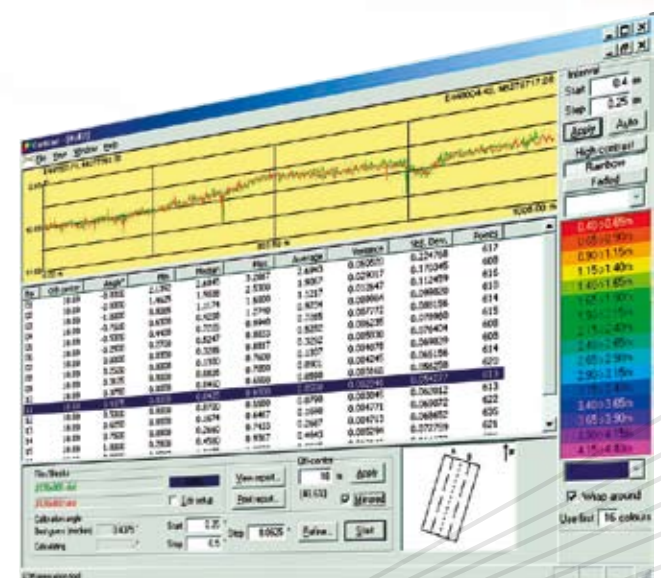
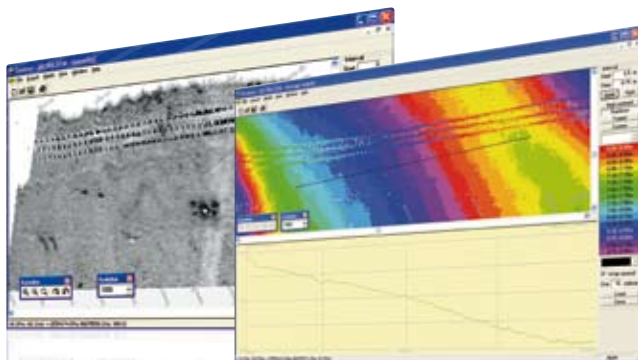


## SONAR DATA ACQUISITION SOFTWARE FOR INTERFACING ALL YOUR SONAR EQUIPMENT – PAR EXCELLENCE

- Interfaces all major sonars on the market
- Vessel and ROV/ROTV/AUV support
- Real-time SVP via ScanFish integration
- Integrated calibration and patch test
- High accuracy time tagging
- General data recording in SBD and XTF
- Real-time quality control
- On-the-fly 3D Digital Terrain Models

Optimized for acquisition of sonar data during vessel and ROV/ROTV/AUV based marine surveys and offshore operations NaviScan provides real-time data logging and displays for monitoring and quality control.



## INTERFACING AND DISPLAY

NaviScan facilitates a huge amount of predefined device I/O drivers for digital interfacing of a wide range of sonars from world leading manufacturers.

The device I/O drivers comprise among others interfacing of multibeam echosounders including side scan backscatter imagery, conventional side scan sonars, profiling sonars, pipe/cable-trackers, etc. Sonar data is interfaced through TCP/IP, UDP/IP, Windows® XPP/Vista supported I/O board or the EIVA TimeBox time-synchronized interface unit. NaviScan allows interfacing of redundant sensors, which during data editing allows for operator selected substitution of sensor data in case of noise or drop-outs in sensor data.

An interactive patch test determines and calibrates errors caused by roll, pitch, heading, and time (position delay) as well as alignment in case of dual sonar head applications. The system calibration comprises features for calibration of Doppler Log, which based on one or more data sets compares raw position track with Doppler/gyro track for calculation of scale factor and rotation angle.

NaviScan collects, time tags, logs, processes and displays all sensor data in real-time. Recording of the raw data is performed either in generic EIVA format (SBD) or in standard XTF format. The data is then processed on-the-fly for motion, refraction and tide before being displayed in full graphical and scaleable sensor views.

Side scan sonar data is corrected for slant range as well as speed and presented as color-coded waterfall display and overlaid intensity on real-time Digital Terrain Models (DTM). During data collection and playback, potential targets are marked and stored in target image files for later retrieval and analysis.

NaviScan features 3D presentation of the sonar data as well as graphical presentation of all incoming sensor data. Real-time generation of Digital Terrain Models during data collection and presentation of color-coded coverage plots provides monitoring of overlay between actual and

previous data as well as non-coverage areas. Besides average depth NaviScan features graphical displays of min/max depth, median depth, data density, standard deviation and side scan Snippet. Further features include among other display of contour curves specified by profiles (cross or longitudinal), 3D views with facilities for sun illumination, zoom & pan, perspective view setting, rotation and free-flight through models.

Through integration with the EIVA NaviPac Helmsman's display NaviScan offers distribution of full or reduced DTM's as well as centre depth information for QC and steering information.

All graphical windows can be printed on any Windows® XPP/Vista supported printer or plotter.

## HIGH-LEVEL APPLICATIONS

NaviScan features high-level easy-to-use applications specifically designed for complex survey environments. As an example; one application sets up and maintains sensors, communication interfaces, vessel and/or ROV offsets and C-O values, whilst others provide export of data. This data can be used in spreadsheets e.g. MS Excel and supports generation of ASCII files with centre depth and attitude data, position track (raw and filtered), Doppler data and pipe-tracker data with raw and combined positions.

## DATA EXPORT

NaviScan provides corrections for offsets, heading, attitude, C-0, ray-tracing, etc. Further window filtering routines allow removal of outer and/or specific beams from multibeam echosounders. During this process the NaviScan software creates a conversion log with information of the amount of data being discarded. The collected data can be exported for post-processing using the EIVA post-processing software suite or exported in various standard formats for post-processing using 3rd party application software.

