

RIVERTRACE

Cleaner. Smarter.



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Introduction

Rivertrace is an ISO 9001:2015 quality assured market leader in oil in water quality monitoring established since 1983.



Rivertrace manufacture oil content monitors for the marine, offshore and industrial markets with up-to-date technological engineering solutions to meet strict regulatory requirements.

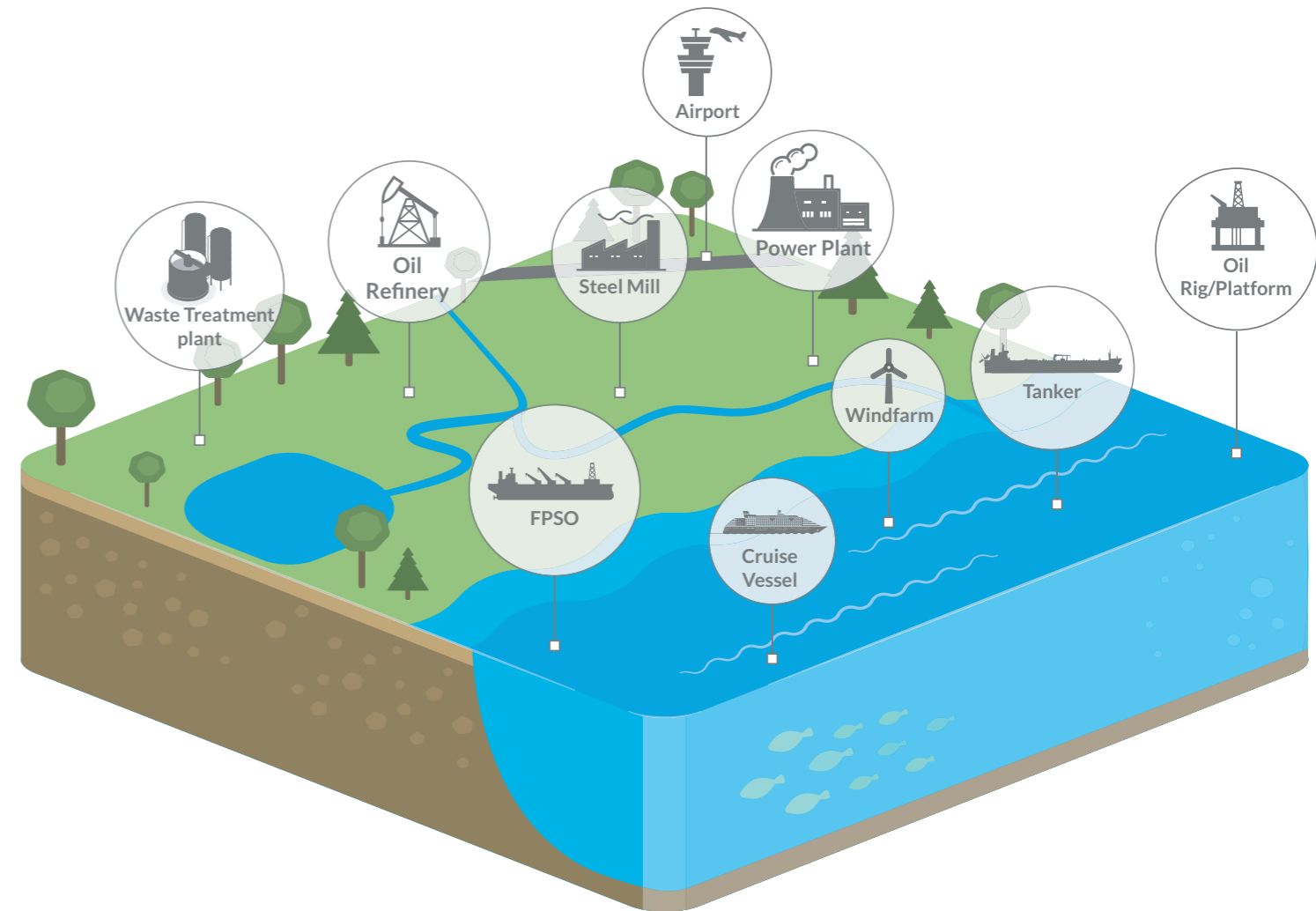
Our impressive client list includes leading European, American and Asian separator manufacturers. We also supply most of the major international shipping companies together with the leading offshore oil and gas operators as well as premier land based industrial organisations.

We are dedicated to producing high quality products and service to meet oil in water monitoring solutions.



Rivertrace are committed to driving sustainable change in our industry. We advocate using technology to minimise risk, increase security and keep our oceans clean.

Our company HQ is based in Redhill, UK where we design and manufacture. Stock is held worldwide in strategically placed distributors.



Markets and Applications

Rivertrace manufacture oil content monitors for the marine, offshore and industrial markets with up-to-date technological engineering solutions to meet strict regulatory requirements.

Our wide range of applications include the following:

- Bilge Water Discharge (MEPC 107)
- Slop Water Discharge (MEPC 108)
- Exhaust Scrubber Wash Water Monitor
- Oil Condition Monitoring
- Produced Water Monitoring
- Deck Drains Discharge
- Cooling Water Monitoring
- Boiler Feed Protection Monitor
- Hydrocarbon Leak Detection
- Ground Water Discharge

Product Overview

OUR PRODUCTS. DELIVERING RESULTS.

Our extensive range of products covers applications for legislative discharge requirements, condition monitoring equipment and digital technology for enhanced efficiency and compliance.

Rivertrace pride ourselves on having an internal R&D team dedicated to continually developing our existing products, supporting our sales team on individual customer's requirements and addressing new legislative and industry problems.

Visit our website www.rivertrace.com for further information on each of the products and download the product datasheets.

SMART BILGE

The SMART BILGE 15ppm Oil Content Monitor was developed in 2005 to meet and exceed the requirements for MEPC.107(49) regulations.

The SMART BILGE is made up of 2 key components, the SMART BILGE 'Module' and the SMART 'CELL' measuring cell. This unique OCM can analyse all three oil types (HFO, Diesel and Emulsions) simultaneously without the need for re-calibration. This innovative design allows for simple routine maintenance of the OCM while maintaining optimal conditions.

Key Features

- Easy maintenance with exchange schemes and fleet deals
- Onboard calibration check kits
- Digital calibration portal with automated reminders



SMARTSAFE ORB

The SMARTSAFE ORB (oil record book) Bilge Overboard Security System was developed to prevent the vessel from illegal discharge "Magic Pipes" and minimise discrepancies in the oil record book.

In its simplest form the SMARTSAFE ORB will utilise the ship's GPS and records each 'event' of the bilge water discharge process. The control module will store these events for a period of three years exceeding MEPC requirements. It is a complete interlocked system ensuring security of your discharges. This includes tamper proof electronic flow meters and secondary diverter valve with position feedback installed after the standard IMO diverter valve. The secondary diverter valve is controlled solely by the SMARTSAFE ORB and will immediately be closed should a malfunction or malicious act be detected.

Rivertrace have partnered with Prevention at Sea (P@S) to integrate our SMARTSAFE ORB with their ε-ORB

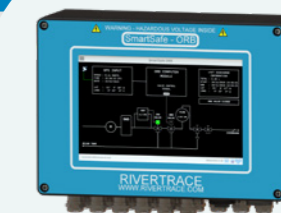


(electronic Oil Record Book) software.

This integration will allow data collected by Rivertrace's SMARTSAFE ORB to be automatically entered into the class certified ε-ORB, removing the need for manual entries.

Key Features

- Compatible with all OWS
- Increased security and reduces administration
- Compatible with Class and Flag Approved Electronic Oil Record Book



SMART PFM

The SMART PFM is available in 2 versions. Marine MEPC.107(49) approved with 15ppm alarm limits and an industrial version which has user adjustable alarm points.

The monitor measures particulates in the sample stream on a continuous basis by passing the process fluid through a proprietary photo optical measuring cell developed by Rivertrace.

This is a technology called Microscopy which uses a combination of optical recognition algorithms and light

intensity to differentiate between Oil particles, Gas/Air Bubbles and Solid particulates in the range 1-500 microns.

The data is all recorded on an internal computer memory and can be accessed for data analysis using the intuitive touch screen.

Key Features

- MEPC.107 approved
- Oil type independent
- Bespoke systems for individual project requirements



SMART ODME

The Oil Discharge Monitoring Equipment (SMART ODME) has been designed to provide means of monitoring, recording and controlling the ballast discharge for crude oil, product and chemical tankers including ICE class vessels.

This system is modular in construction and does not require the usual pump/motor bulkhead penetration as used on older systems. The SMART ODME includes all components required to meet MEPC.108(49) and the latest MEPC.240(65) for Bio Fuels.

The SMART ODME incorporates a 'simulation mode' to aid

system demonstration to PSC surveyors, is designed for ease of retrofitting, operation, installation and maintenance.

The SMART ODME is also suitable for use on FPSOs to comply with MEPC.108 requirements alongside a produced water monitor for local regulations.

Key Features

- MEPC.108(49) and MEPC.240(65) Approved
- Minimal bulkhead penetration
- Onboard Calibration Check Kits and Simulation mode



SMART 50M

The SMART 50M is a versatile and sophisticated monitor designed for high temperature and high pressure applications. The OCM uses a nephelometry based detection technique and sophisticated algorithms to detect oil content in the sample stream.

The monitor has 2 versions available to suit different oil ranges - Low and Medium. Combined with proprietary measuring cell autoclean capability and auto-zeroing functionality the monitor boasts minimal maintenance with accurate measurements.

Key Features

- Wide range capability
- High Sample temp and pressure capability
- Bespoke systems for individual project requirements



An internal data recorder will log the following data - Oil concentration, sample pressure, sample temperature, fault status alarm and run status.

SMART ESM

The SMART ESM designed to MEPC.259(68) and is suitable for both the inlet and outlet of a EGCS, measuring and recording the required parameters of PAH, Turbidity, Temperature and pH. The monitor can be installed on new build or retrofit systems and can accommodate open-loop, closed-loop and hybrid scrubber systems.

The innovative measuring cell design allows for unique Plug and Play maintenance design. Each measurement parameter is enclosed in a separate cassette slotted inside the measuring cell around the sample tube. This allows

the calibrated parts to be swapped without the need of isolating the sample which flows through a glass tube in the centre of the cell.

Key Features

- Plug and Play design for each measurement parameter - PAH, pH, Temp and Turbidity
- Easy Maintenance and Re-Calibration with exchange schemes
- Calibration Check Kits available



SMART 40M

The SMART 40M has been redeveloped as a versatile low-cost solution for simple oil in water monitoring applications. Originally designed for use onboard vessels under MARPOL regulation the monitor has been re developed for industrial use with user adjustable alarm points to suit the environmental requirement.

The monitor is designed with 2 key components, the control module and the calibrated measuring cell, allowing for easy recalibration and service of the device while retaining the data storage for historical data integrity.

Key Features

- Easy maintenance with measuring cell exchange
- Digital calibration portal with automated reminders
- Bespoke systems for individual project requirements



The measuring cell comes as standard with a manual cleaning device for simple routine maintenance to ensure the optical cell is not fouling and maintains accuracy. Alternatively, this can be upgraded to a pneumatic autoclean which will ensure the cell is cleaned at regular intervals without need for manual cleaning.

SMART WiO



The working principle is a capacitive measurement operating on absorption of water in oil. The physical measured value is % Humidity.

New oil can hold a certain amount of dissolved water. The maximum water amount oil can hold is called "saturation point". Above the "saturation point" free water will fall out which can cause corrosion inside of the engine. More than 100% humidity means free water is present.

Most Water in Oil test kits in the field can only measure if there is free water present. (>100.02% humidity). This

value means free water content is already present in the oil sample which could be causing damage. The SMART WIO is able to take into consideration the temperature to measure the saturation level or humidity with pre alarms at 50% humidity and main alarm at 90% humidity preventing the cause of damage.

Key Features

- Condition Monitoring of Oil
- Early warning of 50% and 90% humidity
- Minimal maintenance

SMART TURBIDITY



The SMART Turbidity monitor uses the "Smart Cell" Detector Array Technology, developed by Rivertrace. This monitor accurately analyses the quality of the sample stream and outputs the turbidity value in nephelometer turbidity units (NTU). Turbidity is the cloudiness or haziness of a fluid caused by large numbers of individual particles.

The monitor comes with a manual cell cleaning device as standard to easily enable routine maintenance and prevent optical cell fouling which is recognised as a leading

cause of monitor malfunction or incorrect reading. This can be upgraded to a pneumatic autoclean device which will automate the optical cell cleaning ensuring the measuring cell remains in optimum operating condition.

Key Features

- Easy maintenance with measuring cell exchange
- Digital calibration portal with automated reminders
- Bespoke systems for individual project requirements

OCD XTRA



The OCD Xtra is a unique oil content monitor that combines multiple light wavelengths with multiple sensor technology, to measure oil accurately in the range 0-200 ppm.

Multiple oil types are automatically compensated for by sophisticated algorithms. The multi - parameter display shows the sample's oil content, pressure and a graphical average of the last 4 hours oil readings. Data history is stored in the internal ROM and accesses from the intuitive menu.

Oil and turbidity alarms can be set within the full range of measurement and with the fault condition, drive three corresponding alarm relay contacts available for user termination. Two additional control relays are also provided for pump and valve control if required.

It is also possible to adjust the calibration settings of the

OCD Xtra against laboratory analysis on site. This will increase accuracy and repeatability for field conditions.

The OCD Xtra can also be supplied for hazardous area environments Zone 1 and 2 in a purged enclosure.

Key Features

- Factory calibrated on 6 different oil types
- Onsite Calibration adjustment
- Bespoke systems for individual project requirements

OCD CW



The OCD CW Oil Content Meter (OCM) has been developed as a versatile low-cost solution for simple oil in water monitoring applications.

The OCM was originally designed for use as a detector of hydrocarbons in sample streams, up to 99 ppm. The system is widely used in engine cooling water and freshwater systems but has been applied to many applications such as groundwater discharge.

Key Features

- User adjustable alarm points
- Minimal maintenance
- Increased accuracy with oil sample

Bespoke Solutions

**OUR SOLUTIONS.
DELIVERING RESULTS.**



Rivertrace has over 3 decades of experience working in 3 distinct markets covering a wide range of applications. This allows us to draw on cross industry knowledge to provide a tailored solution to your environmental requirements.

With a dynamic flexible approach to our business, we will work with you to develop a solution to your problem and support your company throughout the life of the project.

Rivertrace Partners



**PARTNERSHIPS.
DELIVERING RESULTS.**

Since 1983 Rivertrace has been dedicated to developing technological engineering solutions and compliance for helping to reduce harmful impacts of shipping on the environment. To support this we are working with strategic partners who have similar ethos and innovation at the heart of their companies.

These partners support our commitment to driving sustainable change in our industry and advocate using technology to minimise risk, increase safety and keep our oceans clean.

Contact our team at sales@rivertrace.com to learn more about these partnerships or if you have a solution that would be aligned with Rivertrace's ethos.

Global Reach

DELIVERING RESULTS. GLOBALLY

To serve our international customer base Rivertrace are supported by a network of agents and distributor service centres worldwide covering over 45 countries, providing a local service and spares support wherever the vessel is sailing.

Rivertrace believes our strength comes from our strong network of agents and distributors and invests time and resources to ensure they are trained and hold the right stock of spares. This allows us to react to the fast paced, global demand of the shipping industry with same day dispatch on all stocked spares.



Accreditations & Approvals

Our products are rigorously tested to meet international standards and supported by our ISO9001:2015 Quality accreditations.



Contacts



Sales

If you wish to purchase or make an enquiry about spares, please submit details to the email address below. A member of our dedicated sales team will respond with a list of spares, current costs and lead times.

sales@rivertrace.com



Technical Support

Rivertrace is committed to providing exceptional customer service which includes aftersales care. Should you require technical support with any of our products, please contact us via the email address below.

remotesupport@rivertrace.com



Service

If you wish to book service attendance on our equipment or want to arrange a calibration on your monitor please contact us on the email below. A member of our service team will respond with prices and availability.

service@rivertrace.com