



Society of
**Maritime
Industries**

Maritime Autonomous Systems Survey 2018



(Image courtesy of ASV Global)

This report provides an insight into current business activity in Maritime Autonomous Systems (MAS) in the UK. It has been compiled by the Society of Maritime Industries' MASG Council.

The data for this report was collected in the form of an on-line questionnaire sent to senior managers of UK businesses in the maritime engineering sector.

Summary of Findings:

- 60 organisations responded to this survey, 18% of which reported MAS as responsible for more than 50% of their turnover.
- 36% of the organisations were manufacturers, 20% service providers and 15% integrators.
- A basis calculation gives a turnover of £1027m, an increase of over 50% from 2017.
- Eight companies said that exports accounted for more than half their business.
- Although a relatively new sector 71% of companies had been working in this field for more than 4 years.
- MAS companies were working in a wide range of applications with defence, oil & gas and marine science research being the top three.
- More than 53% of respondents cited Europe as their main market. BREXIT trade negotiations are still ongoing, so there is still uncertainty over implications for future growth.
- Lack of people with the appropriate skills, finance and the low oil price is impacting on the sector and holding back growth. 10% of respondents cited export controls were having a negative effect
- Looking ahead to 2025, respondents predict substantial growth in the number of people employed on MAS as well as in exporting and turnover.

Company Overview:

60 organisations had responded to the survey questionnaire and for such a relatively new area of business, 31 respondents had been involved with maritime autonomous systems (MAS) for more than 5 years. In comparison to last year there has been an decrease in companies new to the MAS sector with 6 companies claiming they are new to MAS .

How Long has your business operated in the MAS Sector?

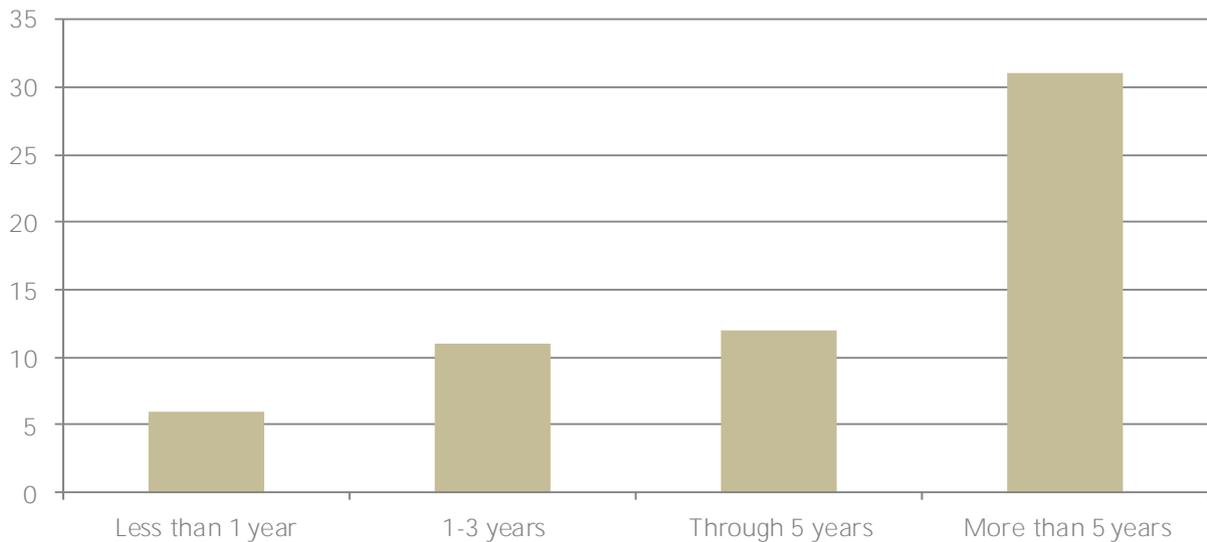


Figure 1: Comparative view of time period companies have worked in the MAS sector

Main Business Areas:

36% of responses came from manufacturers (sensor, platform & sub system) which was closely followed by service providers at 20% and 15% from integrators. However, there were also increased contributions from academic institutions and agent distributors (e.g. equipment supplier).

What is your main area of business?

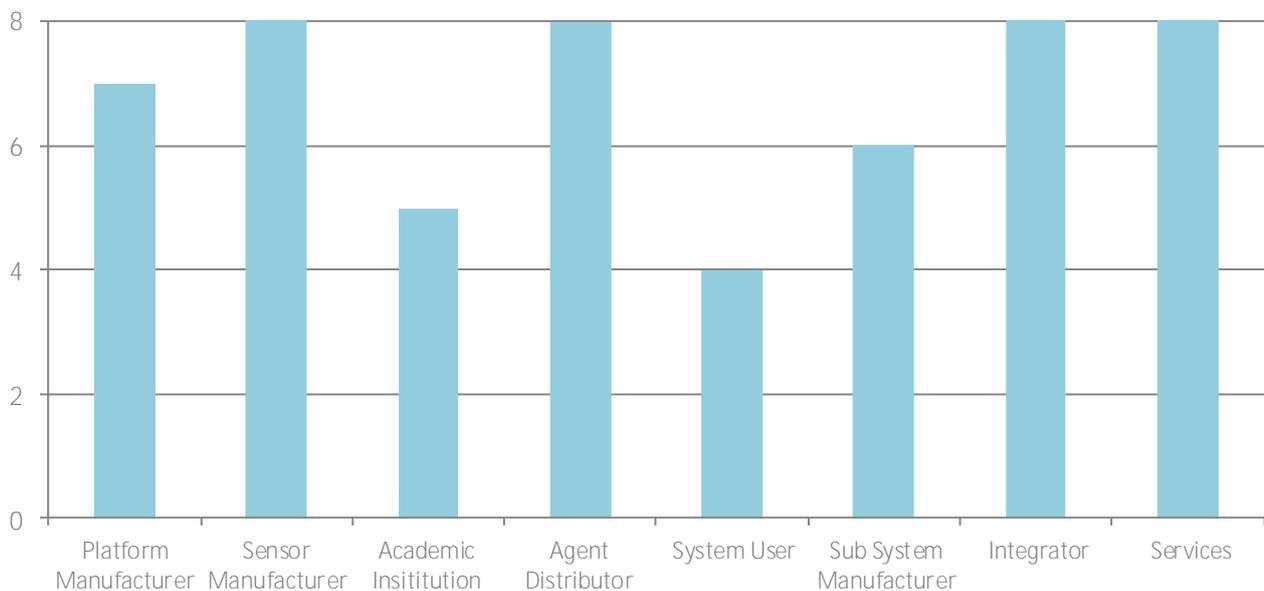


Figure 2: Main areas of Business

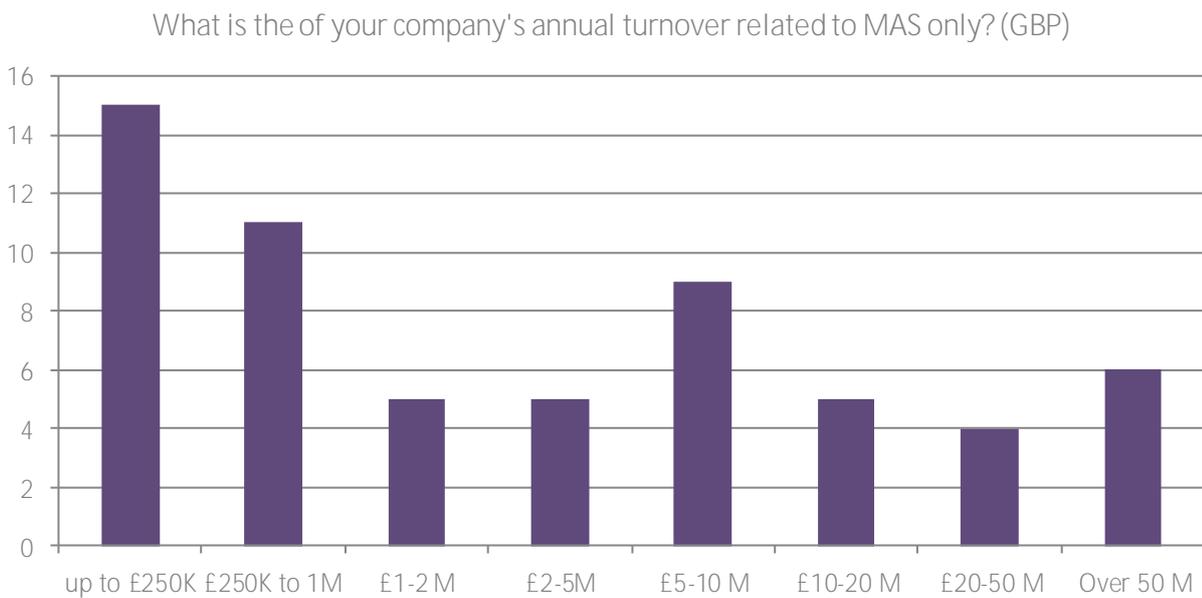


Figure 3: Size of Company's Annual Turnover

Turnover:

Respondents were asked to state their annual turnover in MAS activity and 6 respondents reported more than £50 million. Respondents were then invited to state this figure as a proportion of their organisation's overall turnover and 18% derived more than half their sales from MAS, but overall it is still a small part of most organisation's business. There has clearly been a step change in MAS activity over the last year and a crude estimation of the sector's UK turnover suggests overall sales of £616m (£361M 2017). Taking a base of 100 the comparative figures are £668m (2017) versus £1027m (2018), an increase of over 50%.

What Proportion of your overall company turnover is your MAS turnover? (%)

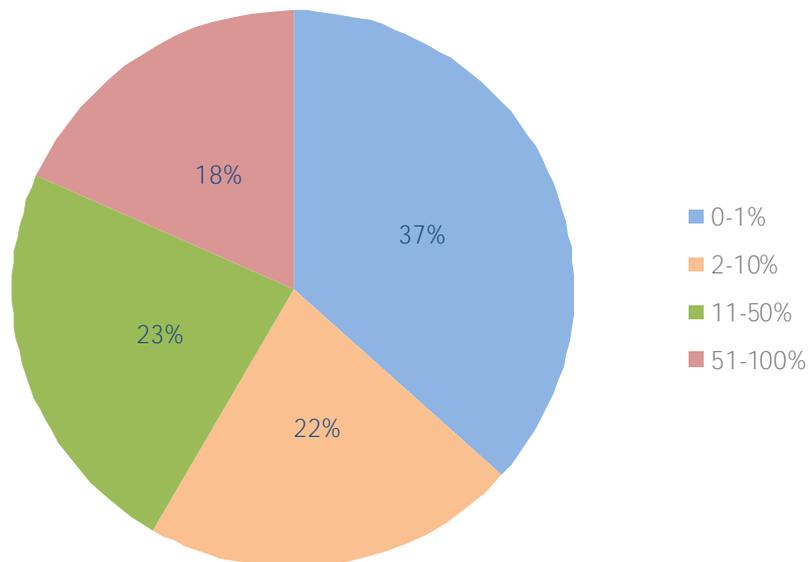


Figure 4: Proportion of overall Turnover that is MAS Turnover

Export Sales:

Eight respondents reported that their overseas sales were over 50% of overall. However, 58% said that they had no or negligible overseas earnings which was probably more a reflection of the relative immaturity of the global market at this time.

What proportion of your company's turnover is export sales from the UK? (%)

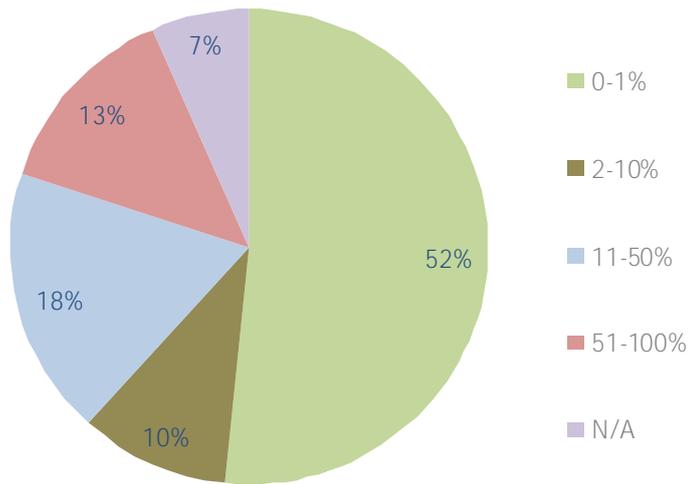


Figure 5: Export Sales

Employment:

60% of respondents employ 10 people or less on MAS activity which is an improvement from last year (70% in 2017). However, there has been a 17% increase in the number of people companies employ between the 11-50 range. Moreover, 6 respondents claim to employ 50+ employees which is a decrease from last year (8 in 2017).

How many people does your company employ in the UK working for MAS? (FTE)

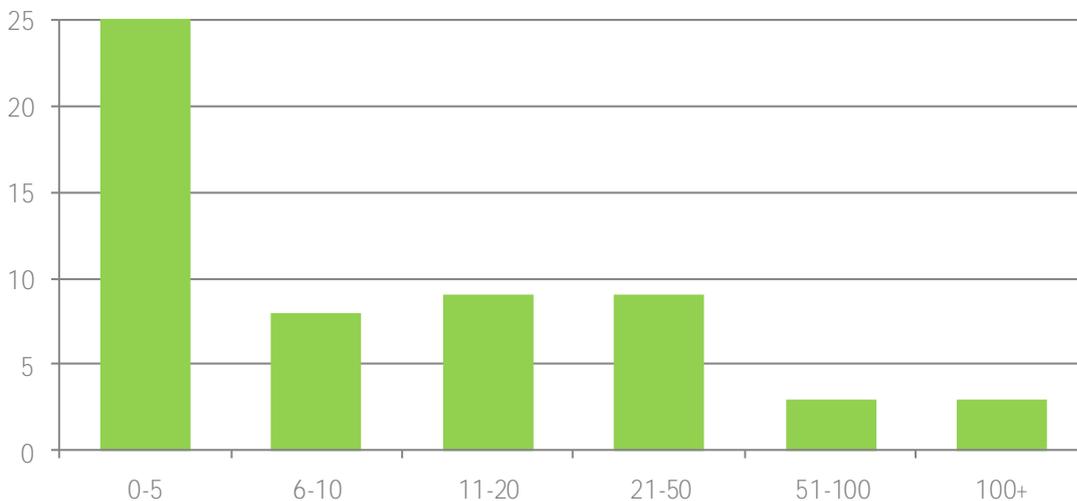


Figure 6: How many employees work in MAS

MAS Applications:

There has been a substantive take up of MAS technology in defence and marine scientific research applications followed by a strong showing in oil and gas. Maritime security, renewable energy and environmental monitoring use was also significant. There was a major increase in respondents indicating deep sea mining as an important area to them with 12 companies claiming this (6 in 2017).

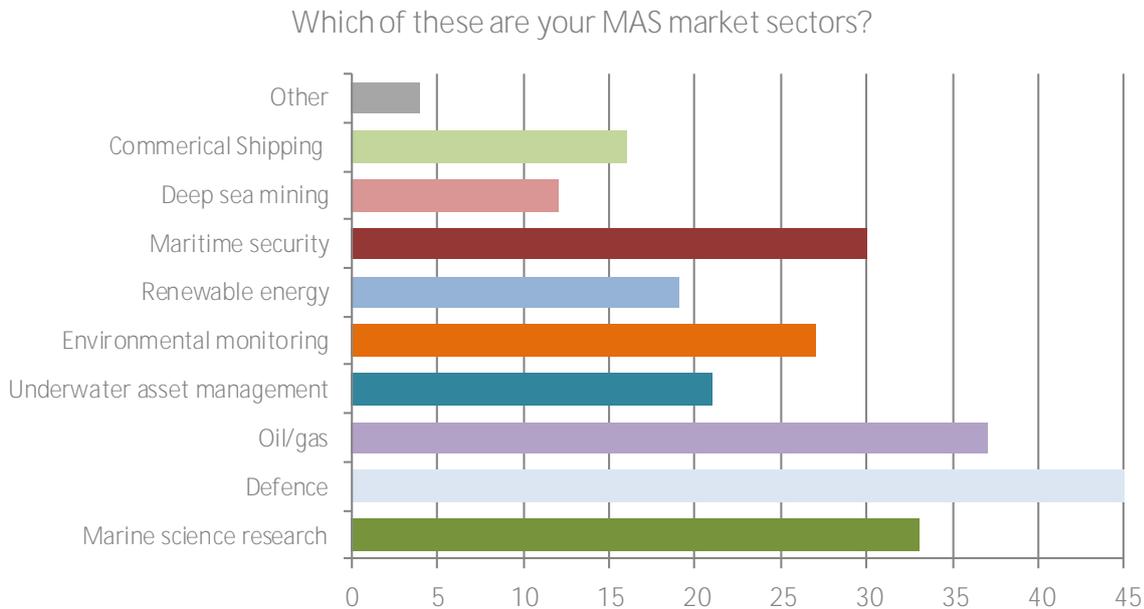
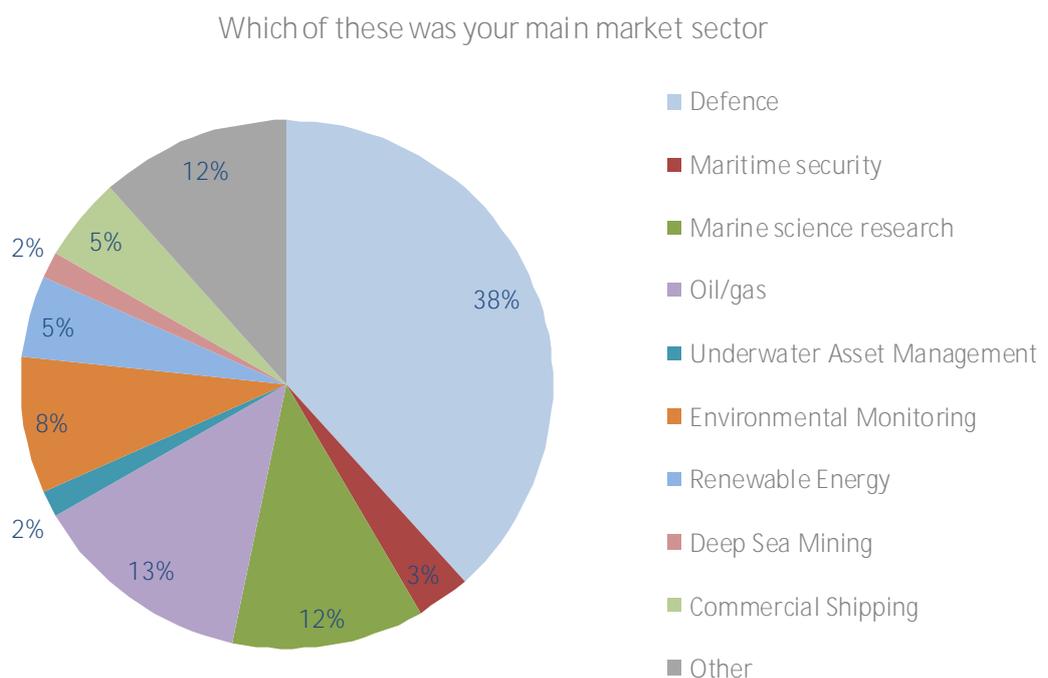


Figure 7: MAS Market Sectors

Market Activity:

When asked to select the main application for their products and services the defence and oil/gas sectors accounted for 51% of responses. This is lower than 2016 by 1% meaning other market sectors are still emerging as the technology develops.



**Others included:
Oceanography, Maritime engineering, search & rescue, safety equipment*

Figure 8: Main Market Sector

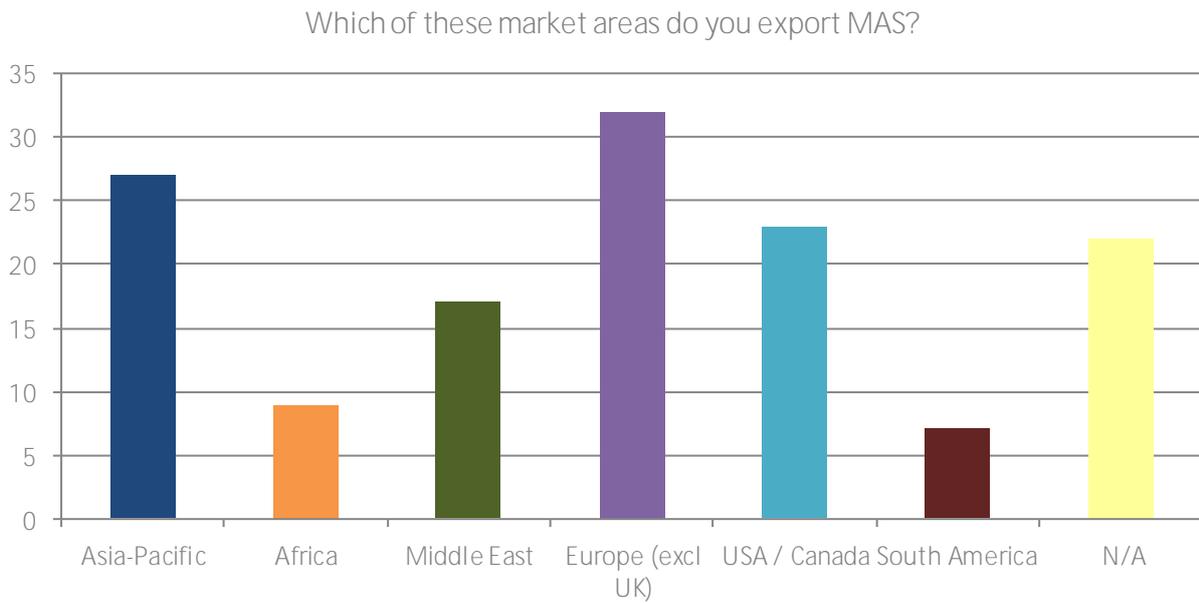


Figure 9: Market Export areas

Export markets:

More than 53% of responses cited Europe (excluding UK) as the main market destination which could have implications for future growth in this region depending on the eventual trading relationship the UK negotiates with the European Union but there was a significant number of respondents who claimed that they didn't export outside the UK (45%). There was a fairly even spread across the other regions of the world with the USA/Canada and Asia-Pacific having a similar importance for respondents. Respondents were asked to give the main region in which they trade and like last year, the majority claimed that this was not applicable to them. Europe was mentioned as the main region for exports with 25% but realistically there aren't huge variations between the remaining regions.

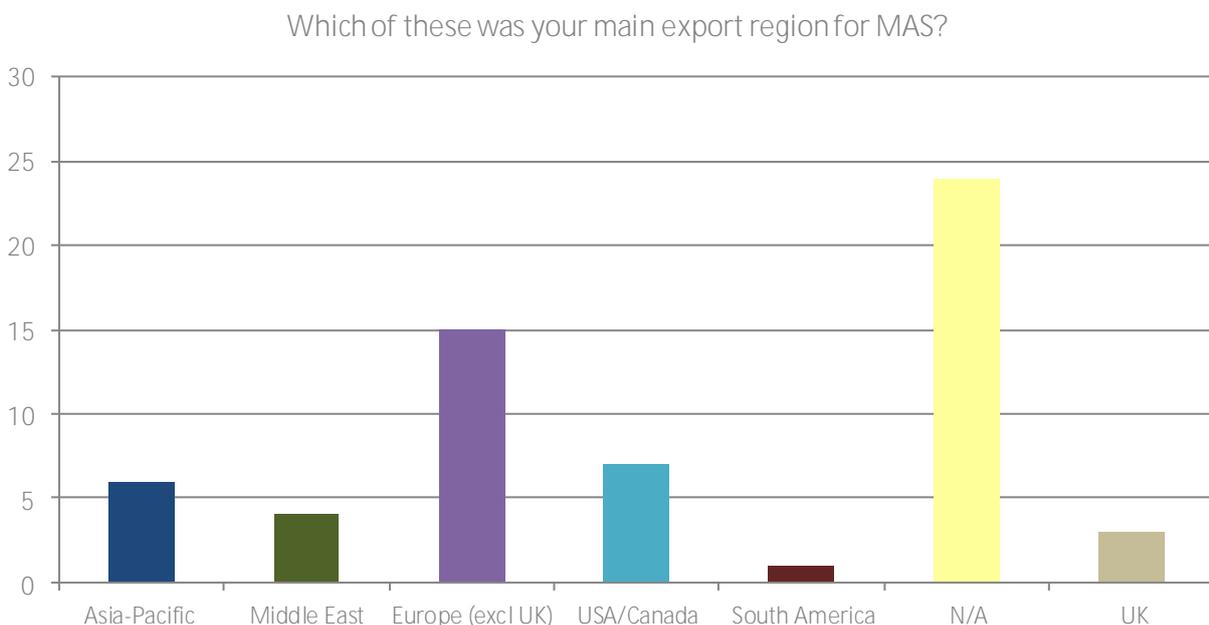


Figure 10: Main Market Export area

Factors which have had an effect on Business growth:

A distillation of the comments made suggest a broad range of factors which the MAS sector believes are holding them back. In no particular order:

- Lack of regulation/regulatory direction.
- Lack of clear strategies at prime levels.
- Funding tends to come from innovation and R&D areas rather than from customer pull-through programmes and projects.
- Disconnect between Government intent expressed in inter-government MoU subject areas for collaboration and demand for greater exports. Best expressed in the length of time to process export licenses.
- Lack of suitable PhD candidates and funding restrictions.
- Lack of funding and resource for developing new system solutions.

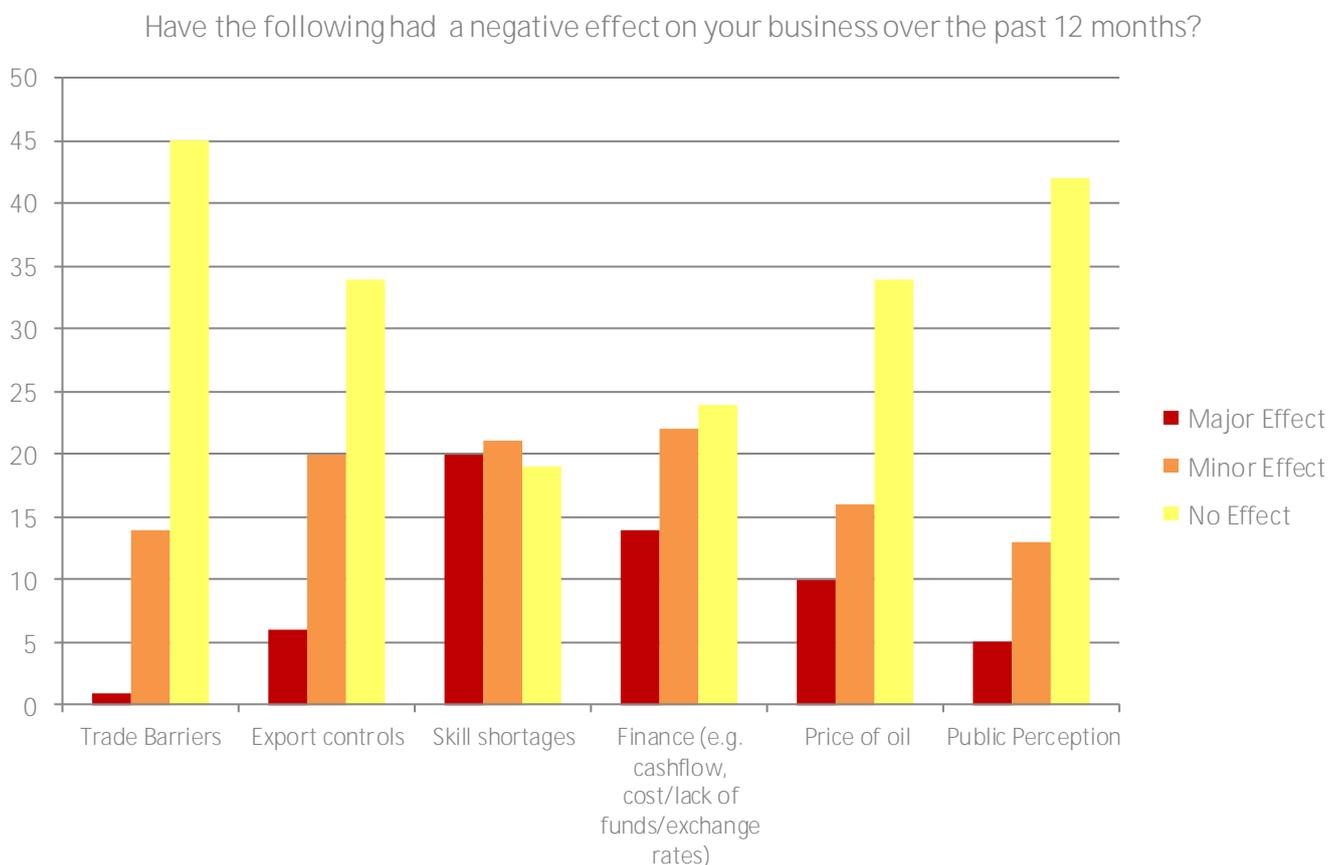


Figure 11: Negative effects on MAS Business

Looking to the year 2025, how do you see your company's work on MAS projects in the following terms?

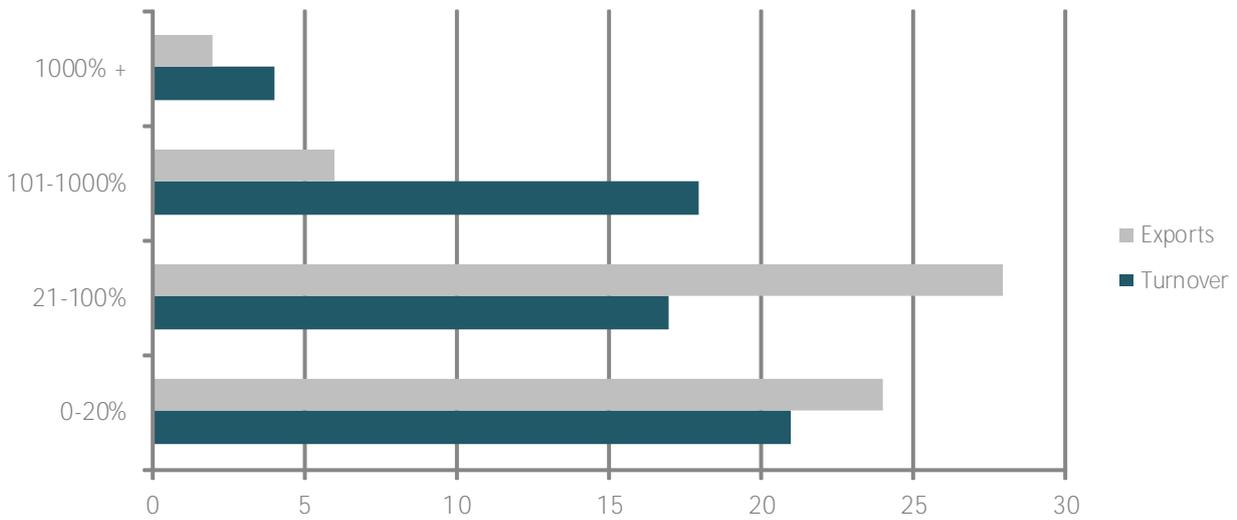


Figure 12: Exports and Turnover in MAS Projects by 2025

MAS Growth:

A total of 27 respondents believe that by 2025 they will have 0-10 employees working on MAS projects implying that the MAS Sector is set to grow. Positively, 28 respondents think that it is likely that they will have 21%-100% increase in exports by the year 2025 and 24 companies believe they will have up to a 20% increase in MAS turnover. But more significantly by 2025, respondents cited factors out of their control which could impact on a given companies employment rates, turnover and exports.

Looking to the future, how many employees could you foresee working on MAS projects in the year?

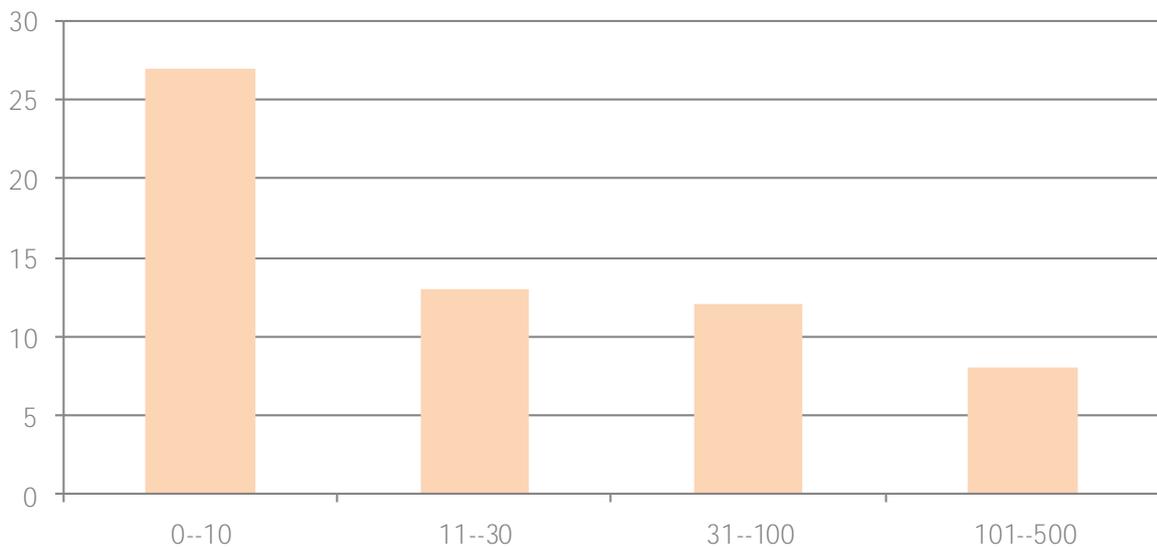


Figure 13: Future Employees in MAS Projects by 2025

About this Survey:

Maritime Autonomous Systems (MAS) cuts across many of the interests of members of the Society of Maritime Industries (SMI). MAS impinges on operations in marine science research, the offshore energy market, deep sea mining, delivering a seismic shift in maritime warfare and security operations, and in maritime transport, where autonomy has the potential to improve the integration and effectiveness of both cargo and passenger transport.

Across all of these areas, the UK looks to take a leading position, driven by development of the required technology, evolving the regulatory environment and ensuring we sustain the cutting-edge skills and knowledge already present in our industrial and academic bases.

In 2016 SMI took the decision to create a new interest group to focus on the business of MAS and formed a MAS Group Council of member experts to guide future policy. One of the Council's first actions was to commission a base line survey of UK companies in the MAS sector to provide an insight into current business activity and this survey is the second in the series.

The data for the 2018 report was collected in the form of a questionnaire emailed to senior managers of UK businesses currently active in the MAS sector.

The collection, processing and presentation of this data was performed by Marketing and Membership Manager, Ava Catton of SMI.

About:

The Society of Maritime Industries is the voice of the UK's maritime engineering and business sector promoting and supporting companies which build, refit and modernise commercial and naval vessels, and supply equipment and services for all types of ships and underwater vehicles, ports and terminals infrastructure, offshore oil & gas, maritime security and safety, marine science and technology, maritime autonomous systems and marine renewable energy.

The MASG Council sets the policy and guides the activities for the maritime autonomous systems market area within the Society of Maritime Industries, utilising the extensive expertise of its members.