



MARITIME AUTONOMOUS SURFACE SHIPS: THE SURVEY

Welcome to the first of our Power of Innovation publications, reporting on the results of a P&I sector survey conducted by HFW addressing the rise of “intelligent” vessels.

In October 2018, HFW held its third annual P&I Week, which explored a range of issues related to this new era of smart shipping. Delegates from the P&I sector were asked to participate in a survey on the emergence of Maritime Autonomous Surface Ships (“MASS”). The results¹, which we report on below, show that from a P&I perspective there is work to be done to surmount the regulatory, legal and insurance challenges presented by new MASS technology.

Are MASS “the way forward in the maritime industry”?²

After years of blue-sky thinking, during which the prospect of MASS seemed purely futuristic, smart ships are now a reality. But how quickly is MASS technology being adopted and implemented in the maritime industry, given that profitability will be a prime concern for companies?

Almost half of P&I sector survey participants stated that MASS would start operating within international waters within the next 5 to 10 years, with nearly 30 per cent of participants predicting that autonomous shipping would represent over 20 per cent of all global shipping within 20 years.

With the demand for MASS predicted by the P&I sector to grow substantially within the next two decades, understandably 96 per cent of respondents thought that MASS and conventional manned vessels would (and indeed have to) operate within the same water space. However there were suggestions that MASS be confined to distinct international trading routes outside of traditional routes.

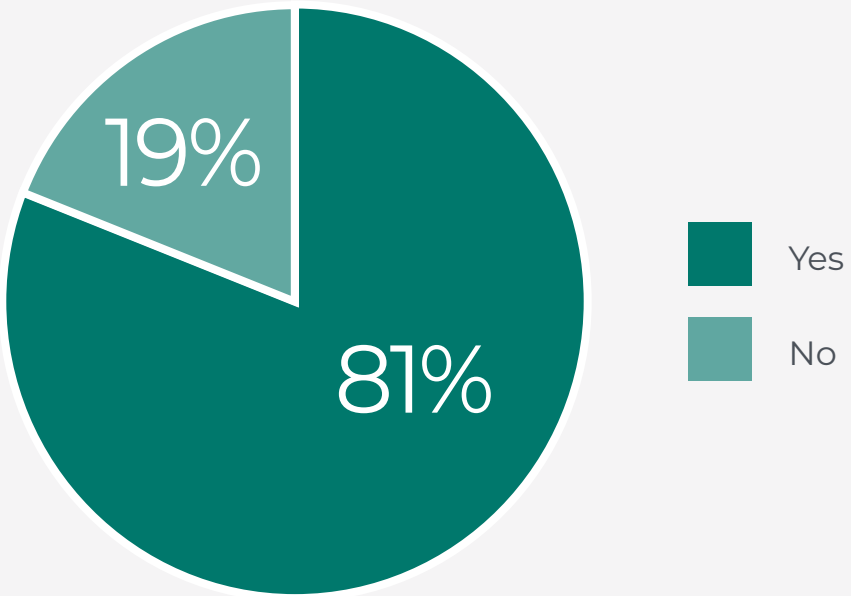
The implications of MASS technological advances are enormous, presenting challenges to the existing legal structure and regulation, and 81 per cent of survey respondents deemed regulatory preparedness to be of pressing concern in the industry.

87 per cent felt that the lack of clarity in legislation on MASS has an impact on the provision of insurance for these vessels. In fact, when asked to comment on their preparedness for the emergence of MASS technology, 55 per cent of participants said that their business was not prepared, with only 21 per cent reportedly nearly or fully prepared.

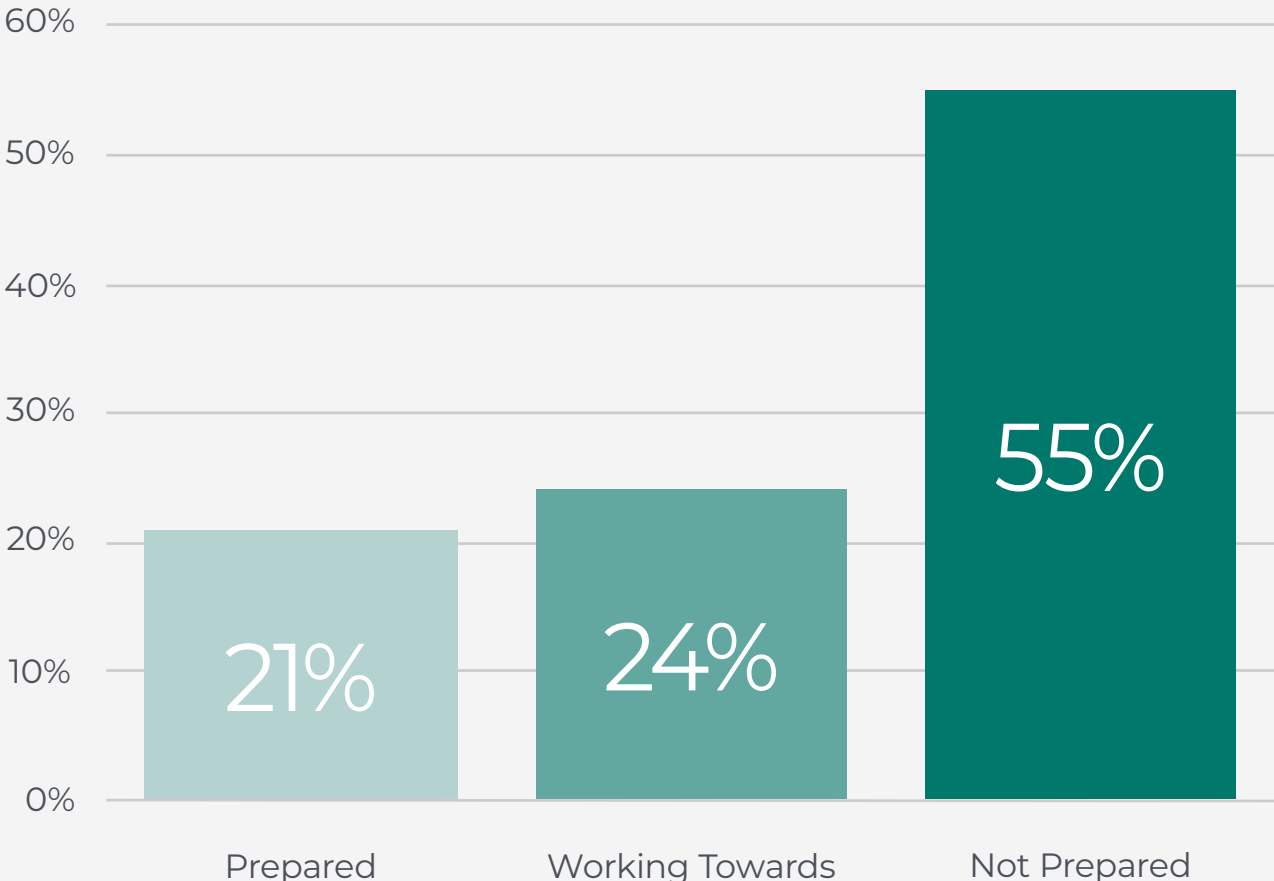
¹ The Survey was conducted in October 2018 and received 86 responses.

² Rolls Royce Marine: Autonomous Ships The Next Step.

Is regulatory preparedness for MASS a pressing concern in the industry?



Is the P&I Sector prepared for MASS?



A reduction in claims?

Currently over 75 per cent of marine accidents result from human error, and whilst MASS will not remove the need for human input completely, the need for seafarers will be reduced. Interestingly, although one of the benefits of MASS is the likely reduction in seafarer error, less than half of survey respondents thought that the emergence of MASS would lead to a reduction in notified claims. 35 per cent envisioned that notified claim numbers would remain the same, and 23 per cent said that notified claims were likely to increase.

The shift towards autonomy will require new ways of diagnosing and dealing with issues, and a rapid real-time communication infrastructure between MASS and control centres will be essential if MASS are to be truly ocean-going. Whilst autonomy has the potential to reduce the capacity for human error, it creates new risks by placing reliability on connectivity, and will call for a rethink of how existing maritime rules and regulations are interpreted. Cyber security will be central to this and 52 per cent of participants said that cyber risks, presenting a unique threat to MASS, were preventing their members from investing in autonomous technology at present. Furthermore, the way in which standard P&I cover operates in the event of a cyber attack may have to be reconsidered in the context of MASS. As one commentator stated, *“Cyber exclusions will need to be removed and solutions found.”*

The challenges ahead

Shipowners, operators, regulators and insurers must now gear up for a new era, and probably the biggest revolution in shipping since sail gave way to steam. Survey respondents argued that regulatory and legislative developments will be needed within the industry, in addition to training and education, before MASS can be fully utilised.

HFW asked participants what other changes were needed in the industry in response to the increased utilisation of MASS, and comments were as varied as the challenges faced by the industry. From querying how MASS will respond to the international obligations to assist others in distress at sea to highlighting geographical and infrastructure-based challenges, including ports, repair facilities, and cargo handling. Aside from the legal framework, there will be many physical, technical, political and regulatory challenges ahead.

Despite these hurdles, MASS are now part of the shipping landscape bringing with them cost-saving and environmental benefits, and progress towards wide spread adoption of this technology will continue this year and beyond.

87%

felt that the lack of clarity in legislation on MASS has an impact on the provision of insurance for these vessels

58%

of participants said notified claims would increase or remain the same as a result of the advent of MASS

52%

of participants said cyber risks were preventing their members from investing in autonomous technology at present

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