

# ECDIS

electronic | chart | display | information | system

 **TRANSAS**<sup>®</sup>  
SETS THE STANDARD

**E C D I S** is a computer-based navigation information system that complies with International Maritime Organization (IMO) regulations and can be used as an alternative to paper nautical charts. An ECDIS system displays the information from electronic navigational charts (ENC) and integrates position information from the Global Positioning System (GPS) and other navigational sensors, such as radar and automatic identification systems (AIS).

Transas is recognized in the market as the leading ECDIS supplier comprising more than 20 years' experience in Electronic Chart Systems development. Achieving the first type approval of an ECDIS in 1999, today Transas delivers a comprehensive solution to its customers leading them through transition to ECDIS Carriage Requirement and paperless navigation.

**E**LECTRONIC  
**C**HART  
**D**ISPLAY  
**I**NFORMATION  
**S**YSTEM



## TRANSAS NAVI-SAILOR 4000 ECDIS

Transas delivers a full range of type-approved ECDIS solutions customized according to the customer's requirements.

### NAVI-SAILOR 4000 ECDIS STAND-ALONE CONFIGURATION

Navi-Sailor 4000 ECDIS is designed in full compliance with the latest IMO, IHO and IEC standards and resolutions. NS 4000 ECDIS is a navigation information system that displays information from navigation sensors on the electronic navigational chart. The system is designed to assist the mariner in route planning and monitoring. The combination of all data on a single display allows for a high level of situational awareness and onboard decision making.



In accordance with ECDIS requirements the following mandatory sensors must be connected directly to the workstation NMEA ports:

- Position sensor (D)GPS
- Heading Sensor, Gyro
- Speed sensor, LOG

Other additional information and sensors/systems can be connected either directly via NMEA port, or optionally via the Data Collector Unit (DCU) and displayed in the Navi-Sailor user interface.

Some of the additional sensors are:

- AIS
- 2x ARPA Target data from 2 radars A/B
- NAVTEX (NMEA or ASCII format)
- Echo Sounder
- Wind Sensor
- Water Temperature
- Rate of Turn
- Meteorological sensors

### DUAL NAVI-SAILOR 4000 ECDIS

A dual ECDIS supplied in a Master + Backup configuration complies with the backup requirements for ECDIS and meets the chart carriage requirement. In case of ECDIS Master failure, the Backup system automatically takes over as Master system in accordance with the ECDIS backup arrangement requirements.

- Mandatory sensors must be connected to the NMEA ports on both Master and Back-up WS processor units
- Other sensors to be connected via Data Collector Unit (DCU) 16xRS422 serial ports
- A Network Ethernet switch is required to establish the network for above mentioned above devices

### NAVI-SAILOR 4000 ECDIS MULTIFUNCTION DISPLAY

Transas 4000 Multifunction Display (MFD) combines a type-approved ECDIS, a Chart-Radar/ARPA, Conning and Alarm Monitoring System (AMS) in one and the same display/workstation.

The main advantage of the 4000 MFD concept is the integration and sharing of the radar image and other data amongst the workstations connected to the network, such as:

- Charts and databases
- Sensor data
- Radar data
- Route and Voyage plan data
- Alarms and warnings
- Bridge Navigation Watch Alarm System (BNWAS)
- Track history and electronic logbook

Transas 4000 MFD software provides the common base for installation of ECDIS MFD and Radar MFD systems, depending on the primary task/functionality and required certificate.

The **ECDIS MFD** is a type-approved ECDIS in a basic configuration, with an optional **Radar Slave** task for external radar connection but without scanner control.

The **Radar MFD** is a type-approved ARPA Radar in a basic configuration, with either an X or S-band transceiver. Both up and down mast transceivers are available. An **ECDIS Slave** station is optional and may be accepted as an **ECDIS Backup** by some Flag states.

The **Conning** task is optional and is available on all workstations in the network. It can be displayed on an extra monitor connected to any workstation processor for space saving and cost reduction.

**BNWAS** option as an integrated part of ECDIS or Conning is the most efficient way to comply with the IMO BNWAS Carriage Requirement. Transas BNWAS is type-approved by DNV according to IEC62616.

SHARED ALARMS, SENSORS, PLANNING, MONITORING  
 CHARTS AND DATABASES



## TRANSAS NAVI-SAILOR ECDIS FEATURES

Return to the display of the area where the own ship is located \_\_\_\_\_

Move the ship symbol \_\_\_\_\_

Orientation to the nor \_\_\_\_\_

Orientation by the compass heading \_\_\_\_\_

Orientation by the direction of the current leg of the monitored route \_\_\_\_\_

Relative motion mode selecting \_\_\_\_\_

True motion mode selecting \_\_\_\_\_

Increase the chart display scale \_\_\_\_\_

Decrease the chart display scale \_\_\_\_\_

Display the chart on the original scale \_\_\_\_\_

Object informa \_\_\_\_\_

View ARCS and Seafarer format charts \_\_\_\_\_

Turn on MOB mode \_\_\_\_\_

Virtual keyboard display \_\_\_\_\_

The Control panel consists of the following windows:  
 NS 4000 ECDIS applications loading or switching

ECDIS Radar Conning AMS

Return to the own ship location  
 Position Dropped

Sensors selection  
 TX X-2 Overlay ARPA AIS

Status in the network  
 MASTER

Alarms display and acknowledgement  
 CHART Land danger

Warnings display and acknowledgement  
 SH Aux. EPFS 2: no input

Time  
 14 - 05 - 09  
 UTC 11 : 15 : 54

Primary positioning system  
 Prim 60° 00.390 N  
 GPS 1 030° 00.169 E

Secondary positioning system  
 Sec: None

Ship motion parameters  
 COG GPS 1 270.0°  
 SOG GPS 1 9.0 kn  
 HDG GYRO 1 270.0°  
 STW LOG 1 9.9 kn

Charts Area  
 ru3htkq0 Autoload: ON  
 1 : 30,000 Man. Corr.

Display Panel  
 System Information  
 System Information  
 Primary Status  
 Schedule Information  
 Route data  
 Environment Data  
 Radar Settings  
 EBL / VRM  
 AIS Messages  
 AIS VDL Data  
 TRIAL/TGT Simulator  
 Navigator  
 Curved Heading Line  
 Docking Mode  
 Manually Fix Position  
 Special Purpose Objects  
 TARGETS

Operational Panel  
 Tasks List - Event Fixed -

Lower Data Group  
 Depth in Metres WGS-84

Control Panel

Chart panel

Functional panel

Config

- Monitoring
- Navigation
- Route Editor
- Add Info
- Manual Correction
- Targets
- AIS
- Logbook
- Charts
- Tasks
- Ice charts
- NavTex Viewer

## ELECTRONIC NAVIGATION CHARTS

To sail paperless, a vessel must use Electronic Navigation Charts (ENCs).



In choosing Transas as your chart provider you will be advised of the most cost effective chart purchases. Transas provides the knowledge and expertise and will customize the process specifically for you. Charts are supplied on CDs or DVDs; the quarterly base issues include all available charts and are sent to the vessel 4 times per year. The purchase of a chart license can be made automatically through our online server or manually via our Chart Group sales staff and e-mailed out to the vessel.

**THE TRANSAS ADMIRALTY DATA SERVICE (TADS)** was developed by Transas in partnership with the United Kingdom Hydrographic Office (UKHO). It provides the most comprehensive official worldwide ENC data coverage with weekly updates. Whether you are a Transas ECDIS user or operate another brand of ECDIS, TADS delivers global chart coverage in SENC or standard ENC format to suit your needs. Developed directly for ship owners and managers, captains, navigators, crew, marine superintendents and shore-based staff, TADS uses only official chart data along with a range of carefully considered additional data services.

The vessel can update their charts in three different ways:

- Weekly update CDs
- Online downloads from the Transas website
- E-mail requests

The **Transas Firewall and Antivirus Protection system (TFAP)** allows direct connection and communication from the Transas ECDIS/RADAR on the Bridge to the shore. TFAP is used for secure transfer of data such as Electronic Navigation Charts (ENCs), chart updates and weather forecasts.

TADS includes the following services:

- Transas SENC Services for the Transas product line
- AVCS (ENC) Services for other brands of ECS, ECDIS and Chart Radar
- Admiralty Digital Publications (ADP)
- SPOS Weather Service
- Admiralty Information Overlay AIOs (Temporary & Preliminary Notices to Mariners)
- ARCS (some flag states allow ARCS where ENC coverage is not available)



## ECDIS TRAINING

Crucial to implementing ECDIS is the appropriate training for the crew and relevant managerial staff ashore. All bridge officers keeping watch on a vessel equipped with an ECDIS should receive general ECDIS training that follows the IMO Model Course 1.27 as well as hands-on training on the particular equipment in use onboard. The Transas ECDIS training is designed to provide the required knowledge about the general use of an ECDIS as well as a detailed introduction into the features of the ECDIS equipment.

Transas provides the following types of ECDIS training worldwide:

- ECDIS IMO Model Course 1.27 at our affiliated Training Institutes and Academies
- Hands-on training (2 or 5-day courses, available through some Transas offices)
- Computer Based Training
- International Safety Management code (ISM) training
- Train-the-Trainer course

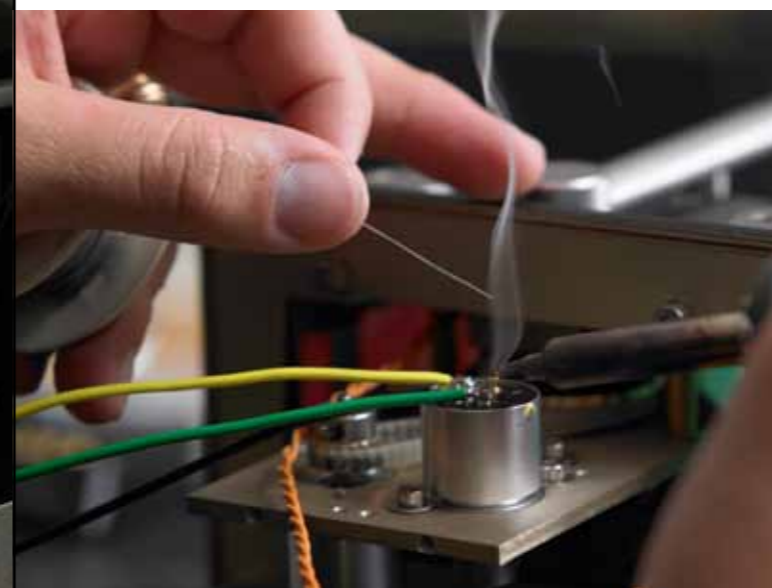
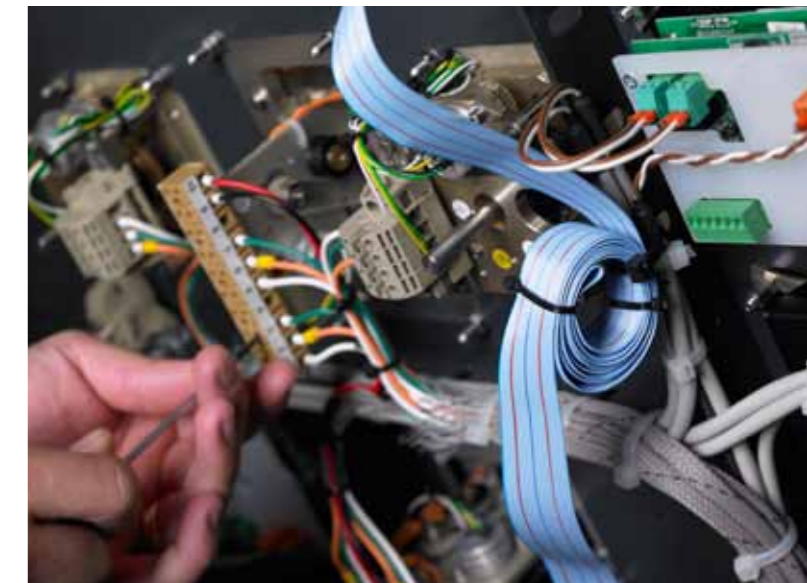
## ECDIS SERVICE

A reliable service partner is vital when selecting your ECDIS supplier. Transas is dedicated to providing the highest level of customer service. The service stations in our worldwide network are strategically located to provide fast and efficient service to our customers. Transas provides service with own trained specialists in all the biggest ports and supplies service in all other ports via our wide spread Service Network.

All work is performed by Transas-certified engineers who are regularly trained to upgrade and refresh their knowledge of the latest technologies.

Transas provides:

- Worldwide service network
- Service coordination
- 24/7 support via service hotline and email
- Chart support
- ECDIS annual maintenance
- TRANSERV contract: maintenance, support, warranty and upgrade services
- Technical training



## VOYAGE PLANNING TOOLS NAVI-PLANNER 4000

Navi-Planner 4000 sets a new standard of safe and efficient voyage planning. This innovative solution from Transas provides a single access point for all information needed for every step of navigation. When developing the Navi-Planner 4000, Transas worked closely with oil company vetting-inspectors, ship owners and navigation officers. The result is a tool which makes voyage planning easy for navigators and efficient for ship owners. Navi-Planner 4000 complies with IMO Resolutions (IMO 1.916(22) Guidelines for the recording of events related to navigation and IMO A.893(21) Guidelines for Voyage Planning).

### TRANSAS NAVI-PLANNER 4000 FEATURES

Navi-Planner 4000 is a set of databases, applications and services intended for voyage planning. It can be used both onboard as a 'back of the bridge' application, and ashore as a management tool. Navi-Planner 4000 software creates a voyage plan using an electronic route editor, including:

- Port to port planning of a complete Voyage Plan
- AtoBviaC auto routing
- Under Keel Clearance
- Route checking
- Reference point selection
- Reporting points
- Warnings along the route
- Chart listing
- Detailed voyage plan reports
- Route export/import
- Integration with Navi-Sailor 4000 ECDIS MFD



### VOYAGE PLAN CAN BE CREATED IN A SIMPLE WAY FOLLOWING THE STEPS:

#### STEP 1. QUICK ROUTE

Automatic route creation with the AtoBviaC option



With the Kiel canal consideration (the canal open)



Without the Kiel canal consideration (the canal closed)



#### STEP 2. WEATHER ROUTING

- Weather forecast ordering
- Various weather data visualization (pressure, wind, wave heights, swell)
- Play ahead functionality with the weather forecasts, route and route schedule consideration
- Route optimization by weather conditions



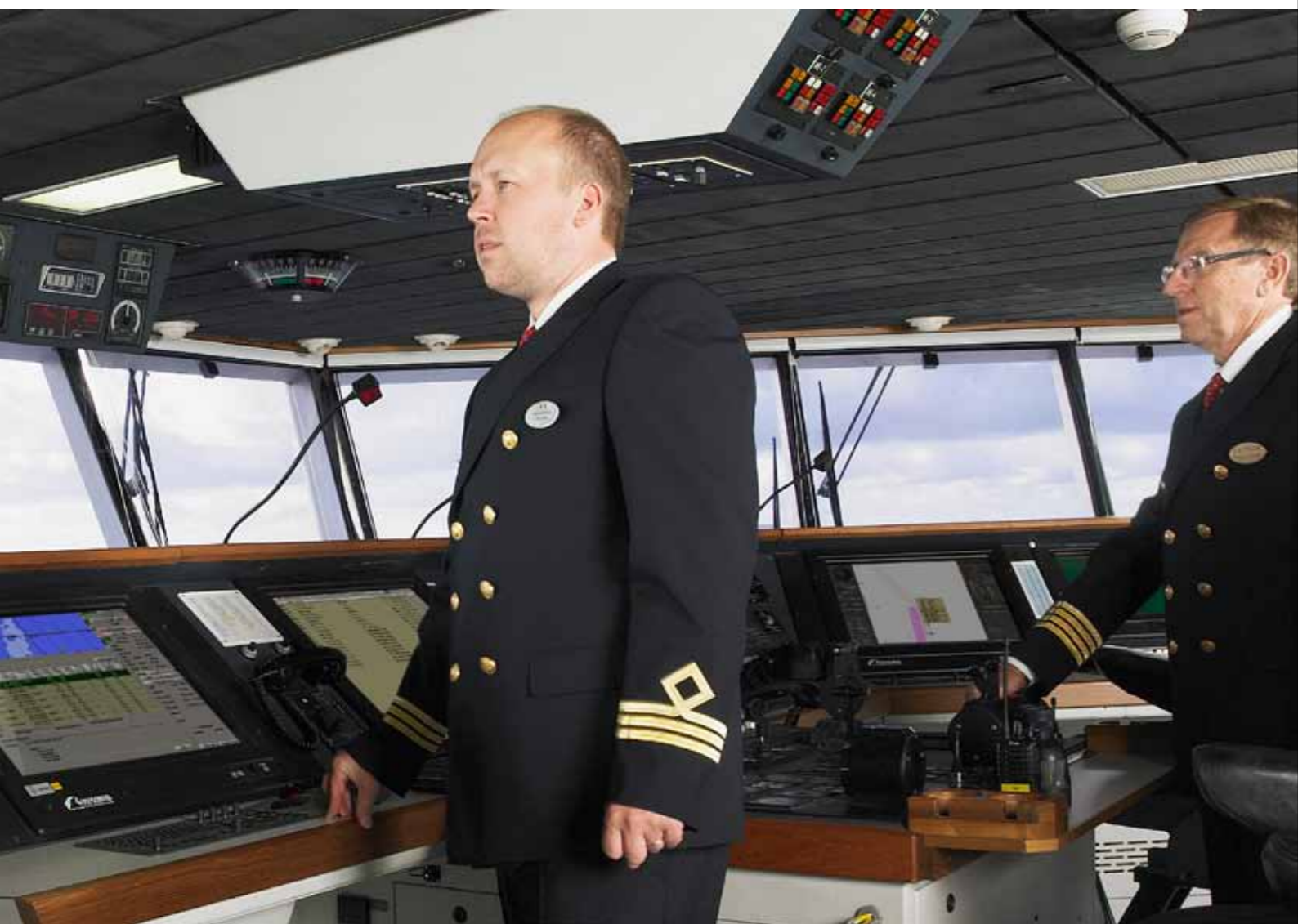
## ELECTRONIC LOGBOOK

In addition to the standard logbook in Navi-Sailor 4000 ECDIS, Transas has developed an advanced DNV type-approved Electronic Logbook. The new E-Logbook is based on IMO Resolution A.916 (22) – Guidelines for the recording of events related to navigation. The Transas E-Logbook is type-approved by DNV and various flag states to replace the onboard paper logbook.

Main features of the E-Logbook:

- Effective Ship's Logbook with a layout similar to paper Ship's Logbook
- Various types of printout, each replicate paper Ship's Logbook

- Entry correction
- Protection from unauthorized entries in Ship's Logbook
- Automatic entry of events by name and rank of the watch officer
- View all changes made by a watch officer
- Archiving of Logbook for a period of two years
- Export Ship's Logbook to read-only format (PDF)
- Transfer of archived Logbook external media
- Open and read archived Ship's Logbook
- Print Preview function
- Print out entire Ship's Logbook or for specified period using date filter
- Synchronization in Network

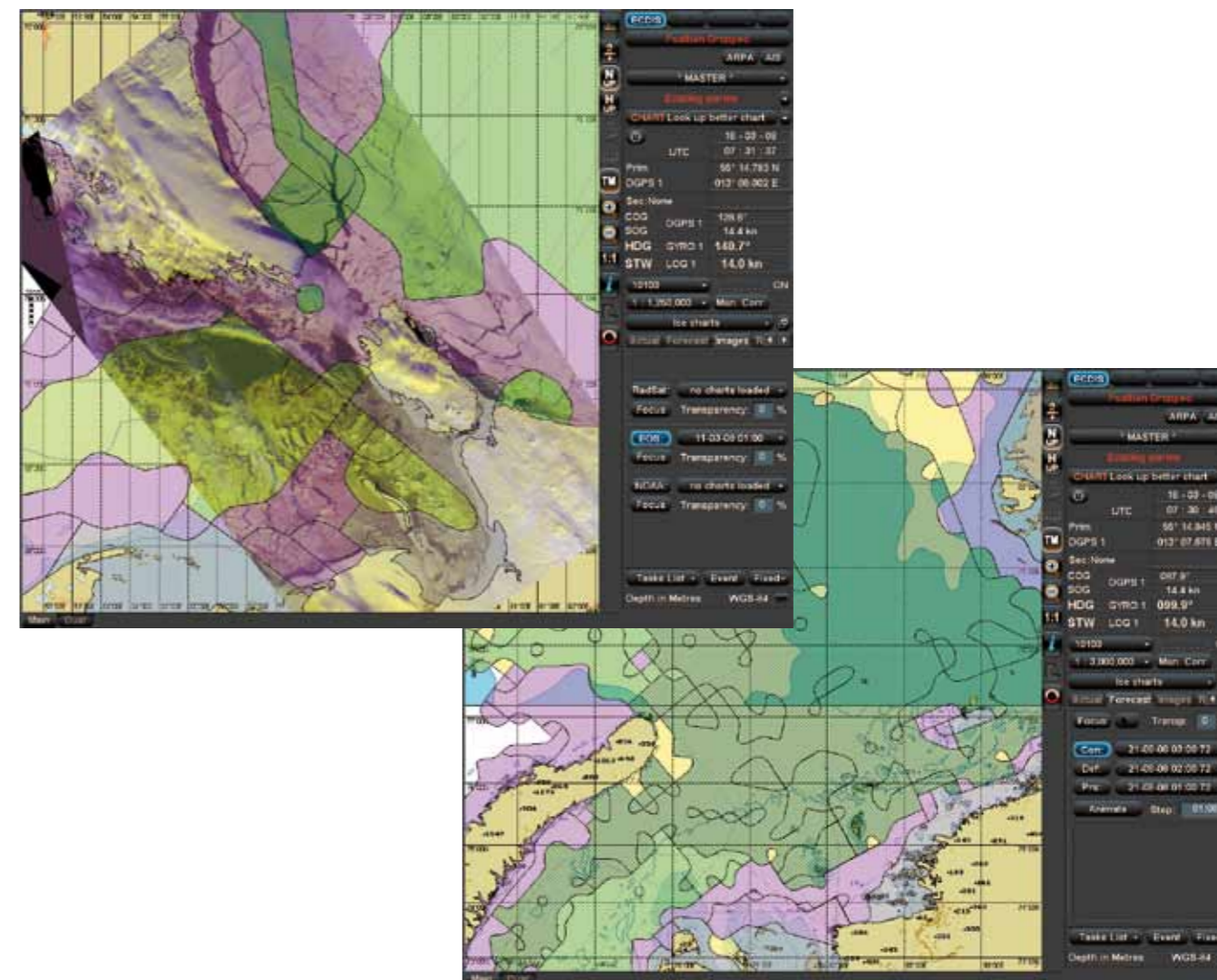


## ICE CHARTS

Ice charts detail the distribution of ice of different age, concentration and forms. This feature displays ice conditions for a certain sea area or the entire sea. The ECDIS MFD allows simultaneous display of up to 6 different semi-transparent layers (different kinds of ice information), with an individual transparency setting for each layer.

The following Ice Chart formats can be presented:

- **Ice condition actual** – Actual charts of ice allocation in S-57 format. Charts are based on information from NOAA, Terra, Radarsat, data from hydro-meteostations and vessels
- **Ice condition forecast** – Forecast charts of ice allocation in S-57 format
- **Recommended Ways** – Recommended routes for ice navigation presented in S-57 format
- **Images** – Raster images from satellites (Geo TIFF)



**TRANSAS MARINE INTERNATIONAL**

tel: +46 31 769 56 00  
fax: +46 31 694 184  
e-mail: info@transas.com  
sales@transas.se

**TRANSAS USA INC.**

tel: +1 425 486 2100  
fax: +1 425 486 2112  
e-mail: sales@transasusa.com

**TRANSAS MEDITERRANEAN SAS**

tel: +33 4 89 86 4100  
fax: +33 4 89 86 4129  
e-mail: med-sales@transas.com

**TRANSAS BENELUX**

tel: +31 10 428 5599  
fax: +31 10 428 5590  
e-mail: benelux@transas.com

**TRANSAS BLACK SEA**

tel: +90 216 337 0852  
fax: +90 216 337 0852  
e-mail: blacksea@transas.com

**TRANSAS MARINE POLAND**

tel: +48 58 774 7283  
fax: +48 58 774 7283  
e-mail: sales@transas.de

**TRANSAS MARINE PACIFIC PTE LTD.**

tel: +65 627 10 200  
fax: +65 627 17 300  
e-mail: info.asia@transas.com

**TRANSAS MARINE (UK) LTD.**

tel: +44 2392 674 000  
fax: +44 2392 674 048  
e-mail: tmuk.sales@transas.com

**TRANSAS CHINA**

tel: +86 21 3392 6750  
fax: +86 21 3392 6790  
e-mail: info.china@transas.com

**TRANSAS MARINE NORWAY**

tel: +47 91 70 5060  
fax: +47 94 76 2319  
e-mail: sales@transas.no

**TRANSAS BALTIC SIA**

tel: +371 6 716 2100  
fax: +371 6 716 2101  
e-mail: baltic@transas.com

**TRANSAS MARINE GMBH**

tel: +49 40 890 6660  
fax: +49 40 881 1379  
e-mail: info@transas.de

**TRANSAS MIDDLE EAST**

tel: +97 14 357 3625  
fax: +97 14 357 3626  
e-mail: tme@transas.com

**TRANSAS HONG KONG LTD.**

tel: +852 281 516 03  
fax: +852 281 516 90  
e-mail: info@transas.com.hk

**TRANSAS HELLAS LTD.**

tel: +30 210 899 5164  
fax: +30 210 899 5218  
e-mail: hellas@transas.com

**TRANSAS NAVIGATOR**

tel: +7 812 325 3131  
fax: +7 812 325 3132  
e-mail: trn@transas.com