The Internet of Things (IoT) is fast rolling out the world over, with greater connectivity enabling new efficiencies in a whole host of areas. Indeed, recent research finds that the IoT may be winning over shipping’s trenchant conservatism on new technology by delivering new solutions that ease rather than complicate compliance, as reported by Stefano Poli, VP, Business Development, Inmarsat Maritime.

With environmental imperatives mounting, shipping’s customary schizophrenia concerning new technology has been laid bare in an Inmarsat Research Programme report that includes hard data on how far the industry sees Internet of Things (IoT)-based solutions as a gateway to sustainability.

In late 2018, shipping faces the need to comply with IMO’s 2020 fuel sulphur cap, but also the target set out at the Maritime Environment Protection Committee in April to halve GHG ship emissions by 2050. In customary fashion, in facing the fuel sulphur cap, the industry has appeared split between those seeing advantage in developing an environmental edge and those driven largely by compliance.

Compliance drivers
As far as 2020 is concerned, compliance is becoming the imperative. Recently-published International Chamber of Shipping (ICS) guidance, ‘Compliance with the 2020 Global Sulphur Cap,’ suggests that companies running ships without Exhaust Gas Recovery (scrubbers) will need to order compliant fuels (0.5 percent sulphur content) from mid-2019.
“However, dig a little deeper, and shipping’s unremarkable level of recognition of the IoT as an enabler for sustainability overall is exposed as disguising its notorious divide between technology ‘progressives’ and ‘laggards.’”

ICS also strongly recommends developing ship-specific Implementation Plans as soon as possible.

Shipping’s opinion divide on the environment as technology driver is very evident among 750 respondents to the Inmarsat research report ‘Industrial IoT on land and at sea’ (2018), which also drew on agriculture, energy, mining, transport and logistics, and fishing industry professionals. The data behind the exhaustive study has been re-visited to isolate prevailing attitudes towards the role of the IoT in achieving environmental goals.

Among shipping respondents, the report shows that environmental monitoring is seen by 46 percent of shipping participants as one of the most important drivers for deploying IoT-based solutions. The figure exactly matches the proportion established for all 750 respondents.

Around 34 percent of organisations across the supply chain already see improvements in sustainability through their use of Industrial Internet of Things (IIoT), and 43 percent expect to do so in future. At first sight, then, experience and outlook of shipping respondents is moderately behind the curve, with 30 percent characterising their organisations as achieving sustainability benefits by deploying IoT-based solutions, and 42 percent expecting to do so.

However, dig a little deeper, and shipping’s unremarkable level of recognition of the IoT as an enabler for sustainability overall is exposed as disguising its notorious divide between technology ‘progressives’ and ‘laggards.’ The ‘progressives’ are already showing themselves attuned to using IoT-based solutions as strategic tools to improve efficiency and enhancing energy usage. However, the new research shows that the maritime industry - like no other constituency - includes a 14 percent rump of respondents who say that sustainability is not even one of their organisation’s aims for IIoT deployment.

In the cost-conscious world of shipping, it is surely more than coincidence that 14 percent of maritime respondents also believe that, even five years out, there will be no savings at all resulting from the adoption of IoT-based solutions. By way of comparison, some 54 percent of peers in the mass transit and inland distribution industries identify improving resource efficiency as a primary driver for IoT adoption.

In fact, left to their own devices, shipping respondents...
overall cite health and safety more often as an IoT deployment driver (in 54 percent of cases), and they do so in greater numbers than the wider transport group (50 percent) or respondents overall (46 percent).

However, as one of the world’s most heavily regulated industries and as outlined above, shipping is seldom if ever left to its own devices. Perhaps one of the most interesting findings in the new report, therefore, is that it shows environmental regulation working strongly in favour of IoT deployment. Where only 19 percent of respondents overall categorised meeting regulations as a main driver for IoT deployment, shipping respondents cited it as a main motivator in 39 percent of cases - the highest proportion given by any group.

The IIoT at Land and Sea report establishes that, despite its foot druggers, 47 percent of shipping respondents are collecting data for the purpose of environmental monitoring: This compares to 40 percent of respondents across the supply chain, and the same figure (40 percent) among wider transport industry respondents.

A focus on sustainability

With 69 percent of maritime respondents in the current survey counting themselves as reliant on satellite connectivity to support their IIoT-based solutions, Inmarsat has already shown itself as a willing and proactive partner in addressing fuel efficiency. Notably, the satellite group has been working with Rolls-Royce to make the latter’s Energy Management system available via Fleet Xpress. Recently, the satellite group also introduced Fleet Data, whose connectivity via the ship’s VDR will enable real-time data analysis and decision-making, addressing a key point of resistance to IoT-based solutions identified in the Inmarsat report.

Nevertheless, shipping’s distinctly average enthusiasm overall for sustainability as a driver for IoT deployment contrasts strongly with the regulatory impetus to monitor fuel consumption that sees 65 percent reporting that they already use IoT-based solutions. An additional nine percent say they will do so within a year while, in an apparent commitment to meet regulatory obligations, deployment is projected as reaching 100 percent by 2023.

The preparedness no doubt reflects the fact that shipping is already required to meet the EU MRV (Monitoring, Reporting and Verification) scheme, while Fuel Consumption Reporting within the IMO Ship Energy Efficiency Management Plan is not far behind.

By April 2019, and by the same month in subsequent years, for example, verified annual emission reports must be submitted for every ship above 5,000 gt to the EC and the relevant flag state.

Given that shipping’s place in the public consciousness is often limited to criticisms made after things go wrong, IoT tools that the industry itself identifies as easing compliance should be given priority by regulators.
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