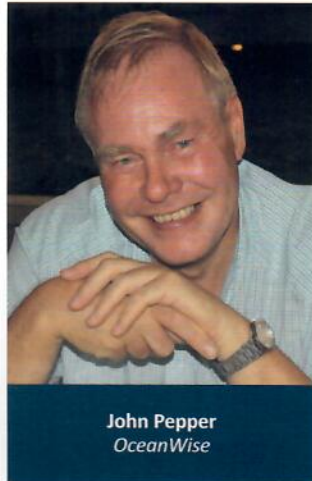


# Can Digitalisation Deliver ‘Smart’ Port Operations?



The World Economic Forum stated in 2016 that “the world was standing on the brink of a technological revolution that will fundamentally alter the way we live, work, and relate to one another.

In its scale, scope, and complexity, this transformation will be unlike anything humankind has experienced before”. [1] It is not

without co-incidence therefore that in the UK, The Department for Transport (DfT) published its draft Maritime 2050 Strategy in 2018 [2] which frames the shape of the future for ports and harbours. This strategy requires that the maritime sector becomes more automated, more efficient, effective and productive. The UKMPG’s ‘Port 2050’ [3] vision mirrors this with augmentation, automation and digitalisation highlighted as key emerging trends. With global trade very much in the limelight, ports have a major role to play in the UK’s economy with over 95% of our international goods imported and exported by sea.

Major UK ports are now responding with many seeking out progressive changes that can support economic growth as well as safe and efficient operations. Ports are not only now investing in automated machinery and advanced technology like facial recognition and CCTV systems, there are signs that they are waking up to the pressing requirement for better data governance and the implementation of a data management infrastructure. John Pepper comments “We need to increasingly challenge the way data is collected and stored, shared and exchanged in the innovative applications being developed. Treating data as ‘infrastructure’ is vitally important and in doing so, we can then appreciate data as an asset, which forms a vital part of a port’s operational structure”.



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### So... is this leading us towards 'Smart Ports'?

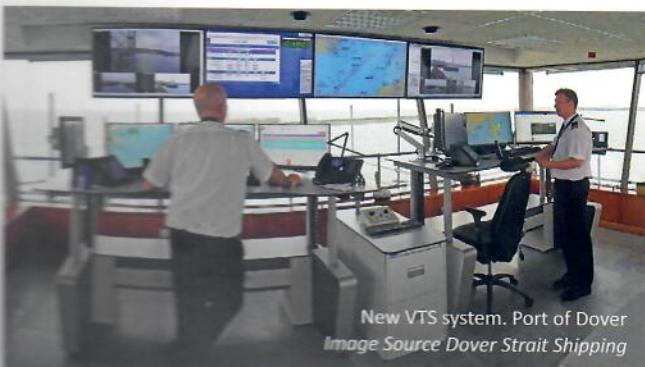
A smart port can be described as one that uses automation, technology, Artificial Intelligence (AI), Internet of Things (IoT) and Big Data to drive improvements in efficiency, performance and operations. Moreover, ports that are 'data centric' and using innovation and technology to drive progression and efficiencies certainly seem to be adopting a 'smart port' mentality. OceanWise proudly works with most of the major ports in the UK and has seen a significant increase in the requirement for data management training as well as the implementation of applications or systems that have data sharing and interoperability at their heart. A recent example of which is the state-of-the-art system installed at the Port of Dover. The project included the supply of a new VTS Operations system and workstations, a Port Management Information System (PMIS), various Radars, a VHF System, Radio Direction Finders (RDF), Automatic Identification System, CCTV and new met-ocean sensors and an environmental data sharing platform (Port-Log - designed and installed by OceanWise). Steven Masters, Dover Harbour Master describes the challenge the port faced: *"Over the years, the role of the VTS Officer has changed, it has evolved in response to ever increasing volumes of vessel traffic and ever improving developments in information technology and legislation. The new Port of Dover system blends this together superbly."* (full press release available at [www.Oceanwise.eu/news](http://www.Oceanwise.eu/news)).

### What are the benefits?

The benefits are many and varied, not only affecting the Port but the people and businesses that live and operate around them. 'Smart Port' thinking could optimise resources, improve efficiency and transparency in operations thereby supporting data sharing, improved safety and importantly, lower costs. It can also be used to monitor environmental impact on and off shore, such as air and water quality. Ports making smarter use of GIS digital platforms to store information about both its marine and land assets can also benefit from improved geospatial data management throughout their businesses.

### What are the challenges to achieving success?

Often the biggest barrier is 'change' itself and our inherent fear of it. Change can be scary and often people hear the term



'automation' and immediately think 'machinery replacing people leading to job losses'. Therefore education, communication and training are important considerations for any port embarking on a programme of 'change'.

Cost is also a big limiting factor as technology, equipment, and training can be expensive. Of course it's clear that investment will be necessary, but often the return on investment when weighed against the commercial risk of 'doing nothing' will make this decision easier.

John Pepper adds *"One of the biggest challenges in bringing about 'change' does not rest with the data, the technology or the standards we use to share and exchange data; it lies with the governance of data vested in organisations and people. We need to embrace a comprehensive and globally shared view of how technology can affect and reshape ports rather than operating with an isolated or 'silo' mentality"*.

It seems that digitalisation is now upon us and yes, it will make a huge difference to ports in the UK and farther afield. Change is already happening and 'smart ports' are no longer a myth... but becoming a reality. Those who choose to take the early steps might also have the opportunity to shape how the future looks and create new opportunities for growth. If port data and information is given the attention and governance that it deserves, then the advent of the 'smart port' should quickly become the norm.

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[1] Ref: World Economic Forum White Paper Digital Transformation of Industries: Digital Enterprise. [2] Ref: Maritime 2050 Strategy. <https://www.gov.uk/government/publications/maritime-2050-navigating-the-future>. [3] Ref: UKMPG (UK Major ports Group). <http://ukmajorports.org.uk/port-2050-what-the-uks-biggest-ports-think-could-shape-the-port-of-tomorrow-and-boost-trade/>

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