

Anytime, anywhere, all in one solution.

**Cyber Security & Remote Monitoring Platform**

**Option Services**

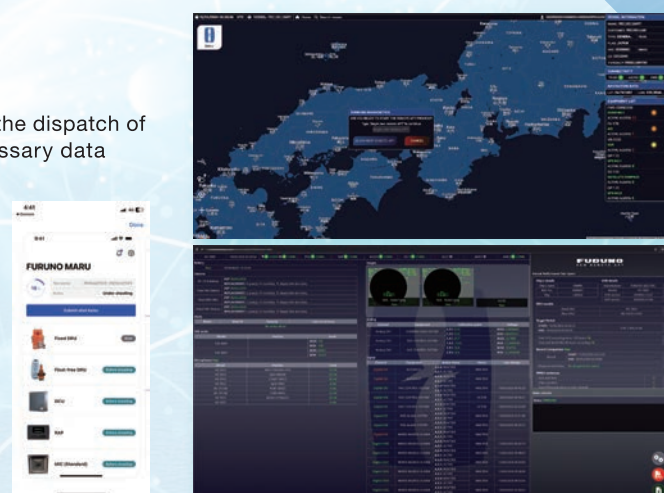
**VDR Remote APT**

**Next Generation Annual Inspections**

Annual VDR inspections, which previously required the dispatch of a technician, can be remotely completed with necessary data acquired via HermAce. Remote inspection can be carried out anytime, anywhere. By removing the need to schedule technicians, the reduction of running costs and operation burden is achieved.

**Pre-survey check**

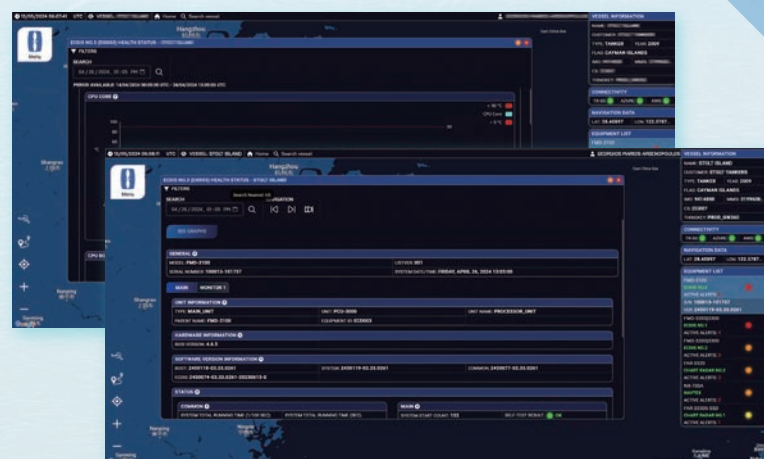
Perform a pre-survey check at any time to ensure the data is recorded correctly in the VDR. This practice dramatically reduces the possibility of unexpected events occurring during inspections and can significantly improve service completion rates.



**Predictive Maintenance**

Health Status, such as CPU temperature and fan speed, can be extracted and visualized with threshold information. Predictive maintenance of Radar magnetrons can also be achieved efficiently.

With Furuno's expertise and decades of experience, it is now possible to replace parts based on actual measured values according to the usage of each magnetron instead of relying on the less accurate recommended replacement time.

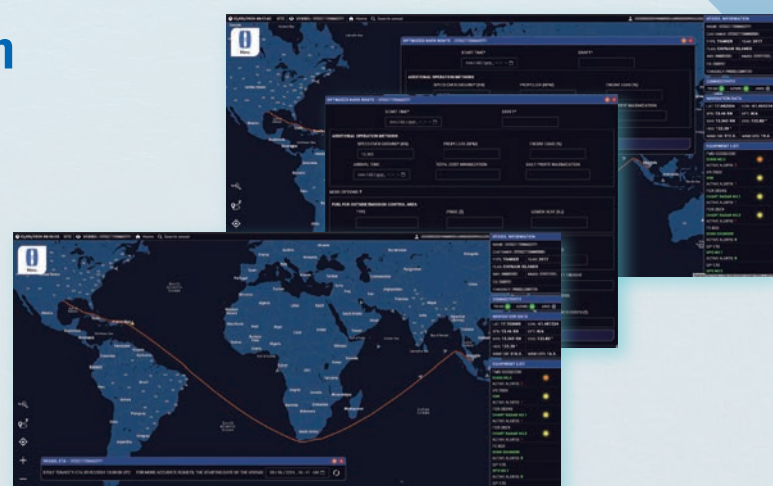


**Option Services**

**Voyage Optimization**

**Route Optimization**

To optimize the ship's route through the new HermAce Portal, users can use the route optimization function to improve operational efficiency during the voyage. Planned routes can be remotely monitored with ETA information, and an optimized route can be returned to the ship.



<p>Provides detailed and relevant troubleshooting "Furuno Tips"</p> <p><b>Furuno Tips</b></p> <p>The BOT function provides appropriate troubleshooting assistance for alerts generated by the equipment.</p>	<p>Predictive maintenance minimizes unexpected breakdowns</p> <p><b>Predictive Maintenance</b></p> <p>Predictive maintenance is vital to analyzing the operating condition of equipment (such as Radar magnetrons) and foreseeing replacement intervention.</p>	<p>Improved safety, security, and convenience</p> <p><b>Data Distribution</b></p> <p>Data can be distributed between land-based cloud storage as well as locally on the vessel.</p>
<p>Secured information and communication</p> <p><b>Cyber Security</b></p> <p>It functions as a gatekeeper, segregating Furuno's navigation and communication equipment from onboard IT systems to ensure cyber security within the network.</p>	<p>Regulatory inspections can be prepared in advance remotely</p> <p><b>Remote APT (Annual Performance Test)</b></p> <p>Data required for annual VDR inspections can be remotely acquired and completed in a short period of time.</p>	<p>Synchronization with ECDIS</p> <p><b>Automatic Chart Updates</b></p> <p>Receive the latest data from charts and publications and synchronize with ECDIS.</p>



Beware of similar products All brand and product names are registered trademarks, trademarks or service marks of their respective holders.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

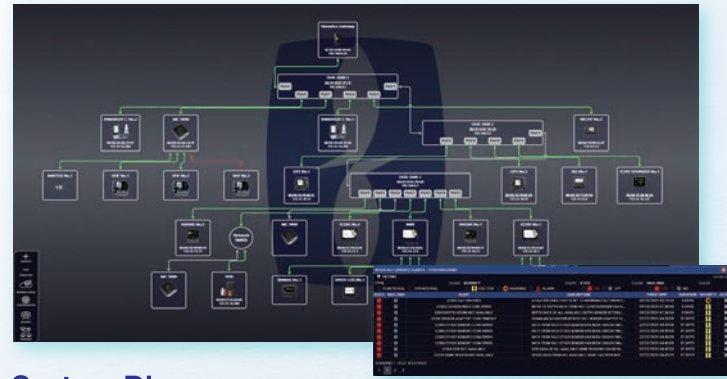


HermAce has obtained the following certifications.

- Lloyd's Register - Digital Twin Ready
- ClassNK - Innovation Endorsement
- Compliant with IACS UR E27



## Real-time Remote Monitoring



### System Diagram

The new HermAce Portal analyzes equipment failure and monitors the ship's OT network system diagram, providing connectivity

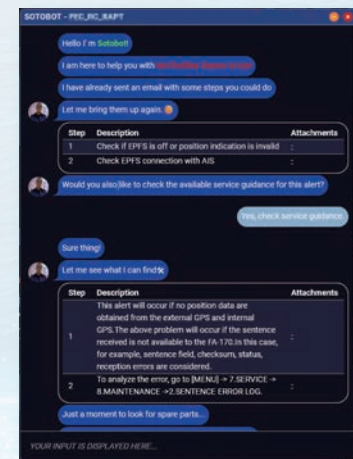
### E-MAIL Alert Notification

If an important alert is received, notification and troubleshooting instructions will be immediately sent to designated accounts without waiting for a crew member's report.

### Real-time Remote Monitoring

Critical data pertaining to the vessel's equipment is collected through the HermAce gateway and then transmitted to cloud infrastructure, making it available to users anytime through a web portal interface.

## Furuno Tips



By combining alert information with health status data, it is possible to identify the cause of symptoms and suspected spare parts.

Furuno Tips, a compilation of digitized Furuno technical know-how, allows users to access necessary troubleshooting methods without contacting the manufacturer when equipment symptoms occur.

## Data Distribution

Data from various navigational and communication devices collected by HermAce can be distributed through API (Application Programming Interface), including:

- Device Connectivity
- ECDIS Route
- Functional Alerts
- Operational Alerts
- Equipment List with serial number and software version
- Position
- Heading
- SOG / COG
- DPT
- Wind Speed / Direction



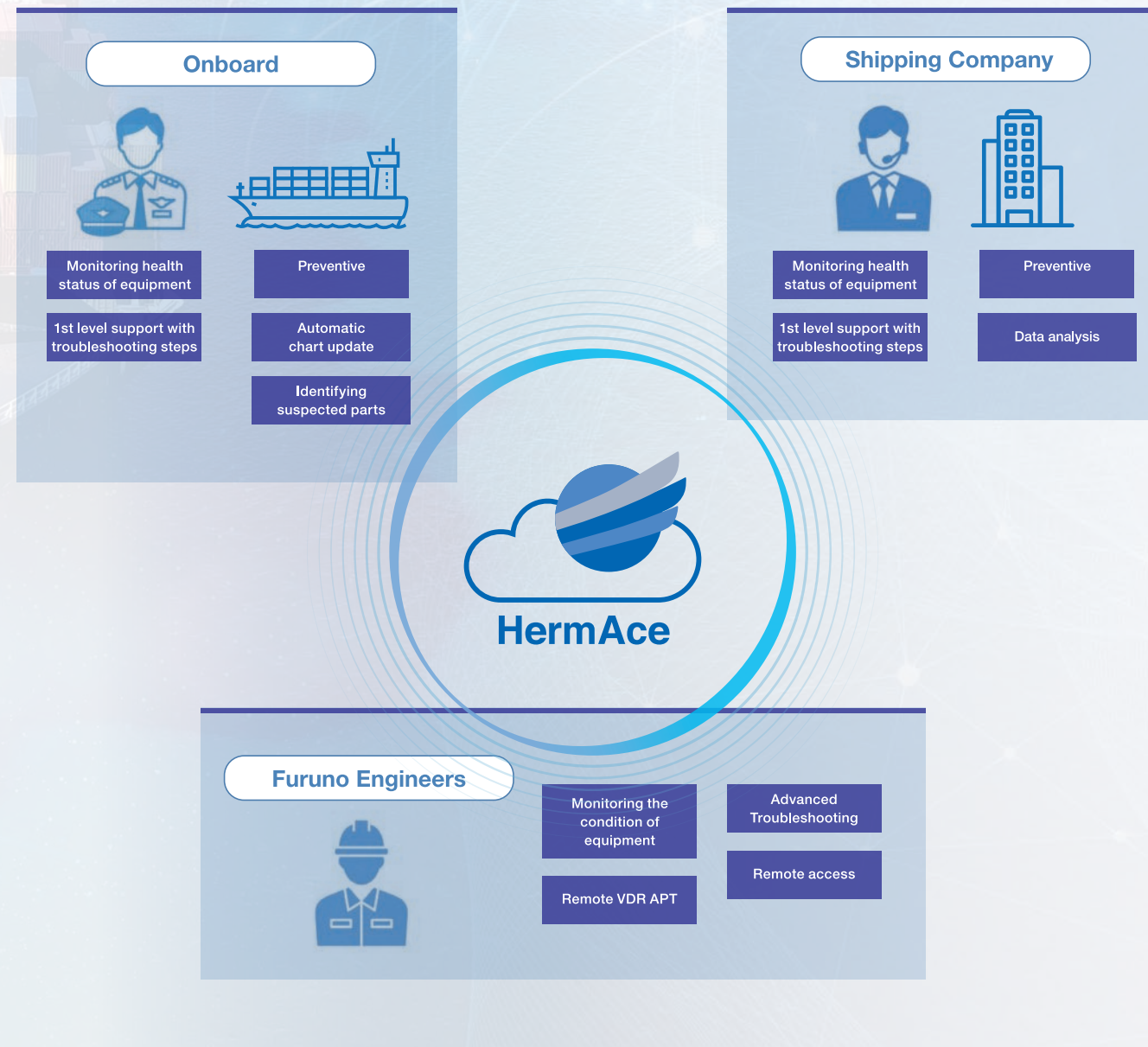
This data and more can be distributed to any 3rd party system locally or through the cloud, depending on customer needs.

## Efficient operation and security for all vessels

HermAce is a remote monitoring tool that uses digital twin technology to remotely monitor the status of electronic equipment onboard while ensuring the security of the ship's network. Data from Furuno's navigation and communication equipment can be collected, distributed, and monitored in real time, enabling quick support of ships. A new diagnostic tool called FurunoTips encapsulates Furuno's 70+ years of technological expertise into a digital solution, providing insightful information and troubleshooting capabilities that allow customers to quickly take action when alerts occur.

HermAce can also deliver Navigation equipment information to shore, automatically update ENC charts, remotely update software, and minimize the time required for annual VDR inspections, depending on customer needs.

## HermAce System Solution



## User-friendly Interface

- Main menu**
  - Remote access
  - Remote APT
  - High Risk Alerts, etc.
- FurunoTips (SOTOBOT)**
  - SOTOBOT troubleshoots specific alerts and symptoms and identifies necessary replacement parts
- Setting route (orange)**
- Optimal route (green)**
- Ship's position**
- Basic Information**
  - Ship name, ship registry, IMO, MMSI
  - Connectivity Status
  - Position, Speed, Heading, etc.
- Sub Menu**
  - Optimized route
  - ECDIS Route
  - Recenter on Vessel
  - Zoom IN/OUT
- Alert list**
- Equipment List**
  - Serial number information
  - Software Version

## Bridge Cyber Security

HermAce is used as a security gatekeeper between Furuno's navigation and communication equipment and onboard IT systems. Its high performance and reliability strengthen the network's security, allowing the use of HermAce's main functions of data communication between land-based shore and vessel and data distribution to external devices with peace of mind.

Compliant with IACS UR E27.

