Success Stories

Empowering Maritime Navigation

Winmate Marine PPC and Box PC Optimizes Electronic Chart Display and Information System (ECDIS)

Background

Maritime navigation is a complex endeavor that requires precision, reliability, and adherence to stringent regulations. Central to the safety and efficiency of maritime operations is the Electronic Chart Display and Information System (ECDIS), a critical component installed on ship bridges to provide real-time navigation data and facilitate route planning.

Ship bridges serve as command centers for maritime vessels, where captains and crew members rely on ECDIS to navigate safely through treacherous waters, avoid hazards, and adhere to navigational regulations. However, the implementation of ECDIS comes with its own set of challenges, ranging from data collection and analysis to regulatory compliance and system reliability.

Main Challenges

Data Collection and Analysis: Ship bridges must collect and analyze vast amounts of observational data, including anemometer readings, speed logs, weather data, and GPS signals. This requires powerful embedded systems capable of processing large volumes of data with precision and reliability.

Regulatory Compliance: Adherence to regulations such as NEMA 0813 is essential for ensuring the integrity and reliability of communication paths and signals, especially considering the placement of sensors atop ships or on open decks.

Redundancy and System Reliability: To mitigate the risk of primary system failure, ship bridges often employ dual systems for critical subsystems like navigation, path control, and radar. Ensuring seamless operation and simultaneous display of critical information to both captains and pilots is essential for safety at sea.

Core Products

- W26IH3S-MRA1FP - 26-inch Intel® Core™ i5-5350U Flat PCAP ECDIS Marine Panel PC
- EACIL20-MR - Intel® Pentium® N4200 Marine Computer
- I330EAC-ITW-6L - Intel® Core™ i5-1135G7 Marine Computer

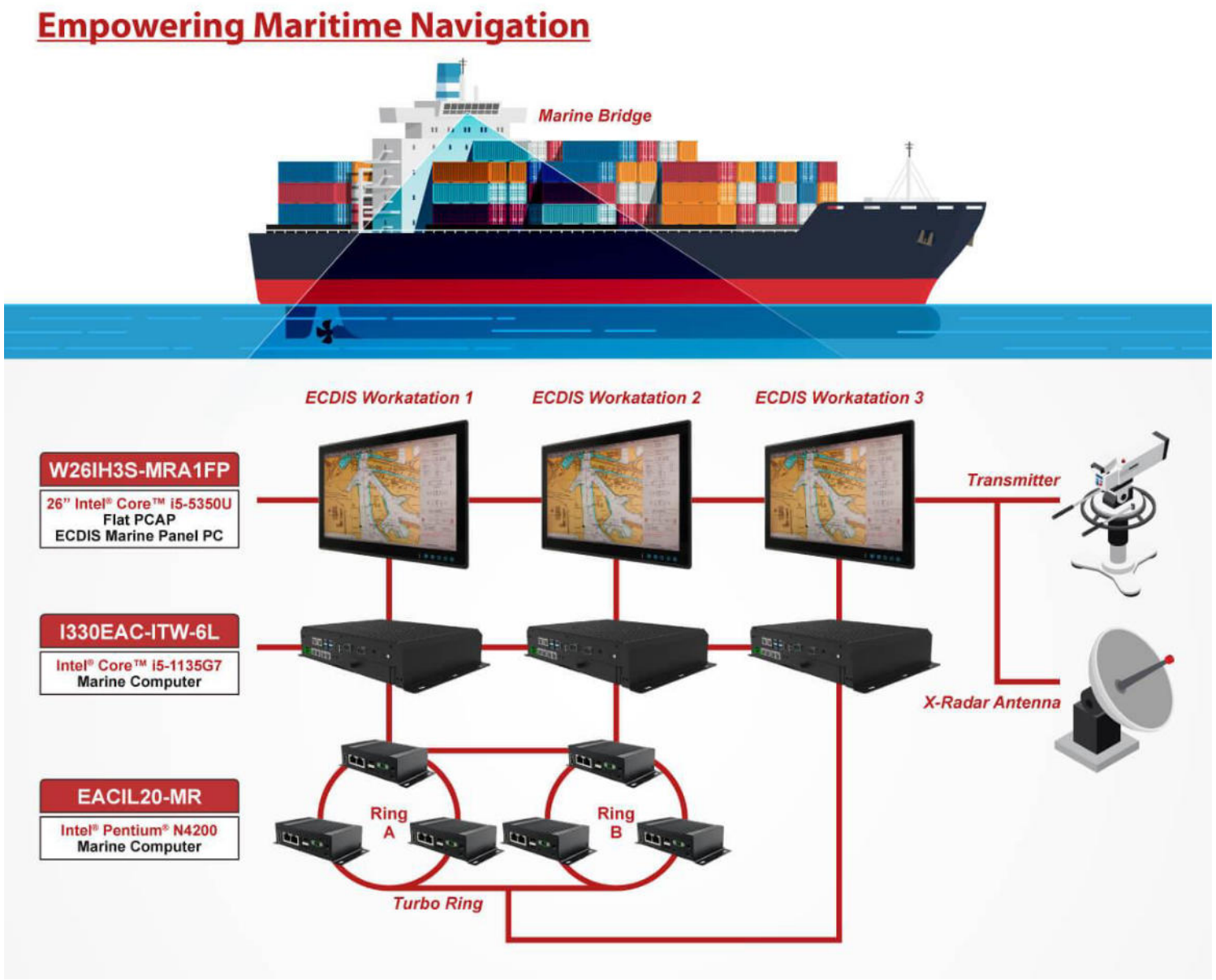
Why Winmate

Winmate Marine PPC and Box PC solutions offer tailored solutions to address the challenges encountered in maritime navigation:

- **Data Processing Power:** The Winmate series of marine embedded box PCs equips up to six COM ports, enabling synchronous handling of large volumes of data. This ensures accurate data analysis and enhances navigation efficiency.
- **Regulatory Compliance:** Winmate Marine PPC and Box PC solutions adhere to regulations such as NEMA 0813, ensuring compliance with communication path and signal integrity standards even in challenging maritime environments.
- **Redundancy and Reliability:** Designed to support dual systems, Winmate's marine PPC and box PCs facilitate seamless operation and simultaneous display of critical information to captains and pilots. With features such as multiple LAN ports, these solutions provide the connectivity and control necessary for navigating the seas with confidence.

By leveraging Winmate Marine PPC and Box PC solutions, maritime operators can overcome the challenges of ECDIS implementation on ship bridges, ensuring enhanced navigation efficiency, regulatory compliance, and system reliability at sea.

Application Diagram



Related Products

Winmate **W26IH3S-MRA1FP**

- 26" Intel® Core™ i5-5350U Flat PCAP ECDIS Marine Panel PC
- 1920 x 1200 resolution with projective capacitive multi-touch screen
- Edge-to-edge narrow bezel design and fanless cooling system, Flat PCAP ECDIS Marine Panel PC
- Color calibrated for ECDIS compliance (Optional)
- Capacitive touch keys for quick function access and display control
- Support ECDIS DAY, DUSK, and NIGHT mode switching
- Optional 4 x COM port (NMEA 0183 protocol) 422/485 switchable via software
- Meet the requirements of industrial marine standards, including IEC60945 4th Edition, DNVGL-CG-0339, IACS E10

Winmate **EACIL20-MR**

- Intel® Pentium® N4200 Marine Computer
- Intel® Apollo Lake N4200 Computer
- Fanless cooling system
- Compact size 100 x 70 x 31 mm(w/o mounting bracket)
- Expansion module design
- Various mounting options: desk, wall, VESA, DIN-Rail

Winmate **I330EAC-ITW-6L**

- Intel® Core™ i5-1135G7 Marine Computer
- Intel® Tiger Lake Core™ i5-1135G7, Marine computer
- RAM 4G DDR4L (Up to 32G)
- Removable 2.5” SSD drive bay
- 6 x LAN port
- Isolation Power Protection 1.5KV
- DNVGL-CG-0339, IEC60945 Certificate