

HMI solutions to satisfy the needs of global maritime environments



Your HMI partner in every port, on all seas and in all conditions

- Three decades of experience means reliable products and services
- In-house hardware and software development delivers seamless HMI
- Cutting-edge solutions certified by major nautical associations



Independent manufacturer and provider

HMI products from Beijer Electronics are created with an integrated approach to HMI development. We control the entire development in Europe, North America and Asia. This means we stay close to component developers and manufacturers. With an emphasis on high functionality and user-friendliness, Beijer Electronics unites cutting-edge technologies with knowledge of tomorrow's requirements.



- ▶ We provide worldwide support and local service points covering all parts of the globe from the western hemisphere to the far east.



- ▶ Our HMI offer is based on over thirty years' experience navigating the waters where people and technology meet.



- ▶ Established: 1981
- ▶ Employees: 668
- ▶ Countries: 21
- ▶ Turnover 2011: EUR 157 million
- ▶ Development centers: Europe, Asia and the US



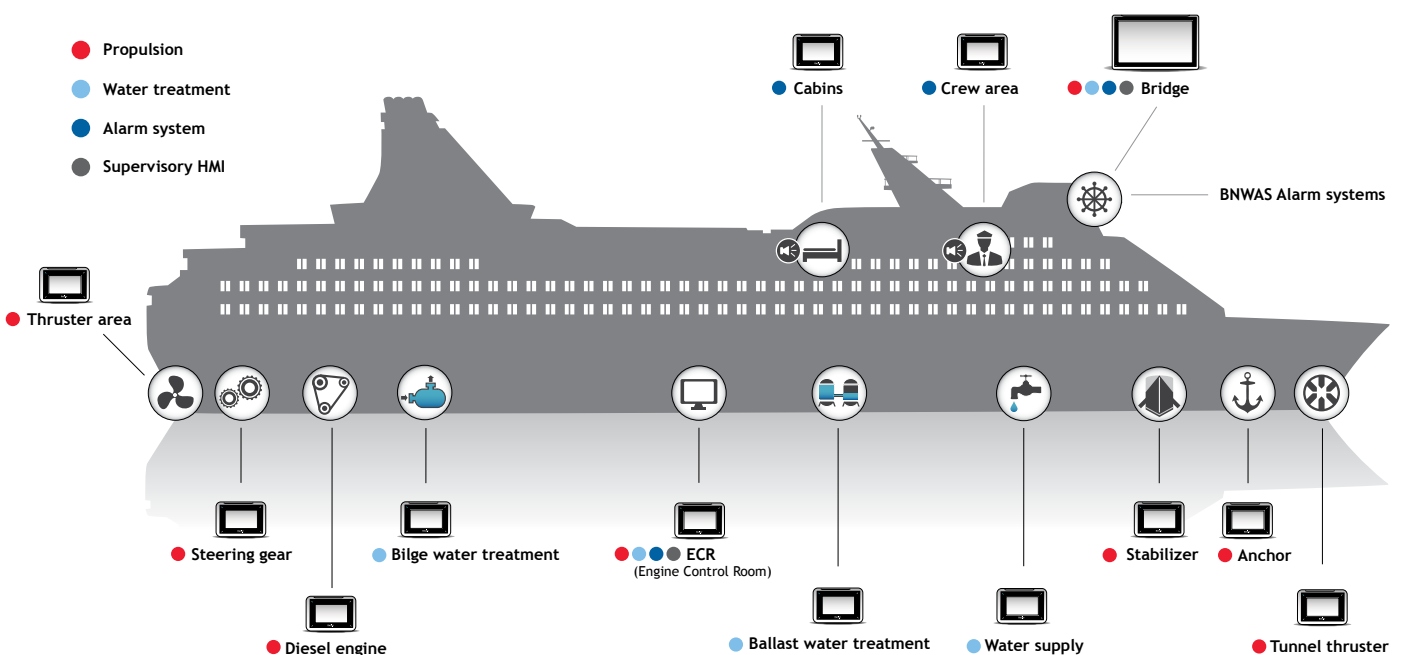
From cargo ships to luxury yachts, from sailing ships to offshore rigs - bridge to engine room, Beijer Electronics has solid HMI solutions to fit your needs. Our HMI solutions include powerful iX HMI software to optimize applications development and communication with your equipment. Easy and intuitive to use, iX software offers scalable vector graphics, an open Windows-based platform, multiple communication drivers and the solid HMI functionality essential for maritime and offshore industries. iX offers universal connectivity delivering rich features and an intuitive design environment for your applications. Our operator panels and industrial PCs feature wide range of display sizes and are capable of operating in temperatures from 0 to 50 °C. Dimmable display backlights and IP65

fronts mean panels can be used day or night and in any weather. The panels are ideal for mounting directly on diesel engines as well as in machine rooms or on the bridge. All are both CE certified and have the relevant maritime certification from major nautical associations.

” Intuitive and user-friendly HMI can make all the difference between running a tight ship and one that’s adrift

Answering the increasing demands of the maritime industry

Higher demands on maritime environments mean that analog instruments, light indicators and mechanical steering elements are having to be replaced by HMI systems. These systems feature touch panels, intelligent sensors and actors with CAN systems. Compliance with maritime environmental laws requires both archiving and production of data as well as the actual capability to carry out necessary operations the data is meant to verify. HMI is revolutionizing the maritime and offshore industry to fit in with the increasing and changing demands of the sector.



The following pages offer a closer description of our HMI offer for the maritime systems displayed by the relevant color-codes in the above image.



Propulsion on the move

HMI solutions that can handle just about anything

Increasing demands on connection between man and machine mean that traditional analog meters and push buttons found on bridges need to be replaced by HMI solutions. And ones with all the appropriate approvals and compliances stipulated in maritime requirements. Beijer Electronics operator panels supply superior graphics and are ideal for operation both on the bridge, mounted directly on a diesel engine or in the machine room. And features like dimmable backlights and IP66 fronts make the panels perfect for use any time of day or night and in all weathers, adding style to efficiency.

Our HMI products are compliant to EN60945. In addition, DNV approval guarantee that the solutions will operate under harsh environments. This ruggedness and dependability makes Beijer Electronics HMI solutions virtually unique. We deliver solid HMI functionality with powerful alarm management and flexible archive systems - hardware and software developed together by one and the same supplier.



The world's leading manufacturer of diesel and turbo engines relies on the same rugged product-quality and excellent service

Dependable HMI to meet even the toughest of challenges

From the engine control room to the bridge, rugged and reliable HMI is essential to answer the needs of maritime propulsion solutions, where HMI hardware has to operate under unique and extremely challenging conditions. Mounted directly on a diesel engine, the HMI needs to be able to withstand vibration, heat and even ingress by water. HMI solutions from Beijer Electronics deliver the ruggedness, efficiency and dependability essential to HMI for maritime propulsion units, so it's no surprise that we provide solutions for today's market-leading diesel and turbo manufacturer.



MAN diesel engine equipped with Beijer Electronics HMI.



Beijer Electronics HMI solutions have the relevant certifications from the major nautical associations.

Advantages

- **Ruggedness**
Operate under wide temperature range, humidity and vibrations
- **EN60945 compliant**
Compliant to general requirements for electrically-operated maritime instruments
- **All-weather, day and night**
Dimmable backlights, IP66 front for day or night use in all weather
- **Mount anywhere**
Operator panels can be mounted directly on a diesel engine, in the machine room or on the bridge
- **Absolute reliability**
HMI systems from one trusted supplier means first-class, dependable products and service every time
- **Fit HMI seamlessly with automation**
EM-CAN facilitates CAN J1939 protocol



Water management on true course

HMI solutions for clean and solvent water treatment

IMO (International Maritime Organization)

regulations governing everything from ballast and bilge to drinking water mean vessels often need to be brought up-to-date, with harbor authorities carrying out on-the-spot audits to verify compliance. Not only do water treatment processes need to be carried out, but instant access to the relevant data has to be logged and available on demand. HMI is essential.

Beijer Electronics HMI solutions provide rugged and efficient operator panels and industrial PCs together with iX software to facilitate required processes. Bilge water treatment solutions in engine rooms need HMI hardware to endure the harsh environment. Our solutions can withstand extreme vibrations and temperatures and have the relevant certification from the major nautical associations. Both ballast and bilge water processes require HMI software with archive and audit trail functions to satisfy audit demands instantly. Our HMI provides performance visualization and an archive so data from water treatment processes is available at the touch of a finger.

And we have the authority that comes from experience. Beijer Electronics developed and delivered the HMI solution for the first GL-approved application for clean ballast water treatment. We were there from the start.

“ HMI hardware and software functionality from the company that has been there from the word go

Reliable HMI software functionality

Beijer Electronics iX HMI solution

provides the functionality to facilitate water treatment. Real-time events like machine performance can be visualized via the trend object with data logged and saved during runtime. iX features audit trail functionality for essential water treatment process tracking that can be linked to time-and-place of interaction or process-events. The audit trail function provides flexible, quick and easily accessed data in the event of harbor authorities' audits. Our iX software offers a runtime database viewer for real-time display of trends, recipes and alarms. Excel reports can be created and data exported from trends, recipes, alarms to open in Excel for analyses and reports.



Beijer Electronics HMI solutions have the relevant certifications from the major nautical associations.



Advantages

- **Traceability**
Audit trail functionality for essential process tracking and compliance verification
- **Performance visualization and verification**
Visual representation of historical/real-time events with trend data logging
- **Choice of charts**
Trend chart for clear and structured statistics and reports
- **Runtime database viewer**
Display database contents like trends, recipes and alarms in runtime mode
- **Report generator**
Allows creation of Excel reports, printed or saved as an Excel file
- **Database export**
Export data from trends, recipes, alarms - open in Excel for analyses and reports

Easy access to data when audited

Water treatment needs to fulfill everything from the legal requirements for drinking water and environmental regulations governing the expulsion of ballast water from different eco-systems to the separation and recycling of the constituent parts of bilge water. Complying with this is one task, verifying compliance is another. The intuitive iX HMI solution facilitates both compliance and verification with audit trail functionality, providing essential process tracking, user identification, event-tracking and logged documentation for satisfying audits quickly and easily.



Alarm systems standing watch

HMI solutions for first-class maritime safety

HMI solutions for maritime alarm systems have specific considerations and are strictly regulated demanding accuracy, high reliability, clear information and stable systems. In the interest of safety, alarm user handling requires specific tools to accept and confirm alarms, ensuring that a competent individual handles them. The alarm must be clear, concise and easily understandable. Our iX HMI solution delivers a fully configurable alarm viewer to manage alarms and notify relevant individuals of events via screen, printer, SMS or e-mail. The touch-scroll function ensures quick-and-easy navigation with an alarm viewer to show detailed alarm information. And Beijer Electronics solutions have all the relevant approvals for the task.

Our intuitive solution ensures that the right information gets to the right individual at the right time. Recognizable color-codes display alarm status according to maritime regulations and assisted by clear graphics compliant to Wheel Mark regulations. While our HMI solutions are complete and ready-for-use, they also offer an open HMI platform for specific technical preferences. Specialized HMI functionality can be added through C# scripting, delivering a flexible system that is virtually limitless.

” Solid, safe and reliable software functionality combined with access to global service and support

A trustworthy supplier with trustworthy solutions

Our solutions guarantee that vessels comply with new regulations demanding BNWAS (Bridge Navigation Watch Alarm System) to verify the presence of a competent, fit and alert captain. It is of utmost importance in the event of a serious alarm that a vessel's progress be halted and appropriate steps taken. There can be no confusion with our 75 dBA alarm buzzer - a feature all Beijer Electronics IPCs and monitors share. The alarm list shows the latest alarms arranged in alarm group order. The alarm manager network offers extended alarm treatment with alarms sent to printer, SMS, e-mail and other panels that can handle alarms in groups. A vessel could not be in better hands.



Beijer Electronics HMI solutions have the relevant certifications for the maritime market.



Advantages

- **Fully configurable alarm viewer**
Manage alarms. Touch-scroll function for smooth navigation operations
- **Extended alarm treatment**
Alarm networked to crew via printer, SMS, e-mail and other panels
- **Clear and concise alarm codes**
Configurable color codes can show alarm status compliant to maritime regulations
- **Clear graphics**
Compliant to Wheel Mark regulations
- **Robust buzzer**
Satisfies maritime regulations for alarm buzzer of 75 dBA minimum for IPCs and monitors.
- **Global support**
Worldwide service and support
- always a fast response

Accessible support across the globe

Reliability is paramount to any viable alarms system so we afford technical expertise in the form of project support to solution providers as well as access to worldwide service and support – all eventual problems get a fast response, anywhere from the western hemisphere to the far east.



Connecting eyes and hands

Supervisory HMI monitor and control from stem to stern

A vessel has a bridge for good reason. In all seas and all kinds of conditions, the bridge is the center of the vessel's being. It is the brain of the ship. Maritime HMI hardware stationed on the bridge has to fulfill rigorous controls and standards. In fact, Beijer Electronics hardware can be used anywhere on a ship, having all the relevant certifications from major nautical associations. iX software delivers modern control with intuitive HMI for efficiency with style. Projects can be taken from local control and put together in one central control that can be located on the bridge or even the engine control room (ECR). Data logging from e.g. propulsion, water treatment and alarms can be consolidated in one easy-to-access supervisory HMI.

From runtime applications to data for maintenance and warranty issues, supervisory HMI delivers centralized operations control that combines PC with powerful iX Runtime. This combination alone is enough for most maritime applications. And one where advanced graphics and high recognition levels mean efficiency with elegance. Beijer Electronics supervisory HMI solutions make sure that the ship is efficient, connected and on course.



Supervisory HMI solutions put the eyes, ears and hands of the vessel at your fingertips

One producer, one supplier, one solution for everything

Maritime supervisory systems can be a major investment in time and money, with training and application start-up, introduction time etc. Beijer Electronics supervisory HMI solution is intuitive and ready-to-go, with global support and training structure. One producer and supplier means seamless HMI in a bundle system with no compatibility issues yet comparably lower pricing. One centralized producer and supplier with a centralized HMI solution.

Advantages

- **Centralized operations control**
All ship's data accessible via one location
- **Reliable and certified**
All relevant certifications from major nautical associations
- **EN60945 compliant**
Compliant to general requirements for electrically-operated maritime instruments
- **All-weather, day and night**
Dimmable backlights for day or night use in all weather
- **Made in Europe**
Cutting edge technology that comes from experience and authority
- **Global support**
Worldwide service and support
- always a fast response



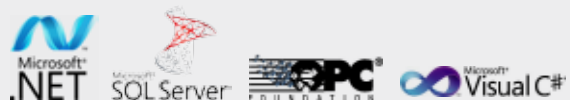
Get everything you expect...

The iX HMI solution offers solid and comprehensive built-in HMI functionality such as recipes, trends, schedulers and audit trails that enables you to create an efficient and safe operation of your maritime application.



... and so much more.

With the open architecture and the technologies that accompany .NET Framework, the iX HMI solution is truly open and flexible. If you have specialized demands, you can use your own C# scripting and .NET components to further extend functionality. iX fully supports your ideas without slowing you down.



About Beijer Electronics

Beijer Electronics is a fast growing technology company with extensive experience of industrial automation and data communication. The company develops and markets competitive products and solutions that focus on the user. Since its start-up in 1981, Beijer Electronics has evolved into a multinational group present in 21 countries and sales of EUR 157 million 2011. The company is listed on the NASDAQ OMX Nordic Stockholm Small Cap list under the ticker BELE.

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Order no: BREN562A

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