

Shipyard 4.0

An innovation and policy roadmap for digitalising shipyard operations



2023

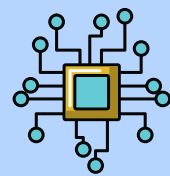
01. Real-time planning tools track progress & report problems



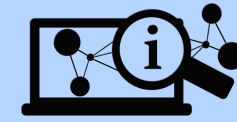
02. Welding quality is digitally monitored in real-time.



2024



03. AI-enhanced documents anticipate, forecast, and warn on events



04. Digital databases improve task training and handover

2025

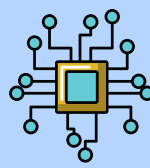
05. Biocide-free coating innovations surpass toxic anti-fouling paints



06. AR, VR, and 3D simulation used in task training



07. AI systems control and manage warehouse inventory



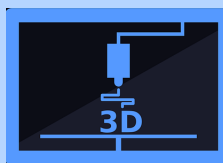
08. 3D Scanning is standardised for ship inspections



09. Aerial drones perform incremental 3D scans at yards



2026

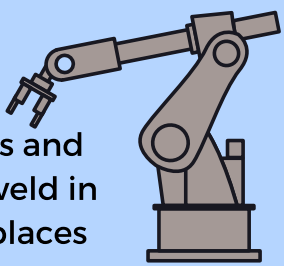


10. Additive manufacturing of spare and missing parts

11. Microgrids supplement yards' electricity needs



12. Autonomous and flexible robots weld in hard-to-reach places



13. Digital twin files are shared across stakeholders

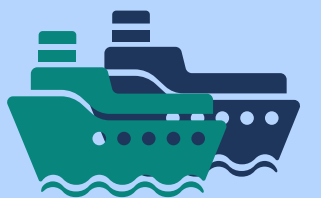


2027

14. Aerial drones perform basic services



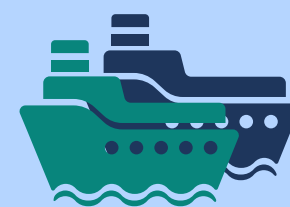
15. Digital twins are used for virtual delivery inspections



2028



16. Unmanned lifting vehicles displace tractor operators



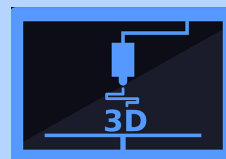
17. Digital twins are used in planning repairs



18. Warehouse operations performed by automated drones

2029

19. 3D printers are used to print large blocks



2030

20. Composite materials are used for large vessel hulls

