

CASE STUDY | PORT AUTOMATION

Control for automatic mooring systems

All-in-one solution for ship mooring saves time and costs



Our customer:
ONEARC

Founded in 2017, the Swedish company Onearc had initially focused on consulting services for the port and marine industry. In the following years, Onearc additionally specialised in the development of equipment for ports and ships, such as automatic mooring systems.

In the meantime, the company has become a market leader in special equipment for ship and goods handling in ports and on ships. Consultancy services from the concept phase to commissioning and subsequent maintenance also still represent an important part of the business.

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The challenge:

The demands on logistics in the maritime sector are high. Freight traffic is growing strongly worldwide, and cargo handling in the ports must therefore become increasingly productive and efficient. This is the only way to handle the high volume reliably and in due time. At the same time, other requirements have to be met, such as better profitability or more environmentally friendly technologies. The mooring of ships is one of the starting points. Manual and thus labour-intensive mooring of ships to the quay wall is often still standard practice here. In case of ferries, propulsion is often used to keep the vessel in position.



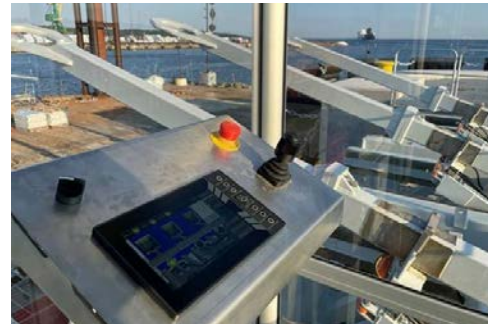
For some years now, automated or semi-automated mooring systems have played a very important role in efficient handling of ships and

goods. These systems replace manual mooring and therefore save personnel and, thus, costs. To automate its mooring systems, Onearc was looking for a provider that could offer a complete solution.

The solution – why ifm?

Onearc's mooring systems replace the classic mooring ropes and bollards, making the handling of ships in ports more efficient, safer and faster. Of particular importance is the reliability of these systems. They operate with three hydraulic arms that can hold the ship in position. Depending on the customer's requirements, these arms are each supplied by a separate power unit. To guarantee reliable and safe operation of the mooring system, pressure and temperature sensors monitor every filter, pressure line and hydraulic unit. Sensors from ifm are used for this, such as TA3105-type temperature transmitters and Pt5501-type pressure transmitters, both of which are suitable for use in mobile machines. Via special I/O modules for mobile machines, the sensors are connected to a CR1074 controller that controls the system and at the same time provides the user interface. A signal lamp can visualise the current status of the system. With the components from ifm, Onearc was able to implement an automation system in which everything is perfectly coordinated. After

the first mooring systems that are automated in this way were put into operation in conjunction with an integrator in Sweden, the system will now go into series production.



Results:

- Fast and safe mooring of vessels
- Increased handling speed
- Environmentally friendly thanks to decreased fuel consumption
- Complete system for automation



Increased and safe handling



More efficient handling speed



Less fuel consumption



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