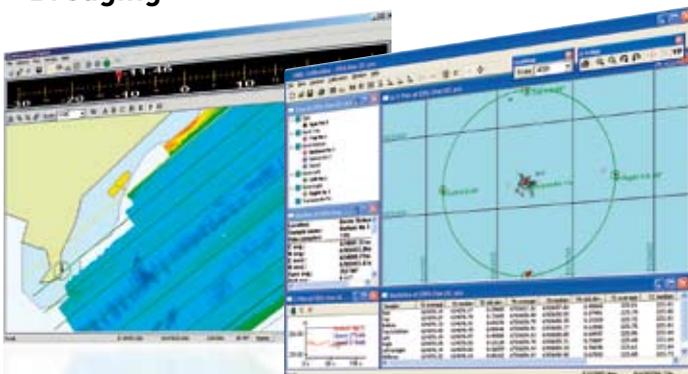# NaviPac
INTEGRATED NAVIGATION

INTEGRATED NAVIGATIONSOFTWARE FOR ALL YOUR NAVIGATION AND POSITIONING APPLICATIONS – PAR EXCELLENCE

- **Hydrographic & oceanographic surveys**
- **Geophysical 2D seismic surveys**
- **Scientific research**
- **Harbour surveys**
- **Marine construction work**
- **Offshore pipe-laying and inspection**
- **Barge, tug and fleet management**
- **Offshore rig operations**
- **ROV, ROTV & AUV tracking & support**
- **Dredging**

NaviPac is an integrated navigation software package, providing navigation and positioning information in support of any marine survey project, as well as offshore engineering and construction operations.

NaviPac
INTEGRATED NAVIGATION

SURVEY PLANNING

The NaviPac configuration module provides easy set-up of all survey parameters either in real-time or off-line prior to the start of a survey project. The software features flexible selection of geodetic control parameters including datums, projections, measurement units and geoid models, allowing for operation world-wide. Vessel shapes are easily generated or imported and stored as templates for later use.

A variety of methods are available for the creation of survey lines: e.g. click-and-drag by mouse/trackball, manual input of survey line coordinates, offset/parallel survey lines, cross lines, circles, arcs, barge-lines, star patterns, etc. Survey lines can further be created pertaining to a defined survey area. A wizard allows creation of templates for input of other data formats.

All inputs are automatically stored in a project configuration file allowing the user to set up new surveys or quickly switch to an existing survey.

REALTIME OPERATION

NaviPac supports Windows® XPP/Vista and is based on a client/server solution enabling execution of all software sub-modules on any workstation on the network.

Field-tested device I/O drivers are available for all commonly used positioning systems,: GPS/DGPS/RTK systems, gyros and compasses, motion/attitude sensors, singlebeam echosounders, magnetometers, dynamic positioning systems, IMCA, USBL/LBL/INS systems, ARPA and AIS, tide-gauges, autopilots, etc. Generic I/O drivers allow definition or customization of your own device I/O drivers. The I/O port settings are easily defined and data is interfaced via RS232, LAN/WLAN (UDP/IP), or EIVA TimeBox time-synchronized interface unit.

Time stamping of sensor data is performed using the internal computer clock or GPS PPS. Furthermore, the TimeBox time-synchronized interface unit provides LAN interface and distributed time tagging with accuracy better than 100 μsec.

Full system flexibility allows design and configuration of survey parameters and preferred display layout. The Helmsman's display can be distributed without limit to slave monitors or workstations for individual windows layout and interactive use by the operator.

The navigation monitor features graphical presentation of selected survey objects and cartographic features in real-time for both absolute and relative positions. Vessel positions, survey lines (in DXF, DWG and ASCII formats) and objects may be displayed superimposed on C-Map or S57 based electronic chart displays. The Helmsman's monitor displays off-track and along-track information, including planned and actual fix location.

NaviPac features 3D displays allowing the operator to monitor its own vessel, as well as other vessels and objects on top of unlimited sized 3D data models. Moreover, depth coverage information as well as DTM's generated on-the-fly, is distributed to monitors for display in real-time.

NaviPac provides automated managing and storing of survey data. During data logging records can be limited in time or file size defined by the user. Records are saved to a project directory allowing set up of new surveys or quick switching to an existing survey. Data is stored in ASCII survey format, generic raw format and/or user-defined format.

NAVIPAC LITE

NaviPac Lite is EIVA's entry-level software package for on-line navigation pertaining to basic surveys, e.g. using singlebeam echosounder. NaviPac Lite features a limited number of device I/O drivers and allows for later upgrade to NaviPac Plus or the full version NaviPac.

NAVIPAC PLUS

NaviPac Plus is intended for RTK operations and provides interfaces for navigation sensors, GPS time synchronization, gyro compass, singlebeam echosounder, attitude/motion sensor, and data output. If used for multbeam echosounder surveys the NaviScan software must be acquired separately for acquisition of data. NaviPac Plus allows for upgrade to the full version NaviPac.