

Krohne Oil and Gas Reports Record Growth



The 'Altosonic V' uses 5 ultrasonic beams to ensure redundancy and validation of high precision data for custody transfer of petroleum, petroleum products and liquefied gas

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After more than 20 years in the industry, KROHNE formally established KROHNE Oil & Gas B.V. three years ago and since then has achieved outstanding success in turnkey solutions for metering. Petro Industry News travelled to Dordrecht in Holland to meet Graham Wilson, the company's Managing Director, in order to find out why the company has grown so quickly, in such a short time.

KROHNE is a highly successful, privately owned multinational company with 13 production facilities in 9 countries. It is comprised of 29 KROHNE-owned businesses and joint ventures, and employs in excess of 1500 people.

“ trust.. is a prerequisite for any long term relationship ”

Founded in 1921, KROHNE specialises in flow and level instrumentation for industrial markets, and offers a full range of flow meters for the petrochemical industry including Variable Area Flowmeters, Electromagnetic Flowmeters, Vortex Flowmeters, Mass Flowmeters and Ultrasonic Flowmeters.

A glance through KROHNE's history reveals a heavy emphasis on innovation. One might suspect that a company with an artist as its founder, might have a natural tendency toward

creativity, and indeed KROHNE have been the first to develop many of today's leading technologies, and this remains a fundamental ethos for the company. However, innovation at KROHNE is focused on market needs; there is very little blue-sky research. Instead, through close contact with its customers, KROHNE is able to clearly identify customer needs and focus its development activity accordingly. In order to achieve this, it is necessary for those at KROHNE with direct customer contact, to have both specific industry experience and technical expertise. This is one of the defining features of the business; Bernard Spilsbury, Marketing Communications Director believes that the "experience and expertise of the front line staff enables them to specify the most appropriate technology to meet customers' needs, and as a result a great deal of trust and faith is established, which is a prerequisite for any long term relationship"

KROHNE was one of the pioneers of ultrasonics, and were the first company to introduce an ultrasonic flowmeter for custody transfer. Building on 25 years' experience, it has recently launched a new range of ultrasonic flowmeters, which offer unique advantages to the oil and gas sector in particular. Hydrocarbon products lack sufficient conductivity for electromagnetic flowmeters, so ultrasonics represent the ideal solution. However, in order to measure flow as accurately as possible, it is necessary to take measurements in more than one plane, and for this reason KROHNE offer 3, 4 and even 5-beam ultrasonic meters.

Historically, mechanical turbine flowmeters have been popular however, they suffer from a number of fallibilities including wear and tear of moving parts from deposits, wax, erosion and corrosion. Flow obstruction causes loss of accuracy if they are not frequently recalibrated, and they require maintenance-intensive strainers that cause a pressure drop necessitating more pumping power. So, it would appear that these new ultrasonic meters are gradually taking the market.

To date, KROHNE have supplied in excess of 30,000 pairs of ultrasonic sensors and not one of them has failed!

It is this remarkable level of performance and reliability that underpins the company's reputation.

Flowmeters in the oil and gas sector perform an extremely important task and the availability of meters that are highly accurate and do not require recalibration or maintenance offer serious benefits to KROHNE's customers. The meters meet OIML R 117 standards and API / AGI for custody transfer; their 5-beam ALTOSONIC V can also be used as a 'master' or reference meter, thereby eliminating the need for proving devices. KROHNE's meters are all supplied with certification traceable to National Standards. Indeed, KROHNE's calibration and test facilities are awesome - in Dordrecht the company operates two test towers that hold enough water to meet Dordrecht's requirements for half a day; equivalent to the volume of a typical public swimming pool! This volume of water can be released and passed through a meter within 55 seconds. The Dutch Board of Weight and Measures, Nmi, certify this facility, and through the RvA KROHNE are accredited to test and certify both their own meters and those of other companies.

In the past, the company has specialised in the manufacture of individual products. However, market research in the oil and gas sector revealed a need for integrated systems that incorporated leading edge metering technology as a critical component of a complete monitoring solution. KROHNE therefore created a new business dedicated to meeting the needs of this market, and KROHNE Oil & Gas was born.

Graham Wilson was appointed Managing Director of the new company within a few months of its inception, and has overseen rapid growth in the first three years. Like most KROHNE senior management, Graham has many years of experience in the industry and has a keen eye for customer needs.



From the original discussion with the customer to final inspection, M.D. Graham Wilson is personally involved in all projects.

KROHNE Oil & Gas supplies its customers with a complete turnkey solution including consultancy, engineering, documentation, certification, manufacture, assembly, transportation, installation and calibration, and this comprehensive capability, coupled with leading edge technology is key to the company's success.

The skid mounted metering systems from KROHNE Oil & Gas are winning one contract after another - high levels of accuracy and reliability are paramount. The skids are being used in applications such as custody transfer flow monitoring, pipeline leak detection and localisation, as well as tank farm management.

“ we can supply and support cutting edge technology, such as the 5-beam ultrasonic meter ”

Graham Wilson lists the following as the most important factors affecting the company's achievements to date:

"Firstly, as part of the Krohne Group we can supply and support cutting edge technology, such as the 5-beam ultrasonic meter; secondly, a business such as this is heavily capital dependent, and we enjoy the unstinting support of KROHNE in this respect; thirdly, I have a 'dream team' of highly talented and experienced individuals; and finally the company was created in response to customers' needs - it sounds simple, but there are a lot of businesses that have failed because they have tried to find a problem for their solution.

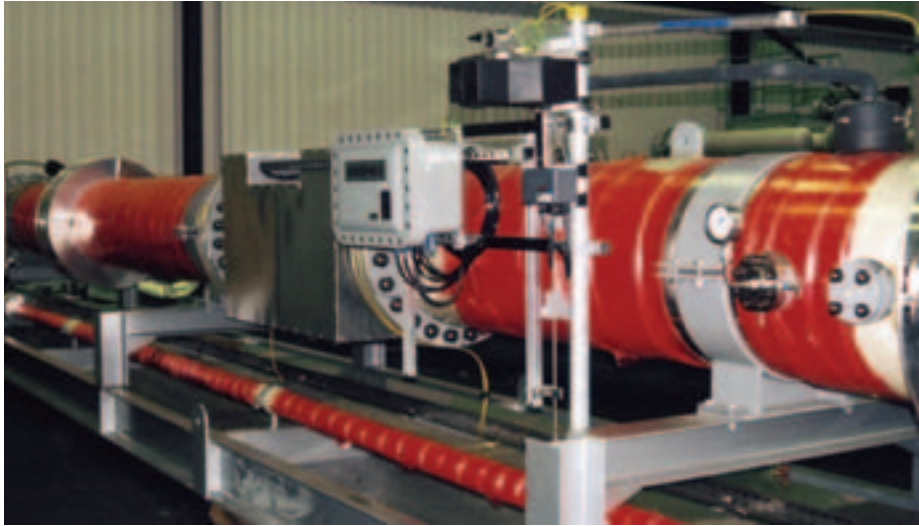
“ at KROHNE we don't have Projects, we have Clients ”

We find that customers like to deal direct with the instrumentation manufacturer, because we take total responsibility for the complete installation - at KROHNE we don't have Projects, we have Clients.

In other words, our customers know that we are in this for the long term, so we have to make absolutely certain that they are delighted with our equipment. As an instrument manufacturer we trade with our customers all the time, so every transaction is the beginning of another"

KROHNE were in the process of shipping two major orders during P.I.N's visit. Both represent multimillion Euro contracts within the oil and gas sector, although the destinations could not be more different.

A fiscal gas metering system was destined for Bonny Island in Nigeria and an oil metering system with an operating temperature specification down to minus 50 Deg C was being shipped to Sakhalin Island off the Far East Russian mainland to the North of Japan.



Encapsulated flowmetering systems withstand the harsh environment in Siberia

The customer in Russia has purchased a metering system that utilises KROHNE'S most sophisticated ultrasonic meter, the ALTOSONIC V, so called because it operates five beams in one meter. As such, it is extremely accurate ($\pm 0.15\%$ of measured value) and will be used as a reference meter, which means that proving devices will be unnecessary. The capital cost of such a meter is higher than for more traditional meters, however, the operational costs are substantially lower. Reports have shown that the operational costs of a traditional turbine meter are 4-6 times higher than those for a KROHNE ultrasonic meter.



Zero maintenance and lowest cost of ownership. Triple bank of ultrasonic flowmeters

It is no longer necessary to re-calibrate or change metering devices during product change. There is negligible pressure drop, which provides extra pump capacity, and minimises flow problems. Furthermore, there are no moving parts, so wear and tear is eliminated, and re-calibration is unnecessary. The ALTOSONIC V is the first ultrasonic flowmeter in the world to gain approval for custody transfer applications defined by the OIML R-117 guidelines.

Two of the main reasons for KROHNE Oil & Gas winning the contract for Sakhalin Island were the accuracy and reliability of the equipment, and the low cost of ownership that comes with the KROHNE ultrasonic flowmeter.

In Nigeria, a gas monitoring system will be installed with 4-beam ultrasonic fiscal gas meters, and mass flow measurement of condensate. Again KROHNE Oil & Gas were successful because of the superior engineering, reliable accuracy of the meters, coupled with low cost of ownership of the skids.

In summary, Krohne is a successful company because it is focused on customer needs, it sticks to what it does best – manufacturing high quality metering products and systems, it invests heavily in innovation and it is not frightened to invest long-term in new, capital-intensive ventures such as KROHNE Oil & Gas.

Like many of the world's consistently successful companies, a similar statement could have been made at almost any stage in its history.