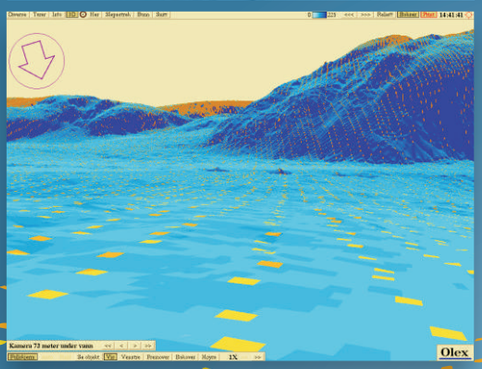
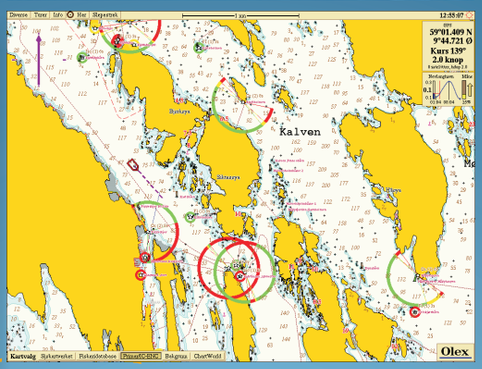
Complete system for navigation and seabed mapping





Olex

www.olex.no

Concerted charting since 1997

Since the inception in 1997, Olex have increased into becoming one of the worlds most recognized systems for navigation and mapping. The system holds sensible features designed to meet the needs of all professional mariners. Because of its unique ability to combine navigation and plotting with seabed charting, Olex provides valuable information and overview to anyone who harvest from the sea.

Olex allows fishermen around the world to handedly discover, survey and map their fishing grounds. The self-produced seabed maps is helping them in achieving a more efficient and profitable fishery.

The fish farming industry uses Olex for finding new locations, placing anchors and moorings more exactly and subsequently monitor their fish farms. Olex is also widely used within aquaculture, research and shipping. Through the common data sharing program, billions of depth measurements is exchanged, among all the different user groups. Olex has increased the knowledge of the seabed, and the ocean as a resource can therefore be utilized in a better way.

Olex is technologically complex, but uncomplicated to use, and offers all necessary functions for mapping, navigation and fishery plotting.

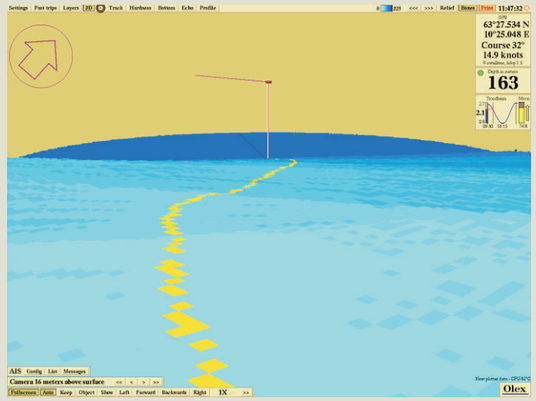
Unique features

- Fully automatic seabed charting
- Fast and seamless zooming
- Easy routplanning and plotting
- Individual customizations
- Tracking and naming of radar targets
- Autopilot interface with clear information
- Stepless dimming, and night screen
- Free software updates

Survey and visualization

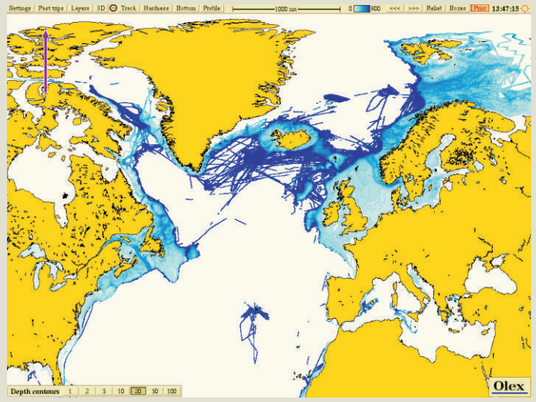
Seabed survey and charting

Whenever Olex receive information from the echosounder, each depth message is quality checked, and placed in a position-area based on the simultaneous GPS-sentence. The measured points is saved in a depth database on the system, and visualized as a realistic three dimensional seabed map. The seabed charting is conducted in real time. As more depth detections ticks in, the map is recalculated, and new mapped seabed formations continuously appears on the screen. The charting process is fully automatic and require no manual operation.



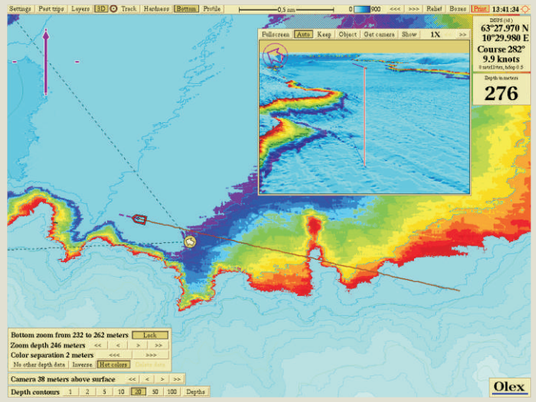
Data sharing

The self-produced seabed maps can voluntarily be shared between the Olex users. Data sharing is free of charge and organized by Olex AS. By submitting a backup of their own depth data, users get access to a database with depths collected by Olex users worldwide. This community survey has become very popular, and over two billion quality checked and approved measurements now forms the basis for a comprehensive seabed map. The accuracy of the Olex map depends on the number of vessels having shared data in an area. Around known fishing grounds and common traffic paths the survey is often dense enough to assume that the map is fairly reliable.

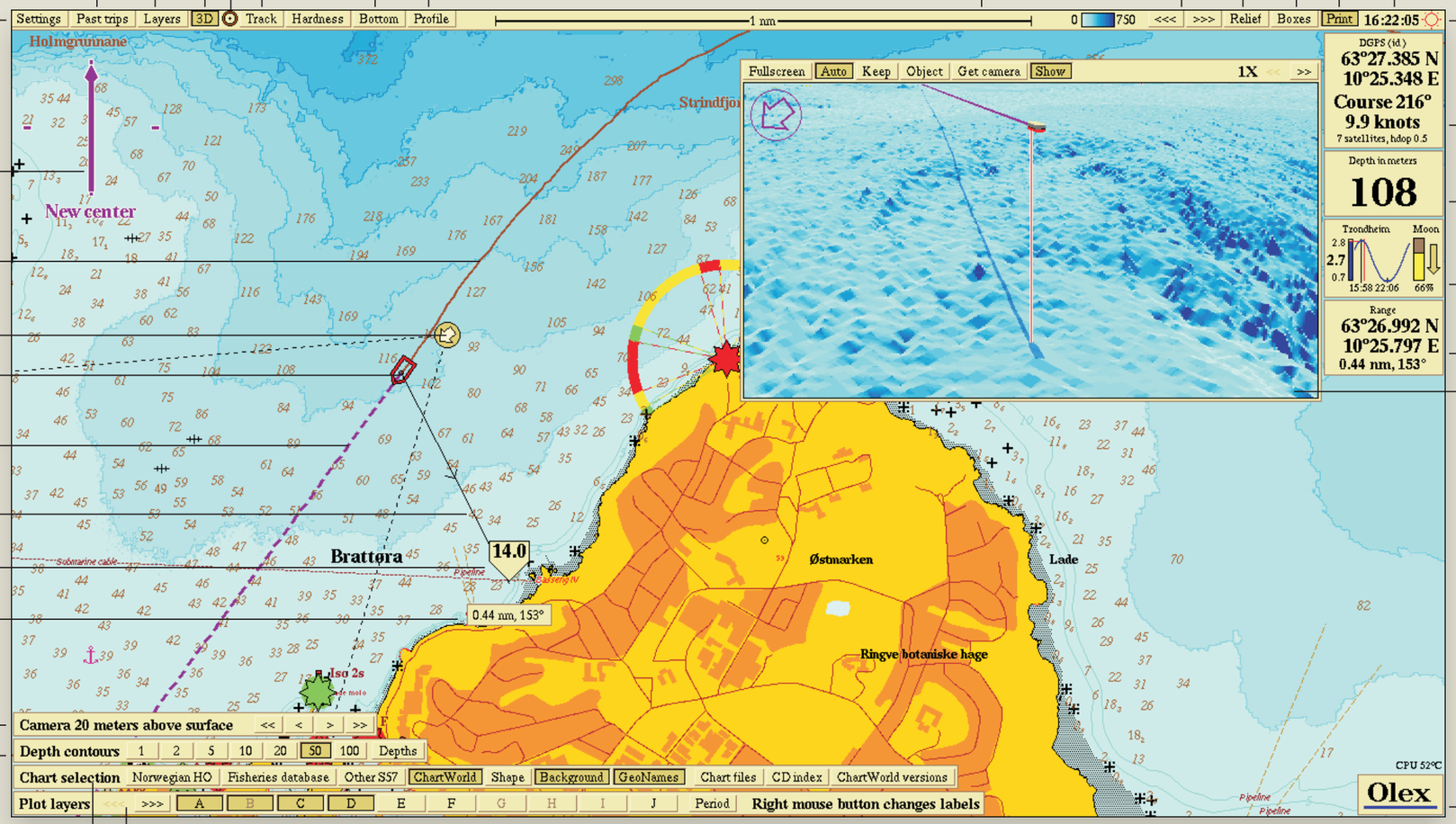


Visualization

The seabed map can be shown in 2D with dynamic depth contours, or in relief. It can even be produced in realistic 3D, visualized through a virtual camera. The virtual 3D camera can be moved around the seabed map by mouse control, or connect to own ship. The bottom zoom function uses colours to highlight selected depth areas. Every measured point in the seabed map is marked with yellow or purple "boxes" which can be switched on to check the density of the survey, or be used as an unofficial help in navigation.



Clear and intuitive



Layers menu for plotterdata, charts and other information

Past trips can be recalled and converted into new route

Menu for **settings** and data handling

3D display on and off

Click and drag **marks** to draw routs or areas

Start and stop **track** behind own vessel

Bootom zoom, focus on selected depth areas

Profile of the seabed along a line

Scale

Colour depth adjustment

Display of seabed in **relief**

Show **measured points** in seabed map

Print screen to file or printer

Clock

Dimming function and night screen

North arrow - vessel location and chart orientation

Present trip

Virtual **3D camera**

Own ship symbol

Course line

Continuous **ranging arrow**

Depth at the mouse pointer

Bearing to mouse pointer

Depth of virtual 3D camera

Contour distance in the seabed map

Chart selection menu
Switch navigation charts on and off
Visible chart file names
View installed chart units

Organization of **plotter data** in plot layers
Time filtering of visible data

Own position, course and speed

Depth from echosounder

Tide and moon phase

Position at mouse pointer when continuous ranging arrow is on

3D display of the seabed

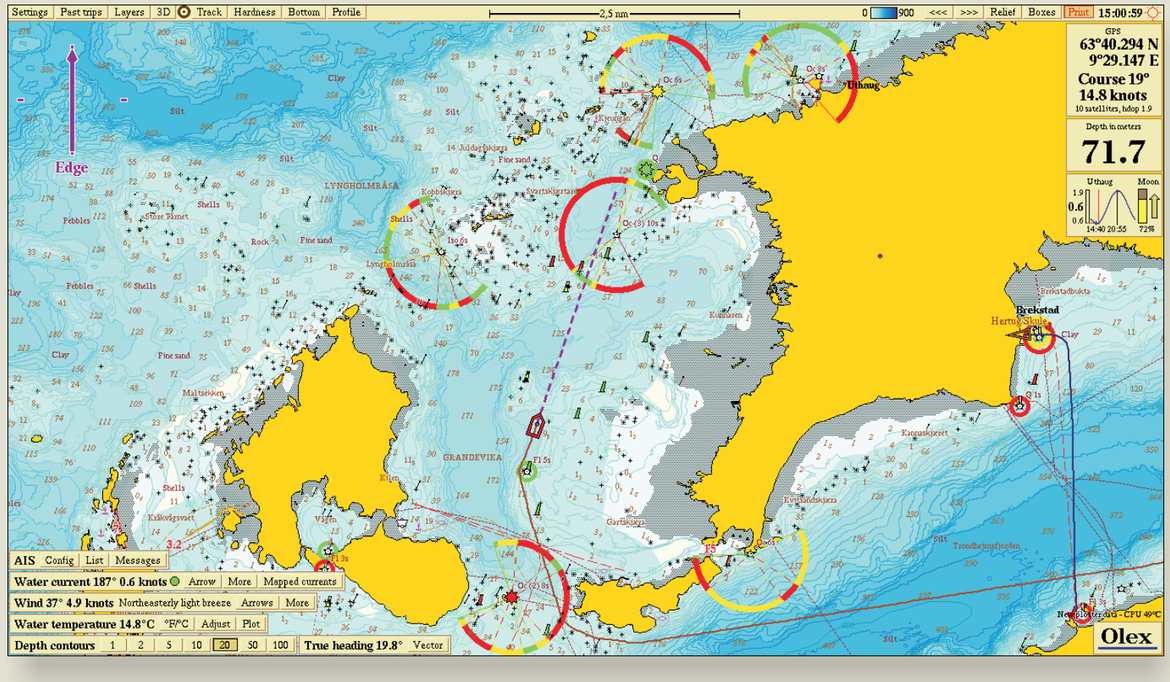
Olex manual

Olex have an understandable screen image with clear symbolism and intuitive operation. All functions and features are readily available from visible menus. Zooming and chart rotation are easily done by use of the mouse. Each user can customize his own chart display by switching on or off: Depths and elevations, light sectors, names and other information. Particularly important information, such as own ship position, course and speed, has their own fixed place on the screen where they are always visible.

Navigation

Navigation tools

In addition to seabed charting, Olex can offer all the functions required of a professional navigation system. Easy route planning with autopilot interface, and clear chart display with fast zooming and movement. Olex can use official ENC's and unofficial vector charts in S57, shape and SOSI format from several vendors. The charts can be obtained from any chart dealer, and are easily installed on the Olex.

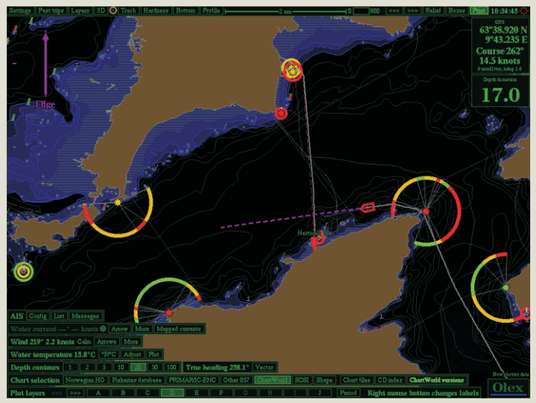


Trips and routes

All past trips are automatically stored, chronologically numbered and marked with date and time. Any trip can be recalled and converted into a new route. New routes can also be drawn manually by dragging and dropping marks into the map, and then adjust by using the mouse.

Night display

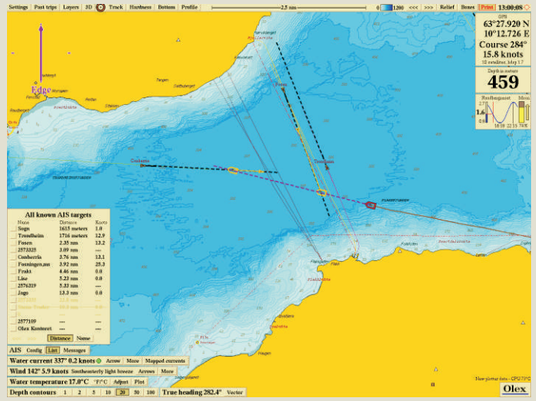
A sweep with the mouse pointer over the sun symbol in the upper right corner will reveal functions for brightness dimming and night display. The Olex night display is a darker chart image with focus on own ship, beacons, AIS- and radar-targets.



Additional modules

Identification

For interface against AIS, Olex can be amended with additional **AIS** software. All vessels with AIS and within radio range will then appear on the Olex screen, displayed as triangular boat symbols with names or MMSI numbers. It is even possible to send and receive seafloor data between vessels via AIS.

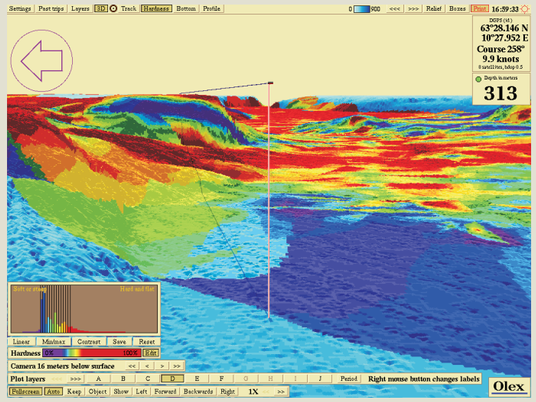


Trawl positioning

Olex can interface with trawl positioning systems like Simrad **ITI** og Geonet Ixsea. The trawl is visualized in 2D and 3D with distance, bearing, tracking and door spread. Same software module can be used for **ROV** tracking (with Simrad's HPR and HiPAP).

Ocean currents

The **SB** module makes the Olex able to calculate and map ocean currents, by analyzing messages from GPS, heading and water speed sensor.



Seafloor discrimination

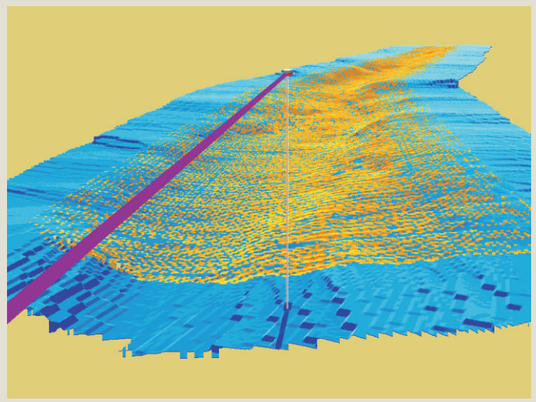
Some echosounders can detect the seabed's ability to reflect sound. Olex with additional module **HT** can, by processing data from these sounders, determine relative hardness of the seafloor. The calculated hardness values is integrated in the seafloor map together with the topographic depth values, and display on the screen in colours and percentage values.

Multibeam data

With **MBES** additional software Olex can receive and process data from Kongsberg EM series multibeam sonar. The **WASSP** software module is designed to process data from WASSP multibeam sonars.

High resolution single beam mapping

The **HGPS** software module uses enhanced position and height, from advanced GPS receivers, to place each bottom detection exactly in the seafloor map. HGPS also eliminates the effect from tide, seawaves and vessel depth in water. This makes it possible to perform exact and repeatable seabed survey, and produce high resolution seafloor maps, using single beam echosuonders.



Complete solutions

Our **M-series**, industrial computer has become the preferred hardware for Olex installations in Norway Canada and USA. The computer is fanless, has 9-30V power supply, fast processor and large storage capacity. It comes with both VGA and DVI monitor output, and connections for all your sensors. Its compact design makes it easy to fit, even in smaller vessels.

Tripos is our GPS based system for exact position and attitude. Designed for high resolution multibeam survey, a well mounted Tripos can provide accuracy as good as 0,05 degrees in roll, pitch and heading, in addition to exact position and height. Tripos will also work well together with our HGPS - high resolution single beam mapping.

Olex GP9205 - 3D GPS, combines GPS and GLONASS with the Marinestar service from Fugro. The enhanced vertical and horizontal position makes it very well suited for multibeam survey. GP9205 can even be used with normal Olex, to ensure exact and repeatable charting of the seabed topography.

Our world wide network of skilled dealers and distributors can supply the necessary equipment, hardware and software as a complete package. Including professional installation on board. Contact info can be found on our website www.olex.no.

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