

GECDIS

THE CHOICE FOR ECDIS NAVIGATION SYSTEMS



SODENA

THE NAV SYSTEMS COMPANY

GECDIS

THE CHOICE FOR ECDIS NAVIGATION SYSTEMS

A PROVEN SOLUTION

SODENA pioneered ECDIS systems by starting GECDIS's development in 1997. The first equipment was placed on a Merchant navy ship in 2000.

Now, since July 1, 2002, the IMO has recognized the ECDIS as the standard on Merchant Navy ships. Constant improvements have been achieved all along.

Hundreds of GECDIS systems have been implemented.

The main references are:

Ships and submarines of the French Navy, fully equipped with "NetRadar" the Sodena flexible Radar Overlay solution. Brittany Ferries, CMA-CGM, Delmas, SNCM, Socatra, Broström Tankers. Icelandic, Danish, German, and Malaysian Coast Guards, Singapore Navy ultimate Frigates,...

COMPREHENSIVE AND UP-TO-DATE

GECDIS is a very comprehensive solution benefiting from all the latest developments in marine navigation and communication systems. Almost all the features one would expect from a navigation system are available on GECDIS - with SODENA performance. SODENA was one of the first Companies to develop an Ethernet TCP/IP PC-based RADAR solution with other Ethernet interfaces to concentrate and distribute NMEA data signals.

A COST-EFFECTIVE SOLUTION

Specialized in PC-based Navigation systems from the beginning in 1989, SODENA has developed GECDIS to take maximum advantage of this technology. GECDIS is easy to implement, to customize and to maintain. GECDIS is also a powerful tool to optimize route and planning, enabling one to reduce fuel consumption, voyage time and work time. GECDIS can integrate Tidal world Database, Grib format files weather forecast information, Geostrophical and Surface stream data for better route planning.

Moreover, GECDIS is very competitive, enabling you to benefit from the best product at the best price.



BUREAU VERITAS

FULL ECDIS-COMPLIANT GIS



Since June 5, 2002 GECDIS has been compliant with the ECDIS standard, according to the new SOLAS (Safety of life at sea) regulations. These certificates have been constantly renewed to include the latest Sodena Software developments and become Wheelmark when certification rules have been modified.



SODENA is ISO 9001 certified



The broadest range of electronic charts engines for ECDIS/ENC

You can use the ECDIS compliant chart systems:

- S.57 Edition 3.1, encrypted S63 or not, from RENC as Primar-Stavanger, IC-ENC or directly from local Hydrographic Offices.

You can also use:

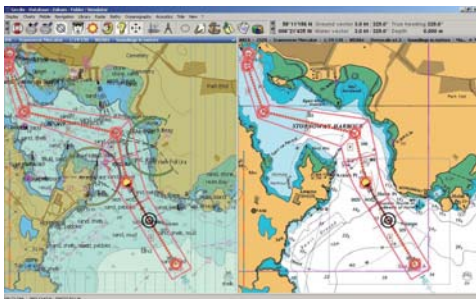
- ARCS Navigator, from the British Admiralty
- BSB, from the US NOAA
- DNC, from the US NIMA
- C-MAP CM93 ed3 professional edition
- C-MAP NT Max
- Private ENCs

ENC Charts updates

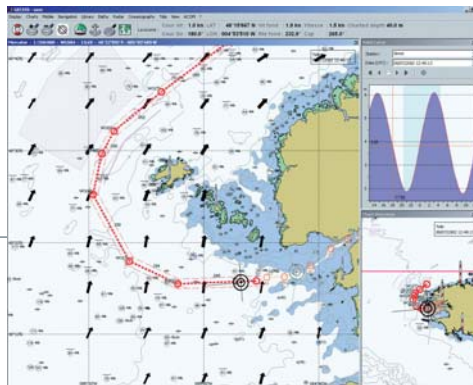
Independently from the standard Weekly Chart CD update process, thanks to Gecdis' Chart correction system, information can be manually modified and brought onto the ENC S57/S63 charts.



COMPREHENSIVE...



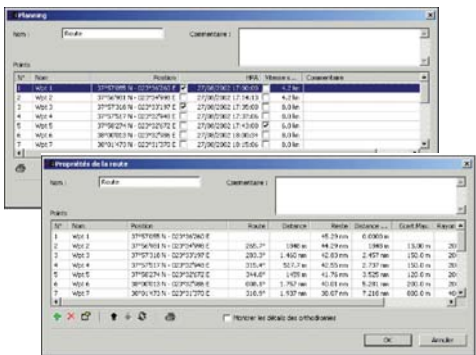
Planned route dual fuel.



The display is 100% customisable: for example Display of tidal and stream data on your navigation screen.



GECDIS offers route tracking and informs you about weather forecasts.



Route can be optimised with your parameter and saved for a future trip.

EASY AND EFFICIENT

Full control of appearance and user interface

GECDIS allows you to accurately control what information is displayed at anytime and to design your own user interface. Users can have their own login and access rights. The user can set up specific active control buttons and define various information pages and bars: by clicking on the toolbar you can choose contextual frame displays for berthing, deep-sea, ...

Dynamic databases: weather, bathymetric, tidal, tidal stream and navigation data

GECDIS has a dynamic database which offers original processing on user data. It is possible to define simple &/or advanced requests (filters) and display (or hide) according to position, date, time period, depth, data type (marks, tracks, areas, etc.) and data origin. The user can define these filters and save them for later use. Track data can be replayed. Furthermore, GECDIS can import a very wide range of data from standard and maritime databases (Local harbor surveys, weather forecasts, ...). GECDIS is a multi-mobile and fleet acquisition platform.

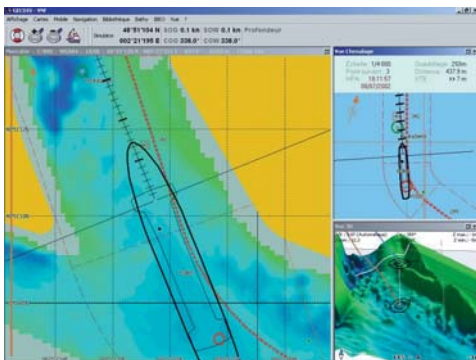
ECDIS navigation functions

GECDIS offers route monitoring, route tracking. All features from traditional dead reckoning and astronomical navigation have been implemented. This lets you maintain the youngest mates practicing both fully electronically - via a GPS positioned Own Ship - and the traditionally one represented through a shadow Own Ship.

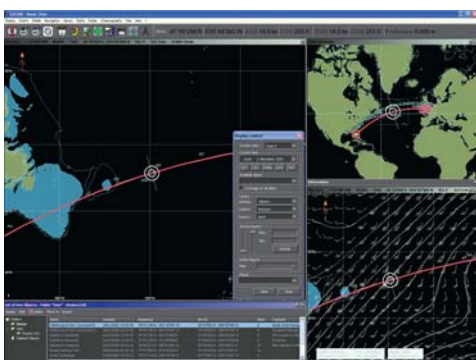
Route planning

Routes can be graphically built by means of the cursor or the keyboard by just entering the Lat/Long values. Each Route leg can be defined with its position values, corridor and specified average speed. GECDIS enables to take into account most particular conditions and events: weather, stream, waiting times at harbour, specific speeds...

You can enter a planned Estimated Time of Arrival (ETA) at the waypoints of your choice. GECDIS will then optimise and compute the whole route data. You will be able to choose the Departure time, or/and intermediate ETA and/or Final ETA. All combinations are given according to realistic limits. When navigating, route monitoring data is recomputed in real time. Existing GPS, previously stored NMEA. Routes Libraries can be recovered using GECDIS's Import facility.

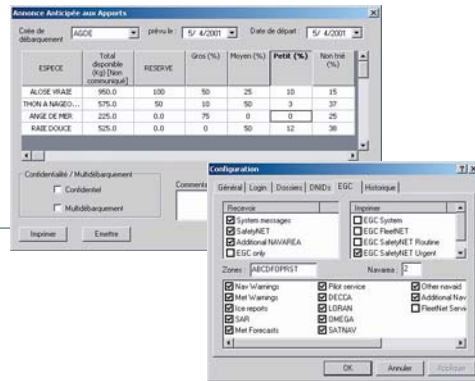


Berthing: this display enables you to have in real time the best route as well as bathymetry data and berthing view on the back up screen.

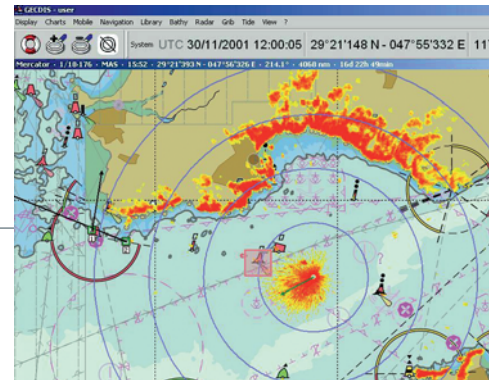


Deep sea: you can optimize your route, have access to different displays such as channel views.

... AND UP-TO-DATE



Optional WinComC frames.



This picture shows radar overlay. It enables to correlate chart data and radar image.

THE SAFEST NAVIGATION FEATURES

Voyage Data Recorder

Thanks to its acquisition capabilities, GECDIS is a kind of "Small Voyage Data recorder". Sodena's R&D team is working on an Official Small Voyage Data Recorder integration taking advantage of the Data acquisition Electronic interfaces Net/I/O has built-up for the French Navy. These flexible (Web page Addressable) interfaces can receive Digital, Analog and Synchro inputs concentrating all of them in Standard NMEA sentences available on a TCPIP Net for a Cost Effective Solution mixing ECDIS and SVDR.

Communication

GECDIS can integrate Inmarsat communication features through WinComC - For example, Fleet Management reporting in background task.

More accurate than ever positioning

GPS data can be correlated with other navigation sensors. As for position difference from selected positioning systems, comparing the chartered depth value with one from the Echo Sounder Transducer can automatically generate Warning alarms.

Search and Rescue

Taking advantage of its Oil Spill and Maritime Research and Coordination Centre system, Gecdis integrates a SAR module following IMO IAMSAR regulations.

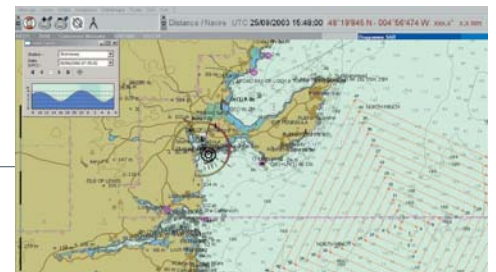
Alarms

Even if acknowledged, all Alarms, Warnings and or Anomalies are stored, classified, sorted in the Black Box. This Alarm Logbook can easily be consulted to check what has happened at a specific Date and Time. All kinds of user data objects can be set up to ring alarms on any mobiles entering &/or leaving these geographically specified areas.

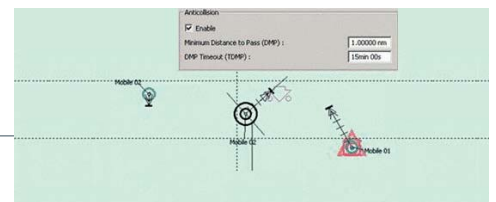
Radar overlay and Universal AIS

To enhance safety and to follow the latest Nav52 committee on the correlation of different sources of data, it is also possible to connect GECDIS to almost any already installed analogical ARPA RADAR systems. With certain Radar models, a specific GECDIS Cursor can be synchronized with the Radar one, offering to officers an easy tool to correlate. Universal AIS is of course linked to Gecdis improving visual targets correlations. Thus, you will benefit from the following advantages:

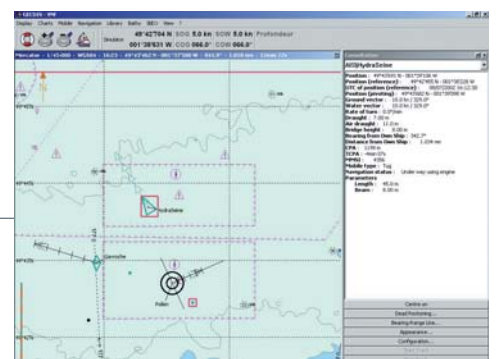
- High quality RADAR overlay.
- Tracks automated on numerous targets ARPA &/or AIS with their particular information.
- Consultation of any AIS mobiles within the Own Ship area.



Search and Rescue function.



Anti-collision alarm on a Mobile with a less than 1 Nm CPA.

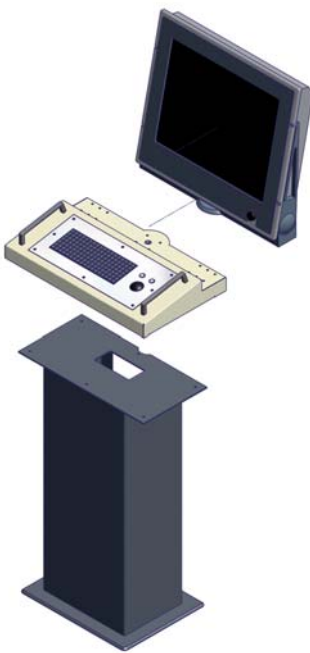


AIS: on the right frame, you automatically have the identification of the proximity ships.



SODENA's sensor interfaces to connect your RADAR, LOG, GYRO and your other non NMEA sensors to your ECDIS system.

EASY TO IMPLEMENT AND OPERATE



As a PC-based system, GECDIS is easy to install, easy to adapt and your operating and maintenance costs are dramatically reduced. In order to provide you with the most suitable solution, GECDIS is a customizable platform offering you the following key advantages:

The most versatile hardware configuration

SODENA offers several hardware configurations to meet your needs:

- IEC 60945 & 61174 approved TFT Screens from 15" (ECS - non back up system) to minimum ECDIS 19" up to 23" and soon bigger when available in seaworthy typed approved versions.
- Rugged PCs: they are certified IEC 60945 to the consolidated, "worst-case" requirements of all the major international marine Classification Societies.

Any hardware solution can easily be adapted to your needs:

- For a new system;
- Any retrofit solution can easily be implemented at your request;
- A back-up system can be added to your existing system, if a full ECDIS System is required. Under certain conditions SODENA ECS sold systems can be upgraded to the ECDIS standard when a fully ECDIS system is needed;
- Most of our technical drawings are integrating Industrial Ethernet LAN solutions.



Computer Certified Technology A320M

A wide range of sensors and peripheral equipments

With broad experience in maritime sensors, SODENA has developed GECDIS to interface with almost every sensor, enabling you to connect any of your existing and future equipment:

- NMEA Sensors: DGPS, GYRO, SOUNDER, SHIPLOG, Inertial Platform, AUTOPILOT...
- **RADAR**: : a connection to any radar via Sodena's NETRADAR interface box.
- **AIS** (Automated Identification System)
- Communication devices (INMARSAT...)



ISIC PCM4



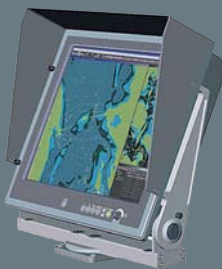
HP Compaq Mariner systems PC based



Conrac display



ISIC display



North Invent display



Hatteland display



Hatteland Panel PC

The most customisable software

Almost everything can be customized:

- Shortcuts and menus;
- Frames and colors (user layouts);
- External data displays.

Besides position, much different data can be displayed and manipulated with GECDIS: depth, air and sea temperature, air pressure, gyro course, log speed, roll, pitch, swaying, wind speed and direction, geostrophical and tidal streams...

- Conning: taking advantage of the Serial Data acquisition and normative centralization in GECDIS, Sodena offers an optional Standard Conning Display feature.

Easy to maintain

PC based systems are completely separate from the traditional ship electronic maintenance scheme.

Most of the time you will not need local technical support which could damage your ECDIS System integrity.

Effectively, displays are quite standard today, in case of need, you are sure to find one onboard or ashore which could replace the faulty one during service.

Concerning the PC unit, it is best to receive a similar one from a manufacturer already prepared using the ship system hard disk image always stored by Sodena at first delivery.

Sodena makes the engagement to ship a replacement PC units within 2 working days via express delivery during the one year guarantee. Extended Guarantee services and maintenance are available on demand.

Training Centre

The simulator can be used to train several trainees simultaneously, each of them operating ECDIS / RADAR workstations.

The Instructor workstation allows:

creation and execution of script, including fault simulation.

Radar images are virtually computed from the official ENC S57 charts.

Sodena has delivered several ECDIS Training systems to Navys.

We have also developed dedicated training courses for both Navigation teachers and Users.

Hardware requirements in case of ECS Soft purchase:

- Intel Pentium® IV processor or better, 1Gb RAM, & 40Gb hard disk;
- Designed for Windows XP®;
- Displays: Monitors from 12" up to 23" and more with a minimum resolution 1024x768;
- Fully OpenGL compatible multi-head Nvidia Chipset Graphic card for 3D option;
- Inputs: Isolated serial ports and Ethernet RJ45 100 Mbits port to link most sensors using the NMEA protocols. DVD drive unit, 3.5" Floppy unit in case of ARCS use, USB 2.0 plugs for additional connections.



AN OUTSTANDING QUALITY OF SERVICE

With more than 6,000 ships installed, SODENA is a leader in Geographical Information Systems. SODENA's main competitive advantage is its highly skilled engineering team which always enables the most suitable solution for your needs. SODENA is a subsidiary of IXCORE group, a sister company of IXSEA, present through offices and representatives in France, UK, Norway, Denmark, Iceland, Spain, Italy, Greece, Portugal and many other countries. SODENA is ISO 9001 v.2000 certified.



GLOBAL NETWORK

We strive to exceed our customers' expectations from conception to installation and beyond with our high-performance technology, our international sales network and round-the-clock customer support.

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