-related professional and legal services.

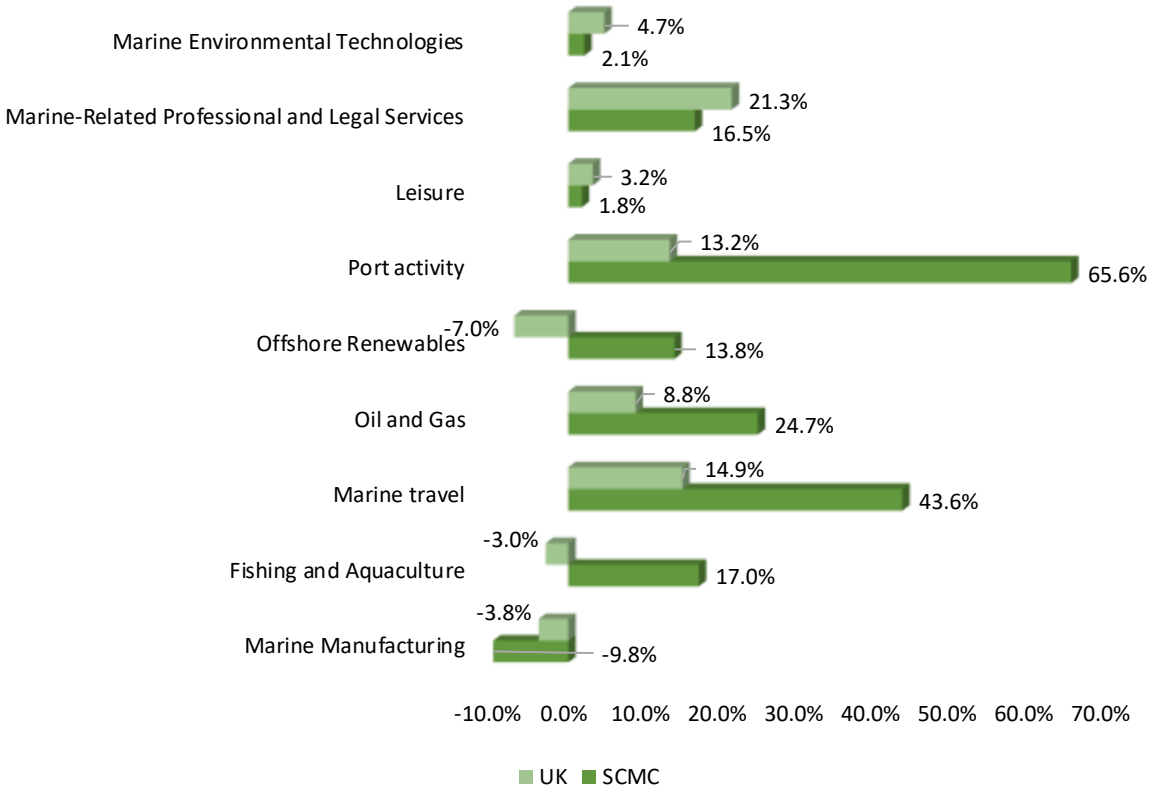
In table 4.1 below, we show the ratios of average business sizes across sub-sectors (a ratio of 1 would indicate that the average business is the same size in the SCMC and the UK, a ratio of 0.5 would indicate that the average SCMC-located business is half the size of a business located elsewhere in the UK).

Table 4.1: Ratio of business sizes, SCMC/UK

Ratio SCMC/UK	Sub-sector
9.84	Marine Environmental Technologies
1.22	Offshore Renewables
1.14	Leisure
1.04	Marine-Related Professional and Legal Services
1.00	Industry wide business counts
0.87	Marine Transport
0.67	Marine Manufacturing
0.63	Fishing and Aquaculture
0.34	Port activity
0.27	Oil and Gas

Clearly, there are enormous differences between the SCMC and the UK-wide figures. In certain sub-sectors of MMS activity, oil and gas and port activity, businesses in the SCMC are between a quarter and a third of the size of their counterparts elsewhere in the UK. It is interesting to note that the average fishing business in the SCMC is smaller than elsewhere (which may reflect the location of large landing and processing plants in Scotland), and that the marine manufacturing sector is also characterised in the SCMC by businesses that are approximately two-thirds of the size of their homologues elsewhere. On the other hand, marine environmental technological companies are larger than are their UK counterparts by a factor of 10, which appears to be reflective of the large number of dormant or one-person businesses elsewhere in the UK, whilst those located within the SCMC, are thriving and generate significant employment.

Figure 4.5: Evolution of employment by subsector, 2012-2016



In general, employment patterns mirror UK-wide trends in terms of the direction although in fishing and offshore renewables there has been modest employment growth in the SCMC compared to job losses in the subsectors elsewhere in the UK. In several sectors (marine transport, oil and gas, offshore renewables, and port activity, the growth in employment in the SCMC has been greater than UK-wide. In the leisure, marine related professional and legal services sector, and the marine environmental technologies sectors, there has been job growth in the SCMC over the five-year period, albeit at a lesser rate than for the UK as a whole.

4.2.2 Local Enterprise Partnerships

The overall size of the Heart of the Southwest LEP (32% of total employment, 70,415 total businesses) means that it's relative contributions to the SCMC employment economy are on the whole larger than, for example, Cornwall and the Scilly Isles (23,475 businesses) or Dorset (31,415 total businesses); the Solent (27% of all MMS employment in the SCMC) and Hampshire (23% of all MMS employment in the SCMC) are a little above the area mean. Figure 4.6 below shows the overall distribution of jobs within the SCMC across the constituent LEPs/areas.

Figure 4.6: Percentage of employment by LEP, all sectors

As we have done above in chapter 3 for business stock, we are able to calculate the LQs on an employment basis by sector and by LEP across the SCMC, and these data are shown in table 4.2 below.

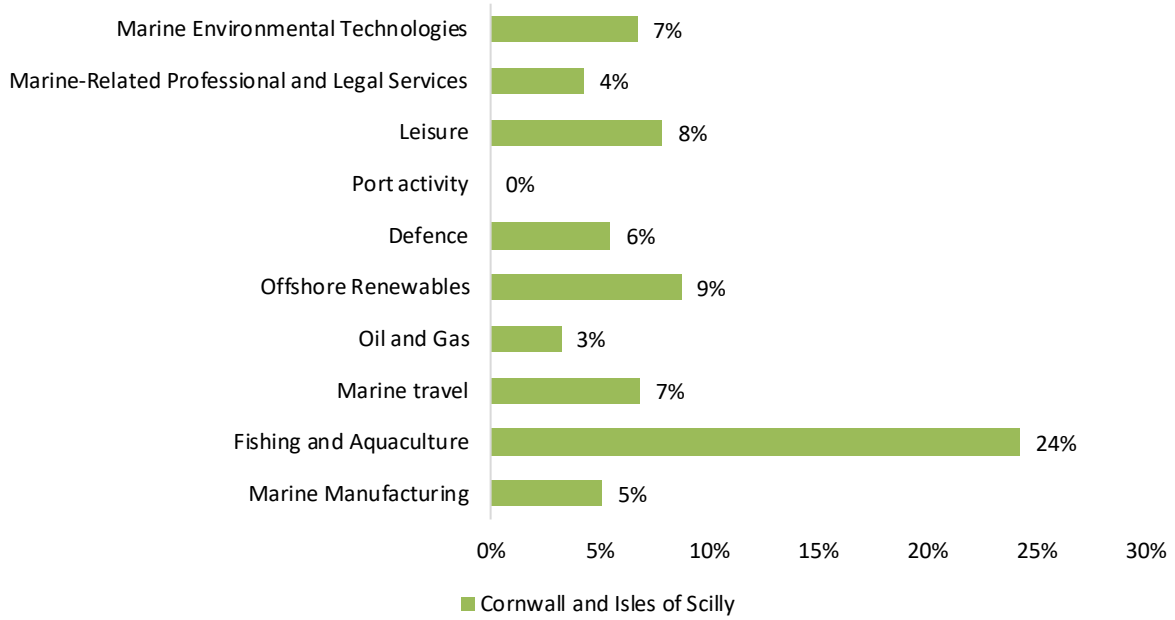
Table 4.2: LQs (employment basis) for LEPs by subsector

Location Quotient	Cornwall and Isles of Scilly	Dorset	Heart of the South West	Solent	Hampshire*
Marine Manufacturing	1.67	2.63	5.45	2.14	1.33
Fishing and Aquaculture	3.54	1.14	1.82		
Marine travel	1.03			3.33	1.04
Oil and Gas					
Offshore Renewables	1.16	1.32	1.36		1.40
Port activity				5.12	
Leisure					1.32
Marine-Related Professional and Legal Services					1.93
Marine Environmental Technologies				1.02	1.75

Many of the same patterns that we highlighted in Chapter 3 persist; the strength of marine manufacturing as a whole, the general variations in subsectoral distributions across the SCMC, and the non-presence of oil and gas as a major subsectoral employer in the SCMC.

Bearing these disparities in the physical size and relative economic rates of activity across all sectors (not just MMS-related) in mind, in the next series of figures (4.7-4.11), we show the contribution of each LEP to the overall SCMC sub-sectoral workforce.[20] The figures shown in Table 4.7-11 serve as a baseline. Where sub-sectors are contributing above the mean for the LEP cross-sector contribution to MMS-related employment we can conclude that these are areas of relative employment strength.

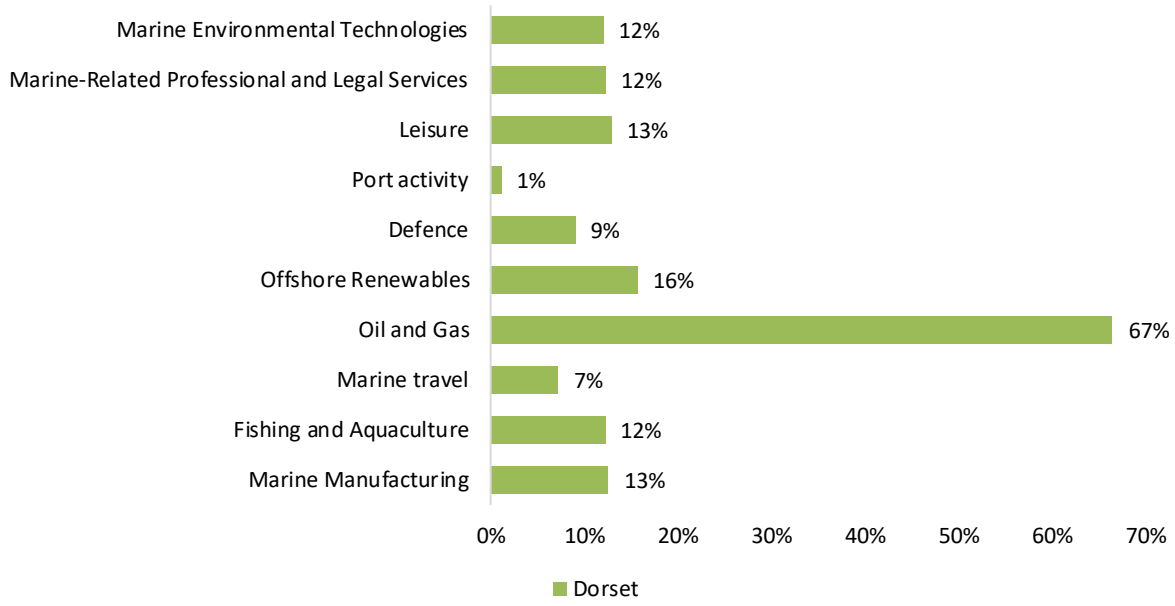
Figure 4.7: Contribution of sub-sectors to the SCMC wide sectoral workforce, Cornwall and the Scilly Isles



Again, the predominance of Cornwall in fishing and aquaculture is evidenced by that fact that we estimate that it contributes 24% of the total employment in that sub-sector within the SCMC; conversely, not a large amount (5% of the SCMC total) of the jobs provision in marine manufacturing lies inside the LEP.

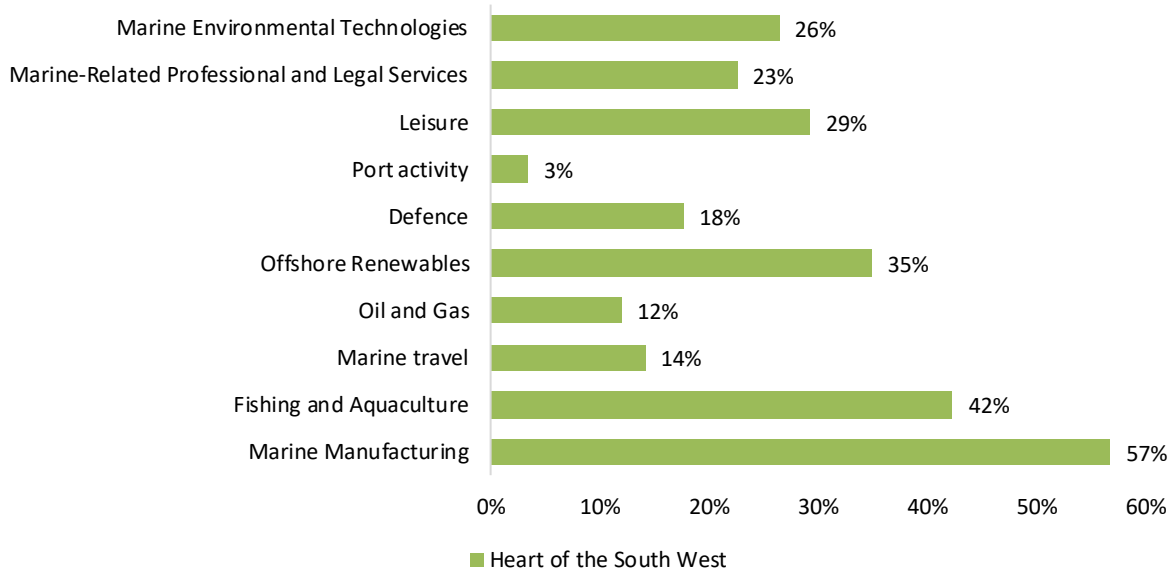
[20] Thus, a figure of 25% would indicate that the LEP or area in question contributes 25% of the overall SCMC jobs provision to the UK economy that is presented in figure 4.7 above.

Figure 4.8: Contribution of sub-sectors to the SCMC wide sectoral workforce, Dorset



While we have established that the oil and gas sector is not one of the largest in terms of business numbers, the sector's presence in the SCMC is predominantly located in the Dorset LEP; sectoral data suggest that wages and salaries in this sector are three times the national average[21]; thus, while not figuring high in terms of the quantity of jobs available in the MMS, they are highly sought after and desirable jobs that have large contributive multipliers to the national economy.

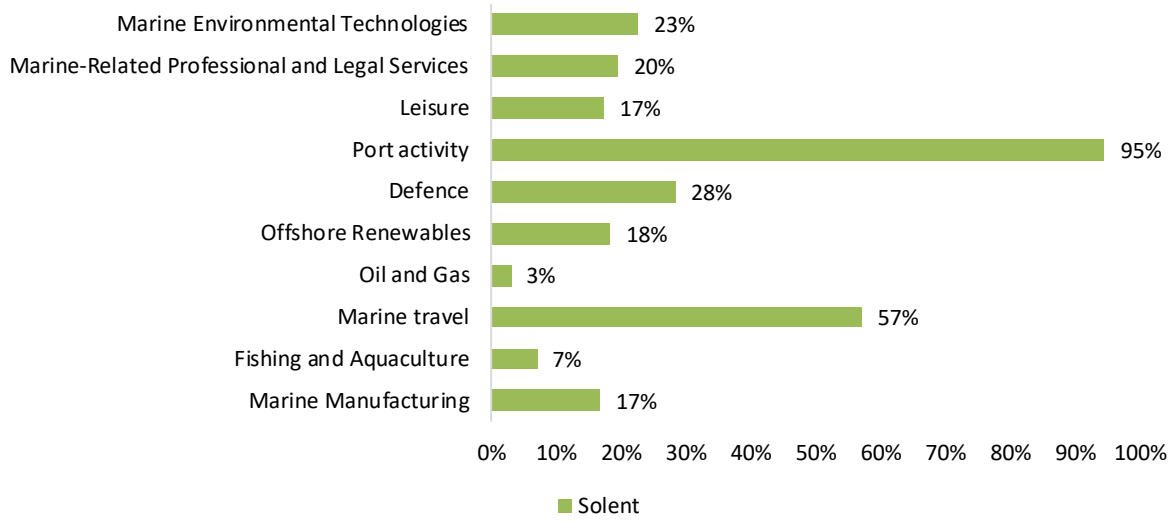
Figure 4.9: Contribution of sub-sectors to the SCMC wide sectoral workforce, Heart of the Southwest



[21] Oilandgaspeople.com estimate, retrieved from Daily Telegraph, January 15th, 2014 (accessed May 2017).

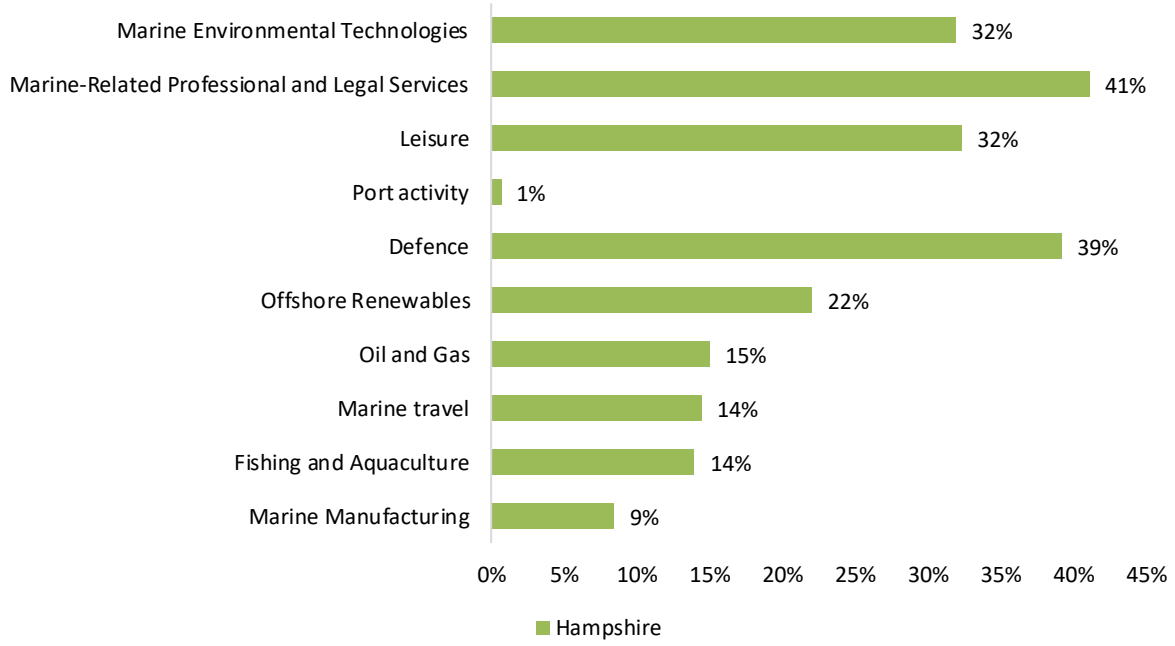
Clearly, the Heart of the Southwest has relative strengths in marine manufacturing and offshore renewables, while its fishing and aquaculture industry is robust. However, unsurprisingly, the Solent has the relative greatest employment strengths in port activity and marine travel.

Figure 4.10: Contribution of sub-sectors to the SCMC wide sectoral workforce, Solent



By way of comparison, we can see that Hampshire also has comparative strengths in public defence sector employment, as well as the marine environmental technologies field and the marine-related leisure industry.

Figure 4.11: Contribution of sub-sectors to the SCMC wide sectoral workforce, Hampshire*



Finally, in table 4.3 below, we formalise these results through showing the sub-sectoral employment-based LQ for each LEP for those sub-sectors using the SCMC as a whole as the reference group. [22]

Table 4.3: Employment-based sub-sector LQ greater than 1

	Cornwall and Isles of Scilly	Dorset	Heart of the South West	Solent	Hampshire*
Marine Manufacturing		1.11	1.80		
Fishing and Aquaculture	3.44	1.08	1.34		
Marine travel				2.15	
Oil and Gas		5.86			
Offshore Renewables	1.24	1.38	1.11		
Port activity				3.56	
Leisure	1.12	1.14			1.38
Marine-Related Professional and Legal Services		1.08			1.76
Marine Environmental Technologies		1.06			1.37

[22] Thus, we reference LEP sectoral employment against the SCMC average to produce the LQ estimates.

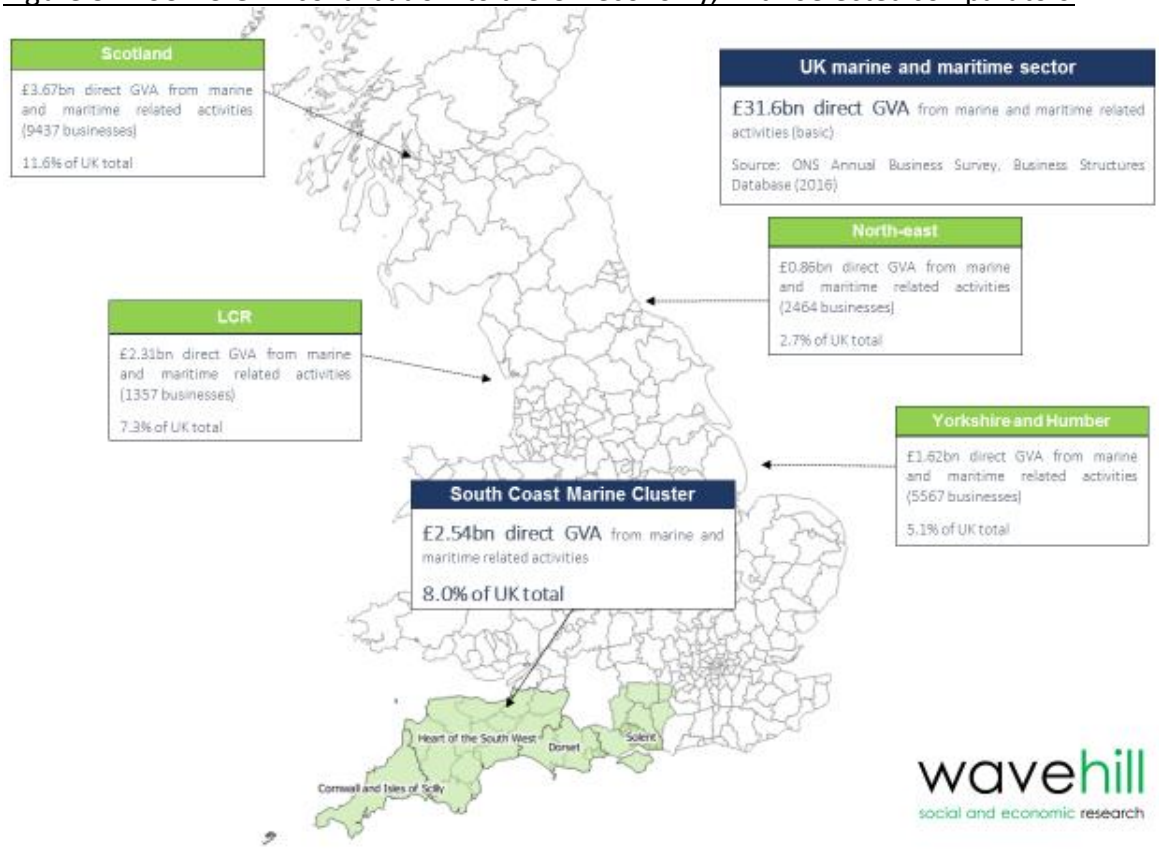
5 GVA Contribution

In order to estimate the GVA contribution of the SCMC to the UK-wide economy as a whole, and of specific sub-sectors to the overall pattern of MMS-related activity, we accessed the Annual Business Survey (ABS) and the Business Structures Database (BSD) through the restricted-access ONS data holdings. Using these two data sources, we created appropriate geographical weights to scale this data to the SCMC region.[23]

5.1 Overall

Our estimates indicate that the SCMC as a whole contributes £2.54bn GVA (direct) to the UK MMS-related economy (2016 current prices), which we estimate as £31.6bn (see figure 5.1 below).

Figure 5.1: SCMC GVA contribution to the UK economy, with selected comparators



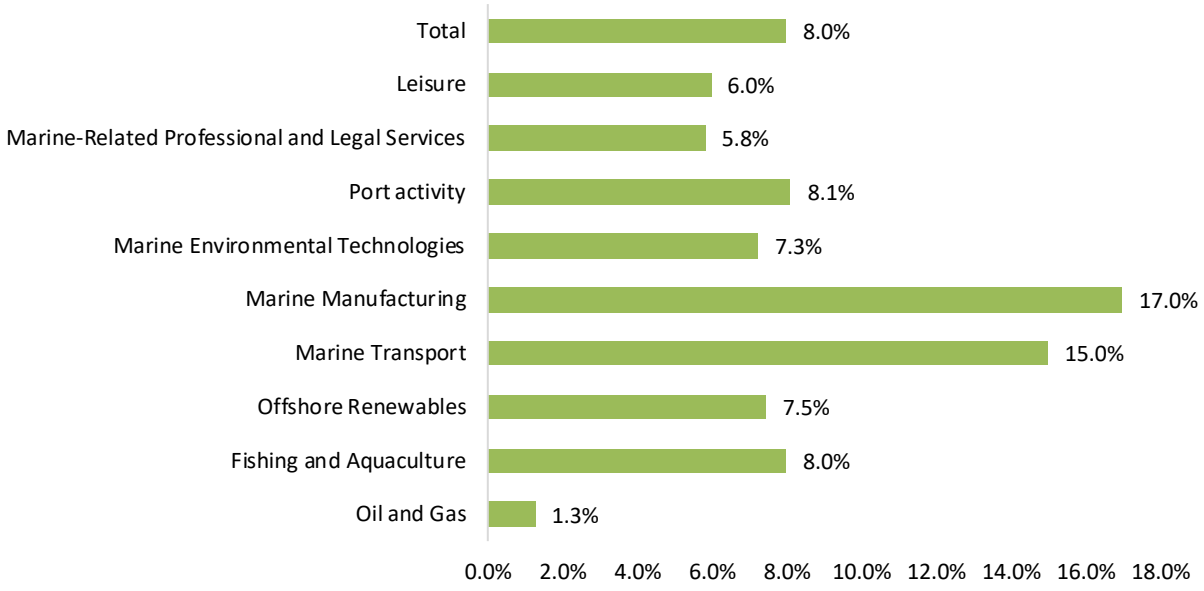
Placing that in perspective, it represents about 8.0% of the UK total, whereas the Liverpool City region contributes approximately 7.3%, Yorkshire and Humber about 5.1%, and the North East 2.7% (Scotland accounts for approximately 11.6% of UK-wide MMS-related GVA).

[23] Public sector defence is excluded from the GVA analysis, as ONS produces no estimates for this sector. Where appropriate, private sector MMS-related defence activity is picked up in the GVA estimates across other sectors, as per the methodological note in section 1 of this report.

5.1.1 South Coast Marine Cluster GVA by sector

We then used the sectoral weighting methodology described in Chapter 1 to produce GVA estimates across the SCMC for the relative GVA contribution of each MMS subsector to the equivalent UK wide subsector; thus oil and gas constitute approximately 1.3% of UK wide GVA for this sector, whereas we estimated that 17% of the UK-wide GVA from the marine manufacturing sector is produced in the SCMC.

Figure 5.2: Sub-sectoral contribution of SCMC GVA to UK-wide totals



5.1.2 Local Enterprise Partnerships

The complexity of sub-sectoral calculation across SIC codes that do not fit within Broad Industrial Groups (see methodological discussion in Chapter 1) does not make it statistically defensible or advisable to drill down to the LEP and subsector level.[24] However, we are able to produce estimates of the cross-sectoral GVA contribution of each LEP; these are presented in Figure 5.3 below.

[24] See "Measures of Uncertainty for all Levels", Office of National Statistics, https://www.ons.gov.uk/employmentandlabourmarket

Figure 5.3: GVA contribution (£billions) of SCMC LEPs

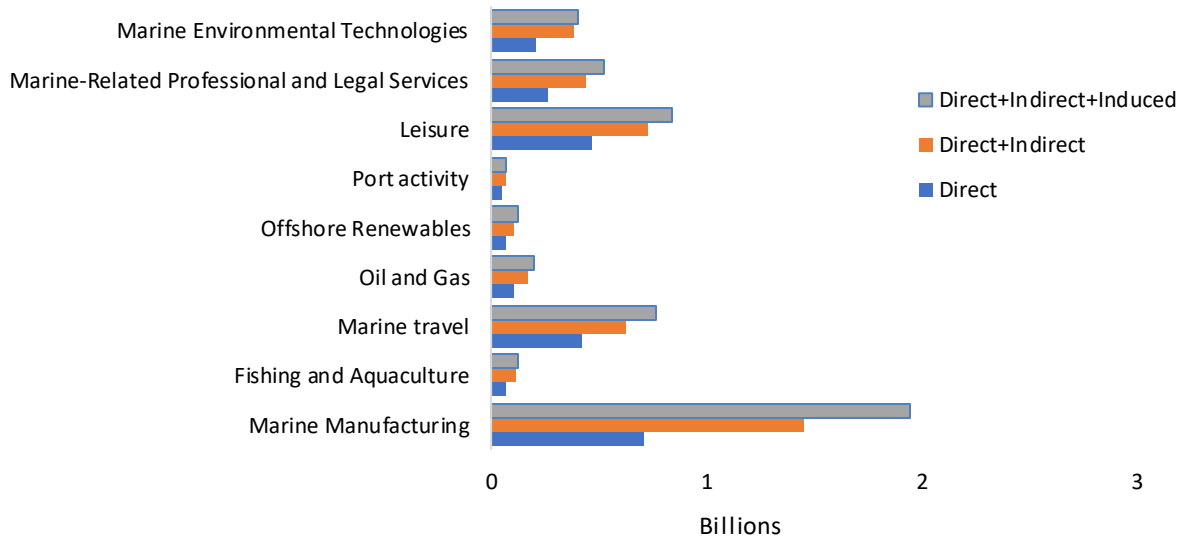
5.2 Direct, indirect and induced

Using the sector input-output tables discussed in the methodology section, we then calculated the indirect and induced GVA totals for the SCMC. Sector estimates were compiled using the multipliers associated with constituent full and partial SIC codes and then were averaged across the sector to produce a sector-wide multiplier.

5.2.1 South Coast Marine Cluster

Overall, we estimate that the SCMC produces an additional indirect GVA of approximately £16.4 billion per year (direct+indirect=$40.99 billion); including induced effects, which we estimate at approximately £10 billion across MMS sectors, the net GVA effect of MMS-related activities (diect+indirect+induced) is £50.13 billion in (2016) current prices.

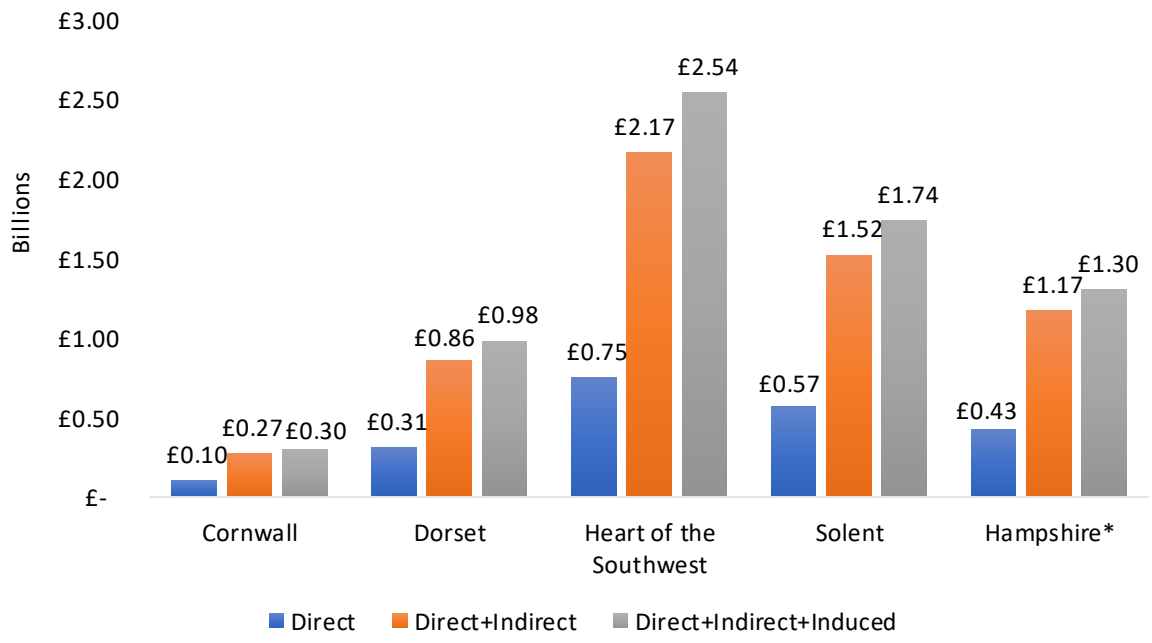
Figure 5.4: Direct, indirect, and induced GVA by SCMC sector



5.2.2 Local Enterprise Partnerships

While it is not possible to produce robust sub-sectoral estimates of indirect and induced GVA contributions by LEP (see note above), we are able to estimate the additionality figures for each LEP for the MMS as a whole. Those figures are shown in figure 5.5 below.

Figure 5.5: Direct, indirect, and induced GVA by LEP for total MMS related activity



Because of the difference in subsectoral multipliers (type 1 and type 2),[25] and the sectoral balances across LEPs that have been analysed above, the additionality effect varies by LEP reflecting the balance of high and low additionality MMS activities in the SCMC. Additionality ranges from 289% in Cornwall and the Scilly Isles to 338% in the Heart of the Southwest; in between are Dorset (314%), Solent (306%), and Hampshire (305%).

[25] Type 1 multipliers estimate direct+indirect GVA, while type 2 multipliers estimate direct, indirect and induced GVA. Multipliers vary across subsector, but also ratios between types.

6 Workstream 3: a deep dive into selected 'strategically important businesses' in the SCMC

6.1 Methodology

As part of the research, Wavehill were commissioned to provide an in-depth, qualitative insight into the production and market operations of a small sample of selected 'strategically important businesses' (SIB) within the SCMC. SCMC partners were asked by the steering group to select between 25 and 50 business within their geographical area that they consider to be of strategic importance, whether for innovation, subsector of activity, or overall contribution to employment and GVA.

From that initial selection, Wavehill initiated telephone engagement to reach senior decision makers within these companies, and to acquire permission for an in-depth qualitative and quantitative telephone survey that might last up to one hour. The fieldwork commenced in early 2017, and lasted approximately one month. During these periods, sixty-five interviews were completed.

Quantitative responses (including firmographics) were coded in a survey dataset, while qualitative responses were analysed for frequency, intensity, and directionality. Although contact details and introductions were supplied by the SCMC partners, respondents were guaranteed that their responses would be anonymised and their participation confidential, unless otherwise specified by the respondent.

6.2 Profiles of the SIB

Of those businesses who agreed to be interviewed for this in-depth study, 78% of them are headquartered in the UK and 22% overseas. Almost a quarter of them (25%) are foreign owned, 6 of those with ownership residing in the EU and 10 outside. The majority of them (83%, 54/65) are privately-held, with 3/65 being publicly traded companies. Multi-site and single-site businesses are almost equally represented in the sample (33/32 respectively); of the multi-site businesses, half of those (16/17) are the headquarters of the organisation, while the rest are classified as branches.

In terms of business sizes, the majority fall in the 10-249 employee bracket, with a small number of large businesses (250 employees or more) and a handful of businesses with less than 10 employees. Regarding turnover, 5% (3/65) disclosed an annual turnover for their most recent year of less than £250,000, whilst 25% (16/65) have annual turnovers of £15 million or more. The modal turnover (34/65) is between £1 million and £15 million; using the midpoints of the ranges that were specified in the survey, we estimate that collectively companies in our sample account for approximately £1,061,750,000 (£1.06 billion) in annual turnover.

The SIC code classifications, aligned with the MMS subsectors identified for this research, are shown in table 6.1 below.[26]

Table 6.1: SIC code based classification and MMS subsector of sample of strategically important businesses

Business typology	Match with marine and maritime-related activities	Response	%
Manufacturing / Construction	Marine Manufacturing	25	38%
Water transport	Marine Transport & Port activity	10	15%
Leisure, recreation and other	Leisure	9	14%
Energy / Environmental	Oil and gas; Offshore Renewables; & Marine Environmental Technologies	8	12%
Professional, scientific and technical activities	Marine-Related Professional and Legal Services; also included pre-launch R&D companies	7	11%
Sales, brokerage and leasing	Cross-sector group including Marine Transport, Leisure, and others	6	9%
Overall	-	65	100%

Finally, we should note that the SIB are companies that are, for the most part, deeply entrenched in the regional economy of the SCMC; as we can see from table 6.2 below, a little under a third of them (20/65) have been operating in the SCMC for more than 30 years.

Table 6.2: In what year was company established in SCMC?

In the last 5 years	8	12%
6 to 10 years	9	14%
11 to 20 years	18	28%
21 to 30 years	10	15%
More than 30 years	20	31%

[26] As we explain in the methodological note in section 1 of this report, it is impractical to isolate public sector companies for this workstream. However, two of the companies interviewed for this report specialise primarily in defence related activities.

6.3 Markets, growth, and barriers

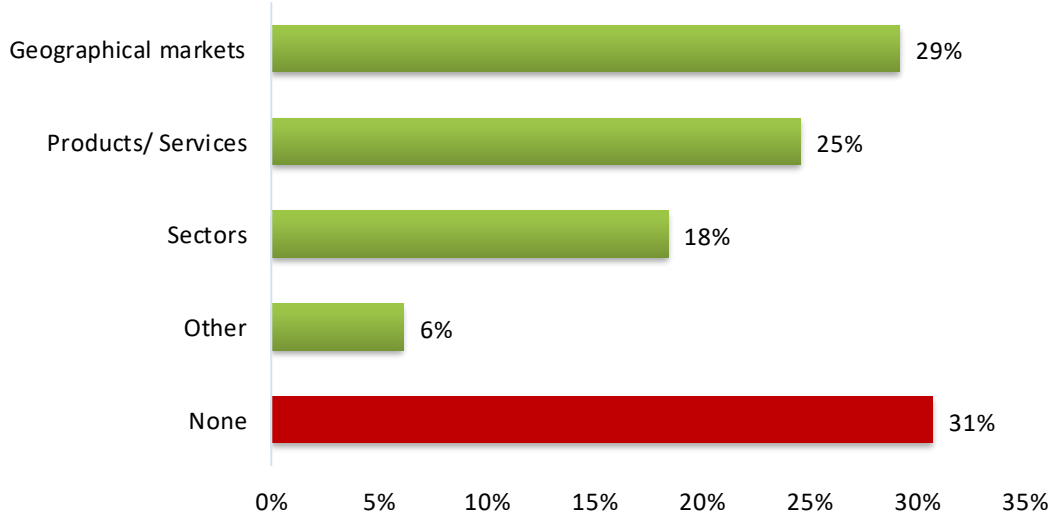
As we can see from table 6.3 below, the SIB that are included in this qualitative sample are heavily export orientated; more than half of them (37/65) told us that their primary markets reside outside the UK, whereas only 15% (10/65) see their primary markets as residing inside the SCMC region.

Table 6.3: Primary markets

Within an individual town or local area	2	3%
Within the South Coast Marine Cluster area	8	12%
Within the UK	18	28%
Internationally – outside the UK	37	57%

Overall, these are growth orientated businesses with 86% (56/65) telling us that they expect to expand their business in the next 12 months. We asked them if there are any new areas of markets that they expect, or would like to, move into in the near future, and over two-thirds were able to identify specific new areas that they are targeting (figure 6.1).

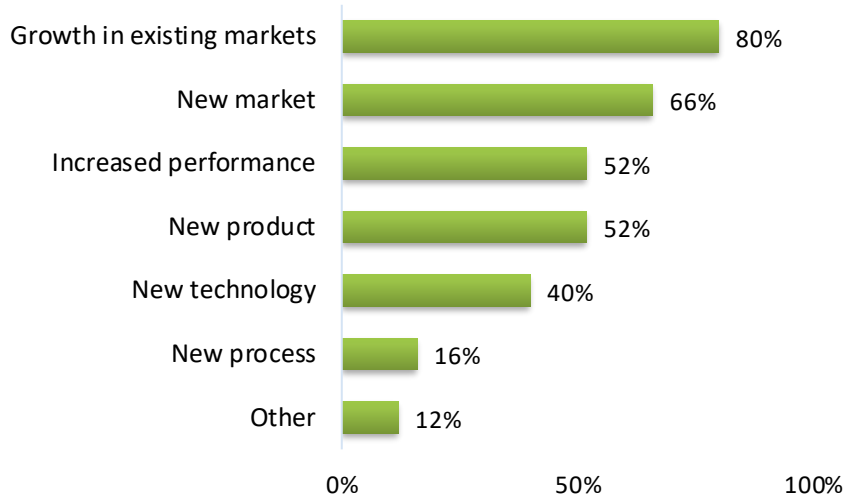
Figure 6.1: New markets or areas to move into?



When asked about the impact of these potential activities on turnover, we found that 83% (55/65) expect their turnover to increase over the next three years, with a mean projected increase of 34% (median 15%). While obviously a small sample, the 25 marine manufacturing companies surveyed projected a mean increase of 64%, complementing the portrait of the strength and dynamism of the marine manufacturing sector across the SCMC that we have presented in Chapter 2-5 above.

When asked what might account for the growth projections that they had supplied to us, the most commonly cited reason is the growth in existing markets, followed by new markets, increased performance, and new products (figure 6.2 below).

Figure 6.2: Reasons for expected turnover increase



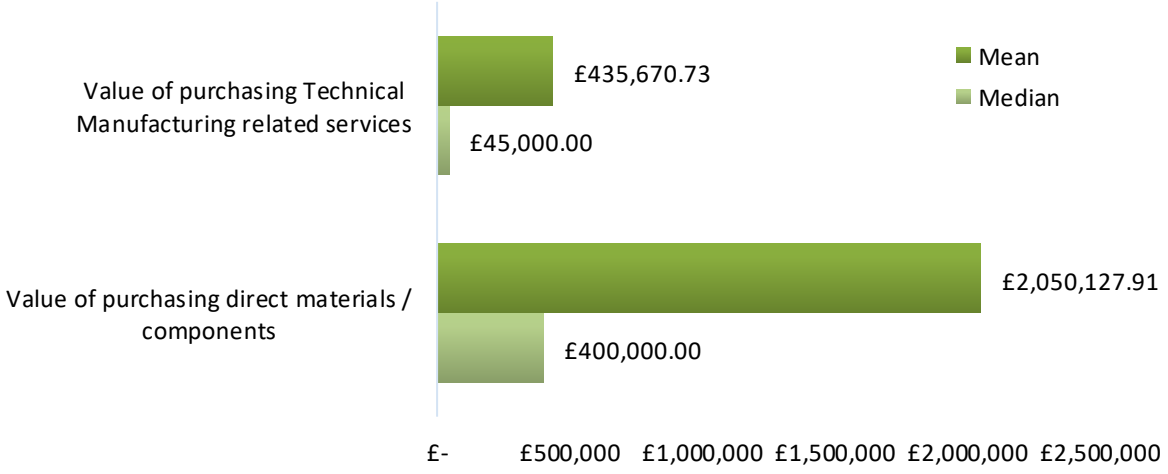
We asked the businesses to explain to us what they consider to be the main barriers to business expansion and turnover increase; our coding of the qualitative answers shows that the lack of contacts and concerns about regulatory frameworks top the list; as a recommendation about the role of the SCMC, we offer the observation that these are specific areas in which bodies like the SCMC can provide concrete business support in developing those contacts (through events, trade shows, external marketing activities) and helping businesses navigate the complexities of external or unknown regulatory regimes.

6.4 Purchasing and supply chains

We were interested, as part of this exploratory probe, to better understand and illustrate the operation of supply chains in the SCMC, especially with a view to identifying potential supply chain weaknesses or areas in which business support interventions may aid increasing the robustness and reliability of those supply chains.

Below (figure 6.3) we show the mean and median values of spending on services and components.

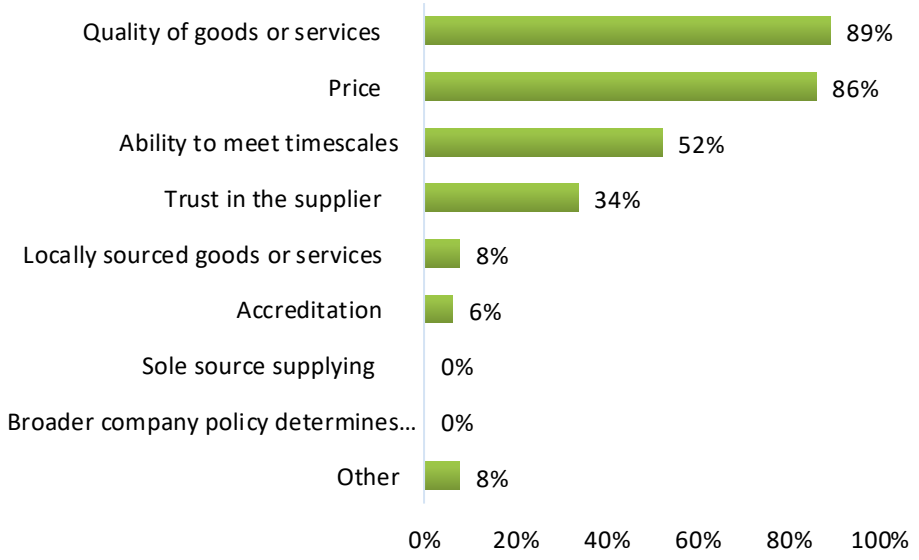
Figure 6.3: Purchasing of services and components



Breaking these figures down a little, there is quite a difference between marine manufacturing companies, which have an average spend of £3.4 million on materials and components, versus companies in the professional services and marine transport areas, where the average spending on services is approximately £1.6 million. Nonetheless, collectively our companies are accounting for about £130 million of spend on materials and components, and another £28 million in production-related services. Of that, about half was spent within the SCMC and a further quarter elsewhere in the UK (meaning that SCMC companies are spending approximately £40 million overseas in goods and services procurement). Clearly, in trying to uncover the additionality of the MMS, it is vital to understand the way in which procurement decisions are made and when that spend is generated.

In figure 6.4, we show the main factors that were cited by our sample for the decisions behind their procurement patters.

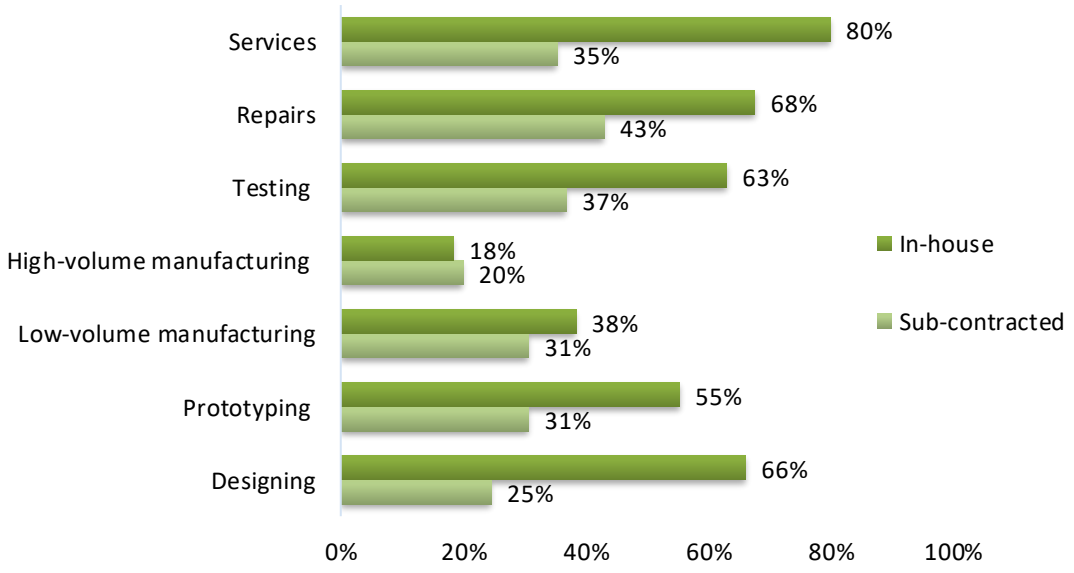
Figure 6.4: Factors underpinning purchasing decisions



As can be seen, the three primary factors, cited by more than half the respondents, are the quality of goods and services, price, and the ability to meet timescales, with trust in the supplier being cited by about one third of our sample (22/65). **Only a handful of the companies 6/65) said that sourcing locally was a primary factor in making supply chain decisions.** Furthermore, when asked if the factors cited above were not an issue, that they would prefer to use suppliers from within the SCMC, a large majority (51 out of 65 respondents) told us that they would. Therefore, we can accurately infer that, in order to bring more of that spend into the SCMC, that supplier companies need encouragement in meeting the three fundamentals – quality, price, and reliability.

While we recognise that these 65 SIB undertake a diversified range of market activities, we were interested to know to what degree they subcontract elements of their product or service provision. In figure 6.5 below, we show the range of activities across which companies may subcontract one or more services.

Figure 6.5: Patterns of subcontracting



Overall, more than three out of four of the companies interviewed (51/65) subcontract at least one activity or element of their production or service provision. Again, this illustrates both the additionality of MMS activities, and also the potential for supply chain development in the region.

The SIB that we interviewed are, for the most part, technologically advanced operations, with half of them (32/65) reporting extensive use of automation and robotics; 22 of those interviewed said that they are planning to intro new or upgraded automation and robotics in the near future. In this context, 37% of them (24/65) told us that there are technologies or capabilities in the SCMC that they would like to access in the near future, but a further 12 companies (just under a fifth of our sample) told us that there **are technologies which they would like to access but which they do not believe are available in the SCMC**. Whether they are or are not is beyond the scope of this research, but we would suggest that this is a key area in which the SCMC and its research partners may closer work with industrial partners to strengthen both the knowledge of the underpinning research and also the transfer of knowledge from research institution to marketplace provision.

Finally, we were keen to understand whether, as part of their market operations, the companies that we were talking to have had recourse to external finance in the recent past. In table 6.4, we break those companies down by sector and also by search result (successful, unsuccessful).

Table 6.4: Accessing external finance

Business type	Sought finance in the Last 3 Years	Had problems accessing that finance	Unsuccessful in obtaining external finance
	Respondents	Respondents	Respondents
Overall	28	7	1
Manufacturing / Construction	11	3	0
Water transport	7	2	0
Leisure, recreation and other	2	1	0
Energy / Environmental	1	0	0
Professional, scientific and technical activities	5	0	0
Sales, brokerage and leasing	2	1	1

Of the sample, around 43% (28/65) have attempted to access external finance recently, and of those, a quarter (7/28) reported that they had experienced difficulties; however, only one company reported that they had been unsuccessful in their efforts. Thus, we conclude that there is a potential role to play for the SCMC in easing the difficulties encountered accessing external finance for MMS companies, although it is not a huge barrier to market success at the current time.

6.5 Research and Development

Bearing in mind that not all of the companies interviewed are in the manufacturing or production orientated business, about two-thirds of them (42/65) told us that they are engaged in R & D activities; unsurprisingly 20 out of the 25 marine manufacturing companies told us that this was an important part of their activity, along with the whole sample of companies in the energy and environment and the professional and service activities sectors. The average spend on R&D was estimated at about 23% or turnover, and, of that, almost 60% of it is estimated to be spent in the SCMC area. Recalling the turnover figures reported above in this chapter, we estimate that this represents an annual spend of about £247 million, of which at least £148 million is spent within the SCMC area. When asked what is the primary goal of their R&D effort, two-thirds say that it is geared towards the introduction of new products and services, while a quarter told us that it will lead to new processes.

Given the unique nature of the SCMC partnership, with the heavy involvement of partners from the higher education (HE) and research institution (RI) sectors, we asked respondents about their engagement with HE and RI in pursuit of R&D activities. Fully 70% of those undertaking significant R&D activity (30/42) have done so in partnership with HE or RI – representing approximately £172 million of annual R&D spend taking place in a context of engagement with the research sector. Most cited as research collaborators are SCMC-based institutions, led by Southampton University, Plymouth University, Exeter University, the national Oceanographic Centre, and Portsmouth University.

Only five mentions were made of R&D collaborations outside the SCMC (University of Bristol, cited three times, and the University of Birmingham, cited twice). Again, while we see that the evidence of public-private research and knowledge transfer collaboration is high between companies and SCMC-based research institutions, there is a role to play for the SCMC in strengthening those linkages and ensuring that the R£D spend remains within the SCMC to the greatest degree possible.

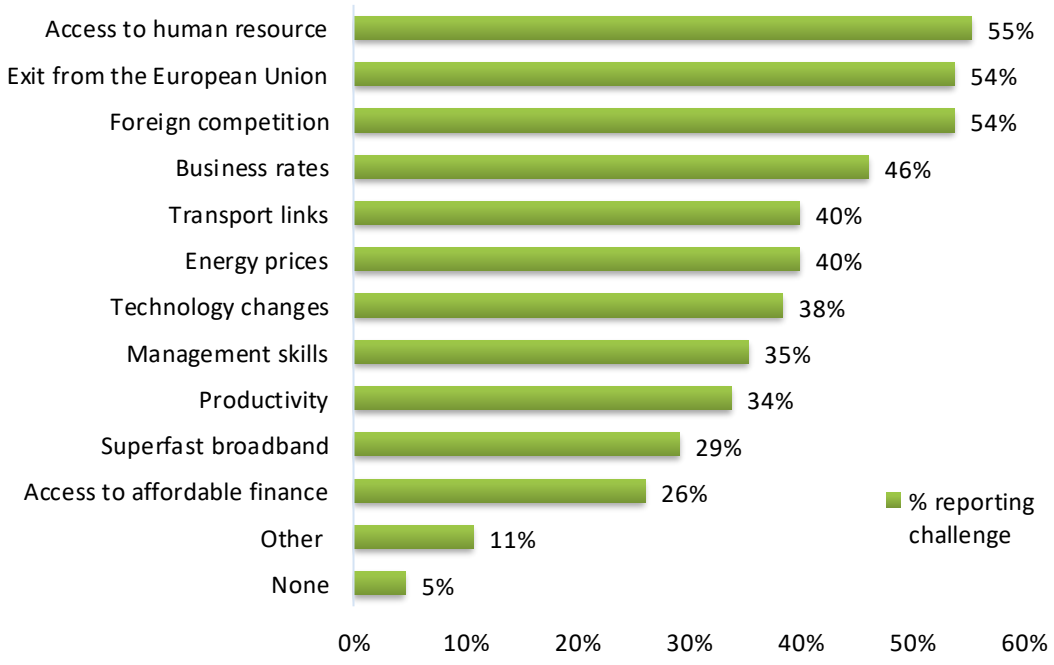
6.6 Recruitment and Skills

Almost all our sample (54/65) have attempted to recruit in the last year. Of those companies engaged in recruitment, about half (26/54) told us that they had experienced difficulties in recruitment emanating from the lack of potential skilled recruits. Delving deeper into the question, over two thirds (44/65) of our sample told us that one response to the potential lack of skills is to upskills their existing workforce. It should also be noted that about one third of our sample, 22 companies, now pay into the apprenticeship levy; thus there is a relatively high take-up among them of apprenticeships as one source of skills provision (30 out of 65 companies report employing apprentices, about four times the national average across all sectors).

6.7 Challenges and opportunities

In terms of the business climate and market outlook, we have already reported that our sample of companies is mostly bullish about their immediate market prospects and turnover projections. Nonetheless, we asked companies to identify what they consider to be the most important challenges that lie ahead, and these are shown in figure 6.6 below.

Figure 6.6: Challenges in the near future



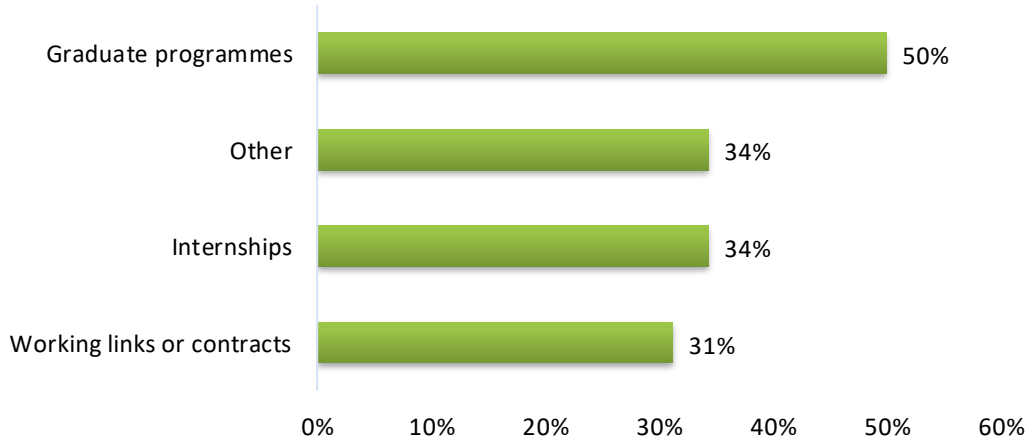
Echoing our observation about labour force supply issues, access to human resource was cited by over half our respondents as a potential challenge. This may be linked to Brexit, which ranked second and foreign competition, ranked third. When asked if any of the challenge areas also represented opportunities to relocate products or services currently produced or delivered offshore into the SCMC area, only six companies responded, two in the affirmative and four negatively. Again, we would highlight the fact that all of the areas of challenge cited above are areas in which the SCMC and/or partner institutions may find a significant role to play, both in direct support to businesses as they navigate these challenges, or in wider market interventions to ameliorate the climate of business activity (i.e. provision of broadband, energy prices, etc.).

6.8 Collaboration with partners and HE beyond R&D

One quarter of our respondents (16/65) told us that they have received support from either the SCMC of the partners LEPs/LAs over the last three years. Of the support received, half told us that it involved assistance with funding to improve facilities or equipment, while four companies told us that they had received marketing support.

Half of the companies (32/65) informed us that they have links with HE and RI beyond the R&D activities described previously, and the nature of those links is shown in figure 6.7 below.

Figure 6.7: Nature of links with HE and RI (if yes to having links)



A very high proportion (16/32) companies report having engagement in postgraduate and doctoral programmes, while 10 host internship programmes and 9 have working links or contracts.

The potential for an expansion of the scope and role of the SCMC is illustrated by the response to the question that we posed on whether companies would be interested in attending either a trade mission or an exhibition in the future. Around three quarters told us that they would be interested in participating in a trade mission (50/65) or an exhibition (48/65); only 9 companies told us that they would not be interested in either. It should be noted that while the sectoral breakdowns are made less reliable as a result of the relatively low numbers, all of the companies in the energy and environment sectors and all but two of the companies in marine and manufacturing sector were interested in these sorts of engagements.

Thus, we underscore the **current understanding among the SCMC partners that external marketing and assistance bringing products to market and developing new market opportunities** remain vital activities for the partnership to invest in over the coming months and years. Indeed, it is the perceptions of the SCMC among stakeholders and partners that we examine in the final chapter of this report. However, before we do that, we turn to the special cases of defence and higher education/research institutions, and present a case study of both sectors within the SCMC to highlight the deeply entwined relationship between them and the broader economy of the SCMC, and to showcase the contributions that they make to the marine and maritime sector.

7 Public/private sectors: defence and HE/RI

7.1 The defence sector in the SCMC

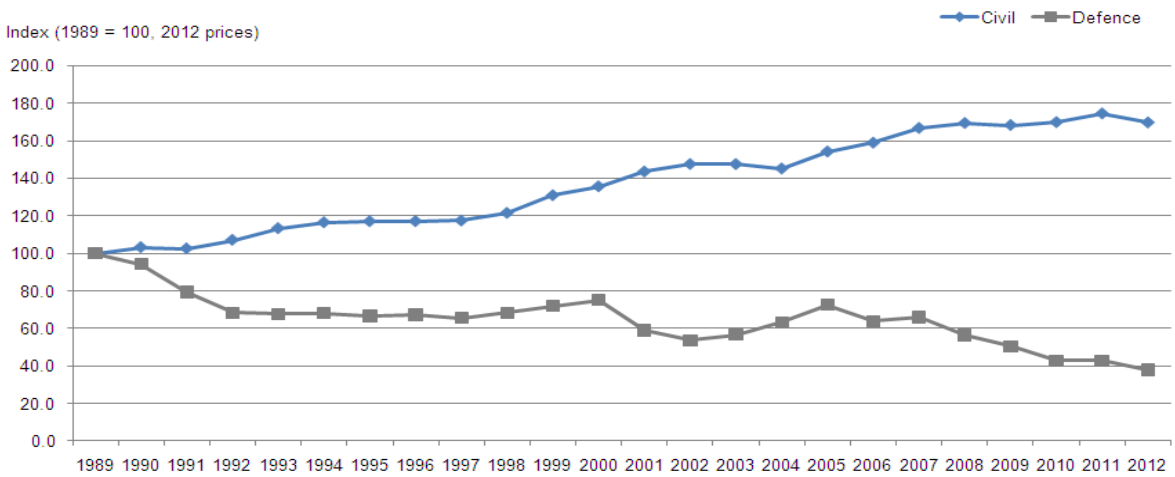
Nationwide, the Ministry of Defence (MOD) spends approximately £18.7 billion with UK industry and commerce, about £290 for every person living in the UK.[27] The MOD estimates that it spends £5.1 billion in the South East and £4.4 billion in the South West with industry and commerce, which is 50.8% of the UK total. Of the £18.7 billion defence spend that goes to UK industry and commerce, the second largest beneficiary sector is shipbuilding and repairing. The two regions with the highest per capita defence spending are the South West (£810 per capita) and the South East (£570 per capita).

According to the same set of estimates, the defence sector support 121,150 jobs nationwide. The MOD estimates that it supports 33,900 jobs in the South East and 30,000 jobs in the South West; the South West has the highest defence sector to total employment ratio, 1 in 70 jobs is supported by defence spending with industry and commerce.

The research conducted for this report shows that the Office of National Statistics estimates 7,645 public sector defence jobs in the SCMC, and the majority of those are located in the Heart of the Southwest (1,356) and the Solent (2,174). However, as we have indicated, the methodology used by the ONS to estimate defence sector jobs by local authority is prone to conservative bias (underestimation); recent estimates, for example, have put the number of public sector defence jobs at 5,000 in Portsmouth and 2,000 in Plymouth.

As the public defence sector has contracted, spending on defence-related R&D has also fallen as a proportion of overall R&D spend (figure 7.1).

Figure 7.1: Evolution of Defence and Civil R&D spend (Source: ONS)



[27] Ministry of Defence, "MOD Regional Expenditure with UK Industry and Commerce and Supported Employment 2015/16" (March 2017).

In 2012, over £27 billion was spent on R&D in the UK, but only £1.6 billion on defence related activities; 89.9% of all R&D funding was spent by private industry, but 67% of defence related R&D came from the UK government.

7.2 Higher Education and Research Institutions: Key facts and figures

The SCMC is characterised by the strong public private research partnerships that have been forged by its institutions of higher education and research. Indeed, a unique strength of the partnership is the breadth and depth of collaboration between universities, research institutions, public authorities, and the industrial and commercial MMS entities. As we will detail in the final section of this report, one of the stated missions of the SCMC is to increase the transfer of knowledge from pure research institutions/partnerships to commercial application. Indeed, the qualitative 'deep dive' in the previous section of the report highlights the importance of these collaborations, and points to the coordination and the facilitation role that the SCMC may play in retaining a comparative market advantage for the products and services produced by MMS-related companies across the SCMC.

7.2.1 Universities

University of Southampton

Ranked 26th by The Complete University Guide 2018,[28] the university serves over 23,500 students. Over £1bn (GVA) is the university's estimated contribution to the regional economy in 2012/3.[29]

In the 2018 QS world rankings, Southampton achieved 102nd position, and was ranked in the 101st-150th group for graduate employability. In terms of GPA, Southampton was ranked 18th in the 2014 Research Excellence Framework[30] exercise with 33% of research considered to be of world leading quality. In earth and environmental sciences, the university is ranked 4th in terms of GPA with 41% research deemed to be of world leading quality. The university hosts the Southampton Marine and Maritime Institute, whose main research areas are maritime safety; robotics; big data; ocean environment analysis; seabed mapping; marine energy, resources, culture and heritage; materials; structures; testing; trade; tourism; ports and logistics.

University of Exeter

The university is ranked within the top 200 universities worldwide according to the 2018 QS ranking and it is the 14th best university in the UK according to the Times Complete University Guide. Over 22 000 students attended the university in the 2016/7 academic year. Exeter and Falmouth University (who share a campus) had a predicted GVA contribution of £491m to the economy of Cornwall and the Isles of Scilly between 2002 and 2012.[31]

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[28] https://www.topuniversities.com/university-rankings/world-university-rankings/2018 .
[29] Biggar Economics, "The Economic Impact of the University of Southampton" (January 2015)
[30] See Ref2014 at http://www.ref.ac.uk/ for details
[31] Falmouth Exeter Plus (March 2014), http://www.fxplus.ac.uk/sites/default/files/documents/ecimpact.pdf , accessed 20th June 2017.

In the 2018 QS World ranking Exeter is ranked 158th, the geography department is ranked 15th internationally with 92.1 citations per paper. Exeter has a gold ranking in the 2017 Teaching Excellence Framework (TEF). In the 2014 Research Excellence Framework (REF) Exeter is ranked 30th by GPA overall and 14th for earth systems and environmental sciences. Overall 29% of its research is deemed to be of world-leading quality and for earth systems and environmental sciences, 24% is deemed world-leading with 100% of research of internationally recognisable quality.

Key research interests related to the marine and maritime industries are ocean, materials and reliable engineering; additive layer manufacturing; renewable energy; satellites; ecology and biodiversity; marine chemistry, biogeochemistry and ecotoxicology.

University of Portsmouth

Portsmouth University currently serves over 24,000 students. For every student, it is estimated that 5 jobs are created in the city and it is the city's 4th largest employer; the university's GVA contribution to the Portsmouth economy is estimated at £476m based on analyses of data from 2015/6.[32]

Portsmouth achieved a gold ranking in the TEF for 2017. The university is ranked 65th in the REF2014 rankings with 96% of its research considered to be of internationally recognisable quality and 16% of world-leading quality. For earth systems and environmental sciences Portsmouth is ranked 35th with 100% of research deemed of internationally recognisable quality and 8% considered to be world-leading quality. In the QS world rankings for 2018 Portsmouth is ranked 601st-650th with a 4* rating for excellence.

Research foci includes offshore wind farming; container shipping operations; environmental monitoring, microbiology and biotechnology; biodiversity and ecotoxicology.

Plymouth University

Around 23 000 students currently study at Plymouth University. The university was a recipient of an award for Social and Community Impact from the Guardian in 2015. In terms of economic contributions, £24m has been spent through contracting local businesses.[33]
Plymouth achieved 65th position in terms of the GPA rank in the REF2014. For earth systems and environmental sciences as well as geography, environmental sciences and archaeology the university is ranked 26th in terms of GPA with 14% and 17% of research deemed to be of world leafing quality respectively. In the 2018 QS world ranking, Plymouth ranked 701st-750th, in Marine and Earth Sciences the university is ranked 151st-200th with 82.3 citations per paper.

Key facilities include a marine station and laboratory for model testing using waves and currents. Research areas of note comprise of marine biology, ecology, conservation and culture; shipping and maritime business; engineering; biogeochemistry as well as coastal geography and marine policy.

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[32] University of Portsmouth (no date), http://uopnews.port.ac.uk/2017/06/08/university-brings-millions-to-city-economy/, accessed 20th June 2017.
[33] Plymouth University (no date), https://www.plymouth.ac.uk/your-university/about-us/facts-and-figures, accessed 20th June 2017.

Southampton Solent University

Southampton Solent University serves about 18,500 students and is located in the maritime centre of the city. It has particular expertise in research and business support provision to SME and the visitor economy.

One of the strengths of Southampton Solent University is its maritime, technology and environment research and innovation hub which responds to Solent's strengths in acoustics, maritime, built environment and computing research - conducting studies that can make a real impact on industry thought leadership. A unifying theme across all these areas has been sustainability, leading to productive cross-discipline dialogue and collaborative working.

Bournemouth University

Currently serving 17 000 students (including 1500 international students from 130 countries), Bournemouth University is estimated to contribute around £360m to the regional economy through direct, indirect and induced spending.[34]

Bournemouth has received a 4* rating for excellence in the 2018 QS World ranking and is ranked 701-750. In terms of GPA (Grade Point Average), Bournemouth was ranked 69th in the REF2014 (Research Excellence Framework) with 16% of research deemed world leading in terms of quality. Regarding geography, environmental studies and archaeology, Bournemouth was ranked 46th, with 98% of its research internationally recognised and 10% considered to be world leading. Bournemouth achieved a silver rating in the 2017 TEF.

Regarding marine and maritime research, key foci include assessing the cost-effectiveness of environmental policy and interventions; use of modelling and behavioural research to analyse how environmental change impacts coastal birds; DNA analysis for species conservation; new technologies to assist with the detection of harmful algae and developing criteria to assess the impacts of the introduction of non-native freshwater fish.

7.2.2 Research Institutes

Centre for Maritime Intelligent Systems

The CMIS was opened in 2014 to catalyse research into unmanned autonomous vessels, submarines, and other vessels. It's funding derives from multiple sources including the government, industry and the Solent LEP. The industry is expected to be worth £9bn annually.[35]

Electronics and Photonics Innovation Centre

Expected to be operational in 2018, the centre will aim to develop the electronics and photonics industries through fostering technological development and inward investment, facilitating collaboration and encouraging the establishment of start-ups and spin-off

[34] Professor John Fletcher and Dr Yeganeh Morakabati, "Bournemouth University Economic Impact Study 2013" (September 2013)

[35] Department for Business, Innovation and Skills & Matt Hancock (November 2014), https://www.gov.uk/government/news/minister-for-portsmouth-opens-new-4-million-maritime-intelligence-centre, accessed 20th June 2017.

companies. It is expected to provide 222 jobs, support 70 businesses and facilitate 21 academic and industry collaborations.[36]

Falmouth Bay Test Site

The site enables testing marine energy technologies, providing access to ports and waves. The site won a South West Green Energy award in 2012 for Best Business innovation.

Haslar Marine Technology Park

The park is managed by Qinetiq and it enables the testing and development of naval systems and models. It hosts a cavitation tunnel and one of the world's largest hydrodynamic testing facilities, the ocean basin.

Land Rover BAR (Ben Ainsley Racing) HQ

Located in Portsmouth, the headquarters provides a site for designing, training and building racing boats; an engineering hub; design studio as well as sport and fitness facilities and a visitors Centre.

Marine Biological Association

Based in Plymouth, the association is home to research vessels, an aquarium and the National Marine Biological Library, which hosts one of the largest collections of its kind internationally. Research focuses on biodiversity and predicting the impact of environmental change.

National Oceanography Centre

The centre in Southampton hosts the British Ocean Sediment Core Research Facility and British Oceanographic Data Centre. Facilities include research vessels and ships, testing equipment, a robotics innovation centre and the National Oceanographic library. Key research themes include marine geoscience; marine systems modelling; ocean biogeochemistry and ecosystems as well as ocean technology and engineering.

North Devon Tidal Demonstration Zone

Managed by Wavehub, the tidal demonstration zone supports the demonstration of tidal system arrays.

Offshore Renewable Energy Catapult

Test and demonstration facilities are provided as well as training. It is also host to the Offshore Wind Innovation Hub. The catapult seeks to reduce the risks and costs of offshore renewable energies and foster the development of new technologies.

Oceansgate Marine Business Technology Centre (2020)

The centre will provide in-sea testing facilities and encourage research and collaboration with a focus on marine and autonomous technologies.

[36] Heart of the South West LEP (2017), http://heartofswlep.co.uk/projects/electronics-photonics-centre/, accessed 20th June 2017.

Perpetuus

In development, Perpetuus will aid the development of tidal turbine manufacturing whilst supplying energy to the national grid to help meet official renewable energy targets.

Plymouth Marine Laboratory

The laboratory has 500 partners from 60 countries with key research interests in biogeochemical research, sustainability, biodiversity and ecosystems. Facilities include research vessels, buoys and mesocosms.

Sir Alister Hardy Foundation for Ocean Science

The foundation, based in Plymouth, focuses on plankton and manages the Operating Plankton Recorder Survey (SAHFOS). Research foci include climate change, biodiversity and the impacts of disease on humans and fish.

The Met Office

The Met Office often works in collaboration with the University of Exeter developing systems for weather prediction and analysis. The centre hosts supercomputing facilities worth £97m to improve modelling and prediction.

UK Hydrographic Office (Ministry of Defence)

Based in Taunton, the hydrographic office generates hydrographic and geospatial data for the Royal Navy and shipping merchants. They produce digital and paper products, which produced a £139.6m turnover in the 2015/6 tax year.[37] The office hosts Her Majesty's Nautical Almanac Office.

Wavehub

Located off the coast of Cornwall, the Wavehub site is the world's largest and technologically advanced site for the development of offshore renewable energy technologies. The site is grid-connected and offers links to ports, infrastructure and academic expertise. Mechanisms tested on the site include large scale wave energy devices, hybrid wind/wave devices and subsea equipment.

[37] UK Hydrographic Office (no date), https://www.gov.uk/government/organisations/uk-hydrographic-office/about, accessed 20th June 2017.

8 The SCMC partnership: the view of the stakeholders

In order to better understand the emergence of the SCMC as an MMS-related support and advocacy group, as well as to map out the strategic potential of the SCMC for the future, we undertook a series of in-depth, qualitative telephone interviews with key stakeholders and representatives from partner institutions across the area. Interviewees were drawn from local government bodies, the Local Enterprise partnerships, and HE and RI partners. Ultimately, we completed 23 interviews with stakeholders from 19 institutions, which are reflected on figure 8.1 below.

Figure 8.1: Stakeholder interviews - selected institutions

From our interviews, a number of key themes emerged that reflect the thoughts of partners about the role of the SCMC, the scope for action, and the potential for deepening its engagement in the support of the MMS across the region.

8.1 Scope of action

Many of the stakeholders, no matter which segment of the partnership they represent, began their comments to us framed by the observation about the varied and diverse nature of the MMS which has underpinned this reporting (and which characterises all other reporting upon the sector, as discussed in Chapter 1). That diversity poses challenges for partners, no matter what their particular profile and area of activity.

- From the perspective of local authorities, the diversity of the MMS both makes gathering the evidence base for concerted policy action and deepening engagement across the sector difficult;

- From the perspective of LEPs, the diversity of the MMS cuts across many existing committees and working groups, complicating the economic coordinating role of the LEPs;

- From the perspective of academic institutions, the nature of the MMS makes it inherently interdisciplinary, and reinforces the need for internal support mechanisms to encourage and facilitate inter and multidisciplinary collaboration among researchers;

- From the perspective of research institutions, MMS activity may form the entire set of activities to which the institution is dedicated, or it may be a subset, again with the inherent difficulties of catalysing and conducting cross-sectoral research (and, for example, rendering the cost of physical infrastructure higher).

The diversity of research infrastructure and facilities was captured by one of our interviewees who told us:

> *'Marine is an area where you apply a number of skills and disciplines; therefore, it demands a multidisciplinary approach, because there are so many aspects, with no singular technology which is more or less important.'*

Nonetheless, the inherent demands of interdisciplinary work – good interdisciplinary work – are such that the diversity of the sector necessitates strong support and coordinating bodies at all levels, from the overarching partnership of the SCMC to advocacy bodies within partner institutions. The potential of that role, and the interdisciplinary character of the sector, was highlighted by another interviewee:

> *'People are not directly within marine, but are drawn in, because they know the capabilities of the university, and know that they can be liaised with the right people who have the availability and particular research interests.'*

Additionally, from the perspective of a pure research institution that is engaged in marine related research, the value-added of injecting MMS research into commercial activity across all sectors is highlighted in the following quote:

> *'There is big potential for scientific areas in the future, in terms of innovation and growth in the cluster, we should champion our success and expertise and use the initiatives that we have relationships with. Being a marine institute is a strength because marine as area can be applied to almost any industry, you are just adding in a sea-based element.'*

Yet the problems posed by the broad swathe of MMS related activities were summed up thus:

> *'Within our institution, we are acutely aware that marine and maritime are distinctly different. This is important because of the local industry. Maritime, as a definition is broader than marine and it tends to drop the environmental element. This can be a problem, and really should be acknowledged. From our biotechnology experience, environmental issues, and marine more generally speaking, can be drowned out when focussing on maritime. This is interesting because the EU, and the funding it provides, does focus on marine and has allowed marine research in the South West to thrive. It's interesting because even though we are an island, UK based funding does not focus on marine or blue growth in a way that could be really beneficial.'*

8.2 The SCMC

There is a definite sense that we detected among the partners interviewed for the research that the SCMC represents a bold and important step in providing an overarching coherence and unified direction of travel for MMS related support and advocacy activities. The potential for the SCMC was summed up by one respondent:

> *'The SCMC is a pioneering organisation, I really support and appreciate what they are doing and aiming to do on the south coast. It could really help consolidate established links that already exist. All of the research institutions on the south coast know each other, so as long as SCMC are approaching as a unifying force rather than perceiving themselves as filling a gap then it will be really positive.'*

Another one of our respondents told us:

> *'I am the main contact with the SCMC at ..... I'm really keen on the initiative, I think unifying research and marine industry around the south coast is important and I want to make a success of it.'*

Yet the dangers of working in a fragmented sector, and a pointer for thinking about the strategic orientation of the SCMC, were provided by another one of our respondents:

> *'Going back to that point about the SCMC having to be a unifier, I think that the SCMC has to be careful to avoid fragmenting the dialogue and aims of marine on the south coast or being perceived as a threat. It should do this by working with trade associations and by advocating for trade association membership. The SCMC needs access; this could be solved by meeting with British Marine. I point this out because I think it is a real concern and a criticism for the UK generally, that there is no key maritime or marine political voice. If you compare this to areas such as aerospace, we are really lacking that high-profile voice, so the SCMC has to make sure it does not fragment our voices more than they have already been fragmented.'*

8.2.1 The SCMC as a linking institution

Clearly, one of the major roles that interviewees ascribe to the SCMC, and which they see as part of the success to date of the organisation, is as a coordinating and linking institution, not only between partners but between sectors (government, HE, private research, and economic support organisations such as the LEP) and between the public and private sectors. Many of the partners are already engaged in either business support or knowledge transfer activities (or both), and the SCMC is a useful umbrella organisation to pool these efforts, to expand the potential scope of action of individual partners by linking them to other areas and groups of companies, and also to share best practices and success stories. Indeed, in the current HE and RI funding environment – especially since the recent creation of the UK Research and Innovation council – interdisciplinary and multi-partner (public/private) research has been thrust to the fore of the agenda and demands bodies like the SCMC to play a vital coordinating and linking role.

Playing to the point made above (about the acknowledged diversity of the sector), one individual actively engaged in MMS related activity in the SCMC told us:

> *'In my opinion, marine relates to ecology whereas maritime relates to things like renewable energy and shipping. From my perspective, I see what the SCMC does as more central to marine rather than maritime. Marine and maritime are difficult areas to define in their own right, and more generally speaking, to pin down. They can transcend so many boundaries. For example, you can have maritime lawyers, or music academics who are interested in researching the place of music on ships and cruises and the different effects that this can have. This is really where my job comes in; I enable people to liaise who would never do so otherwise. The common joke that I get is that I run a dating service, a matchmaker of sorts.'*

Whilst interviewees were generally positive about that role, there was a sense that more may be done:

> *'I think we could have more links, but there is not widespread acknowledgement or understanding of development that could happen around the south coast. For example, in hydrographics, through autonomous vehicles, being industrial relationships with our expertise on bio-refineries and bio-reactors.'*

8.2.2 The SCMC as a research support institution

In terms of specific support activities, one of the themes that underlay almost all of our interviews, and which emerged as the most frequently cited across those interviews, was research. Given that the SCMC is a disparate body, and that it does not have, or harbour any pretensions to having, its own research programme, the research support role ascribed to the SCMC was generally one of coordination and linkage. Crucially, many participants in our interviews articulated the notion that perhaps the thing that is most lacking in the region – and thus the space that they see the SCMC 'naturally' occupying – is as an external interlocutor, helping to forge relationships that may be currently beyond the reach of individual partners:

> *'The issue we have with establishing links both domestically and internationally is that people aren't seeing the link between innovation and research. Science communication has grown massively in the last decade. The importance of being able to transfer knowledge has become an area of increasing importance but sometimes the research area is left behind, which limits our ability to be innovative.'*

Equally, another of our respondents told us:

> *'There is not a great enough acknowledgement that between the different research institutions around the South Coast there is a great deal of important and innovative research.'*

8.2.3 The SCMC as a funding (access) institution

Investment and access to external finance was another common theme cited by the stakeholders that we interviewed. While it is recognised that the SCMC itself does not have the funds to invest, the coordination and linking role identified above is clearly related to helping seek access to major grant funding programmes and private capital (especially inward investment):

> *'Another challenge we face in innovation is investment. I think this is something that through SCMC we could address because we need promotion on a higher level than through individual institutions. An example of this is a project we at the MBA were seeking funding for, to work alongside research being done in Brittany. There were discussions with the RDF but they thought that only having research carried out in the South West, rather than the whole of the UK was too small-scale. But that outcome was not looking at research, it was more about appearance.'*

8.3 The Future of the SCMC

As far as the future role of the SCMC, stakeholders are generally positive, although some concerns were expressed regarding the mission of the SCMC – especially the degree to which this is shared and is cohesive across the partnership – and to the character of the SCMC as an organisation.

8.3.1 Policy action areas

In terms of the policy action areas for the SCMC, there were a number of areas that we identified through the stakeholder research that we have labelled **policy action areas** and where we think there is scope for further clarification of the role of the SCMC, an extension of the activities of the SCMC, or both.

- Scope for prioritisation sub-sectors, e.g. marine manufacturing, marine transport, offshore renewables, environmental technology, fishing, and tourism
- More targeted engagement on skills needs, develop stronger evidence base
- Supply chain gaps – opportunities that require further exploration
- Exhibitions and trade shows key element to promote export markets particularly in light of Brexit (cited by many of our interviewees as a potential challenge for the MMS in the region)
- Continue to expend effort in promoting knowledge transfer from strong R&D base.

8.3.2 The SCMC as an organisation

Finally, we noted that there are areas of concern that relate to the SCMC as an organisation. Given that the SCMC is currently a voluntary association of interested parties with no formal juridical status, it is not surprising that the possible lack of resources available to the SCMC was at the top of many interviews:

> *'The main problem it has is the lack of funding, because that means people only provide the time they can afford to give alongside their work which, usually results in little to no time so work and action can become disjointed.'*

There was a sense among some interviewees that the non-statutory character of the SCMC gives it (sometimes) more the character of a volunteer organisation:

> *'This was the case with research I attempted to lead within the SCMC, to try and capture the understanding and aims of different partners. I wasn't receiving many responses so it became a tedious process which could not produce any meaningful result.'*

Among interviewees, we also detected some concern about the lack of clear definition of the mission of the SCMC:

> *'In terms of the SCMC I am involved by default. The SCMC was started by Hampshire and Portsmouth because it got a grant given to it…There is national and international confusion about this cluster group because no one knows what it is- is it a maritime body? A trade association? Or an industry? What are its capabilities?'*

More critically, one participant in the interviews expressed concern that there is – from that persons' perspective – no clear or overarching strategy for the SCMC:

> *'The SCMC care more about semantics then what is really going on… I apologise if this seems like an attack on the study, it's not I just think there needs to be real questioning about what this cluster's higher strategy is.'*

Some noted that the SCMC may have been less successful to date penetrating the SME sector, with an over concentration on prominent, large, and already established businesses:

> *'Marine is already a disjointed sector, this adds unnecessary confusion. The SCMC is also overly political, it's the new kid on the block but it doesn't acknowledge that, it does not unite SMEs.'*

Underpinning all these comments was the (quite commonly) expressed view that the SCMC should gravitate towards a more formal set of structures, and explore the question of its legal status and functions. One participant, who was on the whole positive about the future for the SCMC, put it succinctly:

> *'A serious concern I have about the SCMC is that there is no accountability because it has no legal entity. This means that the operational hierarchy is unclear and little productive work can be carried out under the banner of the SCMC. We couldn't sign up to be part of the of the International Marine Cluster because, we have no legal entity. Goodwill is not enough.'*

8.3.3 Recommendations

Arising from our stakeholder interviews, we would make the following recommendations to the SCMC regarding organisational development and governance:

- Clear need for an organisation to overcome geo-administrative and sectoral fragmentation
- Need clarification as to the mission of the SCMC
- Develop formal governance structures, to;
    - ✓ Coordinate more effectively between LG units
    - ✓ Speak with unified voice
    - ✓ Provide clear accountability
    - ✓ Overcome duplication
- Develop tighter links with strategic industry groups in priority sectors

Appendix 1

The South Coast Marine Cluster area

Local Enterprise Partnerships

Cornwall LEP/County Council	E37000005
Dorset LEP	E37000009
Heart of the South West LEP	E37000029
Solent LEP	E37000016

Local Authorities

Isle of Wight Council	E06000046
Plymouth City Council	E06000026
Portsmouth City Council	E06000044
Southampton City Council	E06000045

County Councils

Hampshire County Council, comprising:	
Basingstoke and Deane	E07000084
East Hampshire	E07000085
Eastleigh	E07000086
Fareham	E07000087
Gosport	E07000088
Hart	E07000089
Havant	E07000090
New Forest	E07000091
Rushmoor	E07000092
Test Valley	E07000093
City of Winchester	E07000094

Appendix 2

SIC Codes:

Crude petroleum extraction	0610
Natural gas extraction	0620
Marine fishing	0311
Marine aquaculture	0321
Building of ships and floating structures	30110
Building of pleasure and sporting boats	30120
Service activities incidental to water transportation	52220
Support activities for petroleum/natural gas extraction	0910
Sea and coastal passenger water transport	50100
Inland water transport	50300
Sea and coastal freight water transport	50200
Construction of water projects (including dredging)	42910
Cargo handling	5224
Manufacture of engines/turbines (not aircraft, vehicle, cycle engines)	2811
Renting and leasing of passenger water transport equipment	77341
Production of salt	08930
Processing and preserving of fish and fish products	10200
Manufacture of cordage, rope, twine and netting	13940
Retail Sale of fish, crustaceans and molluscs	47230
Construction of water products	42910
Wholesale of other food including fish crustaceans and molluscs	46380
Other supporting water transport activities	52220
Engineering activities and related technical consultancy	7112
Travel agencies and activities	79110
Defence activities	84220

wavehill

social and economic research