

SWRDA PRIORITY SECTORS WORKING PAPER 9
MARINE TECHNOLOGIES

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The Marine Technologies Sector in the South West

1. Introduction

- 1.1 This working paper examines the competitiveness of the marine technologies sector in the South West of England. The paper is arranged under the following headings:
- Summary and Overview
 - A Profile of the Tourism and Leisure Sector in the South West
 - Future Prospects
 - Sector Development Priorities
- 1.2 At various points in the text comparisons are made between the South West and the East Midlands and East of England Regions. These two regions were selected as comparators since they have similarities with the South West in lacking a dominant urban conurbation, and in terms of their population.
- 1.3 This paper is one of 10 working papers examining the priority sectors identified by the South West of England Regional Development Agency (SWRDA) in its Regional Economic Strategy. SWRDA's strategy identifies 7 sectors that the Agency will actively **promote**:
- Advanced Engineering
 - Customer Marketing Services
 - Environmental Technologies
 - Food and Drink
 - Information and Communications Technologies (ICT)
 - Tourism and Leisure
 - Marine Technologies
- 1.4 In addition SWRDA has indicated that it will **encourage** development in a further three sectors:
- Biotechnology
 - Financial Services
 - Printing and Packaging
- 1.5 Working papers have also been produced on Emerging Technologies and Markets (WP1) and Best Practice in Sector and Cluster Development Policies (WP2). All the working papers are available from the SWRDA.

2. Summary and Overview

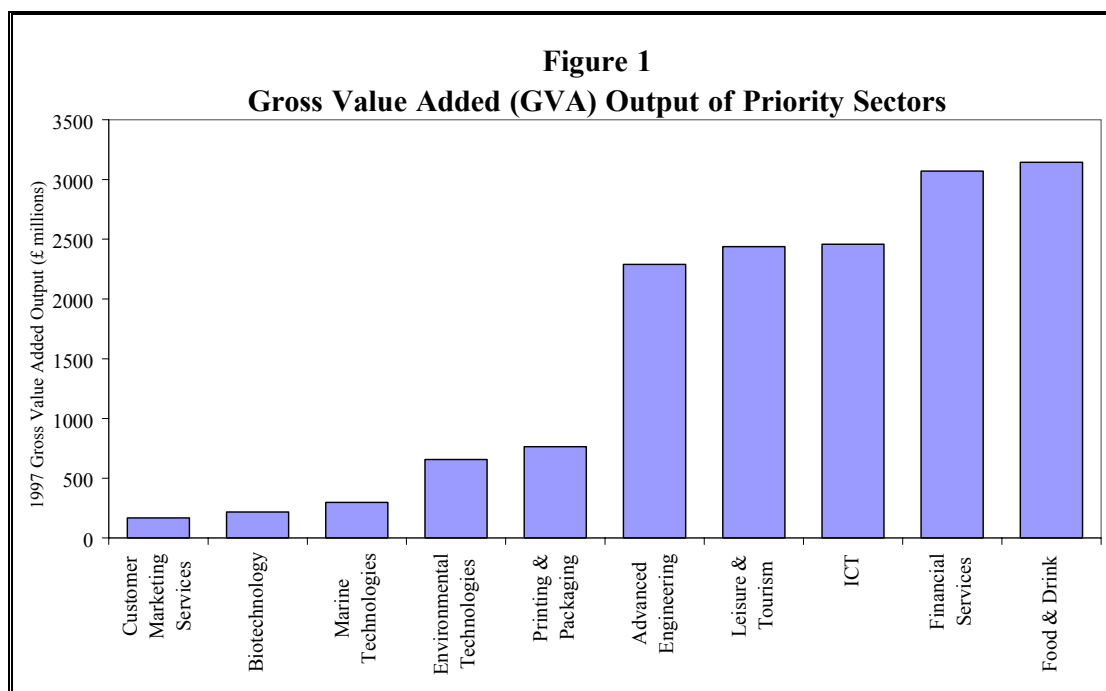
2.1 The marine technologies sector consists of industries that are involved all forms of marine construction, engineering and consultancy. This includes the design, manufacture, and repair of all types of vessels and offshore platforms. It also includes the design and manufacture of technologies used in the marine industry such as navigation equipment, though it has not been possible to identify these as a separate activity within the available statistics. Given the focus on technology, the operations of the region's ports and harbours have been excluded from the analysis.

- Marine technologies is one of the smaller sectors in the South West with an estimated gross value added of £297.4 million in 1997.
- There are around 360 firms in the region employing almost 10,000 people representing around 17% of the total employment in this sector in Great Britain.
- Marine technologies has the highest location quotient of all the ten priority sectors, indicating that this is one of the South West's key industrial specialisms.
- However, this is also a declining sector, experiencing a 14% fall in employment between 1991 and 1997 largely due to the loss of a number of large employers in the region.

	1997 Employment	Employ Change 91-97	1997 Location Quotient*	1997 Gross Value Added Output (£ millions)
Customer Marketing Services	6,000	17%	0.72	168
Biotechnology	7,000	11%	0.61	217
Environmental Technologies	21,000	19%	0.97	656
Printing & Packaging	26,300	-1%	0.97	765
Marine Technologies	9,900	-14%	2.10	297
ICT	60,900	16%	0.85	2,458
Advanced Engineering	61,000	-1%	1.26	2,290
Financial Services	76,300	-12%	0.96	3,071
Leisure & Tourism	87,500	7%	1.22	2,439
Food & Drink	91,200	-25%	1.35	3,144

Source: Annual Employment Survey 1997 & Annual Census of Employment 1991, ONS © Crown Copyright

* a location quotient >1 indicates that the concentration of employment in the sector in the South West is above the Great Britain average.



- Small firms dominate the sector. 85% percent of establishments in the marine technologies sector in the South West have 10 or fewer employees. This said, more than 40% of the workforce are employed in firms of more than 200 employees. The larger firms tend to be in the sub-sector of building and repairing of ships, which accounts for almost 50% of all large firms in the sector.
- The sector is concentrated in the sub-regions of Devon, Cornwall and Bournemouth/ Dorset/Poole with two thirds of all firms located in these three areas. Other activities such as marine related electronics and consultancy activity tend to be located in the north of the region.
- In recent years, the marine technologies sector has been contracting in the South West, with a fall in employment of 14% (1,600 jobs) between 1991 and 1997. The largest fall has been in the manufacture of engines and turbines whilst boat building and repair is the only sub-sector to have grown in employment over the same period.
- It is forecast that traditional shipbuilding in Great Britain will continue to contract as market share is drawn away from Europe to countries such as South Korea. Conversion work, particularly in specialist market sectors is a growth area worth around £200 million per annum according to the Shipbuilders and Ship Repairers Association. There is an ongoing requirement for investment and diversification into more profitable growth parts of the sector. A continuing proactive approach to market conditions and identification of new opportunities is required to improve international competitiveness of the sector nationally and in the South West.
- Key actions required are encouraging and supporting actions to enhance the competitiveness of the region's supply chain; providing clear leadership for the sector, perhaps through the recently formed Marine Sector Partnership;

and encouraging training providers and employers to provide more focussed training.

3. A Profile of the Marine Technologies Sector in the South West

Definition

- 3.1 The Marine technologies sector consists of industries that are involved in the design, manufacture, and repair of all types of vessels. The sector is difficult to define using SIC codes and the 4 digit codes used to define the sector in this paper are the best fit codes and do not fully cover all activities in the marine technologies sector. For example the activities of marine consultants, offshore engineers and marine related research and development cannot be identified as separate activities in the available statistics but are an important part of the sector. Essentially the marine technologies sector is a sub-set of the advanced engineering sector and its shares many of the issues facing the advanced engineering sector. As noted earlier, the operation of port facilities in the region have been excluded from the analysis.
- 3.2 The 4 digit codes used are:
- 2911 Manufacture of engines and turbines
 - 3511 Building and repairing of ships (including offshore platforms etc.)
 - 3512 Building, repairing of pleasure boats etc

Sector Characteristics

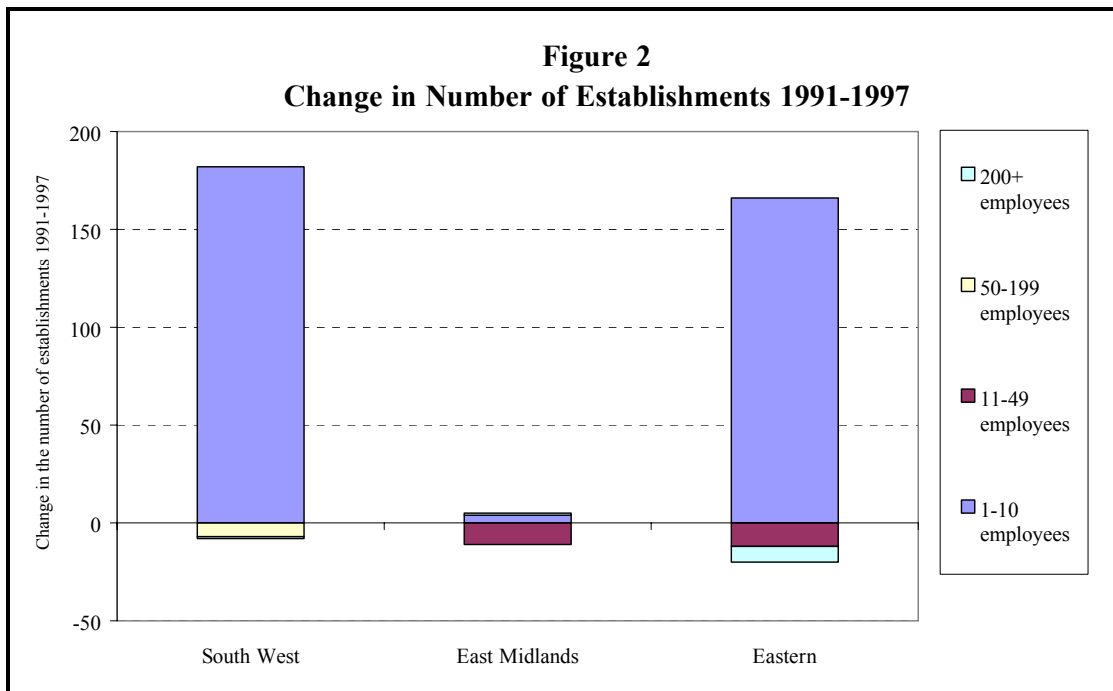
- 3.3 As with other heavy engineering sectors, the UK shipbuilding industry has declined over the past thirty years. The UK is no longer the world leader in shipbuilding that it once was. The UK industry is now more active in specialist shipbuilding activities. The UK remains a world leader in warship production, and generally has a high technological capability within the sector, with particular strengths in sophisticated passenger ships, offshore platforms and a range of other specialised vessels.
- 3.4 Nationally the sector has not been performing well in recent years, with a decrease in employment of 28% between 1991 and 1997 mainly from shipbuilding. This sub-sector is relatively labour intensive and the decrease in demand for ships has had a more than proportionate effect on employment. It has become difficult for British companies to compete with those from Asian countries (notably South Korea) where labour costs are much lower.
- 3.5 The marine technologies sector in the South West also declined during the 1990s with the decrease in shipbuilding and the accompanying reduction in the requirements for marine engineering services. All areas of the South West experienced a reduction in employment with the exception of Cornwall. The overall trend has been away from the building of large ships towards the building and repairing of pleasure boats – a more sustainable market than traditional shipbuilding activities.

Current Performance of the Sector

- 3.6 **Business Numbers and Size:** In 1997 there were 359 establishments in the marine technologies sector in the South West, 15.5% of all firms in this sector in Great Britain. Half of all firms in the South West are engaged in shipbuilding and repair activities (including offshore) and a further 30% in boat building and repair activities.
- 3.7 Small firms dominate the sector - 85% of firms in the marine technologies sector in the region have less than 10 employees. There are very few large firms in the region and only 53 employ more than 10 people. Some of the largest employers in the sector include Devonport Royal Dockyard in Plymouth employing more than 1,000 people and Appledore, also in Devon, with over 500 employees. Both of these firms are shipbuilders.

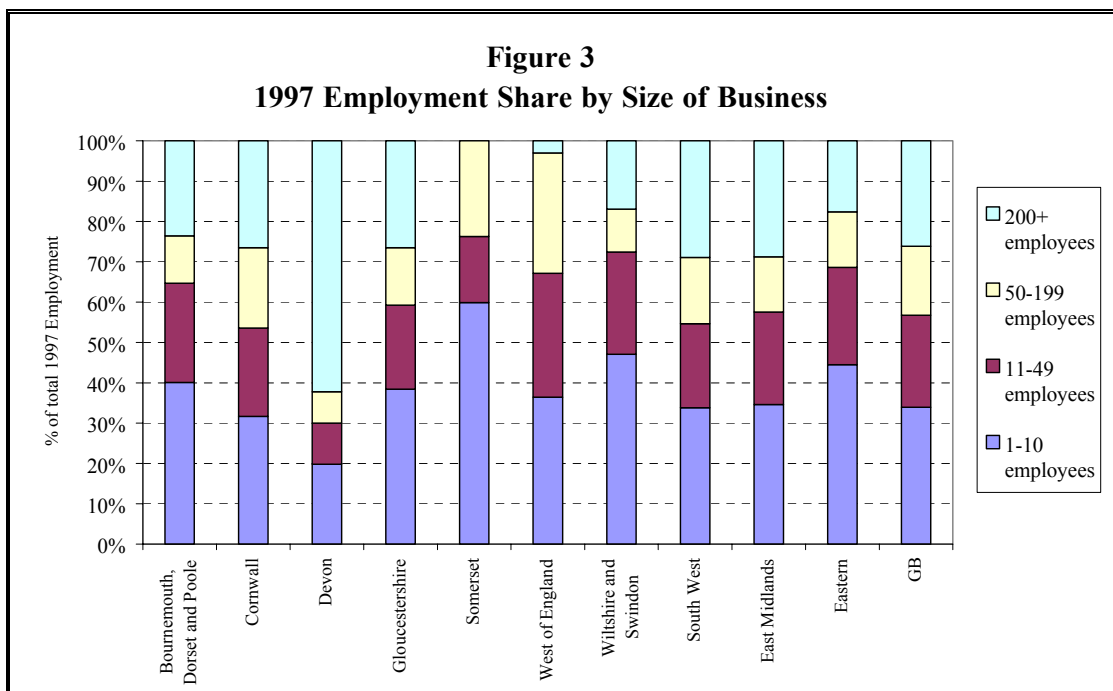
	<10 employees	>10 employees	Total
Manufacture of engines and turbines	47	C	47*
Building and repairing of ships	173	C	173*
Building repairing of pleasure boats etc	86	24	110
Bournemouth/Dorset/Poole	67	C	67*
Cornwall	85	C	85*
Devon	99	C	99*
Gloucestershire	C	C	C
Somerset	C	C	C
Bristol Sub-region (West of England SRP)	C	C	C
Wiltshire/Swindon	C	C	C
South West	306	53	359
East Midlands	97	28	125
East of England	262	52	314
Great Britain	1,904	406	2,310
Source: Annual Employment Survey 1997, ONS © Crown Copyright			
Note: where "C" appears in the table the data cannot be disclosed, meaning that the actual figure is less than 21 establishments			
Note: where "*" appears next to a total this indicates that the figure is the sum of the numbers shown in the table, and therefore excludes any confidential data			

- 3.8 There was a large increase in the number of small firms (less than 10 employees) in the sector during the 1990s with the number of firms with more than 10 employees falling slightly. The increase in the number of firms in the South West is far greater than the increase in East of England region, while the number in the East Midlands declined slightly (see Figure 2).

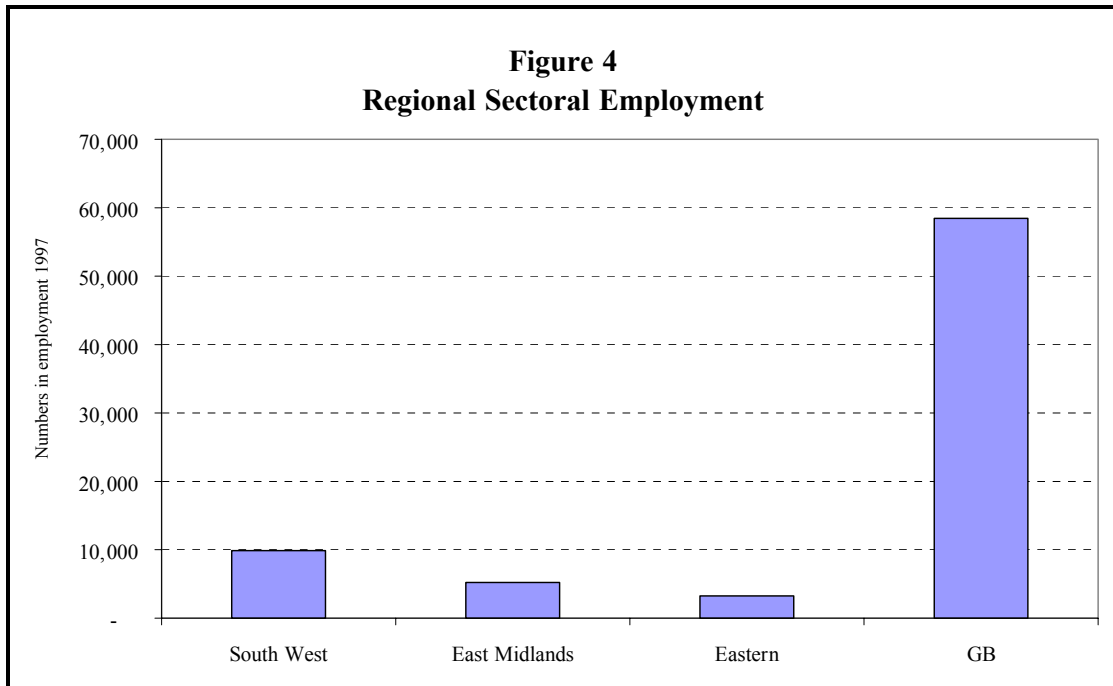


Source: Annual Employment Survey 1997 & Annual Census of Employment 1991, ONS © Crown Copyright

- 3.9 **Employment:** There are almost 10,000 persons employed within the marine technologies sector in the South West, 17% of all those employed in the sector in Great Britain. Almost two thirds (63%) of employment is in shipbuilding and repair activities.
- 3.10 Total employment in the sector in the South West is significantly higher than in either East Midlands or East of England regions, as shown in Figure 4.



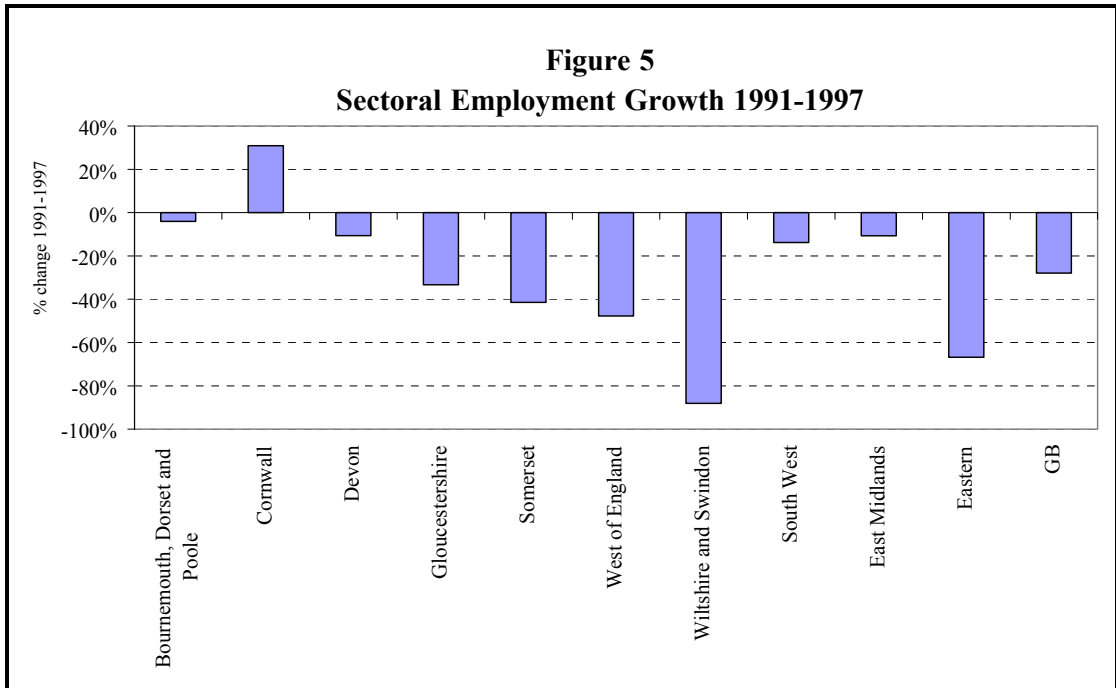
Source: Annual Employment Survey 1997, ONS © Crown Copyright



- 3.11 Overall, employment in the sector fell by 14% between 1991 and 1997, with the loss of around 1,600 jobs in the South West. The building and repair of pleasure boats is the only part of the sector where employment increased over the same period (+700 jobs). The sector as a whole contracted significantly in Great Britain with the loss of more than a quarter of all jobs in the sector. In this respect the South West has performed reasonably well. East of England region fared particularly badly with the loss of two thirds of all jobs in the sector between 1991 and 1997. (see Table 3).

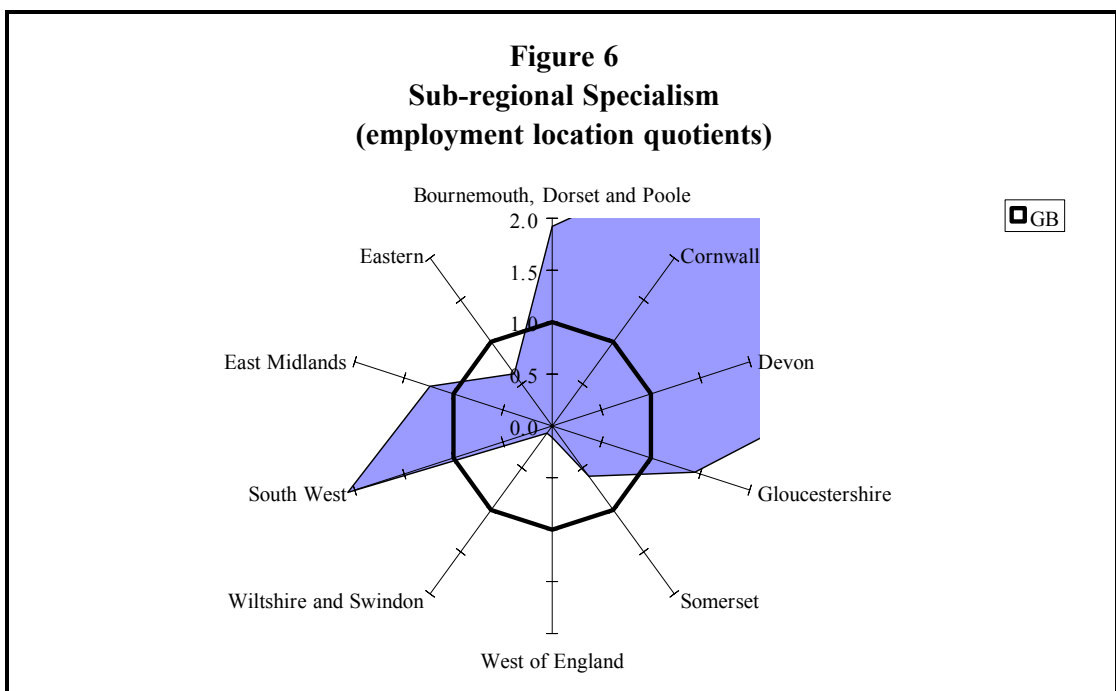
	1991	1997	Absolute Change 91-97	% change
Manufacture of engines and turbines	2,600	1,300	-1300	-50%
Building and repairing of ships	7,100	6,200	-900	-13%
Building repairing of pleasure boats etc	1,700	2,400	+700	+41%
Bournemouth/Dorset/Poole	1,200	1,200	0	0
Cornwall	1,000	1,400	+400	+40
Devon	6,800	6,000	-800	-12
Gloucestershire	1,200	800	-400	-33
Somerset	500	300	-200	-40
Bristol Sub-region (West of England SRP)	200	100	-100	-50
Wiltshire/Swindon	500	100	-100	-80
South West	11,500	9,900	-1,600	-14
East Midlands	5,900	5,200	-700	-12
East of England	9,800	3,200	-6,600	-67
Great Britain	81,100	58,500	-22,600	-28
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright				

- 3.12 Given the distribution of firms in the region it is no surprise that over 80% of jobs are concentrated in the three sub-regions of Devon, Cornwall and Bournemouth/Dorset/Poole. Devon alone accounts for 60% of employment in the sector. Cornwall is the only sub-region that has seen an increase in employment in recent years (see Figure 5).



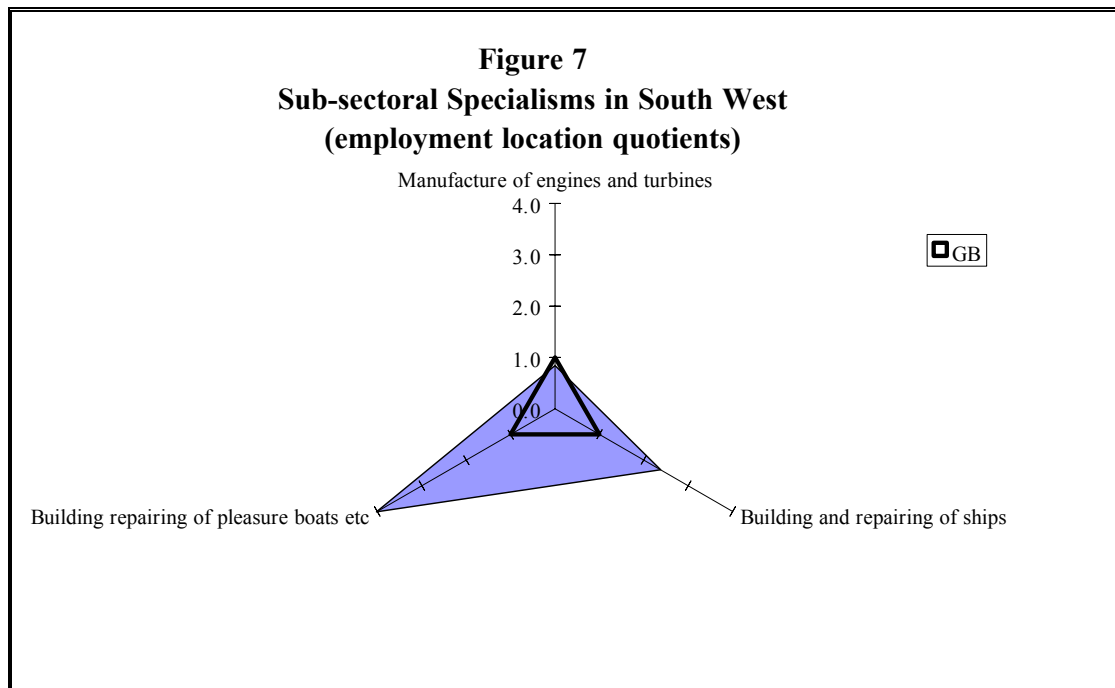
Source: Annual Employment Survey 1997 & Annual Census of Employment 1991, ONS © Crown Copyright

3.13 **Degree of Sector Specialisation:** Sectoral employment as a proportion of total employment is far higher than the Great Britain average in Devon, Cornwall, Gloucestershire and Bournemouth/Dorset/Poole. The same is true for total regional employment in the sector making marine technologies one of the South West's key industrial specialisms (see Figure 6).



Source: Annual Employment Survey 1997, ONS © Crown Copyright

- 3.14 Within the sector this specialism is particularly evident in boat building and repair activities and also ship building and repair. In the manufacture of engines and turbines the South West performs close to the Great Britain average (Figure 7).



Source: Annual Employment Survey 1997, ONS © Crown Copyright

- 3.15 **Output and Productivity:** Productivity in the South West marine technologies sector increased by 22% between 1993 and 1997, far lower than the increase of 47% in the East Midlands and slightly below the 28% increase in the East of England region. Within the South West, productivity has increased in the manufacture of machinery and equipment but has remained fairly static in the building and repairing of ships and boats (see Table 4).

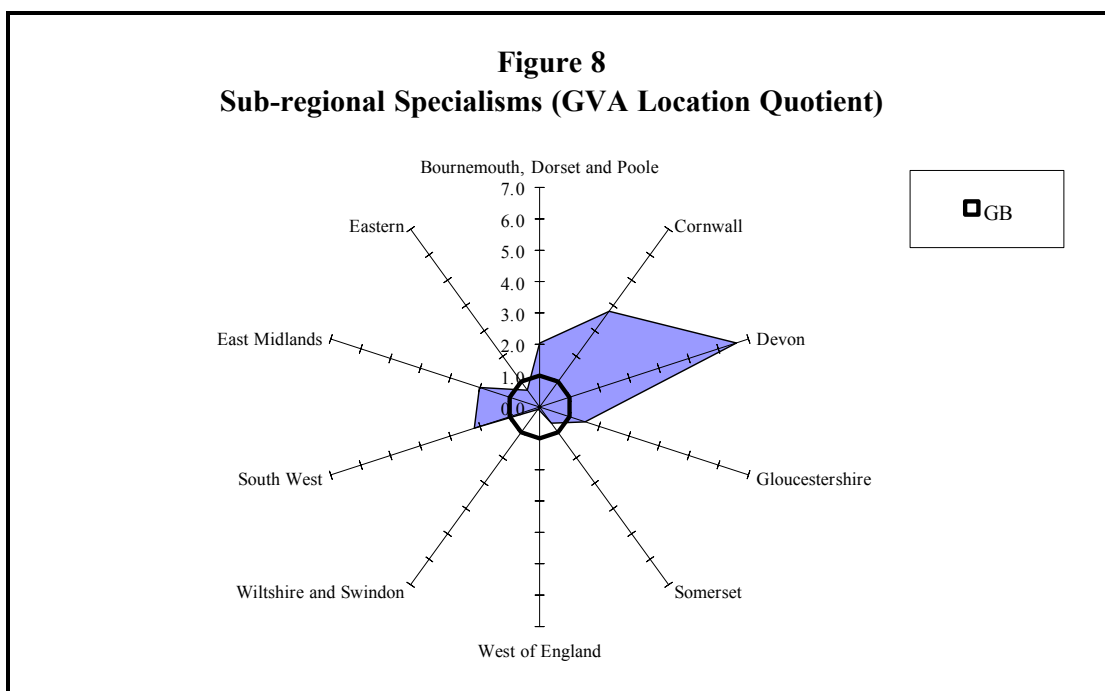
	GVA per employee (£)		Output per employee (£)	
	1993	1997	1993	1997
35.1 Building & Repairing of Ships & Boats	25,039	24,032	31,492	31,249
29.1 Manufacture of Machinery & Equipment	25,637	34,266	30,212	41,791
South West Marine technologies	25,362	30,109	30,801	37,503
East Midlands	26,004	46,238	34,648	51,210
East of England	24,286	30,460	29,193	37,272

Source: Annual Censuses of Production 1993 & 1997 © Crown Copyright
Note: Output and GVA data are available at 3-digit SIC level only. This table refers to data that best matches the 4-digit SIC definition of the sector. The ACoP does not produce any data for the primary or service sectors.

- 3.16 Gross value added in the South West marine technologies sector is estimated at £297.4 million in 1997. The region accounts for 18% of national GVA in the sector, exceeding the 15% share of the East of England region and far in excess of the East Midlands' 6% (see Table 5).

	1997 GVA* (£ millions)	% of SW Sector GVA	% of GB Sector GVA
Bournemouth/Dorset/Poole	36.0	12.1	2.2
Cornwall	40.9	13.8	2.5
Devon	182.1	61.3	10.9
Gloucestershire	24.8	8.3	1.5
Somerset	8.0	2.7	0.5
Bristol Sub-region (West of England SRP)	3.8	1.3	0.2
Wiltshire/Swindon	1.7	0.6	0.1
South West	297.4	100.0	17.9
East Midlands	241.5		14.5
East of England	98.9		5.9
Great Britain	1,664.6		100.0

Source: DTZ Pieda Consulting 2000
Note: Gross Value Added has been calculated using the 1997 GVA per employee from Table 3 and multiplying it with the 1997 employment in Table 2. For each of the sub-regions the South West average GVA figure is used along with actual employment figures.



Skills Issues

3.17 The UK shipbuilding and repair industry employed around 27,000 people in 1996¹. The distribution of the labour force by category is shown below. This includes 3,000 casual workers and many on short and medium term contracts.

- Managers 10%
- Supervisors 4%
- Technicians 10%
- Administrators 10%
- Operators 66%

3.18 Naval architecture and marine engineering are highly skilled professions. Degree courses are run in many universities in the UK in areas with a history of maritime activities, for example Glasgow, Southampton, Plymouth and London.

3.19 Graduates are required to undertake additional training if they are to become a member of the Royal Institute of Naval Architecture (RINA). Around a dozen large ship building and engineering companies run accredited training programmes and graduates can also undertake an individual training programme. It takes two years of structured training followed by two years experience to become an RINA member.

¹ G Bruce, The Skills Crisis in the Shipbuilding and Ship Repair Industry, 1997

- 3.20 The breakdown of skills in the sector shows that it is largely skilled crafts people who make up the sector, including the likes of welders and joiners etc. However, there is generally a skills shortage for building and repair work as these workers can often obtain more permanent work elsewhere.
- 3.21 A survey undertaken in 1996/² suggested that with the decline in the size of the industry resulted in companies reducing investment in human resources. This has meant an elimination of much of the industry's in-company training infrastructure and a reduction in the training of craft, technical and supervisory / management staff. At the same time, the use of casual labour and fixed term contracts has increased, as has the average age of the workforce.
- 3.22 While the use of temporary staff can be a strength in keeping labour costs to a minimum, it is also a disincentive to train new labour. Apprentice programmes have shrunk in recent years and even if the industry remains at its present size, there will be too few young workers to replace those leaving the industry.

Skills Demand

- 3.23 A training needs analysis for the sector suggested that 96% of craftsmen and semi-skilled operators required training in at least 6 areas (plan reading, lining off, fork lift and crane operation, welding and health and safety awareness). Only 19% of operators in this category had received any training. Around 85% of managers and supervisors also required training to gain skills in e.g. IT, project management, budgetary control, quality assurance.
- 3.24 It would appear that significant investment in training is required to ensure that the industry's manpower is trained to a level of competence that will support the industry both currently and in the future.

The South West Perspective

Training Provision

- 3.25 The South West has a number of core providers of skills in the marine technologies sector. In addition to the raft of institutions providing education and training in engineering subjects common to a number of subject areas, including marine, Plymouth University has a specialist marine facility and is considered to be a world leader in offshore engineering. Exeter University's EMC Centre in North Devon also has a marine focus.

² The Skills Crisis in the Shipbuilding and Ship Repair Industry, G. Bruce et al

Skills Demand

- 3.26 According to research undertaken by the Institute for Employment Research (IER)³, the majority of people working in the "other transport" sector (of which marine engineering is a part) are engaged in either skilled engineering occupations or other skilled trades i.e. the marine sector is dominated by the skilled crafts trades.
- 3.27 The Engineering and Marine Training Authority⁴ found that half of all engineering establishments in the South West experience recruitment difficulties, particularly for engineering professionals, craft workers and multi-skilled workers. In this respect the marine technologies sector shares the same skills needs as the advanced engineering sector.
- 3.28 As with the advanced engineering sector generally, the principal training needs for the marine technologies sector are :
- to encourage employers to release staff for training
 - to encourage young people to enter the industry (through apprenticeships, and awareness programmes (such as that currently run by the Engineering Employers Federation in Bristol)
 - general upskilling of staff across the sector.

³ *Skills and Industrial Change in the Manufacturing Sector in the South West*, Institute for Employment Research, December 1998

⁴ *1998 Labour Market Survey of the Engineering Industry in Britain*, EMTA, 1999

4. Future Prospects

- 4.1 Pacific Rim countries such as South Korea are now the major ship builders in the world. The UK yards tend now to concentrate on specialist vessels and repair. The UK industry has suffered from competition from low manpower cost countries and from lack of investment in yards that have become outdated. However, the growth of world trade and an ageing merchant fleet may provide opportunities for new orders. The decommissioning of offshore platforms and conversion and building of (or conversion to) the new types of Floating, Production, Offloading and Storage vessels (FPSO) for the oil industry is also providing more work for the industry.
- 4.2 The sector is heading towards the use of more complex technology in both materials and manufacturing, for example:
- the introduction of lightweight corrosion resistant materials in manufacturing; and
 - increasing use of computer integrated manufacturing systems in support of flexible and automated building of ships and marine vessels. The Technology Foresight Panel has estimated that such techniques are capable of reducing labour costs by up to 50%
- 4.3 The shipbuilding and repair industry has suffered from a lack of investment and is often unable to attract people with the right skills when work is available. Some of the large UK yards have however been investing in technology and equipment to try and attract new build orders.
- 4.4 The industry (especially the smaller yards) will require the assistance of training providers and economic development agencies to enable them to increase the training provided to workers. A report⁵ on the skills crisis in the industry recommended new initiatives in “training to skilled status” to be introduced (e.g. adult apprenticeships), graduate and technician training programmes, and management development leading to chartered management status be introduced as a matter of urgency.
- 4.5 These issues will be particularly important to the South West. However there are indications that the region may be well placed to take advantage of emerging opportunities in the sector. For example, there are a number of investment projects already underway in the marine technologies sector:
- Marine Projects are planning a £6 million expansion of its luxury boat building business creating up to 250 jobs in Plymouth
 - Devonport Management are undertaking a £350 million reconstruction of dock 9 to redevelop the yard’s submarine service complex

⁵ The Skills Crisis in the Shipbuilding and Ship Repair Industry, G. Bruce et al

- 4.6 Diversification and specialisation will also become increasingly important in the South West marine technologies sector, as the ship building side of the sector is likely to remain depressed. Hunter Marine Corporation, a US yacht company, is setting up its European manufacturing headquarters at the former naval air base at Portland in Dorset, creating up to 300 jobs in the longer term. This type of investment provides the basis on which SWRDA can develop as a hub of marine companies.
- 4.7 The likely skills implication is that Marine technologies jobs that are attracted to the South West are likely to be increasingly highly skilled and specialised and there may be an increasing problem in attracting suitably qualified staff to fill additional posts. If these jobs are at graduate level, then the nearest universities e.g. Southampton and Plymouth will need to work in close contact with employers to ensure that graduates produced have the required skills to enable them to move into employment with South West firms. If students are studying and training locally there is a greater chance of retaining them as workers in the area.

SWOT Analysis

- 4.8 Key issues that need to be addressed to foster the development of the marine technologies sector in the South West can be divided into strengths, weaknesses, opportunities and threats:

Strengths

- The South West has an established tradition and economic specialisation in the marine technologies sector which can form the basis for future development of activity within the sector
- Emerging strengths in niche markets, as evidence by recent investments to the region (highlighted above)
- Strong engineering base in higher and further education sectors, with some particular expertise in the marine sector.

Weaknesses

- As with other engineering sectors, there is a need to strengthen the region's supply chain and equip lower tier suppliers with the necessary skills and resources to be able to compete effectively for a diminishing number of large contracts. There is perhaps a role here for the development of the activities already ongoing in the region - such as the Engineering Employers Federation in Bristol that currently encourages supply chain development amongst engineering SMEs. Given the similar needs in the advanced engineering sector and that many suppliers to marine are also suppliers to other engineering sectors, there is scope for a wider advanced engineering/marine approach to this issue.

- A lack of available waterside sites may restricts the potential for new marina development
- The availability of skilled labour across the region will become increasing important in the region if it is to capitalise on emerging niches in the sector. A recent survey of the marine sector by Bournemouth University⁶ identified particular skills shortages in electrical engineering, instruments, welding, technicians and management skills⁷. A further issue is a potential lack of new entrants to the industry related to its poor image as an employer and a perception that the sector offers limited career opportunities.

Opportunities

- As with other sectors, the consultations within the sector identified a desire for an organisation within the South West to promote the sector and encourage networking between firms in the sector. To be effective in this, such an organisation would ideally be industry led, with support from other players in the region, including the RDA, NTOs and LSCs etc. The partnership should be region wide and could perhaps be built upon the foundations of the Marine Sector Partnership already established by Dorset TEC and the SWRDA.
- Conversion work is a viable alternative to new building, with particular opportunities in specialist market sectors. The UK is now one of the top three converters in Europe and the South Wests is well positioned to capitalise on conversion opportunities.
- New opportunities are also evident in the offshore industry and in the use of new materials and technologies. While this represents a major opportunity for the South West, the region must ensure it has a strong skills base to take advantage of these opportunities.

Threats

- Macro-economic factors, particularly the high value of sterling which is adversely affecting export performance
- The marine sector operates in an increasingly global marketplace with major customers across the globe. A key threat arises in that the South West faces significant competition from lower cost locations elsewhere in the world and must ensure its firms remain competitive in such a market.

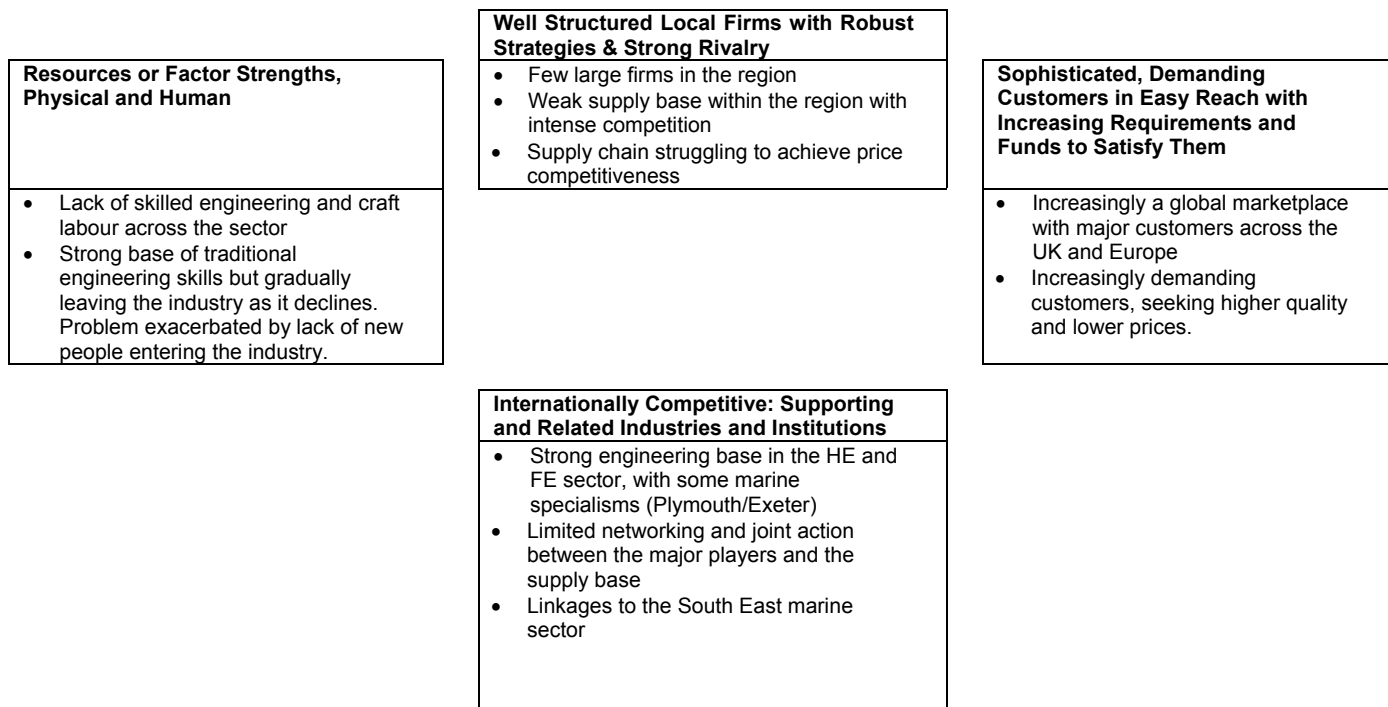
⁶ South West Region Marine Sector Company and Organisation Survey, Bournemouth University Business School, July 2000

⁷ Note: this survey included a wider range of marine activities than are covered in this report eg port and harbour activities were included in the Bournemouth study.

5. Competitive Positioning and Sector Development Priorities

SWOT Analysis

5.1 The figure below summarises the overall competitive position of the marine technologies sector in the South West:



Summary: *A core specialism of the South West but an industry in decline. The sector's supply base needs to adapt to market changes by focusing on raising quality and competitiveness.*

Sector Development Priorities

- 5.2 The development of the marine technologies sector will be aided by the formation of a new sector body, the Marine Sector Partnership, which should seek to provide a clear vision for the sector and act as a focus for development activity.
- 5.3 Specific actions that the RDA could take as identified through consultations are as follows:
- Support the activities of the Marine Sector Partnership in promoting the marine technologies sector and encouraging networking between the key players in the sector.
 - Create a forum for networking between employers and training providers to discuss training issues and seek common solutions to shared problems. This could be led/facilitated by the Marine Sector Partnership.
 - As with the advanced engineering sector, the key weakness of the Marine Technologies sector in the supply chain. The RDA has a role to play in ensuring that supply chain initiatives are properly introduced and developed for the sector.
 - In particular, the RDA can lobby the Small Business Service (SBS) and Learning and Skills Councils (LSCs) to take a more proactive approach in improving the skills of the supply chain. Encouraging the sharing of best practice from existing projects (i.e. initiatives currently being run by organisations such as the Engineering Employers Federation in the region) will serve to ensure that existing skills and knowledge in addressing supply chain issues is put to good use.
 - Encourage training providers both the in the South West and in the South East to fill the identified gaps in training provision in the sector.
 - Encourage training providers to develop and promote new training initiatives for the marine sector e.g. apprenticeships and management development courses
 - There is a need to encourage young people to enter the industry (both school leavers and graduates) both by encouraging new forms of training as discussed above but also through promoting the sector as an attractive career choice.

Appendix 1: References

1. Skills and Industrial Change in the Manufacturing Sector in the South West, Institute for Employment Research, December 1998
2. UK Ports Industry Skills Survey 1998, British Ports Industry Training (BPIT)
3. UK Ports Employment Survey 1998, British Ports Industry Training (BPIT)
4. Foresight Report of the Working Group on Offshore Energies: Marine Panel, Office of Science and Technology, 1998
5. 1998 Labour Market Survey of the Engineering Industry in Britain, EMTA, 1999
6. The Skills Crisis in the Shipbuilding and Ship Repair Industry, G Bruce, 1997
7. South West Region Marine Sector Company and Organisation Survey, Dorset TEC/Bournemouth University Business School, July 2000

Appendix 2: List of Consultees

Barry Warburton	Engineering Employers Feedback
Bob Jones	British Ports Industry Training
Fraser Nash	Dorset TEC
Prof. Ron Barstone	Bournemouth University
Sarah Bowden	British Marine Industries Federation
Chris Buckell	Government Office South West

Appendix 3: Sub regional Employment Tables

Employment in the Bournemouth, Dorset and Poole sub-region represents 12% of the regional sectoral employment. Total employment in the sector has remained unchanged over the period 1991 – 1997 though there has been a shift away from traditional shipbuilding while employment in the building of pleasure boats has increased.

TABLE 2A			
EMPLOYMENT – BOURNEMOUTH, DORSET AND POOLE			
	1991	1997	% change
Manufacture of engines and turbines	300	200	-33%
Building and repairing of ships	500	200	-60%
Building repairing of pleasure boats etc	400	800	100%
Total	1,200	1,200	0%
% of South West Sector	10%	12%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			

Cornwall is the only sub-region of the South West that saw an increase in employment in Marine Technologies between 1991 and 1997 (400 new jobs). However, the sector remains a small one in the sub-region, accounting for only 9% of regional employment in marine technology and only 1% of total employment in Cornwall.

TABLE 2B			
EMPLOYMENT – CORNWALL			
	1991	1997	% change
Manufacture of engines and turbines	0	C	-
Building and repairing of ships	700	1000	43%
Building repairing of pleasure boats etc	300	400	33%
Total	1,000	1,400	40%
% of South West Section	9%	14%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			

Devon is the sub-region of the South West most dependent on Marine Technologies. It is the home of the Devonport Royal Dockyard. Devonport Management Ltd operates the largest most comprehensive ship repair and modernisation facility in Western Europe. Employment in the building of pleasure boats has increased with niche operators such as Marine Projects and Devonport yachts in Plymouth

TABLE 2C			
EMPLOYMENT – DEVON			
	1991	1997	% change
Manufacture of engines and turbines	C	100	-
Building and repairing of ships	5800	4900	-16%
Building repairing of pleasure boats etc	900	1100	22%
Total	6800	6000	-12%
% of South West Sector	59%	61%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			

Gloucestershire has lost 33% of its employment in marine technology between 1991 and 1997. Marine technologies is not a large sector in Gloucestershire, employing only 800 people.

TABLE 2D			
EMPLOYMENT – GLOUCESTERSHIRE			
	1991	1997	% change
Manufacture of engines and turbines	1200	800	-33%
Building and repairing of ships	C	C	-
Building repairing of pleasure boats etc	C	C	-
Total	1200	800	-33%
% of South West Sector	10%	8%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			

Somerset accounts for only 3% of employment in Marine Technology in the South West. Employment fell by 50% in this sector between 1991 and 1997 (200 jobs).

TABLE 2E			
EMPLOYMENT – SOMERSET			
	1991	1997	% change
Manufacture of engines and turbines	400	200	-50%
Building and repairing of ships	C	C	-
Building repairing of pleasure boats etc	C	C	-
Total	400	200	-50%
% of South West Sector	2%	3%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			

The Bristol Sub-region (West of England SRP) accounts for only 1% of employment in marine technologies.

TABLE 2F			
EMPLOYMENT – BRISTOL SUB-REGION (WEST OF ENGLAND SRP)			
	1991	1997	% change
Manufacture of engines and turbines	100	C	-
Building and repairing of ships	100	100	0%
Building repairing of pleasure boats etc	C	C	-
Total	200	100	-50%
% of South West Sector	2%	1%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			

Employment in marine technologies in Wiltshire and Swindon is minimal – representing just 1% of total sectoral employment.

TABLE 2G			
EMPLOYMENT – WILTSHIRE AND SWINDON			
	1991	1997	% change
Manufacture of engines and turbines	500	C	-
Building and repairing of ships	0	C	-
Building repairing of pleasure boats etc	C	C	-
Total	500	--	--
% of South West Sector	4%	1%	
Source: Annual Employment Survey 1997 (NOMIS) © Crown Copyright; Census of Employment 1991 (NOMIS) © Crown Copyright			