

# The digital divide

by David Yeo, CEO and Founder, Innovez One

**The shipping sector, navigating through the coronavirus pandemic disruption, has responded with many positive, progressive solutions. This broad adoption of various digital solutions seeks not only to mitigate short-term perturbations but also to align the maritime industry with the increasingly digital supply chain. About time!**

**S**imultaneously, COVID-19 has exposed how shipping, an invaluable element of making modern life possible, still relies on manual or old computer legacy solutions for its most essential and fraught processes, including the critical first and last miles that occur when arriving at or leaving a port.

## **Anchored in the past – needlessly**

There is no doubt that the maritime sector is familiar with the ‘smart ports’ concept. However, according to the consulting firm Deloitte, only the top few ports around the world, those Tier 1 ones with resources and financial muscle, can be said to be achieving the current working definition of a **‘smart port,’** hence enjoy the benefits of digitalisation. This, in turn, creates an unbalanced landscape within the global port sector.

Staggeringly, just over 80% of ports in the world are in the ‘Tier 2 and below’ categories and either do not have access to this kind of digital technology or believe it is out of their financial and technical capabilities. This leaves them not only vulnerable to delay from supply chain disruption, as witnessed during the recent and still ongoing pandemic but perhaps more importantly, strategically – less able to compete in an increasingly digital maritime world.

As an industry, shipping is still playing catch-up with the large transport and logistics players when it comes to adopting digital solution applications, and this is particularly prevalent in the port sector. According to the Boston Consulting Group, many ports – particularly small- to medium-sized ones – **‘remain firmly anchored in the past,’** with paper-based documentation and manual labour still the order of the day, which is inevitably consequential to the port’s environmental performance as well as opportunities to boost revenues.

This cannot go on. It seems that a vast majority of ports have been unnecessarily denied the opportunity to enjoy the benefits of shipping’s digital evolution. Especially when affordable technology, with a fast return on investment, exists and is readily available.

## **And miles to go**

One area where we can make important gains is marine port services for the first and last mile, specifically – towage and pilotage. It’s also the place where the divide is starkest between digital ‘haves and have nots.’ Pen & paper processes and Excel spreadsheets dominate this crucial first and last mile of shipping for many

‘Tier 2 and below’ ports. The 20% of ports for whom this is not the case have often been able to rely on their own in-house software and have access to capital for investments.

This gap means that the first and last miles of a journey at sea are weak links in the global logistics chain. When a ship makes a port call, the marine services provided by pilots, tugboats, and pilot boats need to be scheduled and dispatched for a vessel’s safe approach into the port. A vast number of scheduling considerations need to be evaluated, including matching a pilot with a suitable license, finding an appropriate number of tugboats to provide the power to move the vessel, checking the weather conditions, tide considerations, etc.

Yet, port management innovation and software have so far primarily focused on the land-based side of operations. Marine services at ports, which should rely on port management frameworks, lack the ability to utilise the latest digital technology, know-how, and processes necessary to optimise the heavily manual and paper-based procedures that are in use in most port and pilotage operations today.

Innovez One’s mission is to change this, among other things, by using deep



Photo: Innovez One

technology and Artificial Intelligence models to optimise and solve complex first and last-mile towage and pilotage challenges for every port. Efficiencies that save significant costs, time, and improve the sustainability and competitiveness of critical operations are needed to create a fair and level-playing field within the global ports' marketplace. Modern tech-solutions should be available to all ports, irrespective of their size and shape, as well as not requiring from them bottom-less CAPEX and OPEX budgets.

This failure to digitise the marine side of operations, particularly in towage and pilotage solutions, can ultimately cause the risk of delays, both when it comes to ship calls and payments, and increased fuel consumption, hence in-port carbon footprint. In particular, towage operators can make substantial savings on their annual fuel costs (and associated emissions) by reducing the tugs pilotage while

saving annual maintenance costs of their towage vessels.

### The importance of interoperability

As digitalisation keeps marching forward, the port sector must develop solutions on a strategic management framework with common criteria. Shipping has no shortage of sophisticated high-end solutions, but it's still happening in silos. The problem is how to wrap it all together and make it work.

One of these core criteria will be to consistently ensure that management systems are based on common design criteria to support an open architecture. With a common language, we can enable different solutions and applications from various suppliers and vendors to co-exist and be interoperable with each other, doing all of this in real-time. However, we must handle this in an agile way to

secure compatibility so that port management services can continue to provide uninterrupted services 24/7/365.

### For the many

Digitalisation has the potential to dramatically change the competitiveness and profitability of ports regardless of size, stature, or location, as well as making strides in charting a pathway for shipping's sustainable future.

As cutting-edge digital solutions come to the fore in shipping's decarbonisation dilemma, you cannot expect ports to implement these solutions when relying on just manual processes for indispensable operations. However, there is no reason why every port should not proudly call itself smart – and the first and last mile is an excellent place to start. Shipping's digital evolution should be for the many, rather than just a few. ■



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The Singapore-headquartered Innovez One, with offices in Jakarta and London, has been delivering expert maritime software solutions for the world's busiest ports and towage operators since 2004. That year was also marked by the digitalisation of the Port of Singapore's pilotage and towage operations by the company. With a vision to automate complex maritime operations for ports, towage and workboat operators worldwide, the Innovez One team has engineered and developed the marineM platform that helps to optimise critical maritime resource allocations for operations carried out by ports of all sizes. Go to [www.innovex-one.com](http://www.innovex-one.com) to find out more.