The Future of Smart Autonomy — Executive Summary

When it comes to autonomous shipping, grandiose visions of 100 % unmanned vessels sailing the world's oceans and ports are often painted—a picture far from present-day reality and filled with obstacles to overcome.

The Reality of Autonomy

- A common misconception is to equate "autonomous" with "unmanned."

- In reality, autonomy is a spectrum with various degrees of vessel automation.

- It is something that can already be harnessed to create benefits today, leading to smarter systems to enhance safety, cost-efficiency and environmental performance.

- In practice, this means reducing collisions or incidents, assisting with docking, saving fuel through optimised speed profiles, reducing associated emissions and optimising crew numbers.

- At Wärtsilä we call this "smart autonomy"—a stepwise and commercially viable approach for your operations to adopt autonomy that can be applied today.

Key drivers for autonomy and industry dynamics

The owners, operators and managers of today's maritime fleets find themselves confronted by a range of pressing challenges:

- Overcapacity

- Safety and human error

- Vessel efficiency

- Decarbonisation and regulatory measures

- Cyber security worries

- Crew challenges

Challenges autonomy can solve today

A few concrete ways in which smart autonomy can help solve today's shipping challenges:

- Increase safety

- Reduce chances of human error

- Fuel savings and voyage optimisation

- More efficient vessel design

- Decarbonisation

Building blocks of smart autonomy

To make these sorts of smart autonomous systems a reality, three broad capability areas and enablers are critical.

- Situational awareness—what's going on around the vessel?

- Decision making and logic capability—what needs to be done in a given situation?

- Action and control—how do we safely and efficiently make the vessel take action?