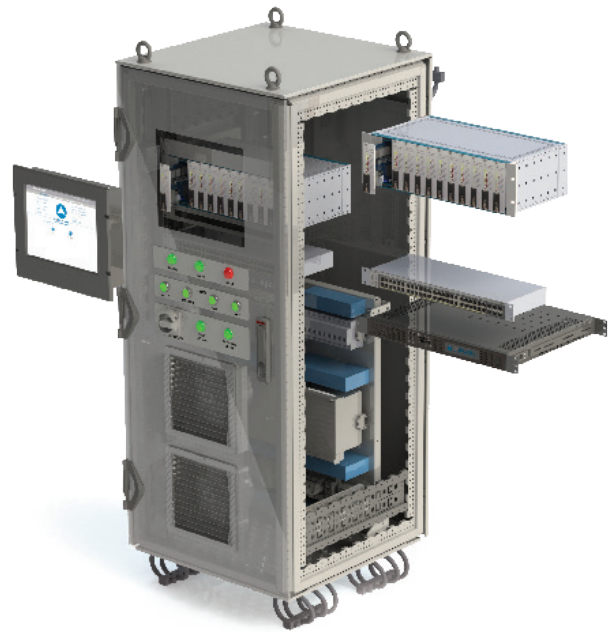


Netans Series

Navigation data distribution systems

Netans acquires controls and processes all navigation sensors data and distributes the consolidated navigation information to the external systems.

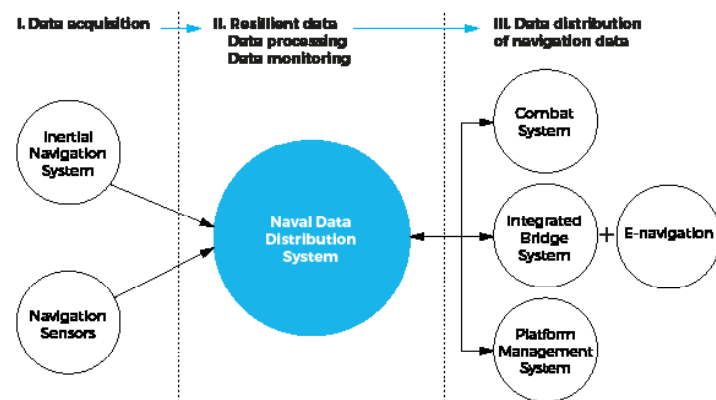
Netans acts as a consistent common reference system which will ensure that all parts of the system run with the same navigation data.



A modular and cost-effective solution for new build and retrofit

Based on iXblue's unique know-how of navigations system, Netans has been carefully designed to meet the diverse requirements of Navies and Coast Guards. If our NDDSs are MOTS systems, thanks to modular software, they could adapt to all vessel configurations and they are able to interface with all complex systems as a large range of CMS, Missiles, guns, navigation bridge, etc.

Netans is a ship's nerve center within an integrated navigation system



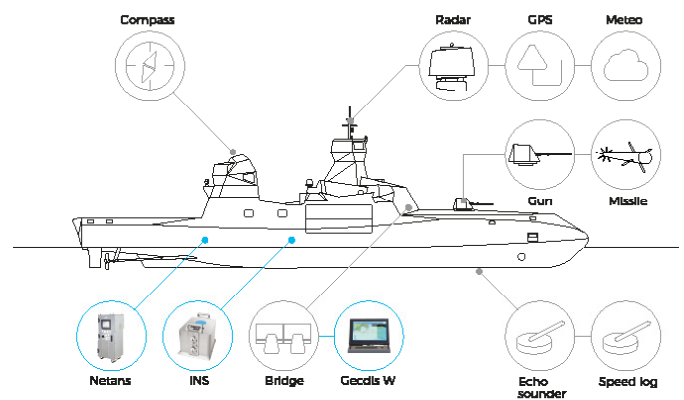
Netans, a smart NDDS to monitor and provide safety data in cyber secured environments

For each data, the DDU will qualify it in three steps:

- **Validity:** check the data is conformed to specified criteria
- **Integrity:** comparison between data
- **Plausibility:** coherency with data type

To protect navigation system against cyber attack, our NDDS:

- Detect and alert on anomaly on sensor data
- Detect and alert on anomaly on network stream
- Use last standards in Cyber recommendations



TECHNICAL SPECIFICATIONS

You could customize your systems with:

- Three different size of enclosures (from Netans N3 to N7)
- Five models of module
- One tailored configuration file

Physical Characteristics



| | Netans N3 | Netans N5 | Netans N7 |
|------------------------|-----------------------------------------------|---------------|---------------|
| Ethernet | 6 | 24 | 48 |
| I/O modules | 6 modules | 11 modules | 22 modules |
| Cabling | Connectors | Cable glands | Cable glands |
| Front screen | External | External | Included |
| Time clock | External | Optional | Optional |
| UPS | External | Included | Included |
| Size | 250x400x400 | 700x600x600 | 1400x600x600 |
| Power Supply (default) | 24 VDC | 115VAC 240VAC | 115VAC 240VAC |
| Weight | Configuration dependent between 10kg to 120kg | | |

I/O Modules

| | |
|-------------|------------------------|
| RS 422 | 4 inputs / 4 outputs |
| SYNCHRO OUT | 2 outputs (400 Hz/90V) |
| SYNCHRO IN | 1 input (400 Hz/90V) |
| HDLC/SDLC | 2 input or output |
| NTDS-A | |

Performance

Input / output

| | |
|------------------------|----------------|
| Input / output rate | 0.5Hz to 200Hz |
| Time stamping accuracy | 100µs |

Latency

| | |
|-------------------------------|---------------------------------------|
| Real time high-priority loops | < 2.5ms with a jitter less than 500µs |
| Direct hardware connection | 0ms |

Operating/environment/mechanical

| | |
|------------------------------------------|-------------------------------------------------|
| Operating/storage temperature | 0°C to +45°C / -10°C to 50°C |
| Ingress Protection | IP54 |
| EMC | IEC-60945/MIL STD 461 |
| Shock and vibration proof ⁽¹⁾ | MIL STD 901 / MIL STD 167-1 |
| | IEC 61162-1,-2, -450, -460 |
| | IEC 61924-2 Integrated navigation system (INS), |
| | IEC 62288 |
| | IEC 60945 |