It's Important to Spot Every Drop

Ruben Østrem, Finance & Marketing Officer, from ProAnalysis AS helps OGI and our readers understand the importance of using the best tools for your oil in water testing and why reliable measurements of oil in water is critical for produced water treatment, especially due to increasing water volumes in tale end production. We also discuss their Argus technology and how the technology has shown proven high performance for a decade, and is chosen by many leading O&G operators.

OGI: Could you start by explaining Pro Analysis's credentials and experience with regards to your products and services in the Oil and Gas sector? Could you tell our readers the breadth of your experience, how long the company has been active, and its worldwide reach?

Østrem: ProAnalysis has since 2005 delivered robust and reliable OiW-monitors to O&G-operators worldwide, both on- and offshore. Our Argus® OiW technology is developed in close cooperation with major Oil & Gas operators in the North Sea, as a response to the need for reliable OiW monitor technology under challenging process conditions.

Argus® consist of a Control Unit (includes a long-life laser and detector), a robust in-line probe with laser induced fluorescence measurement and our patented ultrasound cleaning technology.

We then customize our deliveries dependent on the challenges our customers face. We have per now delivered to all major O&G operators worldwide; UK, South America, USA, Africa, Asia, Oceania; from onshore dessert facilities in the Middle East to offshore platforms in the Arctic.

OGI: For any readers which are not completely up to speed, what is oil and water monitoring primarily used for?

Østrem: Oil wells produce water, and reliable measurements of oil in water is critical for produced water treatment, especially due to increasing water volumes in mature oil wells. When the mix of hydrocarbons and water comes to the surface, the operators separate. The hydrocarbons are brought to refineries and then to the market, and the water is cleaned before re-injection or discharge to sea.

Real time OiW-monitoring on different stages in this process is vital to optimize and maximize production level, minimize oil discharges and provide the operator with immediate warnings if oil level exceeds a defined limit.

On the Norwegian Continental Shelf the level of produced water has been stable around 150 mill. Sm3 the last years; twice as much as the oil production itself. 1,925 tonnes of oil were discharged from the Norwegian Continental Shelf in 2015 together with produced water (NOROG 2016).

OGI: Tell us about some of these customizations that your customers require and you have developed?

Østrem: All our equipment can be delivered with ATEX Certification for use in hazardous areas. The probe can be up to 200 meters away from the control unit, which then can be located in a safe area. With Argus® Multipoint we can connect up to 4 probes to one control unit, for monitoring at several locations in the water management process.

> "With more than 10 years of experience in the Oil & Gas industry, the Argus OiW monitors has shown well-proven high performance, and have become a valuable tool for O&G operators worldwide."

In-Line measurement outperforms traditional bypass solutions with flexibility, reliability and simplicity. Retraction is easy with no need for production shut down, and our retraction tools handles operating pressure from 1-70 bar. Ultrasound self-cleaning has proven it's value for years, and minimizes the need for service and maintenance. With our latest release, Argus® Extreme, self cleaning is now even possible at 100 bar operating pressure. We aim to deliver solutions to meet our customers' needs;

> Argus® consist of a Control Unit, a robust in-line probe with laser induced fluorescence measurement and our patented ultrasound cleaning technology.

from high pressure ultrasound self-cleaning subsea in the North Sea, to cooling systems for installations in the Sahara desert.

OGI: Could you explain in detail to our readers how the Argus Extreme works?

Østrem: The challenge with ultrasound self-cleaning at high pressure is that you need to increase wave force to counteract the effect of the high pressure in the pipe. This eventually can damage the sapphire window resulting in more frequent window replacements. Argus® Extreme has a "Retract and Clean"-technology, where we retract the probe into a low pressure section where we adjust the pressure to atmospheric, clean and flush, and then return probe head to original position. All fully automatic.

A successful test was done on a large scale water rig this winter, where measuring and self-cleaning worked without any maintenance 6 months at 20-30 bar operating pressure.

Argus® Extreme is currently the only solution for automatic in-line OiW-monitoring up to 100 bar operating pressure.

OGI: A brief bit on the services you provide along with your products?

Østrem: We have experienced, flexible and well qualified service engineers, providing services like, installation, commissioning, start-up , maintenance and training operators (to carry out subsequent simple maintenance). They travel worldwide, dealing with installations onshore and offshore in the course of carrying out their duties.

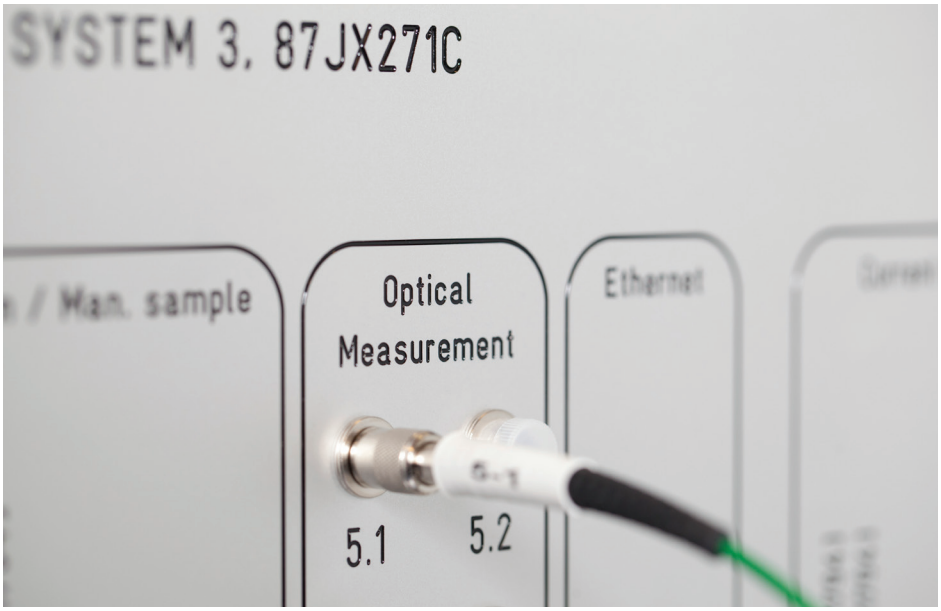
With low number of robust parts, automatic cleaning, long life laser and easy simple adjustments in calibration (carried out via data transfer), maintenance requirements for our Argus® are very low. Our first installations are still operational, so the lifetime of our instrument is extremely good.

OGI: Finally, could you enlighten our readers of a particular case study where you helped a client with your solutions?

Østrem: We were approached by an operator that had another make of OiW-monitor installed, that was not operational due to high maintenance, and therefore didn't give them a warning when they suddenly had a major blow-out. This created a situation with environmental and legal issues and repercussions. We installed Argus® with a valve control function that automatically sends the water back for more cleaning when it reaches a certain ppm level.

Most customers use Argus® to improve their daily water treatment process. To quote some of our customers; "… continuous information contributes to improved produced water quality" and "In-Line monitors are extremely helpful, since you get information immediately if you have any problems in your process and need to initiate action".

OGI: Thank you for your time. •



If you would like more information about how Pro Analysis AS can help your company's operations, please contact them using the information below.

ProAnalysis AS

W: http://www.oilinwater.com

E: sales@proanalysis.no

T: +47 55 21 00 60