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**Integrated Navigation & Tactical System** 



## INTS, the Leading Tactical Navigation Solution

With over 30 years' experience in both submarine and surface warship tactical navigation, OSI is leading the military Integrated Navigation and Bridge Systems (INBS) market. OSI's core offering, Integrated Navigation and Tactical Systems (INTS) builds upon OSI's ECPINS software, augmenting its advanced tactical navigation capabilities with integration of sensors and sub-subsystems - ensuring safe navigation in any circumstance or environment.

OSI's IBNS, known as Integrated Navigation & Tactical System (INTS), is a fully scalable, IMO and NATO STANAG 4564 WECDIS compliant Integrated Bridge System. Centred around OSI's ECPINS, the system integrates selected radars and navigation sensors, providing a comprehensive and cost-effective military IBNS.



#### Reduced risk and turn-key

- OSI's INTS is a fully integrated solution, encompassing all sensors, processors, data distribution and consoles. Reduces risk and associated overheads;
- OSI ECPINS is ahead of other competing WECDIS applications, mitigating development risks.

#### Max compliant and uniquely certified

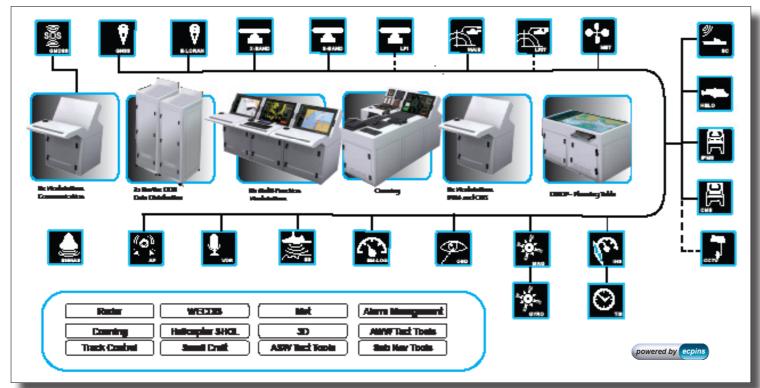
- Compliant with all relevant IMO resolutions, IEC standards and NATO STANAG 4564 and 7170 for INS, IBS, and (W)ECDIS;
- Tested and certified to these specified standards by DNV GL.

#### Proven and low cost

- 30-plus years' experience, 600 plus systems, and 20 Navies;
- All types of Warships, including submarines, small craft, OPV, corvettes, frigates, auxiliaries, and LPD/LPH;
- Minimized recurring costs.

#### **Leading military navigation**

- ECPINS (Electronic Chart Precise Integrated Navigation System) is the most sophisticated WECDIS in the market;
- ECPINS is based on the Royal Navy Admiralty Manual of Navigation (BR45 series, especially Volume 8-WECDIS doctrine), widely used by Navies around the world.



#### **Enhanced tactical capability**

- Extensive ASW and AWW support tools (e.g.: Force Protection, Weapon Safety Arcs, Dogbox, SHOL, W-AIS, 4W Grids);
- Unique Submarine navigation and tactical tools (e.g. Pool of Errors, Auto DR/EP, Auto Depth Contour Lines, Bottom Contour Navigation, TMA, PMI and WSM).

#### **Extensive system integration**

- ECPINS has the widest integration track record, enabled by its proprietary military grade NavTac DDU;
- (D)GPS, GNSS, INS, Gyro/Compass, Nav Radar, (W) AIS, LRIT, E-Loran, Echo, Log, Auto Pilot, OBD, Navtex, Time, VDR, Meteo, and BNWAS;
- CMS, IPMS, and CCTV;
- EO, ESM, TDL, Towed Array, and Remote Weapon Station.

#### **Technically extreme high-performance**

- Military grade data distribution with NavTac DDU;
- Enhanced navigation security and cyber secure system design;
- High-end proprietary military chart server;
- Secured navigation in GNSS denied situations using: Unique SM Navigation tools, ECPINS Radar Image Overlay, GNSS discrepancy monitoring, alternative positioning, real-time Pool of Errors manipulation, and secure AIS.

#### Reduced operator workload

- Multi-function consoles improve workflow and reduce bridge crew fatigue;
- Transition between bridge and navigation systems is seamless, quick and simple.



#### **WECDIS**

ECPINS enables warship operation in the most difficult conditions. With full WECDIS functionality, resilient to GPS denial or failure through battle damage, ECPINS provides a layered approach to redundancy.



#### W-AIS

Functionality creates a detailed Recognised Maritime Picture, giving smaller units without an operations room the ability to have enhanced situational awareness.



#### **SHOL**

SHOL calculates and presents the Ship Helicopter Operating Limits, enabling the watchkeeper to focus on the safety of operations in any circumstance.



#### **Tactical Asset Control & Tracking**

T-ACT enables coordination with small craft using a secure data link. Routes, contacts of interest, SMS style messages can be easily exchanged. It provides Blue Force tracking and RHIB-C3.



#### **Conning Display**

Easy to read, logically presented, ECPINS Conning Display provides a snapshot of engine and rudder status, environmental conditions, route info, alarms and a depth profile.



#### NavTac DDU

The NavTac DDU provides the interface between ship's sensors, other data sources and the INTS. Position, Navigation and Time (PNT) data is collected, checked, validated, synchronised, "fused" recorded and distributed to the clients via UDP multicast.



#### **CMS/Weapon interfaces**

OSI has successfully interfaced with a number of CMS's. CMS is able to distribute data from the chart engine, exchange contact and target data, share routes, waypoints and employ full MIL-STD symbology.



#### **3D Chart**

The ECPINS chart engine is the most powerful on the market. Displaying over 30 different official data types, and rendering ENC's in 3D. Satellite imagery, land maps and sea charts can all displayed seamlessly and simultaneously.



#### Radar & Radar Image Overlay

Full integration with X and S band radars. Controlled from any MFC, saving a dedicated console, less cabling, fewer LRU's and radar cards. Radar Image Overlay is distributed via the LAN using OSI's proprietary RIBNet Server.

### OSI Integrated Navigation & Tactical System

- Fully integrated
- Low risk and turn-key
- Max compliant and uniquely certified
- Leading military navigation
- Enhanced tactical capability
- Extreme high performance
- 30-plus years' experience
- Submarines, small craft, OPV, corvettes, frigates, auxiliaries, and LPD/LPH







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