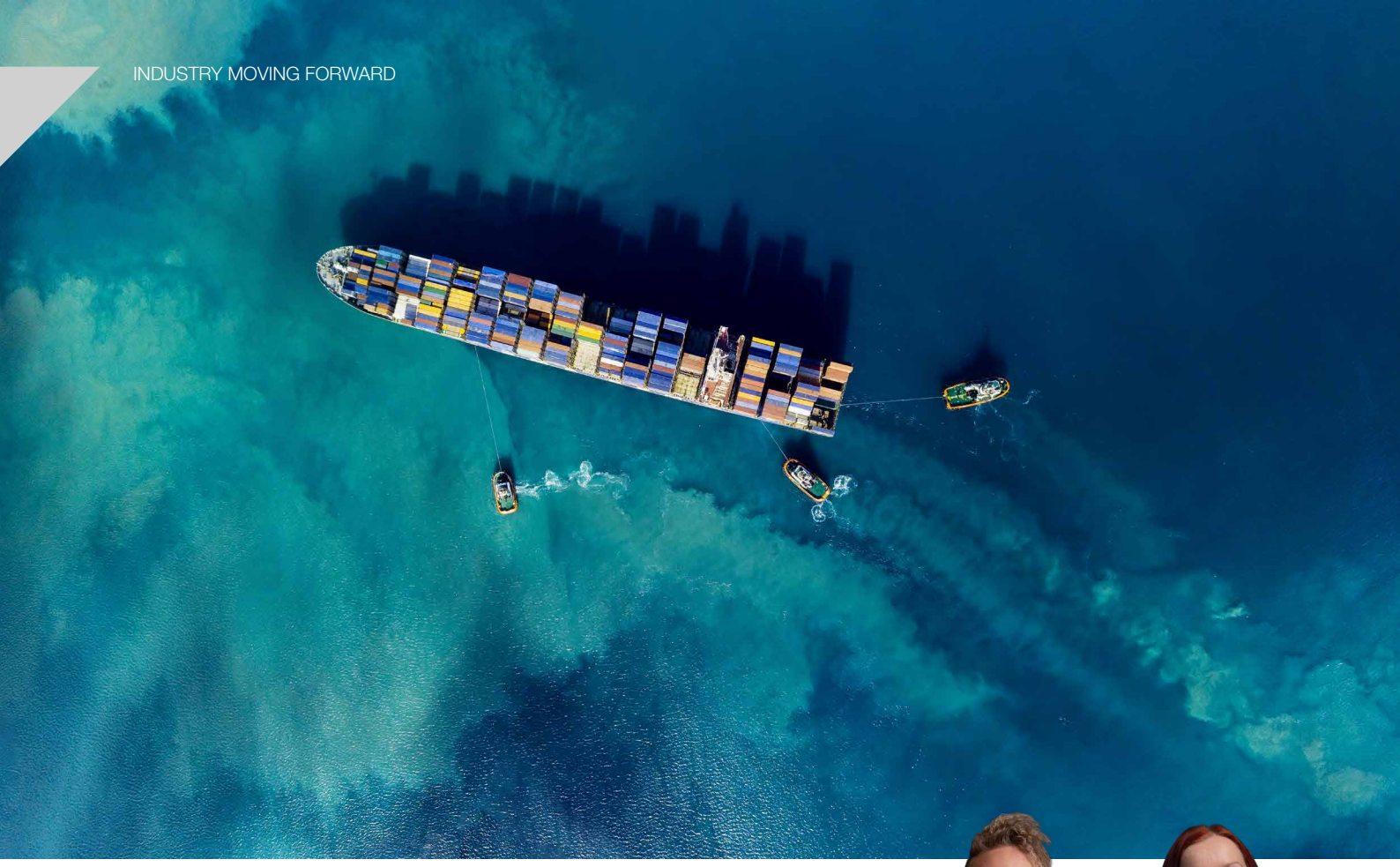


SMART, AGILE AND INNOVATIVE - HOW SMALL AND MEDIUM SIZED PORTS CAN BE AT THE FOREFRONT OF DIGITAL TRANSFORMATION?

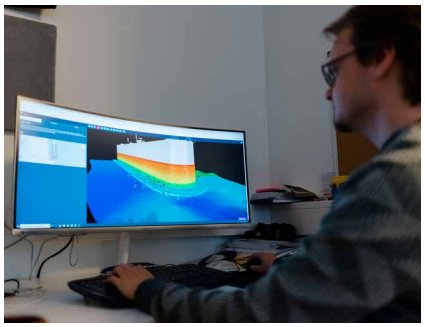
Ville Mäkeläinen, CBDO, and Pia Asikainen, Organisational Development Specialist, GISGRO

A growing pressure for digitalisation is pushing the maritime industry to invest in digital tools for logistics, asset management, and other functions. There are projects for automatizing cargo transportation or digitising customs documentation, for example. Large ports are leading the transformation, but there are many ways how small and medium sides ports can, and should, be the vanguards of digitalisation.

What is a small and medium sized port (SMP)? The definitions vary from the port's annual freight handling volumes to market share or international connectivity[1]. Mostly used definitions utilise the amount of annual freight in ports. In Europe only 17 ports exceed the limit of 50 million tons of freight annually, which is a commonly used number in definition of an SMP[2]. Internationally, only three of the European ports are included in the list of 15 biggest ports in the world[3]. In other words, a majority of ports match the definition of a small and medium sized port. SMPs have an important role in achieving ambitious goals of fighting the climate change in the maritime transport industry.

While large port organisations are combinations of different businesses and activities, SMPs often concentrate on the core function of providing infrastructure for the maritime transport, outsourcing the other related functions to their partners. The difference means SMPs may need to rely on the power of co-operation and take their partners along when planning different development projects.

A single SMP authority may not have the resources to complete major port digitalisation projects, but would it be possible if



“LACK OF RESOURCES IS CONSIDERED TO BE ONE OF THE MAIN ISSUES BLOCKING THE DIGITALISATION IN SMPS.”

the effort was divided? Also, the business and working environment in ports may be quite traditional, so how to motivate everyone to take part in the development? Change resistance or fear of losing jobs are common feelings when talking about digitalisation. To be able to answer to the pressure for digitalisation, we need to start to look at the opportunities behind the risks.

So, what are the opportunities in digital transformation, especially in small and medium sized ports?

BE SMART

Lack of resources is considered to be one of the main issues blocking the digitalisation in SMPs. It is difficult to execute a digitising project when the amount of personnel is limited, and often lacks previous experience in digital processes. But here is where SMPs need to be smart: start digitising the assets or information you need in the daily work. It does not have to be the complete process of cargo handling at once; however, simply an easy access to information about the available storage areas for your stevedoring company might already save loads of time and effort.

SMPs often work closely with the local community and are tightly connected to hinterland transport chains[4]. Also, a large portion of the operations may be outsourced, meaning the number of stakeholders in a port area is also large. To make the digitalisation efforts worth a while, it is important to bear in mind the needs of different parties and involve them into the process. The asset information of the port’s infrastructure can be shared with partners who actually use the assets in the port area, bringing more effectiveness to the communication. This is how you make sure the investment to the development brings benefits to a wider group, not just to one team or a division of a port company. In addition, the costs of the project may be shared when you work together with the stakeholders.

Being smart does not refer only to technologies, but also to ways of doing things. On many occasions new digital technology improves the efficiency, but only if it matches to the port’s specific needs and processes and is properly implemented along with training to the employees. Involvement of the personnel in the digitalisation process gives an SMP a competitive edge, as the processes are planned to serve the actual needs of personnel and the clients in the everyday work of the port.

BE AGILE

One major benefit of an SMP is that a small and often also a flat organisation structure is more agile when reacting to changes in the business environment. A maintenance team with a dozen of people can adapt to the new digital ways of working more conveniently than a team of hundred workers. Updating strategies and activities according to the clients’ and the industry’s needs is easier when there is less bureaucracy involved in decision making.

Being a pioneer means that sometimes you need to test and modify different tools to find out which one works the best with your processes. In an SMP the organisation typically involves a larger variety of operations and teams in the assessment of the tools, so the selected tools are more likely to serve most in the organisation. This saves costs as a larger portion of the personnel can benefit from the tools and the work done in the assessment phase.

Being agile does not mean the port needs to change according to each feedback from a client. But instead, you need to have processes capable of changing when it is beneficial for your business. The procedures follow the changes in the business environment, but the solid base brings stability and evolves when needed.

BE INNOVATIVE

Digital tools offer possibilities to develop new services for clients or other stakeholders. Easy exchange of information can benefit both parties by giving opportunities to improve processes. In digitised ports people do not waste time and money in searching information from folders, when they can utilise simple platforms to find it. The information may also be a new type of service: sharing up-to-date information on a public website or directly to shipping companies, pilots or local authorities.

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In the future, cargo operations are expected to decrease, but new business opportunities for ports will arise from logistic services and leisure use[5], for example. How could these opportunities be seized? The maritime industry is known to be on the more traditional side, but in the logistics digital tools have already secured a solid ground. Also, the owners of leisure boats are very used to using digital platforms in searching information, for example. Being a digital port may provide a head start in reeling those groups of clients in. Some digital services can even offer enough added value to the client for them becoming a new business model with extra fees collected from the clients.

In the era of digitalisation many processes and operations are changing due to regulations. Being ahead of these changes means opportunities to differentiate from competition. Providing information about the port's environmental performance to the public or adding the current weather broadcasts to the website is easier with modern digital tools, and those can become the extra service port's clients appreciate.

SMPS ARE SHOWING THE WAY TO THE FUTURE

Many SMPs are already on their path of becoming a digital port. For these SMPs, new ways of utilising digital data are integrated to the everyday work, and the SMPs are constantly developing their processes in order to use the new tools even better. Small and medium sized ports are not resting on their laurels, but they are taking the advantage of improving their competitiveness and making the processes more efficient with digitalisation.

In addition to utilising the digitalisation in ports' everyday business, SMPs provide a fruitful "living lab" for digitalisation researchers, as their operations are relatively limited and therefore, the effects of digitalisation can more easily be quantified than in large transportation hubs. The state-of-art digital tools can be implemented and tested in the real-life environment, and with information sharing and co-operation the whole industry benefits from the development. SMPs really can lead the way to smarter maritime transport and to the more sustainable future.

"TO MAKE THE DIGITALISATION EFFORTS WORTH A WHILE, IT IS IMPORTANT TO BEAR IN MIND THE NEEDS OF DIFFERENT PARTIES AND INVOLVE THEM INTO THE PROCESS."

ABOUT THE AUTHOR

Ville Mäkeläinen is a port digitalisation expert and CBDO at GISGRO. He has worked with ports globally for several years and has executed dozens of digitalisation projects together with his clients. His expertise includes digitalisation project management, 3D surveys and inspections and utilization of online platforms and data in port management.

Pia Asikainen works as an Organizational Development Specialist at GISGRO. Her expertise includes process development and certified management systems for quality, environment, and safety, and she has worked with port industry for several years. Processes designed for easier and more efficient working life are her biggest interests.

ABOUT THE ORGANISATION

GISGRO is a complete smart port management system that helps SMPs, their clients, and their subcontractors work smarter. With the ability to view and utilize port operations and asset data quickly and easily, ports gain the power to effectively oversee and optimize virtually all port operations.