bluespider

SURVEY POSITIONING SUITE

Fail-safe, easily configurable
Multi Vessel
Perfect for rig moves, barge & anchor handling
3D graphics and live web view
Low cost and low maintenance
Simple pricing plan

Blue Spider

Blue Spider has been developed to make everything about Offshore Survey Positioning easier for both the operator and the engineer.

- Faster configuration, installation and roll out.
- Can be configured remotely.
- Monitor progress of offshore projects ashore.
- Multiple subsea vehicles and divers.
- Barge management, 3D catenary with OrcaFlex™.
- Rig moves and anchor handling.
- Cable lay, repair and route clearance.
- Use as verification software for client reps.
- 3D graphics and live web view.
- Low cost and low maintenance.

Blue Spider Survey Positioning is a software suite produced by NAVSYSTEMS IOM LIMITED

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2018/A4/V5

SURVEY POSITIONING

Blue Spider™ is a fully featured marine survey positioning software package, designed for use in the following application areas:

- Barge/tug management and anchor handling
- General offshore engineering work
- Power and telecoms cable installation and repair
- Post-lay burial and inspection
- Route clearance (PLGR) operations
- Rig positioning and move operations

Our flexible and fresh approach can help cut project costs and increase productivity.

Our Offer - We are confident that our software is powerful, reliable and easy to use, so we invite you to try any of our products completely free of charge. You can sign up for an evaluation period, without obligation, in order to fully appreciate the functionality and features available to the end user.

Blue Spider's extensive features and capabilities provide a superior solution for all offshore construction projects. From cable work to rig positioning and much more. We offer both better value for money and features that are not available elsewhere. One vessel licence covers multiple Blue Spider workstations on that vessel.

Blue Spider™ Survey Positioning is a multi-vessel, marine survey package which is exceptionally versatile whilst being intuitive and very easy to use. The Blue Spider software components are decoupled and the system can run on multiple machines, making it highly fault-tolerant.

It's proven reliability, adaptability and simplicity make it one of the most useful and cost effective survey packages available today.

Support for a wide variety of chart types is included, and charts can be displayed in any projection without the need to reimport, and in 3D simultaneously.

Our web monitoring facilities make it possible to view live data from the ships, via satellite, securely, using any web browser and even on your mobile.

ROBUST AND RELIABLE

Blue Spider™ Survey Positioning consists of a suite of applications that can load share across computers and provide hardware redundancy. Reliable and fault-tolerant, it is designed such that any single points of failure would cause only momentary disruption and notify the operator with an alarm.

DATA ACQUISITION

Underpinning Blue Spider Survey Positioning, the server process, BSPEngine, is responsible for performing data acquisition and recording. This server provides live data to the survey positioning client programs and servers running on the same or different workstations. With a dual redundant setup, running two BSPEngine machines, the second one will automatically take over should the first fail. This makes it possible to continue operations even in the event of hardware failures such as hard disk or power supply issues. The engine provides a powerful script execution framework, capable of interfacing to devices and systems that use more complex protocols. Data can be read from quite literally anything, including high-rate devices.

INTERFACING

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For convenience all serial inputs RS232/485/422 can be physically connected to any workstation, with the data streams being made available to the Blue Spider engine. A server process called BSPNet is responsible for relaying communications to the engine, and this may be on as many workstations as necessary, with the facility to set up additional connections for adding redundancy when appropriate. The engine can also access devices using either network protocols such as TCP and UDP transports, or higher level protocols like ModBus and OPC to interface to external equipment and subsystems. All data is accurately timestamped and PPS can be used for synchronization.

BIG DATA

The Map Server is responsible for managing and acting as a central repository for all maps, charts, drawings, ECDIS and DEM data. It is usually run on just a single machine from which all other workstations will obtain their data for display or terrain height queries, eliminating the need to import separately on each. The system can deal with a virtually unlimited amount of terrain data subject to a large enough hard disk or SSD. ECDIS support is available upon request, via an optional plug-in.

CABLE PHYSICS

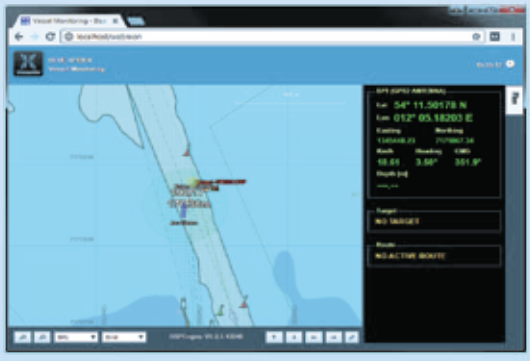
Orcina

Customers can purchase OrcaFlex™ licences directly from Orcina and immediately take advantage of industry standard catenary modelling features fully integrated with our survey positioning software.

The physics server is a program that solves cable catenary calculations in the background and underpins the ability to visualize anchor lines or cables, computed tension and other results. Because these calculations tend to be CPU intensive, Blue Spider allows use of multiple physics servers that automatically form a compute cluster to balance the workload. This option is provided for barge and rig positioning with larger numbers of anchors in order to increase the update speed.

GATEWAY TO THE CLOUD

The Gateway server can be used for a variety of purposes and exists to provide connectivity to other systems and the internet. Providing TCP/IP tunnelling capabilities over HTTP, the Gateway is often used to connect BSPEngine to a remote web monitoring server. It may also be used for securely sending files back to the office and is designed to reliably transfer data over low speed and otherwise unreliable connections, using data compression features to ensure bandwidth use is kept to a minimum. Facilities are available to route network connections over radio modem links (including half duplex models) often as a backup to direct links over Wi-Fi for tug connectivity. The Gateway also underpins the optional remote system management capability, which is a feature used with the (separate) Data Logger product as standard.



WEB SERVER

Blue Spider comes with an easily installed package for running a local web server on the ship for access to data collected by the system, allowing customization of pages to meet specific needs. With an on-board web server, even hand-held devices may be used to view or interact with the system. Support is available for integration of the package into a pre-existing web server as an option. The connection between the survey system and web server may be direct or via the Gateway.

Highly capable software for marine survey, positioning, monitoring and data collection.

IN THE BOX

The Survey Positioning suite consists of multiple applications and services. Of these the survey positioning client is the most frequently utilised directly by the operator to coordinate the activities of the whole system. Additional stand-alone utilities are included for configuration, editing, reporting, backup / restore and for diagnostic purposes. Client and utility applications retrieve all necessary data from the engine, map and physics servers. Individual Blue Spider users may be given different login credentials allowing or denying access to certain features preventing unauthorized users from making system wide configuration changes and more. All of the user interface programs can be run on as many workstations as needed, allowing multiple users to view and interact with the system at the same time.

SURVEY POSITIONING

This client program provides most of the features commonly used. It provides a 2D plan view display showing chart and terrain data, ships and other vehicles, stationary objects such as turbines, and all route and point-related data. There are many other views available to allow access to specific features like anchor handling or cross sectional graphs, and access to commonly changed configuration features (steerpoints, selection of primary input sources, creation of targets etc.) Dockable windows and a customizable user interface provide flexible screen layouts and add additional functionality.

3D VIEWER

View projects in 3D at any scale. All objects such as route lines, points and vehicles are shown. The camera may be locked relative to any moving vehicle to maintain a particular viewpoint. The user can manipulate the camera using a mouse or joystick.

LOG FILE VIEWER

The log file viewer opens CSV format log files to view the content while data is being recorded. The log file viewer can display simple graphs of live data.

SHAPE EDITOR

The shape editor is used for creating and editing vehicle and other objects, allowing the configuration of all related properties such as dimensions, offsets and optional 3D appearance.

ALARM AND TIMELINE

These two applications are provided to give insight into system alerts and other notifications. A summary of alerts is given in the main application. Alarm and Timeline utilities help ensure the operator is aware of issues before they can cause problems.

FIXING UTILITY

The fixing utility provides an easy-to-use interface for recording and updating fixes. The layout for this is held on the server and is fully customizable. Fixing can also be performed via a web browser.

CONFIGURATION UTILITY

This configuration editor facilitates the setting up process and provides backup and restore features for all important configuration data.

REPORT GENERATOR

The report generator can be used to create arbitrary CSV format reports from raw data recorded using the database logging features in the engine, enabling the creation of log files retrospectively.

Extensive and Extensible Feature Set

- Positioning calculations performed in latitude and longitude.
- Dual redundancy mitigates even hardware failure.
- Tracking and orchestration of multiple vessels.
- Extensive AIS support and visualization.
- Positioning of subsea vehicles, divers and other equipment.
- Highly customizable inputs, outputs and logging.
- Flexible data recording system allows recording of data in any format at specific rates or as a result of any event.
- Automatic recording of all information to database.
- Replay of incoming data from database.
- Decode of ANY input message format.
- Advanced JavaScript engine for custom processing in the server.
- Scriptable custom server-side variables, functions and alarms.
- Serial data routing via any computer on the network.
- Extensive TCP/UDP I/O support.
- Supports OPC and MODBUS input and output.
- Fine grained user/workstation permissions prevent operator error.
- Positional secrecy mode for DOD / security sensitive operations.
- Separate terrain server acts as central repository for charts and other big data.
- Import of a wide variety of chart, DEM and point cloud formats.
- Charts automatically available on all workstations in both 2D and 3D.
- Number of charts/height maps limited only by hard disk size.
- Charts viewable in any projection.
- Vehicle definition editor supports both 2D and 3D and vehicles with moving parts.
- Live 2D and 3D situational awareness views.
- Remote web monitoring from the office.
- Local web monitoring using hand-held devices on the ship.
- Alarm and Timeline applications quickly highlight issues with configuration, interfacing etc.
- Customizable user interface extensions; write your own panels using HTML5 and JavaScript.
- Completed log files may be automatically uploaded to the cloud.
- Positioning of mobiles via HPR, Fanbeam, Blueview, GPS and almost any other method.
- Barge management uses Wi-Fi and/or radio modem links.
- Add depth information to routes from height map data.
- Cross-sectional depth graph view.
- Powerful configuration editing, backup and restore features.
- KP calculations using both true and grid techniques.
- Extensive list of supported map projections, datums etc.
- Cable physics calculations performed in a separate physics server that supports a variety of back end calculation engines including OrcaFlex™; the live results can be graphically compared. Distributed compute load across multiple PC's
- Intuitive, easy user interface helps reduce training costs and operator errors.
- Automatic download and deployment of software updates to all workstations in one go.

SURVEY FEATURES

A rich set of features is available for general survey and offshore engineering work, and the functionality can be extended further by the use of plug-ins and scripts in order to ease work-flow when performing repetitive tasks or adding extra capabilities. Support for a wide variety of commonly used devices is provided as standard and often these can be interfaced with little or no effort in configuration. Adding support for a new type of device is usually very straightforward and, although the configuration can occasionally be difficult to get right, it is usually trivial. Virtually anything can be interfaced and in nearly every case is easy to do this yourself.

Importing, exporting, and editing route lines and points and other objects is straightforward, and objects shown in the plan view can be selected on-screen in order to quickly view or edit properties. Commonly used features and visual aids such as guard lines, range rings, A/C extensions and survey grids are all available as standard and very easy to use.

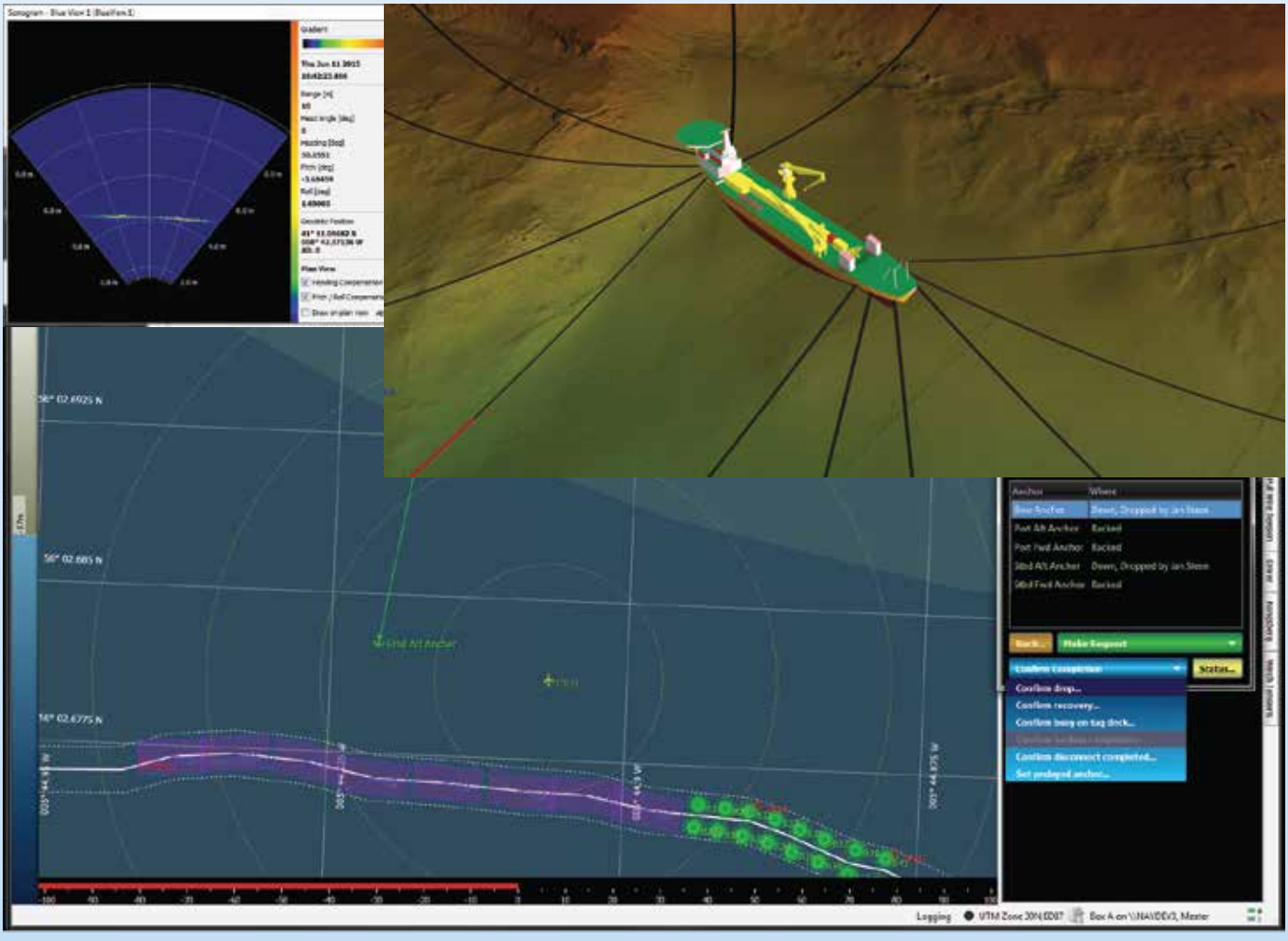
Support for a wide variety of chart and DEM data formats is included. Charts without height information can be draped over terrain in 3D. Charts and DEM data with height information can be used to view the seabed elevation, show cross sectional graph-style views, to add depth information to routes and for 3D visualization. All charts regardless of type can be shown in any map projection on the plan view without the need to reimport. As charts are managed by the map server, any imported chart is immediately available on all workstations. The transparency of any chart layer can be changed and layers stacked on top of each other if there are overlapping charts at the same location. Web-based charts like Google or Bing maps may also be shown as layers. There is an optional ECDIS plug-in available on request.

Features are provided that help to streamline operations such as mattress positioning or rock dumping. Accurate positioning of any object on the seabed can be accomplished using the powerful averaged fixing features. This can be configured to automatically place visible representations of objects on the seabed onto the plan view as stationary objects at the right time.

There are plenty of other features available including support for vehicles with moving parts and other less common applications. Any incoming data that can be used to deduce the position of a moving part on a vehicle such as an A-frame on the ship or cable/pipe detector frame on a ROV may be used to visually indicate this on-screen in both 2D and 3D. Any shape defined using the shape editor can be given this capability.

Developers can create user interface plug-ins and interface driver scripts. A set of tools are provided for this including a powerful JavaScript debugger.

Sonar data acquisition and display, including overlaying sonograms on the plan view are provided. Drivers can be supplied to support additional sonar device types on request.

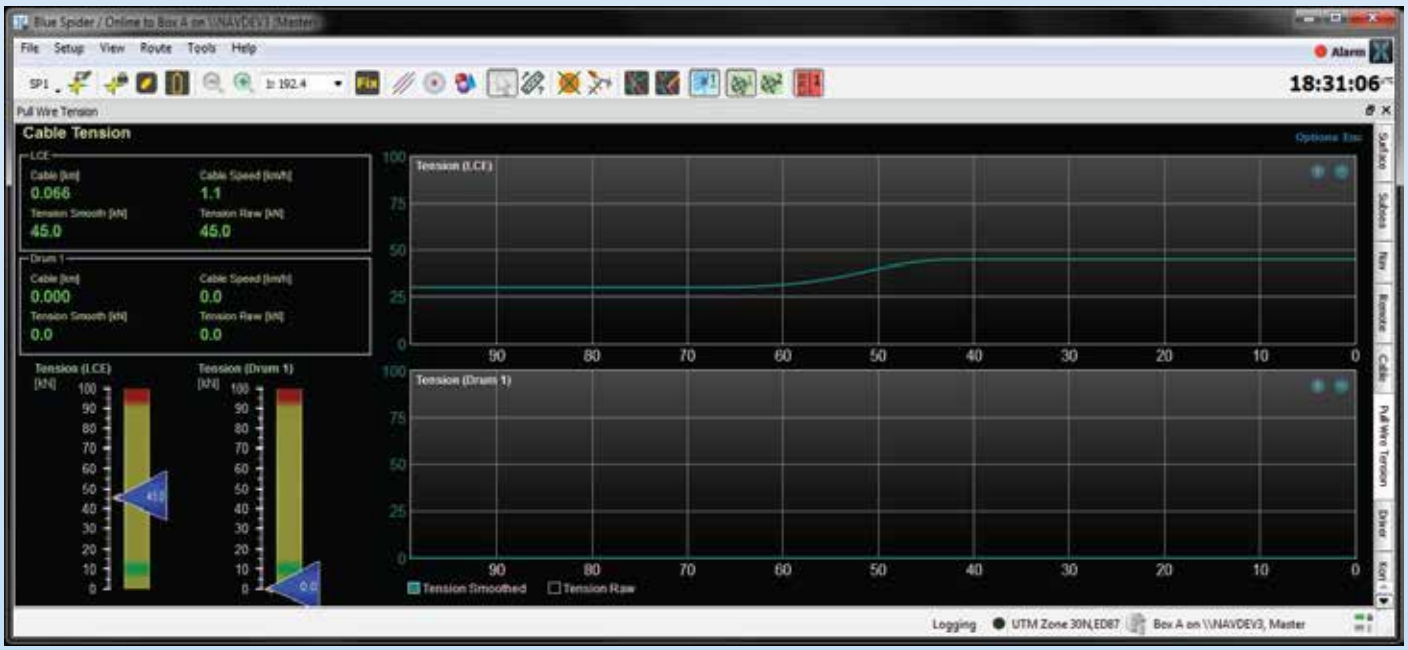


CABLE MANAGEMENT

A set of additional features specialized for cable installation, inspection and repair-related work are available. The main cable management user interface for this is provided as a HTML/JavaScript plug-in. These features exist for users requiring this functionality to assist with cable operations, and are included but not installed as standard. The plug-in provides a number of additional dockable windows for different operational scenarios and system users. General facilities are available for creating layback routes for use when ploughing or for route clearance.

The main purpose of the cable management instrumentation is to indicate how surface lay operations are progressing relative to the plan, and record this data for presentation to the customer in final reports and charts. Distance and Slack deviation are key parameters of the display and depicted as horizontal bar charts with moving pointers to illustrate how the installed cable compares to target either in terms of distance or slack.

User permissions are often set up such that only certain operators are allowed to make changes, and there are some additional specific user rights available which are pertinent to cable work. This not only makes it easier to assign different roles to cable engineers, engine drivers and surveyors, but also ensures that these users only perform or access functions they are entitled to use.



ANCHOR HANDLING

The Survey Positioning Suite is designed to support multiple vessels and this includes many specific anchor handling features. Working with remote vessels is simple and easy to configure after setting up Wi-Fi and/or radio links. Systems on different ships will automatically communicate with each other making it possible to send instructions like asking a tug to drop an anchor, pre-lay anchors for a rig, or recover previously deployed anchors for example. Deployment of a vessel's own anchors is also possible without the help of remotes.

The position of all remote vessels is clearly shown in the Survey Positioning plan view display and in the 3D viewer, along with other relevant information such as the state of each anchor. On a tug, any specific request, e.g. anchor deployment, is clearly shown. If an operator is not available on the tug to confirm the actual anchor drop then this may be done directly from the rig or barge on their behalf.

With the cable physics capability provided by the physics server and with the 3rd party OrcaFlex™ software features enabled, it is possible to correctly visualize the calculated cable catenary and all resulting tension forces. The catenary can be shown in 2D cross-sectional view including interaction with the seabed terrain and calculated tension forces, grounded length and other information can also be displayed. Physics compute load can be distributed between PCs.

Mooring lines may be composed of multiple wire, rope or chain sections and have attached objects such as clump weights and buoys. A cable definition editor is provided to allow to allow construction of different mooring line arrangements and to choose and splice together lengths of existing line types from the cable database. It is easy to define new cable types and add them to the cable database. Each type of cable or chain has many physical properties such as stiffness, mass per unit length and diameter which may be edited in the cable database. These properties are used for both accurately modelling the cable catenary and performing related calculations. Cable catenaries are also shown in the 3D viewer. Equipment attached to the cable may be defined using the shape definition editor so that it is possible to visualize these in 3D.

NAVSYSTEMS IOM LIMITED

We are a software manufacturer and consultancy, providing innovative design services and products for use primarily within the Marine and Automotive sectors. Our experience extends into many other areas, but particularly those relating to industrial automation and embedded systems. Producing applications which are versatile, durable and adaptable to constantly changing requirements is always our primary objective. It is our aim and intention that the product range should continue to evolve and grow in accordance with industry needs and aspirations.

SOFTWARE DEVELOPMENT

The Blue Spider software architecture is extensible supporting a wide variety of plug-ins, scripts and third party modules. Using the documentation, it is straightforward to develop your own scripts and plug-ins. We are also happy to do this for you, usually very quickly and will, of course, undertake larger projects. For a major feature, some user interface or a driver for a fancy device, we will aim to surprise you with great value for money.

BLUE SPIDER TRAINING

Training courses are available for Blue Spider and can be tailored to meet specific operator needs and skill levels. Since Blue Spider is intuitive and easy to learn, most surveyors are able to pick up the basics within hours of their first introduction or evaluation. Extensive documentation is provided and worked examples are given for more complex topics. Training on advanced features relating to areas such as writing I/O drivers, plug-ins, remote management and configuration, and web monitoring server customisation can be provided to staff who already have the necessary core skills. Evaluators are able to take advantage of our pre-configured scenarios and examples in order to understand the full range of capabilities from simple to advanced. Our online helpdesk, web based resources and our friendly configuration editor are all provided in order to make effective use and understanding of our software straightforward.

SUPPORT

All Blue Spider products include support as standard and may be tailored to suit any specific requirements. We are here to help with installation, interfacing new equipment, training and initial setup of the system. Our engineers are available 24/7 365, and endeavour to provide rapid solutions. The manuals, and online resources explain specific features and help with advanced configuration.

We are members of

Society of Maritime Industries

Isle of Man Shipping Association

Briggs Marine 03/06/2014

(Cable repairs and Installations, Barge Operations)

"Briggs Marine have been using Blue Spider software for over a year, where it has been successfully employed on over 10 cable repairs and installations. The software has proven itself in complex operations, whilst working in close proximity to seabed structures with project support vessels in attendance. It's intuitive operation enables our vessel operators to utilise the system with little instruction."

Craig English

Operations Director - Subsea Services, Briggs Marine

We also produce a data collection system, the Blue Spider Data Logger, designed to use on any type of vessel for unattended data collection which includes a web server to facilitate manual data entry. It is a comprehensive and integrated data logging solution that allows data to be collected from a wide variety of external sources. It is ideal for use on any vessel and perfect for collection of voyage, performance, engine, gearbox, cargo and condition monitoring data; designed for completely unattended operation so that configuration changes, diagnostics and software updates can be securely performed by remote control without the need of support from crew or engineer visits. The Data Logger is actually based on, and includes many components from, the Blue Spider survey package which has all of these features and many more. A separate brochure detailing the Data Logger features is available. Remote web monitoring features are available for both packages.

If you would like to evaluate Blue Spider Survey positioning then we are happy to offer a free trial period. Contact us by email to discuss requirements or register on our website. **bluespider.im**