

THE 4th INDUSTRIAL REVOLUTION

The Fourth Industrial Revolution is underway, but what specific job skills are needed in conjunction with technology for the port industry to thrive in it? **AJ Keyes** investigates

One description of the Fourth Industrial Revolution is the ongoing automation of traditional manufacturing and industrial practices, using modern smart technology. Clearly applicable to ports.

According to Klaus Schwab, founder and executive of the world economic forum, a key characteristic of the Fourth Industrial Revolution is the need to "shape a future that works for all by putting people first, empowering them and constantly reminding ourselves that all of these new technologies are first and foremost tools made by people for people."

So, it is interesting to see where the ports industry currently sits in terms of new technologies and tools designed to transform processes and activities for those involved.

Matthew Wittemeier, Marketing Manager, INFORM, explains that the Fourth Industrial Revolution is already underway. "It is no secret that many would argue, myself included, that we are well into the Fourth Industrial Revolution. INFORM was 50 years old last year and has seen and measured digitalisation over decades in a broad scope of industries from aviation, banking to currently port and terminal operations."

INCREMENTAL – THE KEY

What this means, Wittemeier adds, is that digitalisation can enable terminals and ports to incrementally improve their operational efficiency, their strategic planning, and, consequently, their profitability.

The key word here is "incrementally." It is, of course, very important to remain flexible because often stakeholders expect immediate returns on their investments in digital processes, but like all processes (manual and digital alike), with change it takes time to gain benefits.

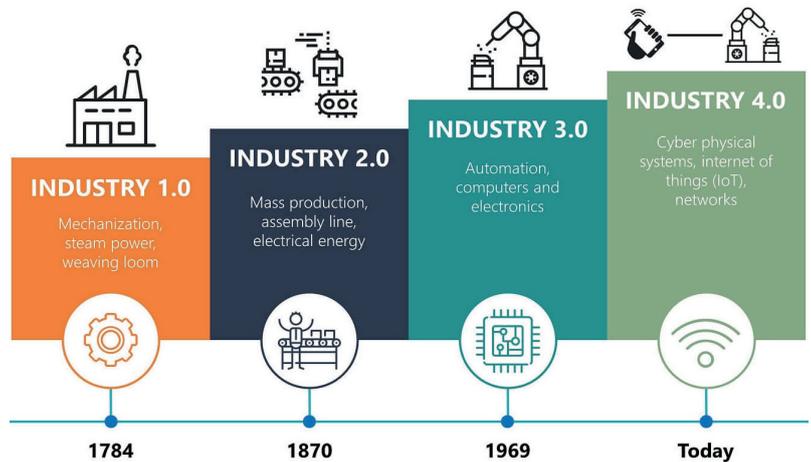
The port industry requires a reality check too, as Wittemeier explains. "You go in with a plan – what you think will work best on what you know. But there are things you do not know, and these will, of course, have an impact. A good digitalisation partner will work with you to sort through those unknowns to fine-tune your process and improve your results step-by-step."

SKILLS REQUIRED

The World Economic Forum has stated what it regards as the top 10 job skills required to thrive in the Fourth Industrial Revolution. These are listed in Table 1 and almost all, if not all, can certainly be applied to the port industry, although must then be used in conjunction with digital innovation and technology.

Two key areas in the ports industry where these job skills are seen to be needed immediately are in conjunction with collaboration and harmonisation.

Wittemeier explains: "There is a need to achieve a 'standard,' whereby as many stakeholders as possible participate in the creation and adoption of those standards. The idea that a single standard will cover all of the maritime industry with each of the individual elements (shipping, port operations, terminal operations, etc.) is not a likely outcome. As such, where we have collaboration within an element, we



also need a degree of cross-collaboration within the broader maritime industry."

TOP 10 IN PORTS

Many of the top 10 job skills listed in Table 1 are needed daily in ports. For example, a successful cargo terminal is built on the basis of people management and coordinating with others, whereas ship berthing, and application of equipment, can easily require complex problem solving, negotiation and service orientation.

However, application of the required job skills still needs help, especially for harmonisation, and this is where smart technology is relevant, according to Wittemeier.

"Take, for instance, date and time formatting. The International Standards Organisation (ISO) defines a concise standard for the definition of formatting and interchange format for date and time elements – ISO 8601. As opposed to implementing a new standard," he elaborates, "harmonisation suggests that we should adopt the established standard. The second element is that we should, as an industry, agree on a single set of harmonised elements that are common among various systems across the industry's individual elements. Having a single, harmonised standard would decrease difficulties in interfacing between systems and sharing data among the entire ecosystem."

Achieving what may be seen as a relatively simple process of harmonised date and time formatting requires negotiation, coordinating with others and critical thinking – to name but three from the World Economic Forum job list.

Ports are a key part of the Fourth Industrial Revolution, but there is still a long way to go.

■ The Fourth Industrial Revolution is here.....but specific job skills are needed to thrive in it

	Job/Work Skill		Job/Work Skill
1	Complex problem solving	6	Emotional intelligence
2	Critical thinking	7	Judgment and decision making
3	Creativity	8	Service orientation
4	People Management	9	Negotiation
5	Coordinating with others	10	Cognitive flexibility

■ Table 1: Top 10 Job/Work Skills to Thrive in the Fourth Industrial Revolution

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