

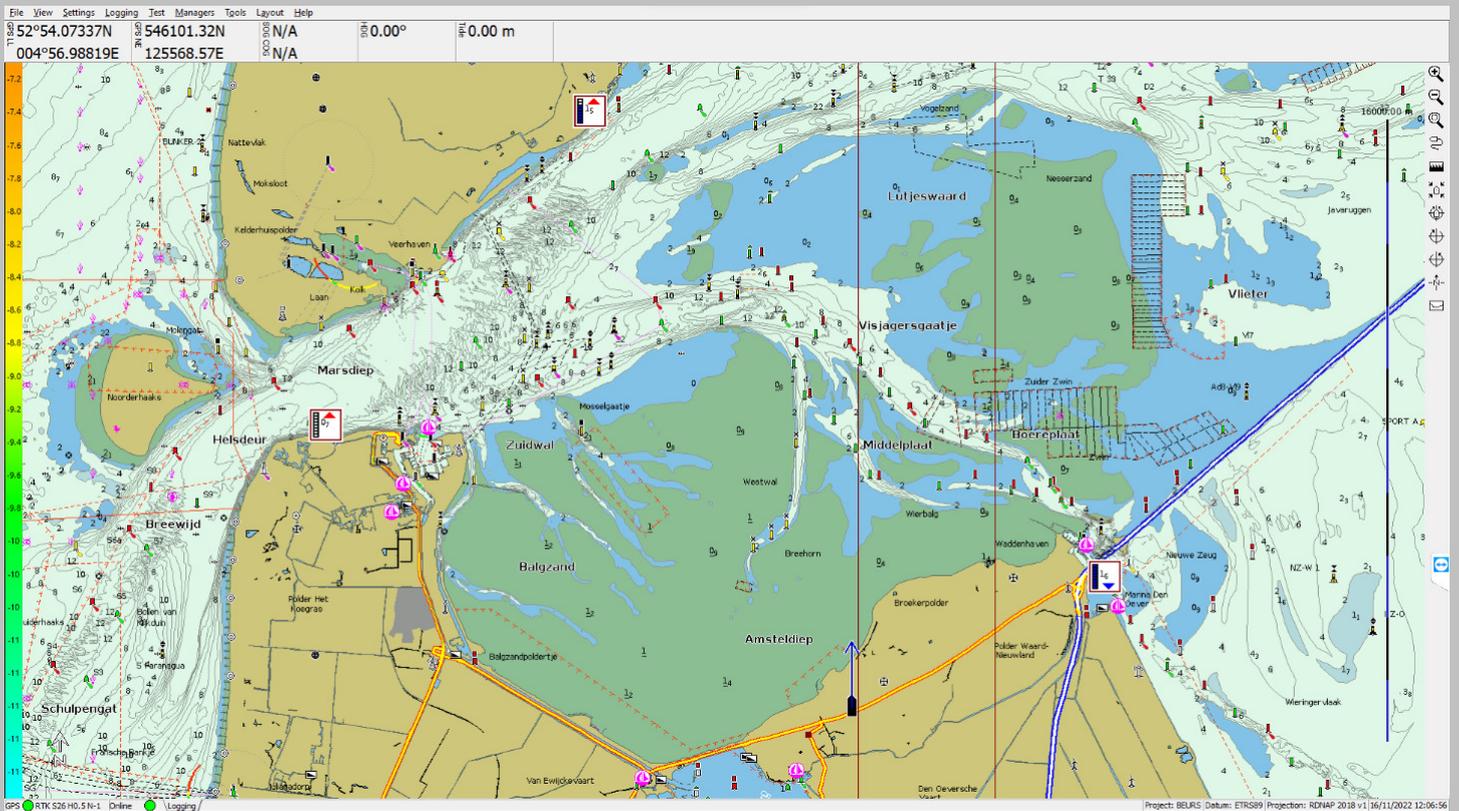


CT SYSTEMS

VIKING SOFTWARE



OFFSHORE POSITIONING DREDGING HYDROGRAPHIC SURVEY



Default view of a map and a clean user interface displaying a GPS position, from here all is customisable

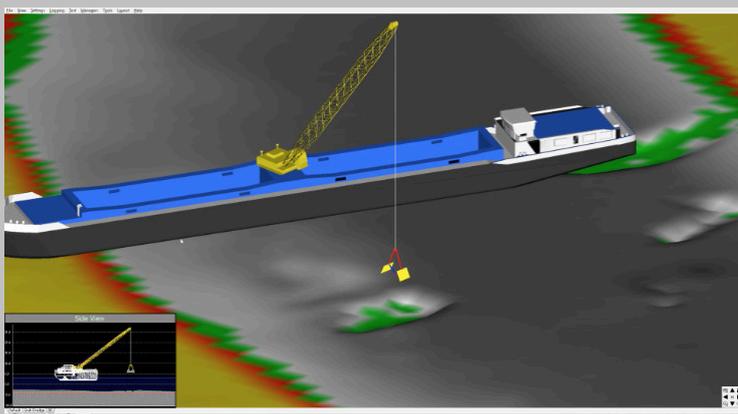
About Viking

Viking is a powerful software package fully aimed at ease of use and with user friendliness in mind.

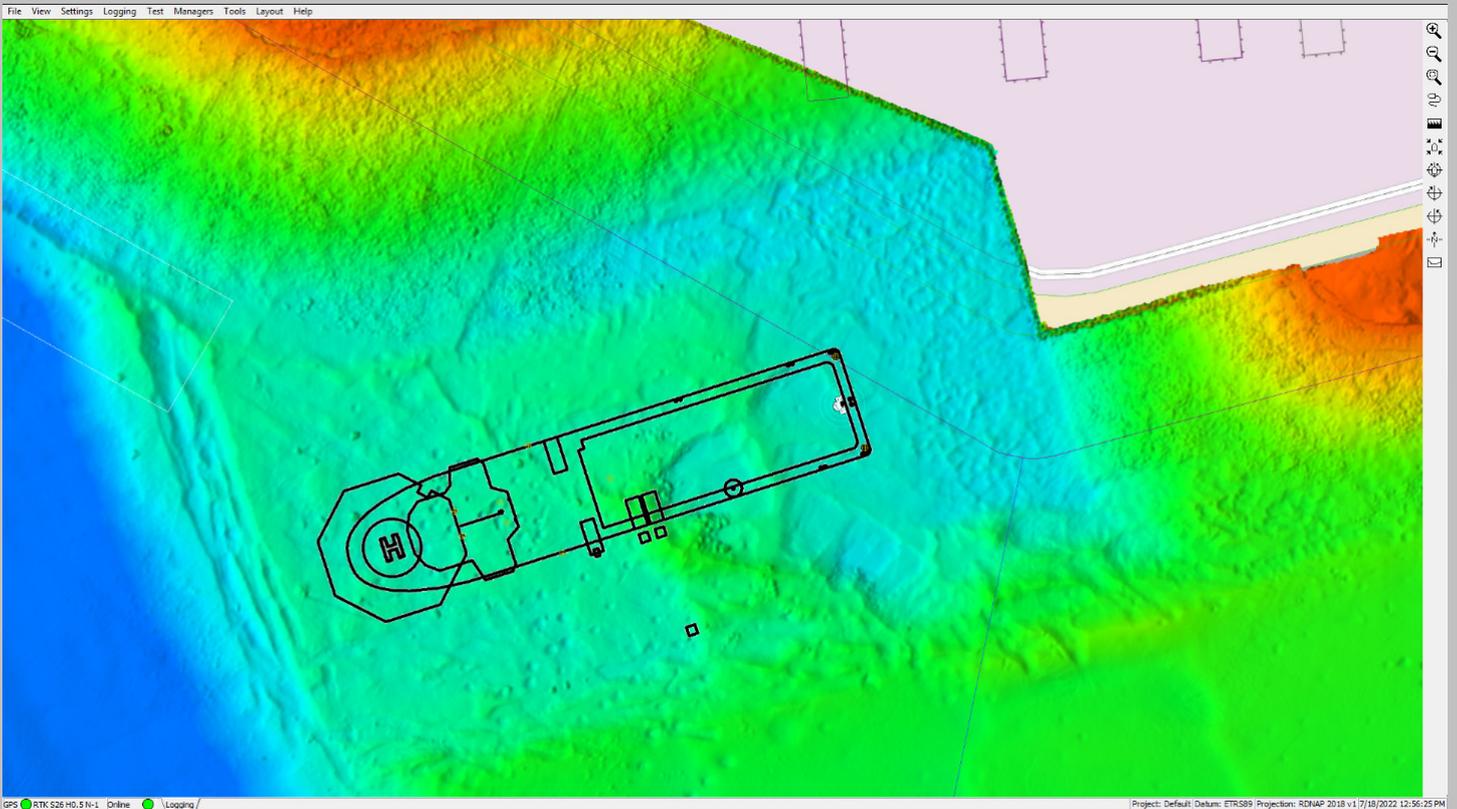
It features a clean and simple user interface, yet it has all required interfacing and calculations under the hood.

Features:

- Easy to use
- Modular License
- Customisable
- Single platform for all operations
- Positioning, dredging & survey



Layout configured dedicated to dredging operations



Top view of an offshore dive support vessel with a 3D DTM loaded

History

With a long and rich history the Viking is developed in-house by CT SYSTEMS since the eighties. With its predecessor being the ODIN Video Plotter of the seventies. Followed by the Odin Software of the eighties, which was later rebranded as Viking software since the nineties.

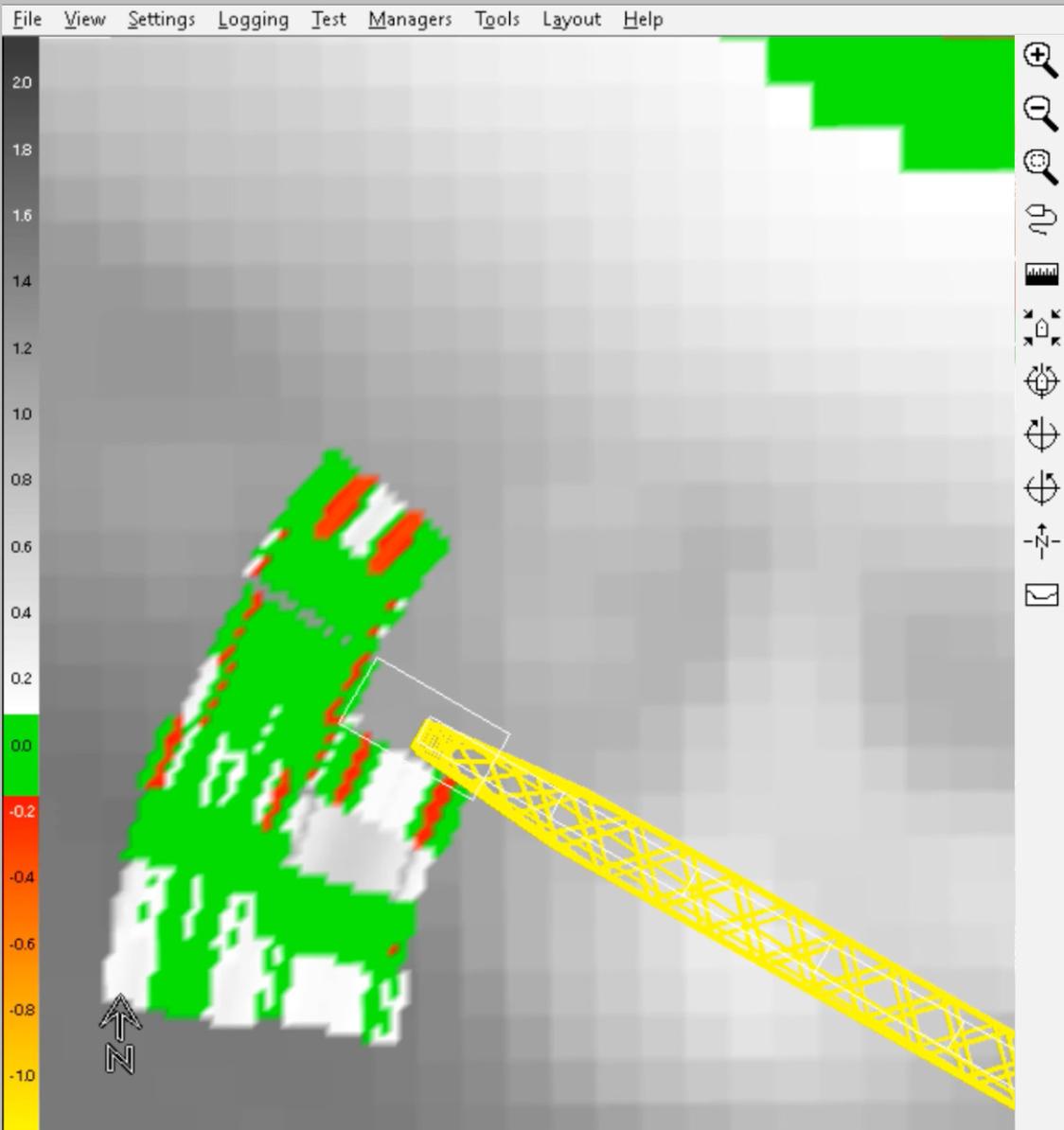
From there Viking further developed into a powerful software solution for dredging, positioning, and surveying.

Customisable User Interface

Using the built in layout editor any sort of visual interface can be built. A wide selection of customisable maps, graphs and statuses are available.

For dredging operations front, top and side views can be chosen, along with specific dredging instruments and 3D views. Custom layouts can also be sorted into tabs, additional windows, and of course layouts can be saved and loaded.



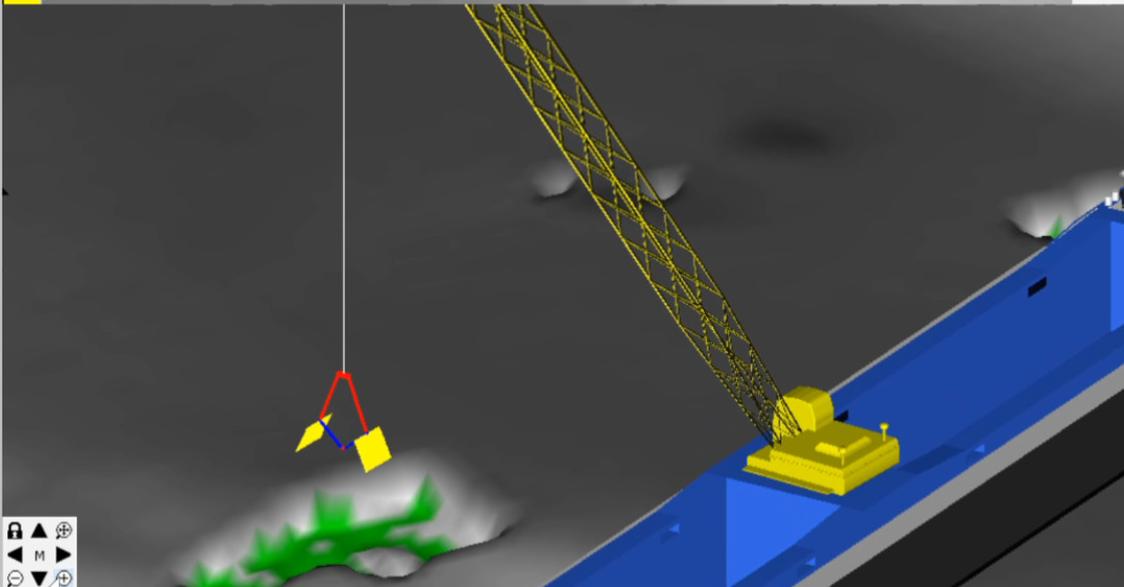


Modular Licensing

The Viking software is highly scalable. The base version already offers most interfacing and data representation.

From the base version Viking is upgradable with Navigation, Surveying, Dredging, and specialised software modules.

Alternatively there is an offline Office license, and a fully stripped down core module offering solely the powerful I/O and visualisation options of Viking.

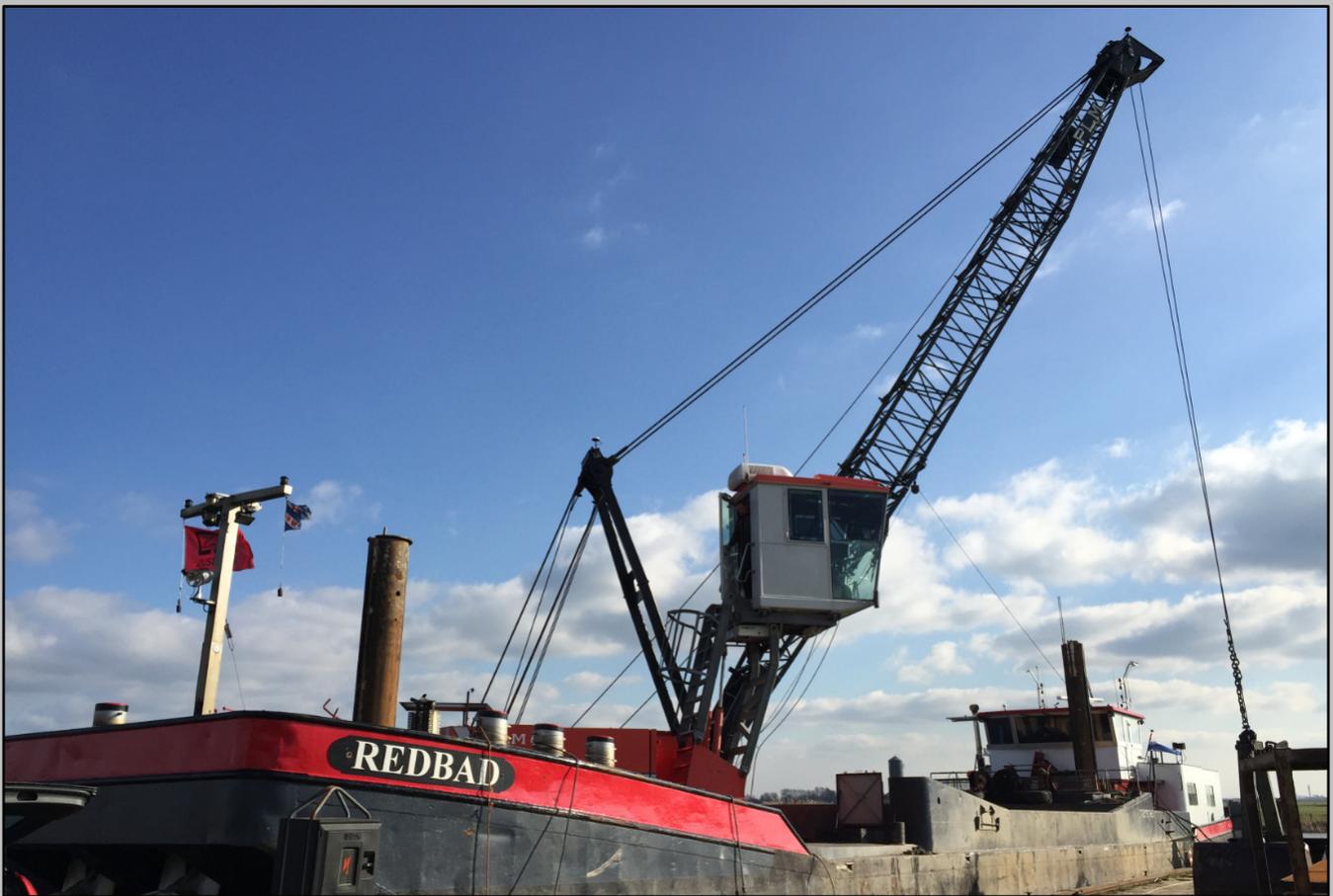


Viking configured for a wire grab dredger, interfacing RTK GNSS for height and positioning

Ease of use

The core focus and philosophy of the Viking Software is offering a clean and easy to use interface.

Thanks to the modular license and the fully customisable user interface it complies to these requirements and gives a practical work overview.



Networking

Using the Network Module a stand alone Viking system can share realtime position data and actively share chart's, DTM, point fixes and logs. Either fully automated or with a simple click on a button.

Viking Process

Accompanying the Viking software itself, Viking Process is a separate program providing functionality for processing and editing of Viking log data.

Viking Process is available separately, and more information is available on our website.

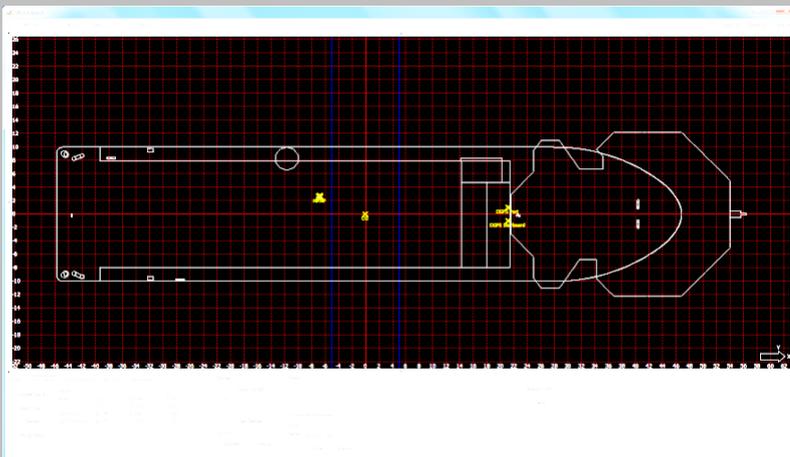
Coordinate Systems

Viking has a built in coordinate system manager with preconfigured coordinate systems, and has support for custom projections, geoid's and chart datums.

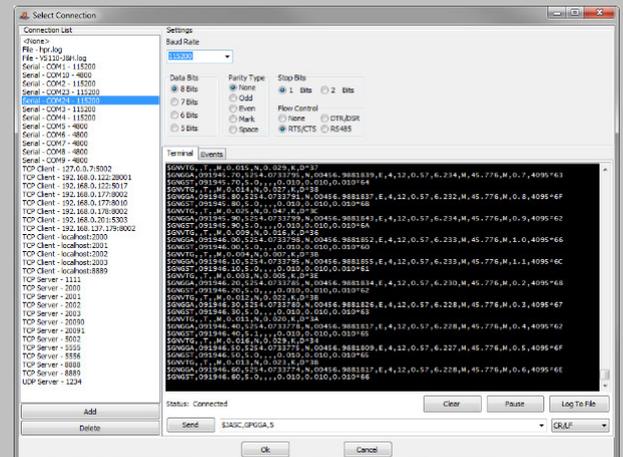
Office Software

For offline work and preparations an offline version of Viking is available.

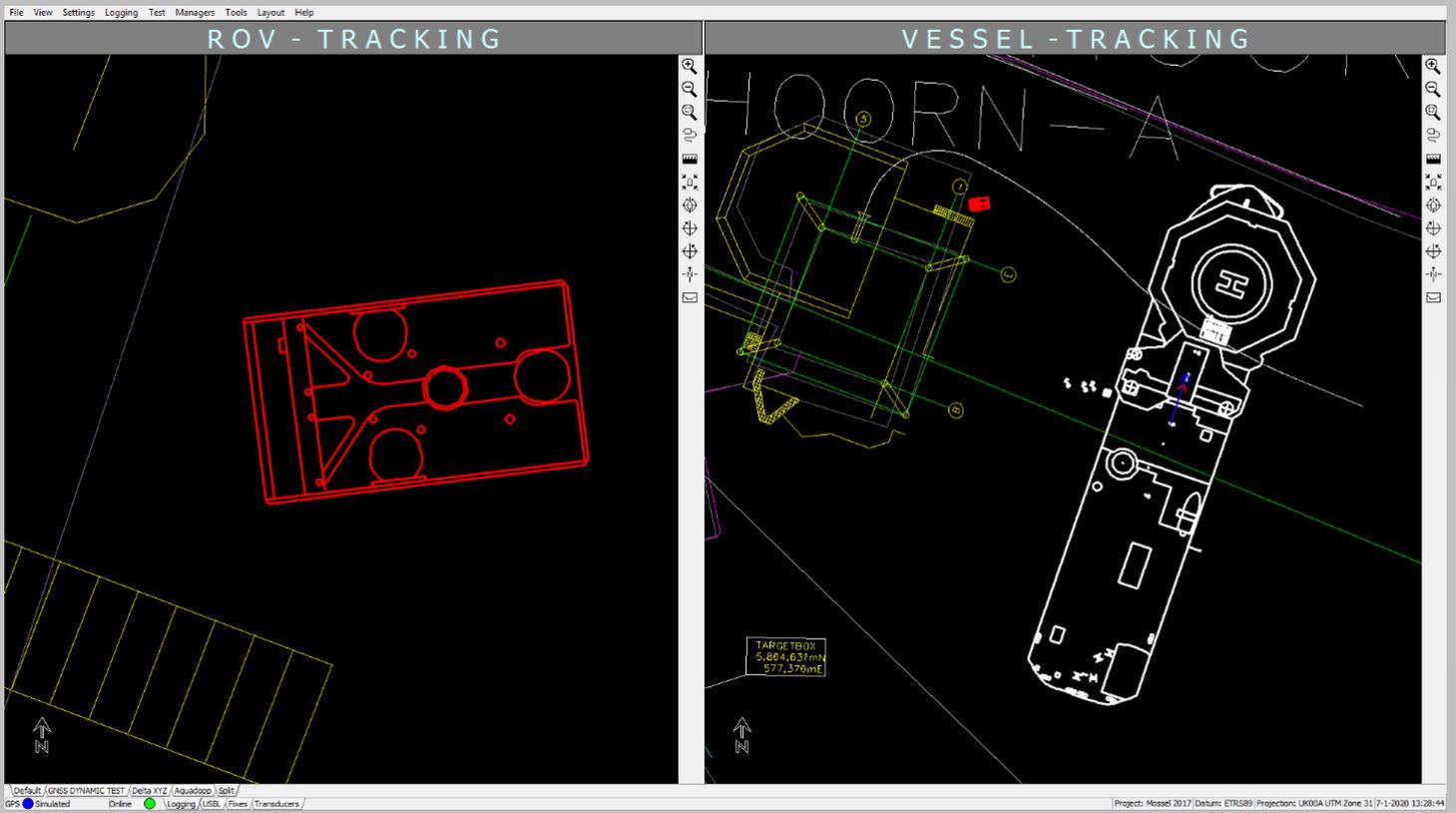
Due to the flexibel licensing this version is the same as a full Viking system with exclusion of any I/O and positioning features.



Built in ship editor with DXF import feature



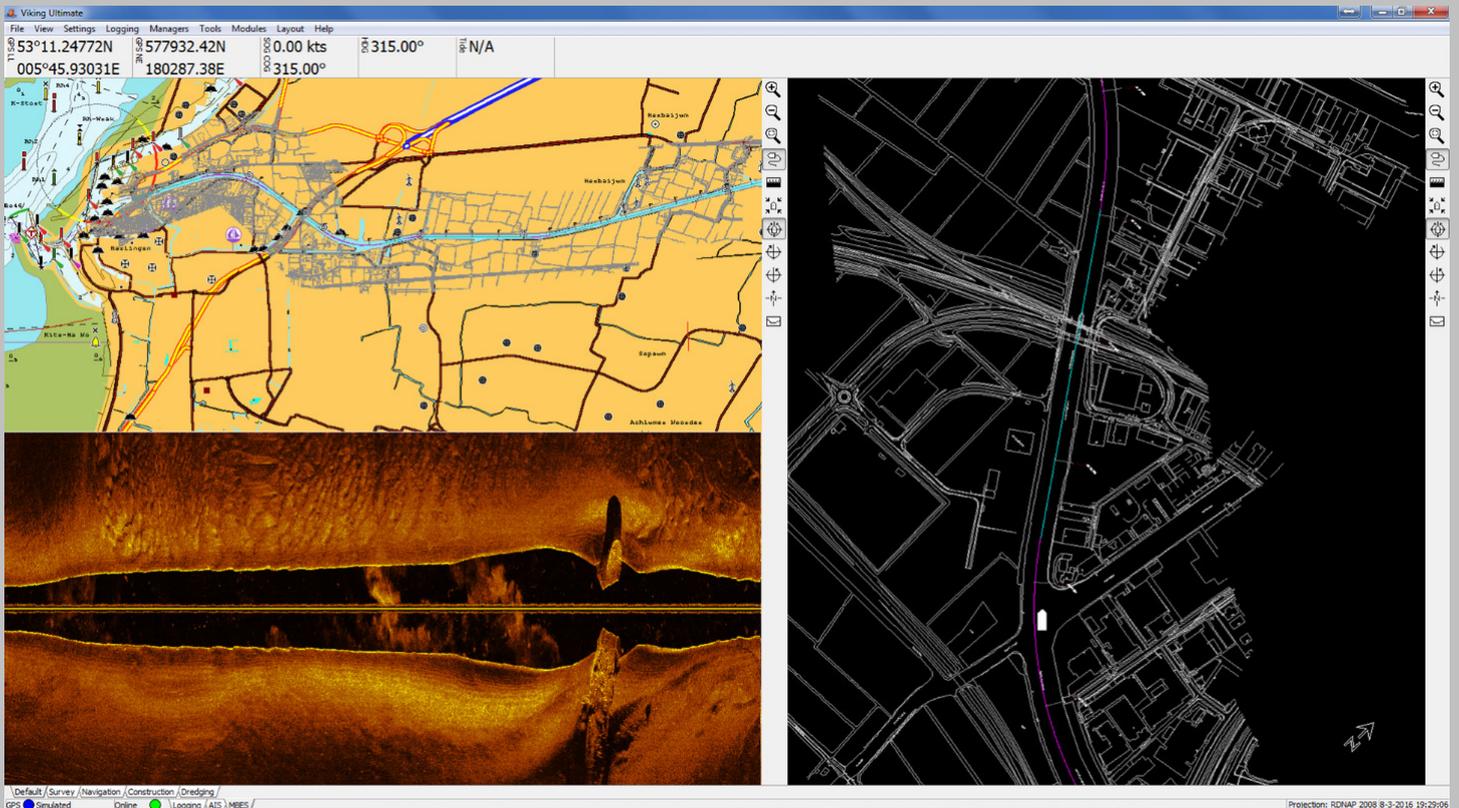
Built in and advanced Terminal



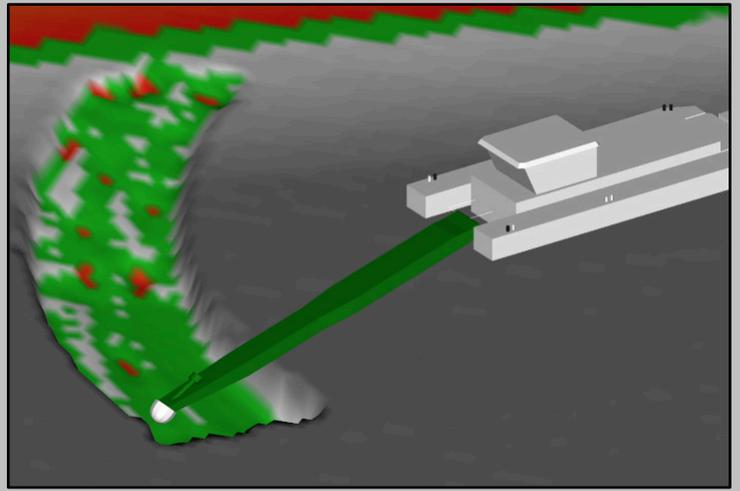
A split-screen view visualising offshore ROV and vessel tracking

Custom Software Development

Alongside the software modules and bundles that are available for Viking, custom additions and modifications are also among the possibilities. When the flexible licensing, layout manager, and advanced I/O do not suffice, custom modifications and modules can be tailor made to suit the requirements.



One window with a layout for a sea chart, CAD background and a Side Scan Sonar trace running.



Offshore Operations

- Anchor Planning
- Dive Support Vessel Positioning
- Wind Farm Navigation
- ROV & Diving Operations
- Tug Management System

Dredging

- Cutter Suction Dredgers
- Trailing Suction Hopper Dredgers
- Excavators
- Grab Dredgers
- Dredging Frames
- Suction Dredgers

Hydrographic Survey

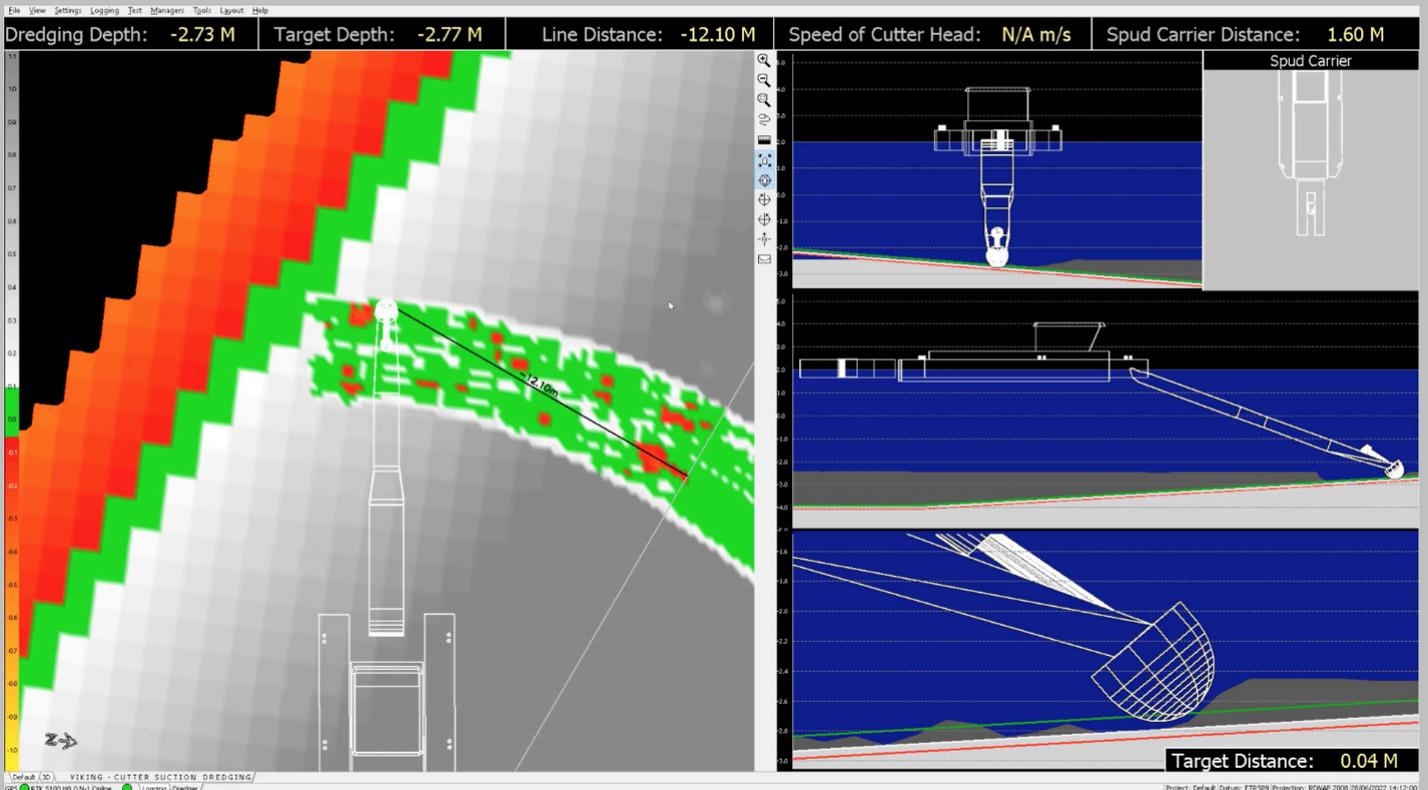
- Single Beam Sonar Survey
- Side Scan Sonar Survey
- Multi Beam Sonar Survey

Maritime Construction

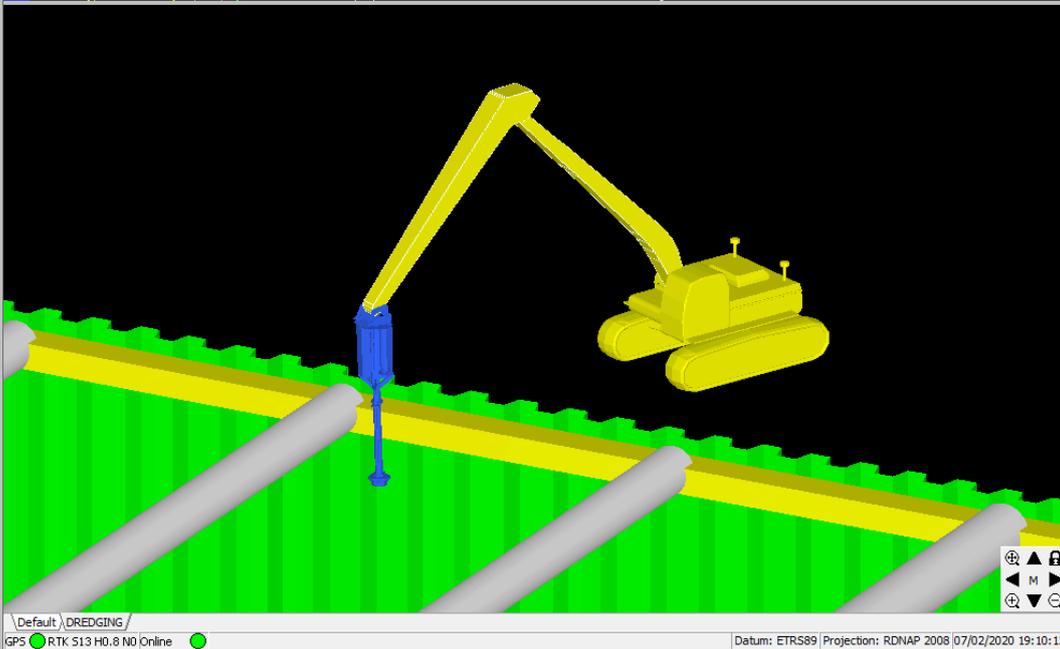
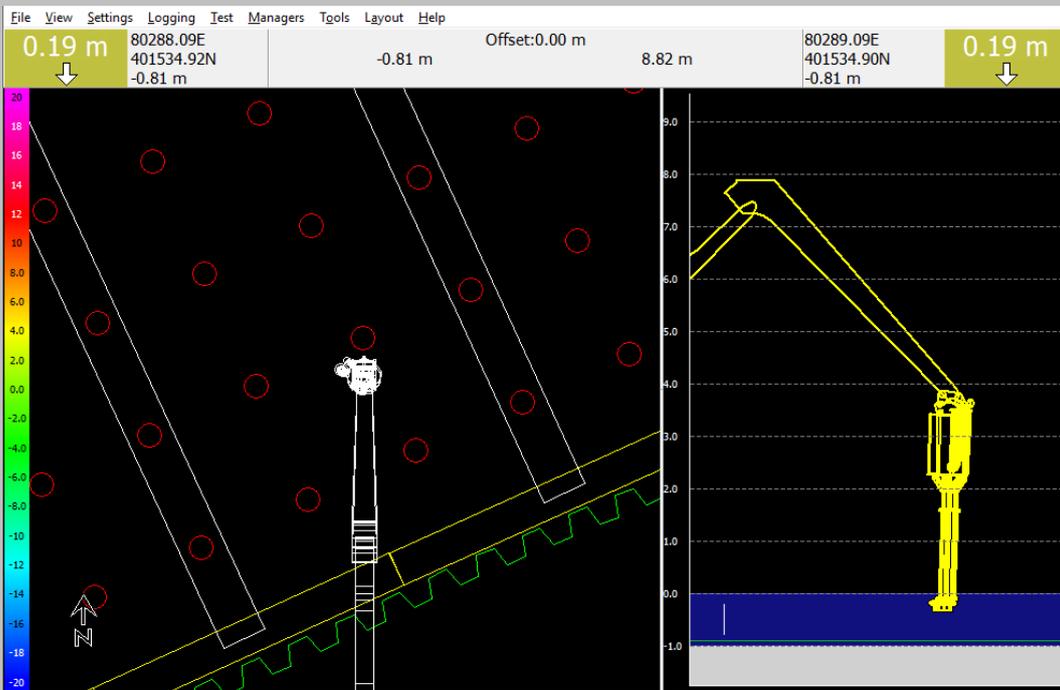
- Wire Crane
- Barge Positioning
- Pile Driving

Machine Control

- Excavator
- Grab Dredge
- Dredging Pump



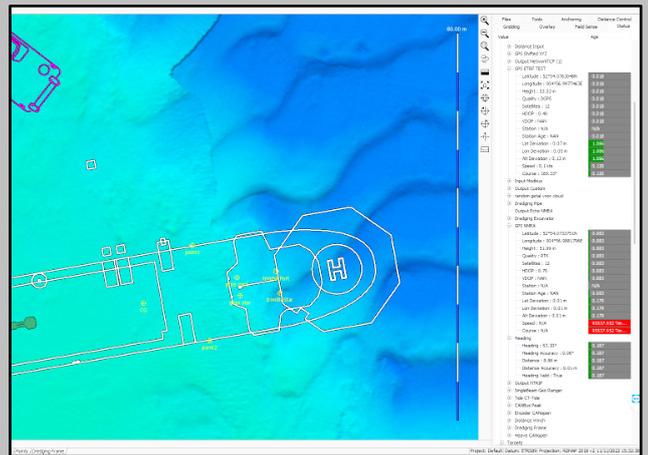
Cutter Suction Dredger with realtime update of the 3D DTM



3D view of an Excavator working in a 3D construction site

Example Configurations

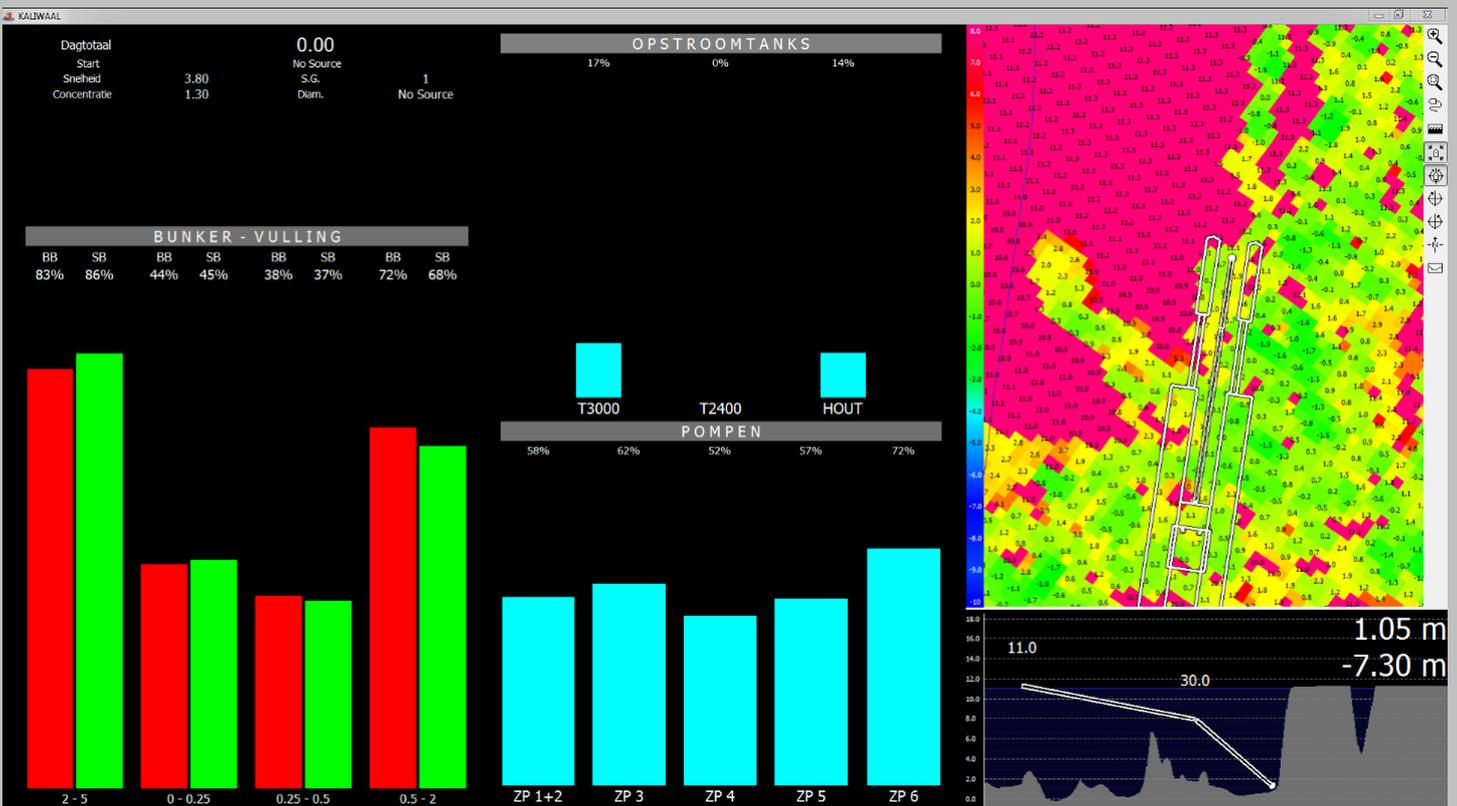
- Dive Support Vessel
- ROV Operations
- Excavator
- Grab Dredge
- Wire Crane
- Dredging Frame
- Cutter Suction Dredger
- Trailing Suction Hopper Dredger
- Tug Management System
- Single Beam Survey
- Side Scan Sonar Survey



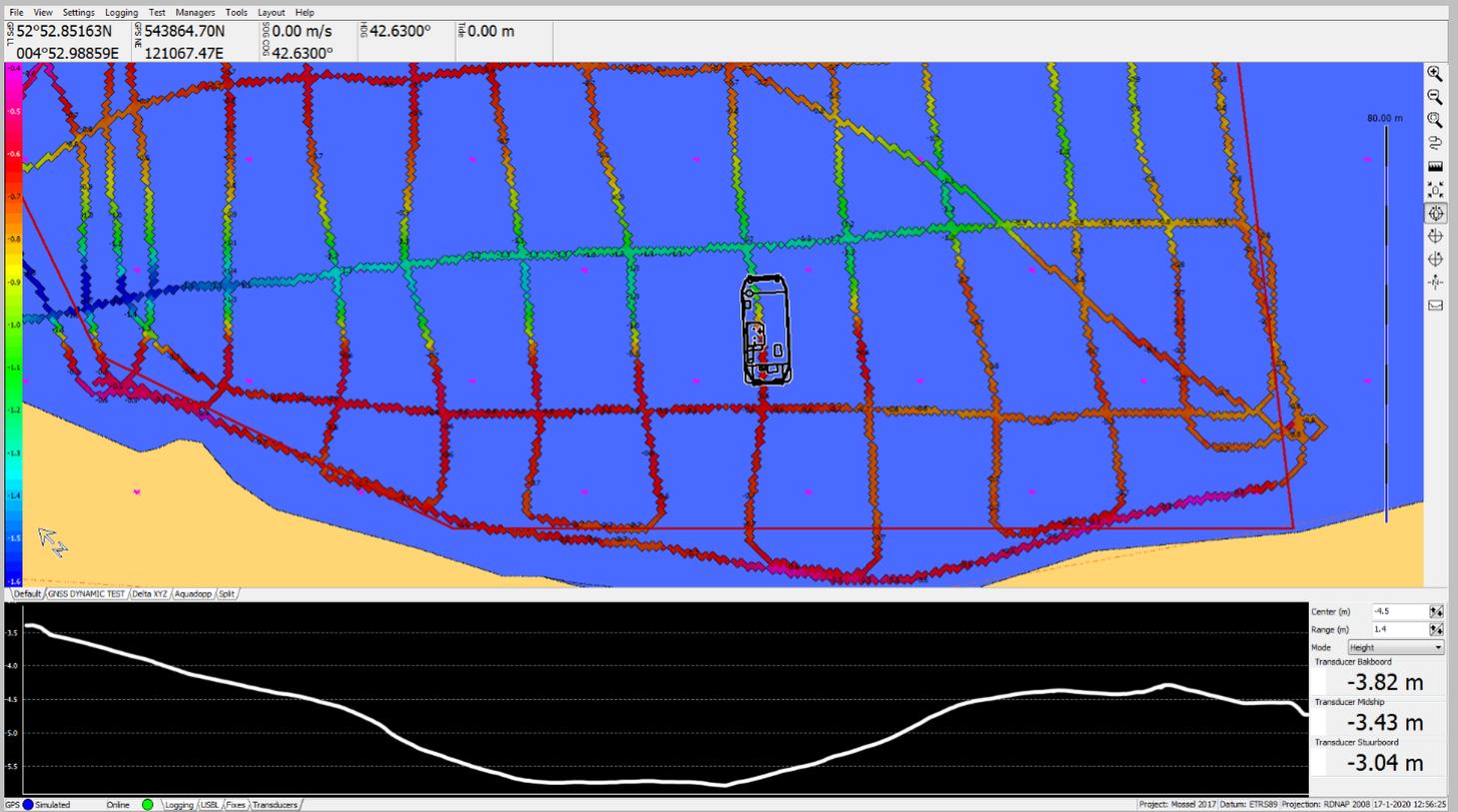
Software Modules

In addition to the basic Viking software many extra options are available in the form of upgradable software modules. Below is an overview of the available software modules.

Navigation Module	<i>Adding support for Navionics ENC charts and AIS interfacing</i>
Single Beam I/O	<i>Single Beam Echo Sounder I/O support, real time logging and display</i>
Side Scan Sonar	<i>Side Scan Sonar realtime data display, point and polygon processing</i>
Magnetometer	<i>Magnetometer I/O, real time logging and display</i>
MBES	<i>Multibeam echo sounder I/O and data logging and display</i>
Excavator	<i>3D excavator and machine control</i>
Wire Crane	<i>3D wire crane / grab dredge / clam shell</i>
Suction Tube	<i>3D Suction Tube and Cutter Suction Dredger</i>
Dredging Frame	<i>3D Special Dredge Frame</i>
Anchoring	<i>Anchor planning, real time execution and storage</i>
Distance Control	<i>Real time distance control between several dynamic and static objects</i>
Networking	<i>Network interfacing between Viking systems for position and data</i>
Points	<i>Extensive 3D point logging with map and table display</i>
USBL	<i>Underwater positioning interfacing HiPAP/USBL</i>
Gridding	<i>Keeping track of grid data and dump areas</i>
Obstacle	<i>3D obstacle model support</i>
Pipeline / KP	<i>KP distance and cross line information / Routing</i>
Object	<i>Adding simple or complex 2D object with stand alone positioning</i>
Cable Detection	<i>Support for cable detection equipment</i>



Layout configuration showing dynamics bars along with dredging side- and topview



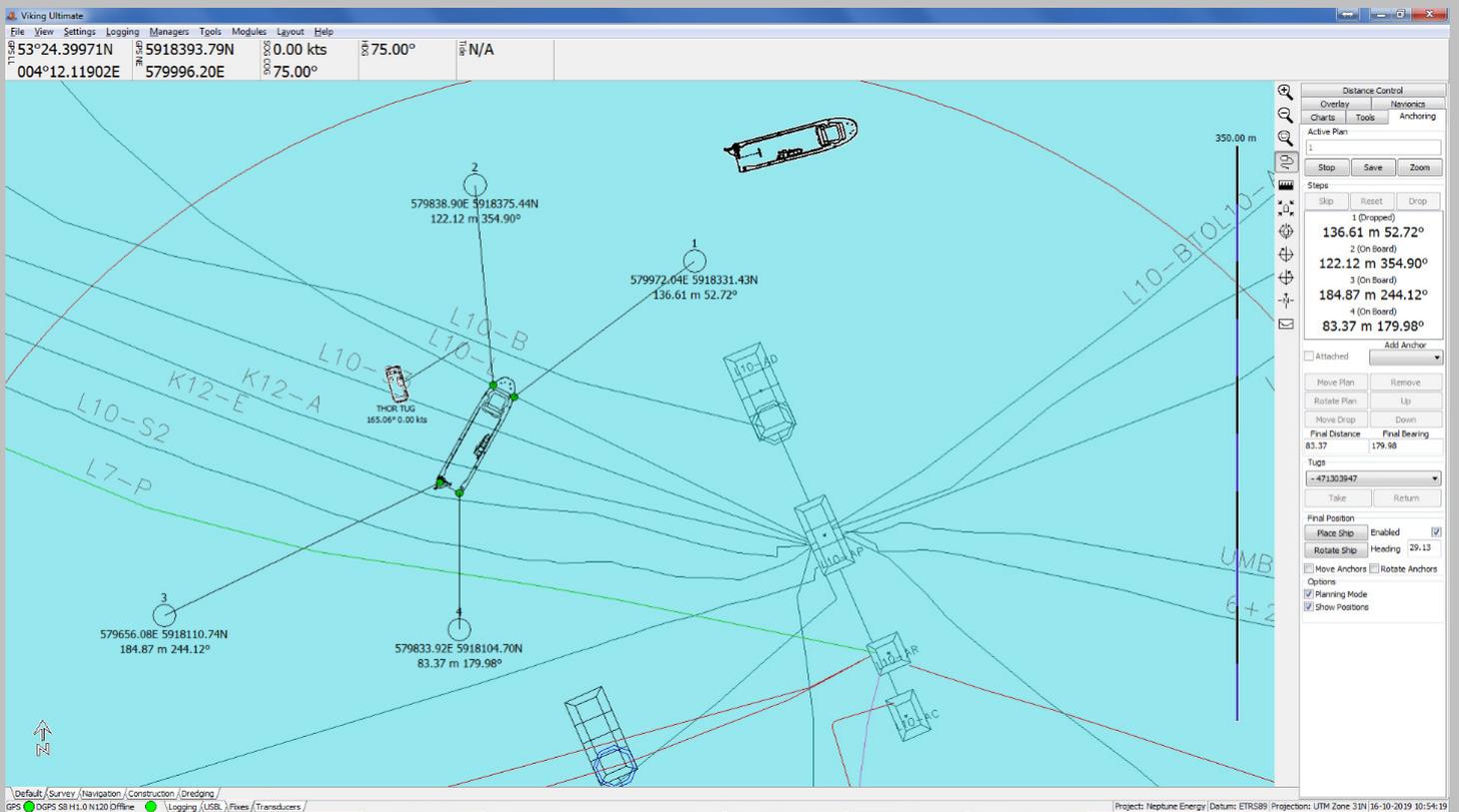
Single beam hydrographic survey being performed in Viking with real time 3D data visualisation and storage

Viking Hardware

Viking is accompanied by a range of hardware products such as the all-in-one GeoDredge computer, the compact GeoSounder hydrographic echo sounder, the Rapidly Deployable Positioning System, CT-Tide tidal gauge, and a full range of dredging- and survey sensors.



"I can't even send an email, but I can work with Viking"



Offshore usage with active anchor planning and wireless telemetry for TMS

File Formats

- DXF Import & Export
- CSV Import & Export
- GPX, KML & SHP Import
- XYZ ASCII 3D Models
- LandXML TIN 3D Models
- DXF 3DFACES 3D Models
- HyPack & PDS2000 File Import

Equipment Support

- NMEA Positioning & AIS
- Single Beam Echo Sounders
- Multi Beam Echo Sounders
- Side Scan Sonars
- Draft & Tide Sensors
- USBL Underwater Positioning
- Digital & Analogue Angle Sensors
- Digital & Analogue Inclinometers
- IMU & Heading Interfacing
- Dredging Sensors

I/O Interfacing

- Analogue Signal Inputs
- TCP/IP & UDP Client/Server
- RS232/422/485, Built in Terminal
- Modbus & Canbus
- Advanced Data Echo & Relaying
- Built in NTRIP Client
- Custom Inputs & Outputs
- File & Data Logging

System Requirements

Viking is built to be extremely power efficient and thus already runs on a low power Intel Atom E3845 CPU running Windows, with only 1 GB of RAM and 400 MB of storage.

Even with huge 3D models and many CAD files loaded memory usage is only around 300 MB.



CT SYSTEMS

Address:

De Wieken 6
1777HT Hippolytushoef
The Netherlands

Contact:

info@ctsystems.eu
www.ctsystems.eu
Tel +31 227 591295