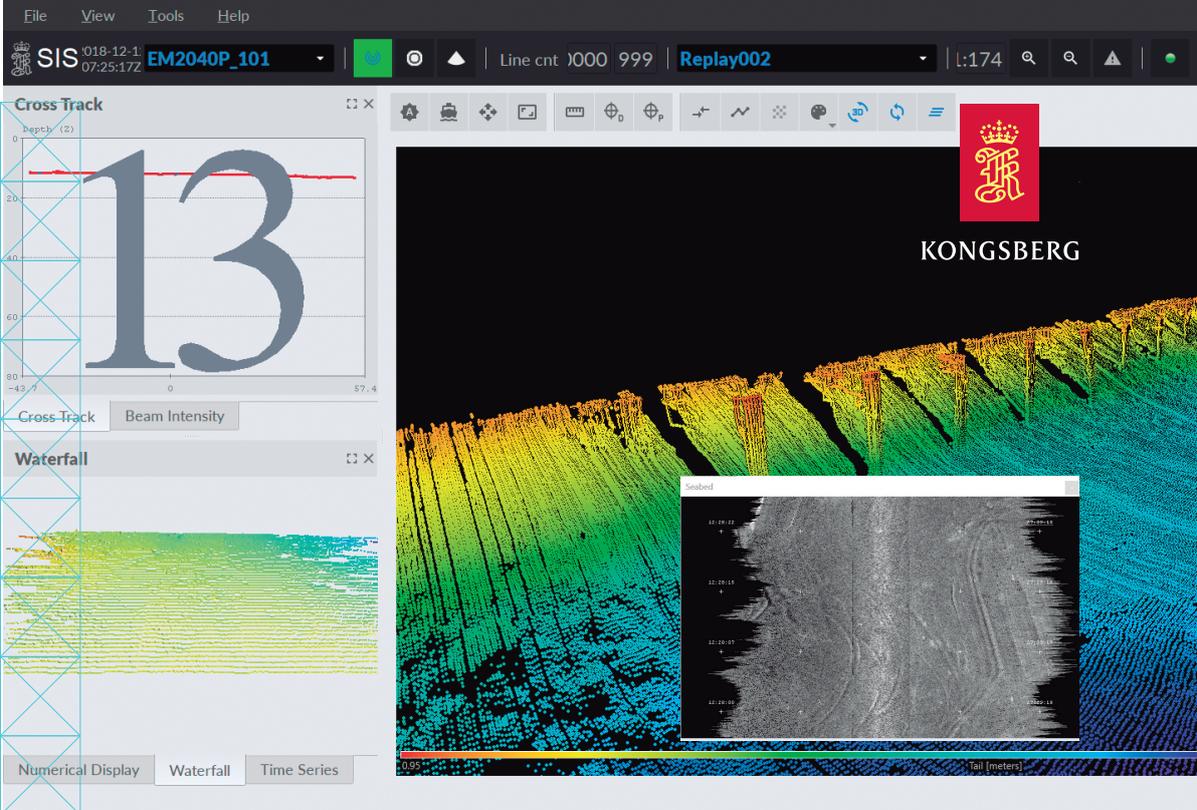


# SEAFLOOR INFORMATION SYSTEM



## SEAFLOOR INFORMATION SYSTEM 5

### Next generation real-time software for EM™ systems

#### A modern and efficient working environment

Seafloor Information Systems (SIS 5) has been redesigned in order to improve both user experience and work processes. The modern window environment, menus and layout are more intuitive, helping the operator to work more efficiently.

The new 3D displays handle all depths, even when displaying shallow water multibeam at maximum ping rate. The background maps are generated from GeoTIFF or S 57 charts using Web Map Services (WMS).

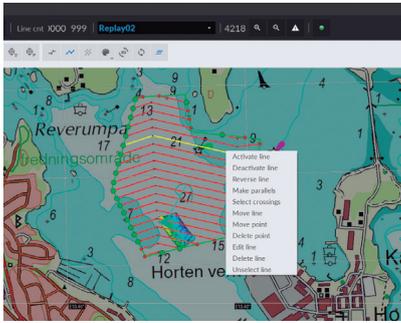
#### SIS Remote

A single SIS installation can support multiple survey vessels simultaneously, and the EM system can be controlled from a remote location. The connection between the mother ship and the survey vessels is via a standard internet connection, such as KONGSBERG's Marine Broadband Radio (MBR). This setup provides a reliable Internet connection for the surveyor on the mother ship to monitor and control the survey operation on each of the survey vessels from one operator station.

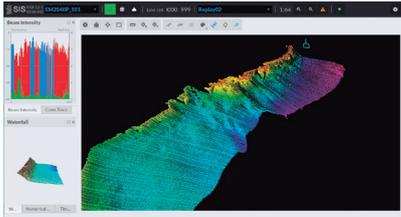
Setting up SIS Remote is simple, requiring only network configuration. SIS provides all the necessary infrastructure for reliable communication no matter which Internet provider is used, and can be configured to use fast or slow connections within any price range. For satellite connections the amount of data can be filtered to only send updates of the terrain model at regular intervals. This will still provide the operator with sufficient data to perform accurate quality control and provide survey guidance. Using the faster MBR allows the operator hands-on control of the survey in real time.

#### KEY FEATURES:

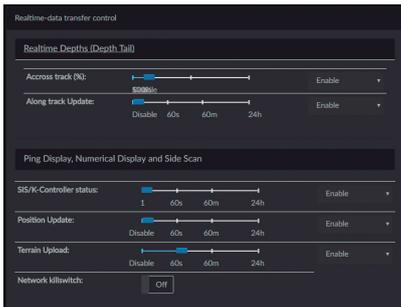
- Supports all EM systems in real-time
- Provides control, logging and QA-functionality
- Powerful 3D-graphics and simultaneous multi-survey ship displays
- Uses S-57 background maps from WMS-server
- Facilitates remote operations and multi-survey setup



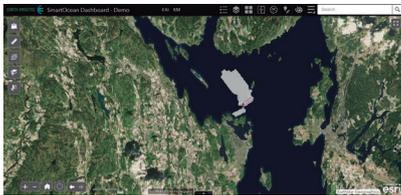
Planning survey lines in SIS 5



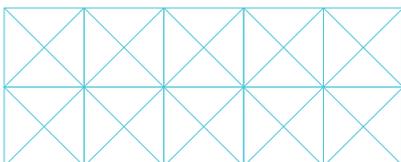
SIS Remote using MBR, full real time coverage displayed



SIS Remote can be configured to transmit more or less data depending on the bandwidth available



The Digital Terrain Models in SIS can be exported as GeoTIFF files into other system as well, here ArcGIS in ESRI.



Survey planning in SIS is available in the office and during the survey. The new design allows for easy planning and transfer of survey plans to the right vessel. The NMEA APB (Cross-track offset) sentence can be sent to autopilot, aiding steering along the active line. Additional advanced import and export options are also available.

A separate Helmsman display gives a view of the survey operation and the active survey line. This display is intended for the bridge personnel while the survey operation is controlled elsewhere.

### New logging format for easier post-processing

SIS supports .KMall, the KONGSBERG logging format used by all of our EM systems. This format makes it much easier to post-process the logged data as it contains already calculated latitude, longitude, depth, time and ellipsoidal height.

With SIS comes a complete set of documentation in .html format and examples in C++ and Python showing how to read the .KMall files. Software developers find this useful as it shortens the development time considerably.

### Connecting to SIS

SIS has an open Application Programmer's Interface, API, which allows developers to interface in many different ways. Data output from SIS can be configured, e.g. depth points as latitude, longitude and depth, depth below keel as NMEA-sentences, NMEA XTE and APB output to autopilot, etc. SIS can likewise be controlled from remote to start and stop the EM-systems, start and stop logging to disk, change color settings, and so on.

SIS can thus be used to integrate the EM-systems into the ship's total infrastructure of sensors and processing.

### Seabed2030

SIS also has a way to allow the user to manually upload data to the Seabed2030 initiative for mapping the whole world by 2030. This is an option in SIS which supports sharing of data when the user wants to share data.

## SIS 5 TECHNICAL INFORMATION

EM™ systems supported	EM 2040 (all models), EM 712, EM 304, EM 124 Support for the new .KMall format
Operating System	Windows 10
Hardware	Hydrographic Work Station (HWS) IEC 60945 and E10 Maritime Certified Computer
Computer Installation	19" rack mount recommended