



# Spectrolytic

Innovative Solutions in Spectroscopy

# FluidInspectIR<sup>®</sup> Oil Condition Monitoring

# Revolutionise your fluid monitoring: maximise cost savings and efficiency with FluidInspectIR®

Demand for a fully integrated Fluid Condition monitoring solution is being driven by the never-ending search for operational efficiency across every industry from Marine to Oil and Gas.

Many organisations see this process as a cornerstone of protecting long term profitability, sustainability and compliance.

Spectrolytic solutions manage support hundreds of businesses, managing thousands of assets and monitoring 10,000's of manhours to protect our customers operations, by creating a fully usable Data set that allows management to make the best proactive decisions in terms of maintenance and fluid usage, creating £millions of savings.



## Oil Condition Monitoring

Real-time monitoring for the Marine, Power Generation, Industrial Fluids and Steel & Aluminium Rolling industries.

## Fuel Analysis

Remotely monitor FAME levels in BioDiesel, Ethanol in Gasoline and Water content in Jet Fuel.



### Extend Asset Life:

Early failure warnings prolong machinery lifespan.



### Enhance Bottom Line:

Reduce oil usage and dependency on labs, saving money.



### Operational Efficiency:

Minimise human involvement with fully automated systems.

# Next generation end-to-end solution for fluid monitoring

Actionable data from a true plug-and-play solution to increase user bottom line returns \$\$\$

## Oil Condition Monitoring

### Marine



### Turbomachinery



### Power Generation



### Steel & Aluminium Rolling



### Metal Working



### Immersion Fluids (datacenters)



### Hydraulic Oils



### Gear Oils



- Eliminate operational doubt in fluid management
- Remove human machine interface
- 24/7 Actionable Data through real-time measurements
- Increase Bottom line returns

## Fuel Analysis

### Ethanol In Gasoline



### FAME In Biodiesel



- Control Quality
- Remove human-machine interface
- Create bottom line increase

# Plug-and-play connection for easy installation

FluidInspectIR® offers multiple installation options, fitting seamlessly into various oil circuit locations, including direct attachment to the oil tank or integration via a bypass link.

- ✓ Simple installation in minutes
- ✓ No operational inconvenience
- ✓ No pain for the customer

## Fitted to oil tank



## Fitted with bypass link



After quick installation the system starts to measure:

- once every hour or less depending on the application,
- then converts the chemical information into actionable data from cloud based control charts with warning / fault alerts.

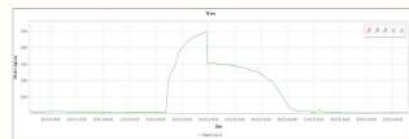
**DATA** collected by our FluidInspectIR® device



**SORTED** and analysed by our proprietary algorithms



**ARRANGED** into clear visual formats



**PRESENTED VISUALLY** on our cloud based dashboard



**EXPLAINED** with actionable alerts tailored to your needs



# Product Portfolio

INLINE STATIONARY



Inline systems for stationary assets

- Usage**
- Focused on industrial applications
  - Contains mid-infrared sensor, viscometer and OPC

INLINE STATIONARY



Inline systems for stationary assets

- Usage**
- Contains mid-infrared sensor and viscometer

ATEX



Inline system for explosive environments

- Usage**
- II 2 GD
  - Ex db IIC T6 Gb
  - Ex tb IIIC T85°C Db IP6
  - Contains mid-infrared sensor, viscometer and OPC

DEVELOPMENT



Application development platform

- Usage**
- Multi sensor option (>3)

MOVING VEHICLES



Mid-infrared sensor for oil analysis in moving vehicles

- Usage**
- Mobile machinery
  - Agricultural equipment
  - Military

MOVING VEHICLES



Mid-infrared sensor for oil analysis in moving vehicles

- Usage**
- Mobile machinery
  - Agricultural equipment
  - Military

PORTABLE



Portable system

- Usage**
- OCM
  - FAME analysis in Biodiesel
  - Ethanol In Gasoline

# Monitor critical plant assets



## Gas Engine

Real-time monitoring of TAN, TBN, ipH, oxidation, nitration, sulphation, soot, water on natural gas, biogas and landfill gas engines.



## Mobile machinery

Engines, gears, transmission and hydraulic systems in heavy machinery.



## Metal working

Oil and water-based metal working fluids like cooling and cleaning agents in automotive lines, lubricant and rolling emulsions in steel and Aluminium milling. Measurement of key additives, contamination and oil degradation.



## Gear Oils

Real-time monitoring of TAN, oxidation, water and EP additives in gear systems like wind Turbines, steel plants etc.



## Marine

Real-time Monitoring of TBN, water, sulphation, oxidation on diesel engine systems and water, TAN, oxidation on EAL (environmentally acceptable lubricants) on ship propulsion systems.



## Turbine Oils

Monitoring of oxidation, Anti-oxidants on gas and steam turbines.

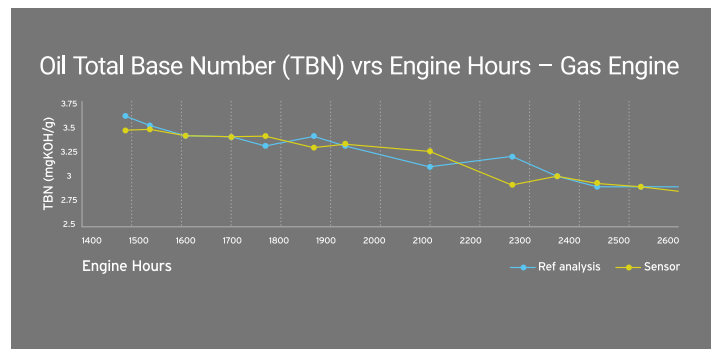
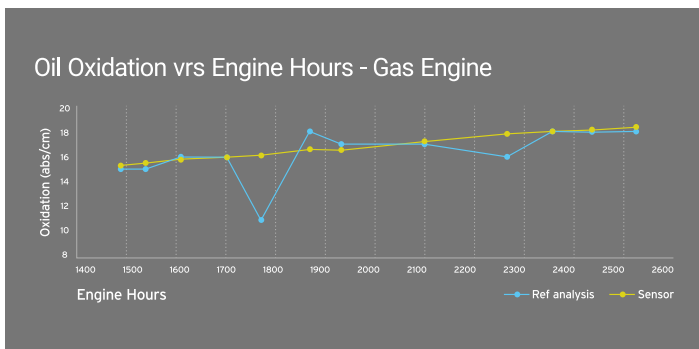


## Many More Applications

Hydraulic and transmission oils, compressors oils, EHC fluids. The technology platform can be configured for most fluid applications to solve most measurements problems. *Get in touch for application feasibility.*

# Lab accurate results without human error

The FluidInspectIR® Inline removes all human involvement from the oil analysis process resulting in lab accurate results, in the same units as oil lab reports that are easy for a Field Application Engineer to interpret.



No sample taking required



No shipment required



No human intervention

# Typical Application Parameter List

	FluidInspectIR® Inline
	FluidInspectIR® Portable
	Both
OPT	Optional for inline system ONLY

	Gas Engine (Landfill or LNG)	Turbomachinery	Hydraulic	Dielectric Oils	Gears and Rollers	Aluminium Rolling	Marine VLSFO / Diesel Engine	Diesel Engine	Marine Stern Tube / Thruster EAL	Metal-Working Fluids/Emulsions	FAME In Biodiesel	Ethanol In Gasoline	Oil In Water
Oxidation – abs/cm	✓	✓	✓	✓	✓		✓	✓	✓	✓			
Nitration – abs/cm	✓												
Sulphation – abs/cm	✓						✓	✓					
ipH	✓												
Water – Low end (<1%)	✓	✓	✓	✓	✓		✓	✓	✓	✓			
Water – Mid end (1-15%)					✓					✓			
Water – High end (>15%)					✓					✓			
TBN – mgKOH/g	✓						✓	✓					
TAN – mgKOH/g	✓	✓	✓	✓	✓		✓		✓	✓			
KV100C – cSt (or mm/s2)	✓						✓	✓					
KV40C – cSt (or mm/s2)		✓	✓	✓	✓	✓			✓				
Fuel Dilution							✓	✓					
Amine AO – %		✓											
Phenol AO – %		✓											
Solvancer (DECON) – %		✓											
Wyrol 2 – wt%						✓							
Wyrol 4 – wt%						✓							
Wyrol 6 – wt%						✓							
Wyrol 8 – wt%						✓							
Wyrol 46 – wt%						✓							
Total Concentrate – m/m%										✓			
Brix										✓			
Specialist Additive Packages – m/m%										✓			
FAME wt%											✓		
Ethanol wt%												✓	
TPH %													✓
OPC – ISO4/6/14	OPT	OPT	OPT	OPT	OPT	OPT	OPT	OPT	OPT	OPT			
Wear	OPT				OPT		OPT	OPT					
Conductivity pS or µS/m				OPT									

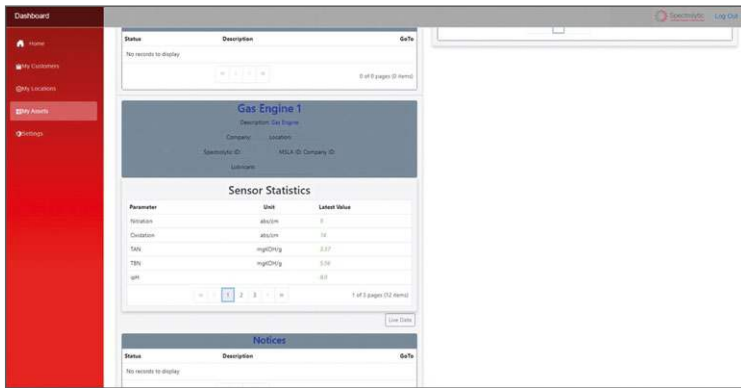
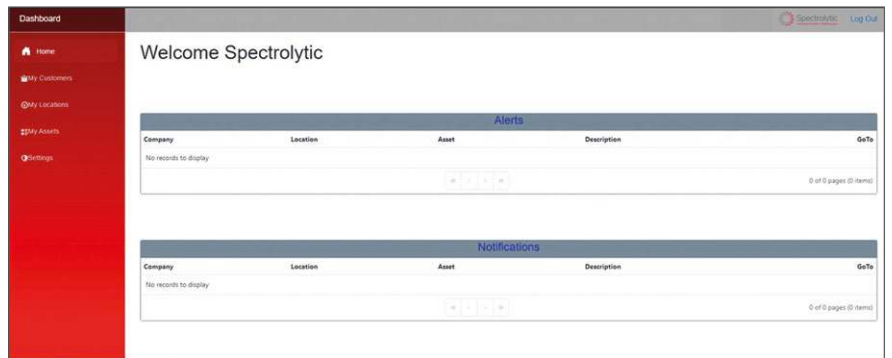
Non-standard parameters available on request

# In-depth data analytics



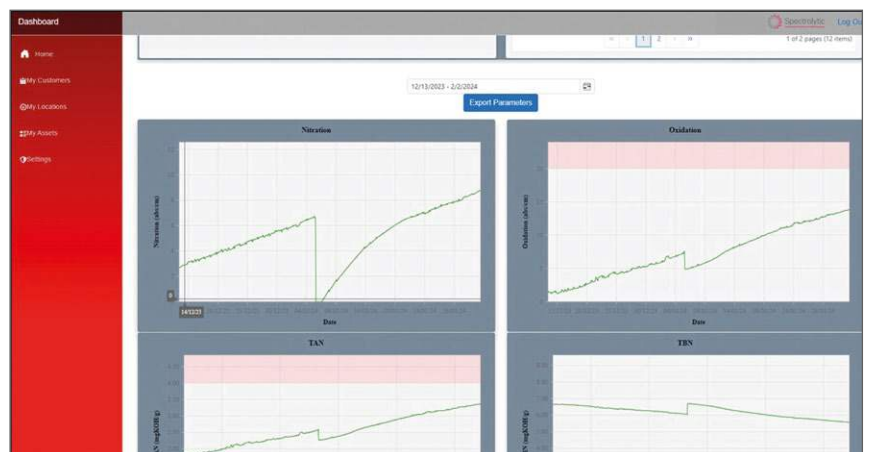
DataInspectIR is Spectrolytic’s data analysis hub. We provide cloud data services and in-depth data analytics based on our inline, real-time sensor data – this will give our customers an enhanced level of understanding on their equipment and allow them to efficiently manage lube cycles, reduce emissions, save costs and increase asset uptime.

Data is sent to Spectrolytic’s cloud. Option to view/download data via a dashboard.

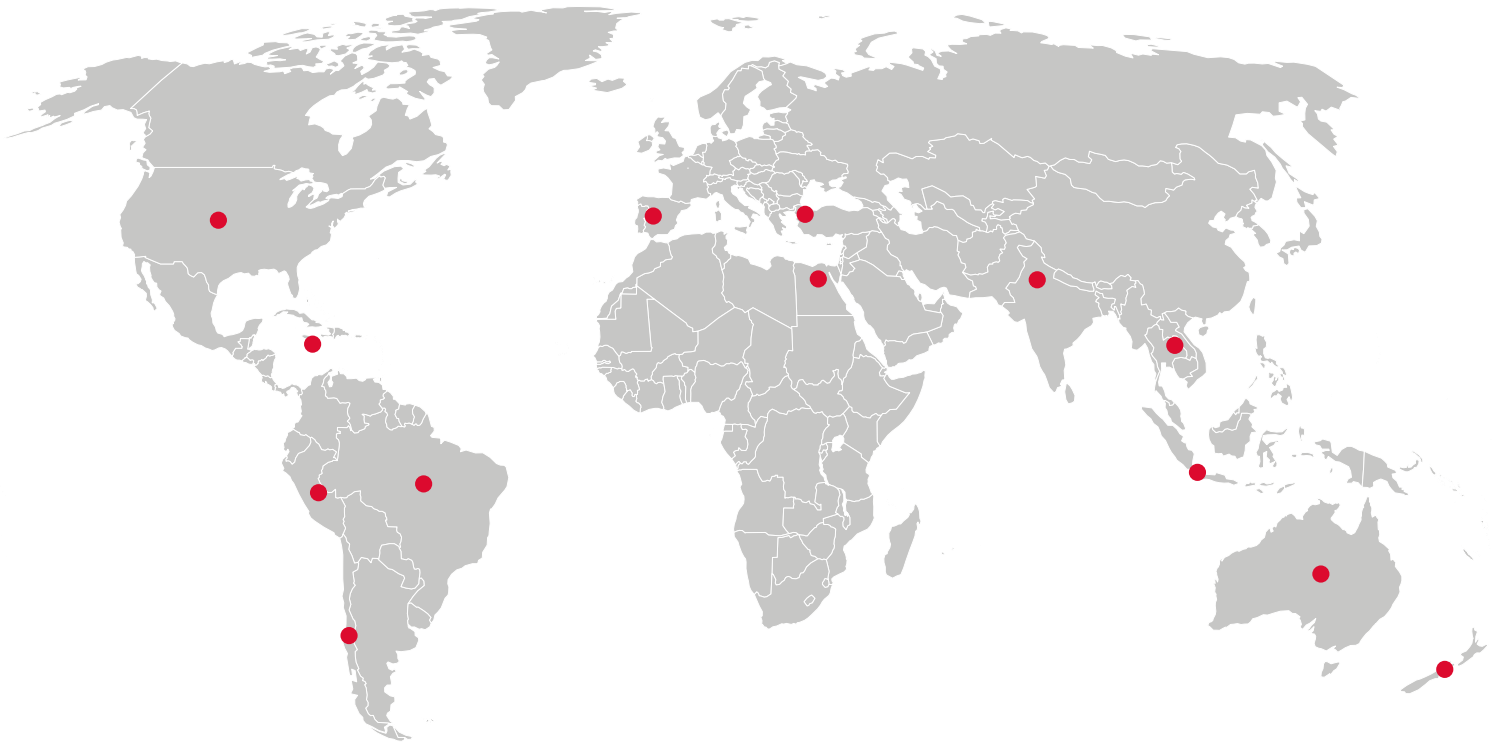


We support customer’s cloud (Azure, AWS) via MQTT or Web API protocols.

Direct integration available with on-site controller systems.



# Global sales and distributors



**GLOBAL**  
Cheshire Solutions Ltd



**Contact**  
Mark B Graham  
+44 7530 030117  
mark.graham@cheshire-solutions.com  
[cheshire-solutions.com](http://cheshire-solutions.com)

**GLOBAL**  
S2E



**Contact**  
Mario Miranda  
+569 4090 7476  
ventas1@s2e.cl  
[www.s2e.cl](http://www.s2e.cl)

**USA**  
Fluitec



**Contact**  
Greg Livingstone  
(+1) 201 208 7555  
g.livingstone@fluitec.com  
[www.fluitec.com](http://www.fluitec.com)

**SOUTH AMERICA REGION**  
Lubtec



**Contact**  
Peter Hartmann  
(+51) 999 668 829  
Peter.hartmann@lubtec.com.pe  
[www.lubtec.com.pe](http://www.lubtec.com.pe)

**BRAZIL**  
ADEX Group



**Contact**  
Hafid Mokdad  
mokdad@adexgroup1.com  
[www.adexgroup1.com](http://www.adexgroup1.com)

**CHILE**  
Industry Efficiency Solutions (IES)



**Contact**  
Max Doweck  
+56 9 4137-5872  
maxi.doweck@iesolutions.cl  
[www.iesolutions.cl](http://www.iesolutions.cl)

## PORTUGAL & SPAIN

Romafe



**Contact**  
Vasco Loreiro  
226 158 300  
vloreiro@romafe.com  
[www.romafe.com](http://www.romafe.com)

## CARIBBEAN, CENTRAL AMERICAS

CASL



**Contact**  
Brian Ramatally  
868-223-2275  
info@casl-group.com  
[casl-group.com](http://casl-group.com)

## EGYPT

Natcom



**Contact**  
Khairy Arsanios  
+2 02 227 29658  
+2 02 227 29659  
Khairy.Arsanios@NatcomEgypt.com  
[www.natcomegypt.com](http://www.natcomegypt.com)

## TURKEY

Decente A.S.



**Contact**  
Umut Urkun  
(+90) 533-5805348  
umut.urkun@decente.com.tr

## INDONESIA

Energi Biru Solusindo, PT



**Contact**  
Chris Bruderlin  
(+62) 811 9788 032  
chris.b@energibirusolusindo.com  
[www.energibirusolusindo.com](http://www.energibirusolusindo.com)

## INDIA

ACE Instruments Delhi



**Contact**  
Nirmal Giri  
(+91) 11 2555 7167  
nirmalgiri@aceinstrumentsdelhi.in  
[www.aceinstrumentsdelhi.in](http://www.aceinstrumentsdelhi.in)

## AUSTRALASIA

Lubrication Expert



**Contact**  
Rafe Britton  
+61 (0) 472 842 299  
rafe@lubrication.expert  
[lubrication.expert](http://lubrication.expert)

## INDONESIA

PT Fluida Teknologi



**Contact**  
Adrian Guyler  
+62 21 8908 0197  
aguyler@fti.co.id  
[fluidteknologi.com](http://fluidteknologi.com)

## AUSTRALASIA AND SOUTH EAST ASIA

Complete Energy Solutions



**Contact**  
Darryn van Wyke  
(+61) 43 1055 154

## Partners





# Spectrolytic

Innovative Solutions in Spectroscopy

[info@spectrolytic.com](mailto:info@spectrolytic.com)  
[www.spectrolytic.com](http://www.spectrolytic.com)

**Spectrolytic Ltd**

1.6 Techcube, Summerhall  
Edinburgh, EH9 1PL  
United Kingdom  
+44 131 6081230

**Spectrolytic GmbH**

Karl-Rapp-Straße 1  
92442 Wackersdorf  
Germany  
+49 9604 7749201