

AUTOMATED ONBOARD CARGO HANDLING AND MOORING

Benefits for shortsea
shipping



IMO Seminar on implications,
challenges and opportunities of
mass for ports and public
authorities

- Panel 1: Future challenges of MASS in ports

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WE ARE MACGREGOR



From the first steel hatch cover...

Patented in 1929





To one the world's most advanced cargo systems

MacGregor's solutions for Hapag
Lloyd's Berlin Express sets new
standards in performance for cargo
carrying capacity and efficiency

MacGregor overview

1900

experts



31

countries



733

million euro sales in 2023



50%

Equipment installed on every second ship
at sea



Owned by Cargotec



What we can achieve by automation and what to benefit from it?

- Reduce cognitive load related for cargo operations and planning
- Flexible change management for stowage planning
- Full Integration of vessel-port-vessel information exchange during operation

How we can achieve automation?



- autonomous stowage and (un)loading planning by utilizing booking and sailing schedules
- automating over the railing operations by utilizing robotized and integrated lifting equipment

VCOP* - For Onboard & ROC professionals

Offers:

- Optimised stowage plans that are verified to meet acceptable sailing condition
- Class approved lashing module integrated
- Full visibility into cargo stowage plans
- Stowage plans in a format that can be transferred directly to loading computer softwares or other systems onboard
- SEAMLESS integration with terminal systems
- Full visibility into loading and discharging progress

The screenshot displays the 'AGATH / Voyage Number' interface. It shows vessel details: 'Vessel type: Container vessel' and 'Vessel size: 20,119 TEU'. A notification states: 'The route information cannot be modified 3 hours before the estimated arrival time to the port.' Below this is a table of port information:

Port Name	Reason For Call	Arrival Time (Estimated)	Arrival Time (Actual)	Departure Time (Estimated)	Departure Time (Actual)
Port name A	Discharge / Load 4 / 4 containers	02.03.2021 14:00	N/A	20.03.2021 16:30	N/A

A note indicates: 'All the times are the local time on the port (GMT+02)'. The 'CARGO INFORMATION' section has 'Discharge' and 'Load' tabs, with 'Load' selected. The cargo table is as follows:

Container ID	Container Type	Container Weight	Other Details	Status
KNAU 389200 7	22G0	8,986 lbs	Req. Temp -20c	S01 Ready to load
KNAU 759933 0	20G0	9,986 lbs	Dangerous 1.1	S02 Ready to load
KNAU 500200 4	L0GP	12,986 lbs	High Cube	Upcoming 23.02.2021; 10:30
KNAU 709933 6	20G0	9,986 lbs	N/A	Missing No information

Picture 1. Operations, showing the status for each container to be loaded, in the current loading port.

Autonomous operations

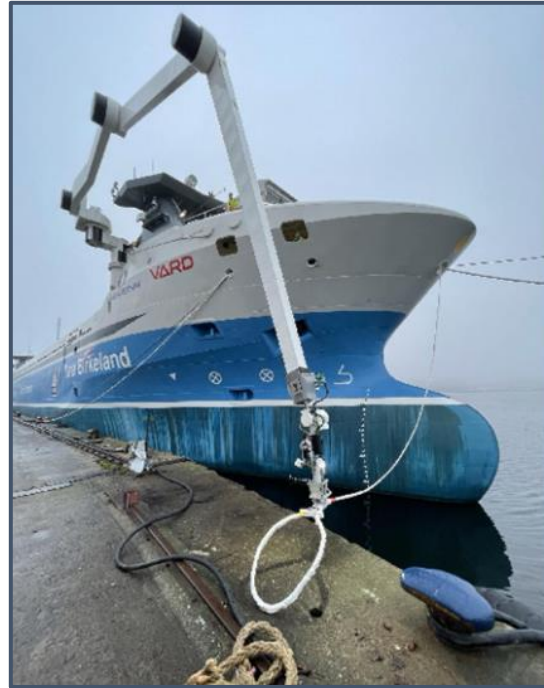
- Automating lifting operations
- Autonomous mooring



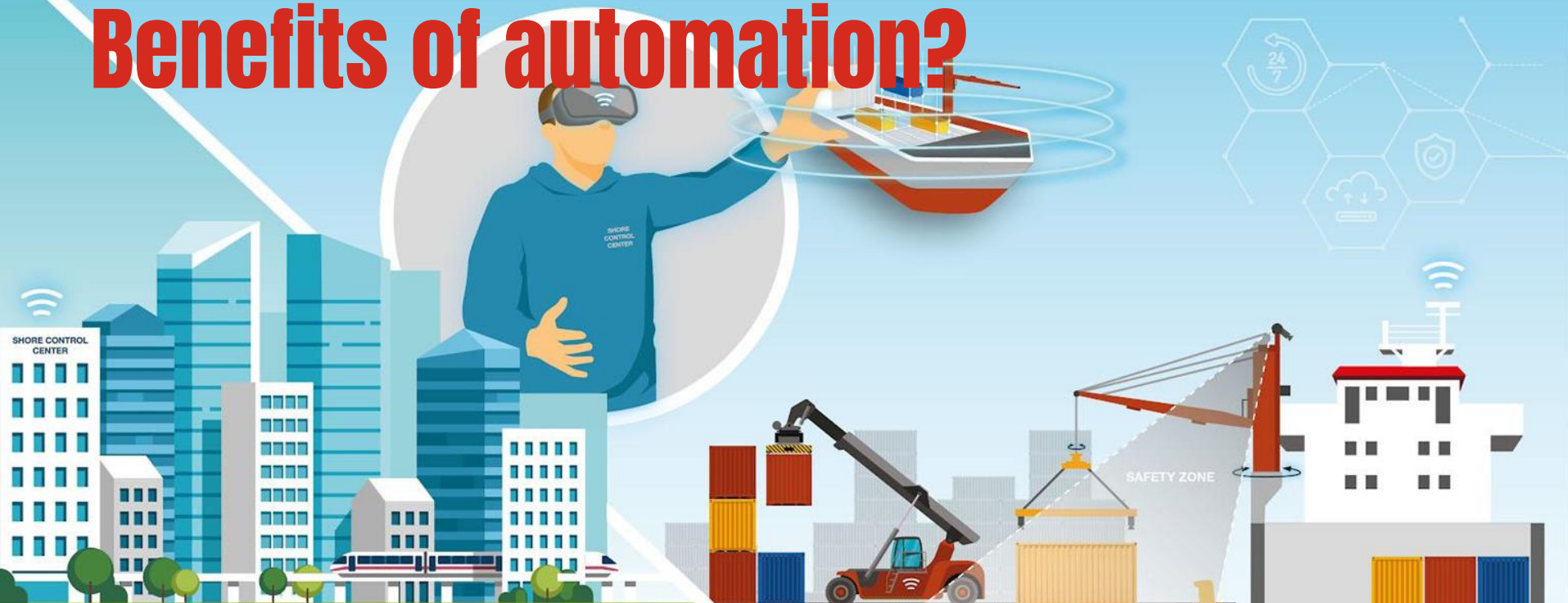
At MacGregor's test facility in Örnsköldsvik, Sweden, the crane has been developed, tested and fine-tuned for cutting edge performance.

Autonomous operations

- Automating lifting operations
- Autonomous mooring



Benefits of automation?



- Less energy used, more sustainable operations
- Less persons involved in dangerous operations, better safety
- Better planning and operational performance, increased profit

Designed to

PERFORM WITH THE SEA