

Enabling optimum use of energy

Modular fuel conditioning systems



bachmann.



Heavy fuel oil is the primary fuel which is used on sea-going ships. This oil is a residual oil which is produced in the oil refinery process. Before it can be supplied to the ship's diesel engines, the oil needs to be prepared onboard in accordance with the specifications of the various engine manufacturers relating to purity, pressure and viscosity. Here, the robust and highly available Bachmann M1 automation system controls the modular fuel processing and preparation systems of the company mas.



The company mas maritime assembly systems GmbH with headquarters in Wismar (Germany) is a specialist in the development and manufacturing of modular systems for ships and engine power plants. In the process, the company is a one-stop shop for its customers, offering everything from planning, design and production to worldwide service from a single source. "We see ourselves as a system partner for our customers, with the operational safety and cost-effectiveness of our solutions defined as overriding priorities" - this is how Reiko Heidtmann, Head of Electrotechnology at mas, describes the central challenge and responsibility that the company has faced since it was founded in 1997.

The M1 fits seamlessly into the concept

For marine engines and power plants which run on internal combustion engines, advanced technologies offer a number of interesting development options. These include e.g. the use of different fuels or the increased exploitation of thermal energy in order to increase efficiency. "Our processing modules are used for a wide range of very different fuels and engines", says Knut Kiefer, Foreman of the Electrotechnology department of mas. In order to be able to perform successfully in this market, mas looked for an innovative and future-proof automation system, which it found in the form of the M1 system from Bachmann: the system blends in perfectly with the mas concept and has the necessary ship approvals for controlling and visualization.

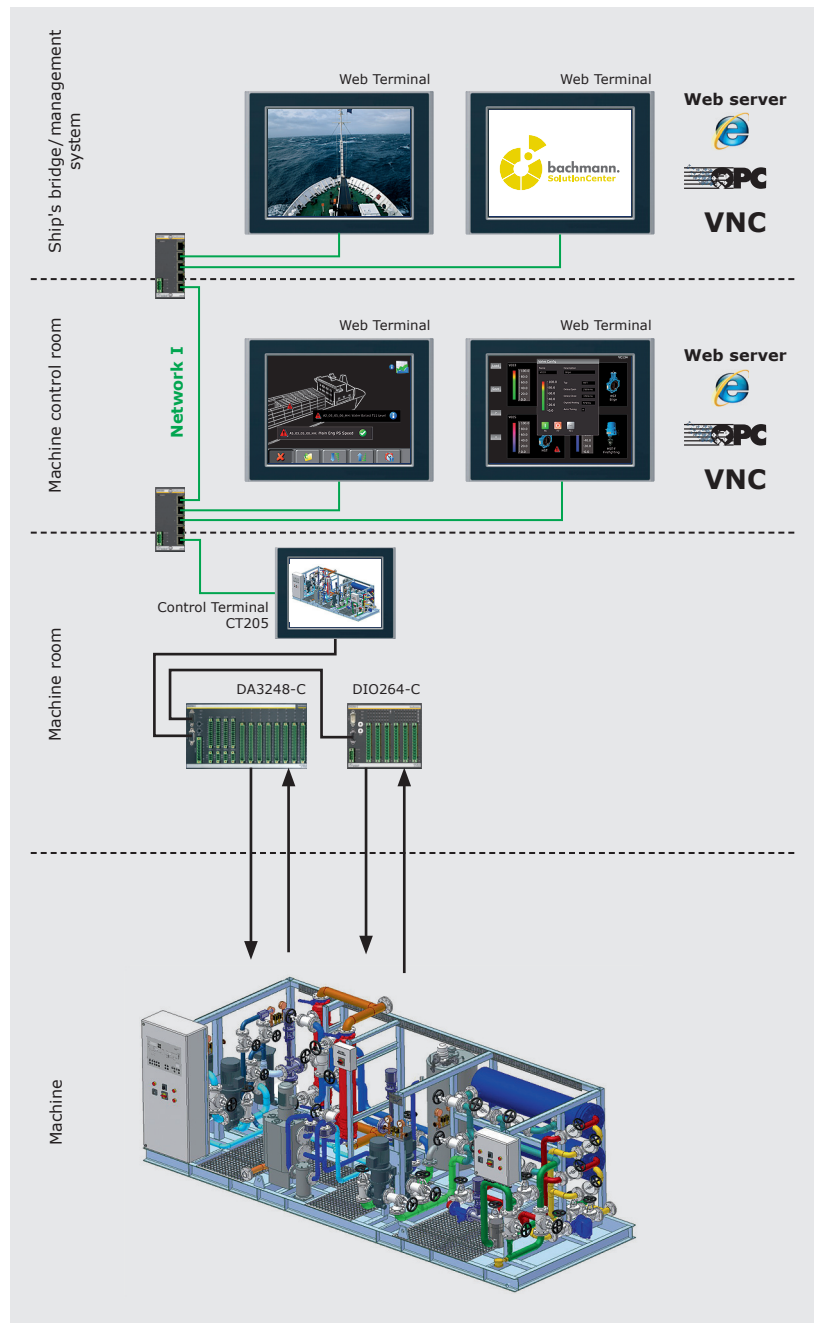
Great flexibility is important

When it came to the realization of the company's systems, mas faced a huge diversity in terms of applications. On ships, supply & booster modules are predominantly used for the supply of the main engine, the auxiliary diesel or for a combination of the two. Different engine sizes and individual customer requirements result in a large number of different variants. As a result, a production batch size of "1" is not unusual for mas. This is also the reason why the ability to make quick and uncomplicated modifications to

the automation system is absolutely essential for cost-effective production of the company's systems. As the system modifications are largely made at the software end on the M1 controller or the visualization, it was also possible to largely standardize the control cabinet layout. Thanks to the high density of I/Os and the flexibility of the input and output signal types of the Bachmann M1 system, mas is able to implement a compact automation solution which comprises just three components, whilst at all times being able to implement additional levels of functionality.

Simple integration

The multi-language user guidance and visualization of the system components which is easy to implement on the M1 system offers mas customers improved user-friendliness and reliability of operation. In addition, the diverse communication options from the control terminals to the other systems like the machine control room, bridge, management system or engine management make it very easy to integrate this system into the infrastructure of the ship. With a comprehensive range of functions, mas has created an attractive basis for an innovative fuel processing and preparation system. With Bachmann on board, the company knows that it is on the right path. ■



▲ **Diverse communication options to other systems:**
the CT205 communications mastermind in the control center.

