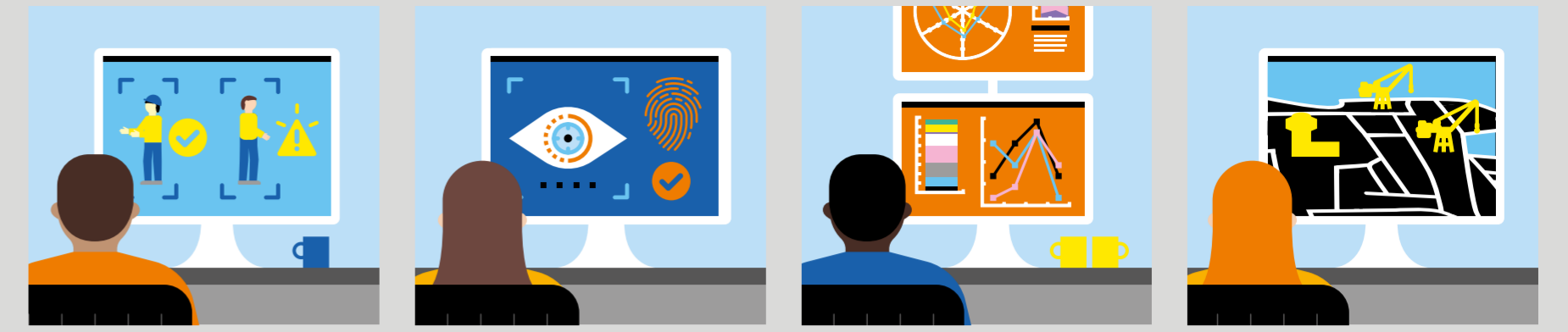


A walk around a next generation smart port

Maritime companies face unique challenges in today's ports: land and sea space constraints, limited resources, time limitations and high operating costs. Smart ports use digital tools to make operations more productive, safer, efficient and profitable. Automation, digitalization, artificial intelligence (AI) and data analytics are all part of the new maritime vision.



Safety

Workers in the port area need to be wearing the required safety equipment, including boots and high-viz clothing. Video analytics can identify worker without it, and send alerts.

Security

Video analytics can detect intrusions into protected areas. You can also include facial recognition to check for illegal access to protected areas.

Data analytics

Smart ports generate masses of data that can be used to optimize and enhance operations. Data analysis drives cost reductions, better safety and increased productivity.

Orange Cockpit

Draws on port data to give you immersive visualization based on video game technologies to make your data intelligible, relevant, accessible and engaging.

Aerial drones

They can be used for port monitoring and traffic control, to assist vessels with navigation and security and to conduct environmental and ecological monitoring of the port site. All drones are IoT-enabled and communicate in real time to the port control center.

SD-WAN connectivity

Secure, high performance data transmission around terminals and ports. Can power automated vehicles.

Drones

They can also be used to inspect vital port infrastructure such as cranes to check for corrosion, rust or track misalignment, for example.

Unmanned cranes

Remotely operated unmanned cranes use digital technology to offer labor savings, increased port productivity, reduced equipment maintenance and downtime and increased safety.

Predictive maintenance and condition monitoring

IoT sensors can be used to extend the life cycle of the equipment and reduce downtime of the equipment.

Asset tracking

IoT sensors can track the location of valuable assets, vehicles and equipment around the port.

Collision prevention

Algorithms can detect "anomalies" when two vehicles or vessels are on a collision course and send alerts to operators. Other algorithms can detect vessels suddenly slowing down or changing direction to alert port operators of potential hijacking or piracy.

Aquatic drones

They can be used for filming underwater to inspect ships or piers, fault-finding and doing jobs that previously put human workers in harm's way.

Access control

The free trade zone (FTZ) is one of the most secure areas in the port. Use two factor authentication for access control, using a combination of access card and biometric, such as fingerprint or facial recognition.

Safety

IoT sensors can be deployed on helmets to analyze the environment and worker status. For example, it could detect a sudden fall from height.

Sensors

Low power sensors connected by LP-WAN networks monitor environmental conditions like temperature and humidity and communicate data to control centers.