Lighting control and AV system integration are enhancing comfort and ease-of-use on sailing yachts

Baltic Yachts Oy AB LTD, formed in 1973 and headquartered in Jakobstad, Finland, lays claim to being the world’s leading builder of advanced, composite yachts. Its highly qualified workforce – currently, some 250 strong – combines leading-edge marine technology with traditional craftsmanship to create award-winning yachts. PC-based control technology from Beckhoff is playing a substantial role in helping the yacht maker ensure that customers enjoy the highest levels of comfort while sailing.
Greater comfort and pleasure while sailing can be ensured with PC-based control.
“A comfortable cruising experience has always been a key selling proposition and driver in our designs. We place particular emphasis on user-friendliness in our technical design process and aim to achieve maximum comfort in our interior design,” explains Mikael Johansson, Senior Automation Engineer at Baltic Yachts. The company’s expertise in building advanced yachts from composite materials, he says, is based on nearly half a century of experience, starting with many smaller production yachts and evolving into custom superyachts today. The latter include multi-role yachts that provide a platform for luxury living yet, at the same time, have the performance to win races.

Control and monitoring functions in a single system
PC-based control technology from Beckhoff is used for the lighting control on the yachts and integrates audio and video systems into the onboard management systems’ controls for greater ease-of-use and cruising comfort. Mikael Johansson adds: “We decided to work with technology from Beckhoff a few years back, when we were looking for a solid, capable solution to control lighting. Since then, we’ve been using Beckhoff controllers in context with the DALI protocol. It’s important for us to be able to control lighting through a bus system because it’s easier to implement a wide range of lighting scenarios that way. The same applies when it comes to integrating audio and video systems. We use the TwinCAT Crestron Server to connect AV equipment to the same visualization system. This allows yacht owners to use a tablet device or smartphone to access a full range of control functions in Baltic Yachts’ custom SCADA software through a graphical interface.”

The Beckhoff system, consisting of a CX5140 Embedded PC with EtherCAT Terminals, also monitors and controls the hydraulics, AC/DC power, the fresh and wastewater systems, the fuel systems, and the bilge and fire-extinguishing systems. Servo drives and compact drive technology in terminal format have also been used in several projects to actuate sliding cabin doors and raise propellers. “In a number of yacht projects, CX5140 Embedded PCs and EtherCAT Terminals have been connected on a redundant, fail-safe EtherCAT ring network,” says Tero Ylimäki, Area Sales Manager at Beckhoff Finland.

Customer satisfaction and safety first
For Mikael Johansson, high-quality, high-performance control technology plays an important role in yacht customers’ satisfaction and safety: “The robust control technology and the excellent support we get from Beckhoff mean we can provide our customers with extremely reliable automation capabilities. The remarkable array of I/O terminals available makes it exceptionally easy for us not just to accomplish control tasks of any kind but to integrate a broad range of devices with the Beckhoff control system as well.” Johansson can see other potential applications in the future, too. For instance, there are plans to use PC-based control in IoT solutions, and a new SCADA system is to due be developed on the TwinCAT HMI platform. Beckhoff control technology’s open architecture, says Johansson, has compelling advantages because it offers complete freedom to create systems that meet needs and requirements exactly.
Compact, modular control technology from Beckhoff is ideal when space is at a premium.

Mikael Johansson (foreground), Baltic Yachts’s Senior Automation Engineer, in a boat’s narrow interior

More information:
www.balticyachts.fi
www.beckhoff.fi