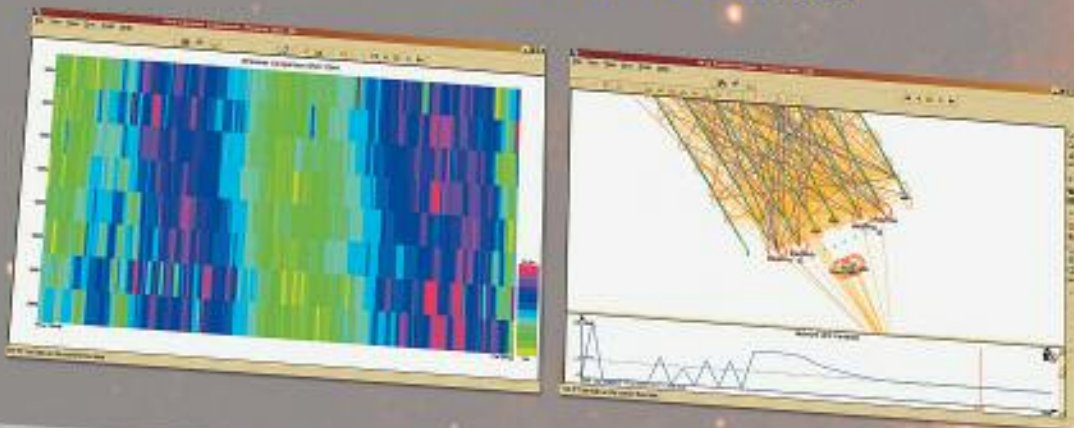


# Neptune $\Psi$

Neptune is the sibling product to ECL's Sirius seismic navigation data quality control and processing system. It is functionally similar to Sirius but adds the ability to track project level trend analyses of positioning equipment performance and data quality, as well as several useful QC administration facilities, such as a Project Journal and Task Manager. The system is able to monitor a wide variety of statistical and quality measurements over all survey lines processed during a seismic data acquisition campaign, including the capability to handle SPS datasets from OBC surveys. Neptune's advanced project-based configuration and database management structure also adds the ability to assess 3D fold coverage with its binning facility.

Using feedback gained from the exploration industry's leading navigation specialists and long-term users of Sirius, the development of Neptune has addressed many of the functionality and user-interface issues that have been requested since the initial release of its predecessor. With an icon driven, hierarchical folder style user interface design (the Neptune Navigator) and improved graphical analysis tools this application makes the task of survey positioning quality control easier and more intuitive than ever before.





## **Applications:**

- ★ QA/QC of 2D and 3D Seismic Positioning Data
- ★ Verification of compliance with UKOOA P1, P2 and SEG SPS published formats
- ★ Comparison of results with contractor processed equivalent data
- ★ Binning of towed streamer 3D datasets.
- ★ Project level positioning equipment performance and data trend analysis.

## **Key Features:**

- Neptune Navigator graphical User Interface for simple and intuitive data investigation and reporting functionality.
- Automated configuration of equipment definitions from P2 file header data.
- Multi-window survey configuration display, including map display and hierarchical folder and icon driven item investigation facilities.
- P1/90, P2/94 and SPS dataset format verification and error reporting.
- Automated monitoring and logging of P2 file header configuration changes during survey progress.
- User selectable and configurable, survey level data monitoring with automatic database creation and updating.
- Graphical views of all raw and filtered P2 datasets.
- Fixed and Flex Binning and coverage display of towed streamer positioning data files.
- Automatic and manual data gating, filtering and interpolation using graphical interface.
- Automated dynamic Speed of Sound calculation using one or more of three user selectable options, including inline streamer acoustics, tailbuoy acoustics or recorded velocimeter data.
- Network results table displays quality assurance criteria including F-Test, Unit Variance, Mean Residual, SD Residual, Max Residual and Degrees of Freedom.
- Ability to import OBC acoustic pinger data for use in receiver location determination.
- Scatter plot and time series comparison displays of positions between contractor and Neptune processed datasets.
- Batch processing of multiple UKOOA P2 and SEG SPS data files using user-defined processing flows.
- Graphical shot time interval displays.
- Graphical attribute mapping.
- Creation of final P1/90 processed datasets from Neptune derived positioning data.
- Reverse engineering of processed P1 data to produce pseudo-raw datasets.
- Raw and filtered data statistics calculation and combined graphical and tabulated results.
- Files Manager for organizing and collating project specific document and graphics files for archival and reference purposes.
- Journal Manager for manually recording details of timing and events that occur during the course of a project
- Contact Manager for recording and storing contact details of individuals related to a particular project.

## **Recommended Minimum System Requirements:**

PC: 600 Mhz Pentium desktop or notebook computer running Window 98+, NT, 2000 or XP with 10 GB HDD, 256 MB RAM, CDROM and SCSI 8mm tape drive.

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