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Imprint

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The success of a revolution

Endress+Hauser's market launch of Memosens technology in the spring of 2004 saw the beginning of a success story. Memosens revolutionised operation and maintenance in the field of liquid analysis to the extent that one in two sensors sold today is fitted with the technology.

Anyone who used the old-style analytical sensors that started to become popular in the 1980s will understand the importance of reliability! (The old sensors were notoriously sensitive to moisture and signal issues.) Memosens solved the problem by introducing contactless digital signal transmission and storage of all sensor-related data directly in the sensor head. This prevents disruption to the measuring signals and guarantees extremely simple sensor operation.

Complete measuring points with Memosens technology are now available for all relevant parameters and Memosens is used in a huge variety of applications (see our case study on pages 4–6 and article on page 7). There's never been a better time to explore Memosens digital technology and the benefits it can offer your organisation.

I.R

Ian Brading Industry Development Specialist – Analytical Products





For more information on our Memosens digital technology, see pages 4-7.



Memosens digital sensors save time, improve accuracy and reduce costs

DS Smith is a leading provider of corrugated packaging in Europe. Its paper division operates 10 mills, producing around 2.8 million tonnes of corrugated case materials and specialist industrial products annually, with the majority of products converted into board and boxes for packaging. DS Smith's UK paper mill, Kemsley, was built in 1924 and is the second biggest recovered fibre-based paper operation in Europe.

The challenge In order to protect the environment and ensure compliance with regulations, DS Smith's Kemsley Mill in Sittingbourne, Kent has to closely monitor the wastewater that it discharges into the Swale estuary. This includes measuring the pH value and dissolved oxygen (DO) content of the water to ensure the levels are kept within strict parameters. In the past, maintaining the analytical instruments delivering these crucial measurements had been a time-consuming and laborious process. The DO measurement takes place in the middle of a lagoon where the site's waste effluent is reoxygenated before being transferred to settlement tanks and discharged into the river. For health and safety reasons, any work at the lagoon has to be carried out by two people, making the on-site calibration of sensors a labour-intensive task. "It was a waste of resources," explains Ian Castle, DS Smith Kemsley's Instrumentation and Electrical Control Support Engineer.





"Now I can calibrate sensors in the lab, in a nice clean location. It saves an awful lot of time, it really does."

Ian Castle, Instrumentation and Electrical Control Support Engineer, DS Smith



"Both of you could be out there for up to two-and-a half hours per instrument. We wanted to see if we could do all that work in the lab instead and cut the amount of time spent at the lagoon." The same thought process applied to the pH sensors, as calibrating in the field was inconvenient and time consuming. "You'd be sitting out in the middle of nowhere trying to stick probes in buffer solutions," remembers Ian Castle. "You just had to hope the probe would stay in the beaker and that the calibration slope was OK, otherwise you'd have to put a new probe in and start all over again."

The solution With Memosens digital sensors, all operation and calibration data is stored in the head of the sensor. They can be pre-calibrated and simply replaced in the field, cutting the time spent at difficult-to-access measuring points. Because each sensor holds its calibration data, the sensors can be rotated periodically, keeping the freshest sensor in

the process while the other is cleaned, calibrated and allowed to rejuvenate in the lab or workshop. And as Memosens technology offers non-contact transmission of the measured value from the sensor to the transmitter, the problems of corrosion, leaks and measured value distortion from moisture are avoided. Convinced of the benefits, DS Smith replaced all of its pH sensors used in the effluent treatment process with Memosens sensors and is now trialling the introduction of Memosens sensors for dissolved oxygen.

The benefits The main benefit has been the efficiency gains, according to Ian Castle. "With the other manufacturer's pH probes it took perhaps an hour to clean and calibrate them," he says. "Now I can do this in the lab, in a nice clean location, using the Memobase Plus software. It takes me a few minutes to change the probes on site and the job is done. It saves an awful lot of time, it really does."



Waste effluent is re-oxygenated before being discharged into the Swale estuary.



Two pH transmitters are required for regulatory purposes.

"The two meters correlate very closely to one another, within about 0.02 pH. Our measurement didn't used to be as accurate as that. It's probably because we're now able to calibrate in a much more controlled environment."

Ian Castle, Instrumentation and Electrical Control Support Engineer, DS Smith

Improved accuracy The accuracy of the measurement has also improved, proven by the readings given by the two pH transmitters required for regulatory purposes. "The two meters correlate very closely to one another, within about 0.02 pH," explains Ian Castle. "Our measurement didn't used to be as accurate as that. It's probably because we're now able to calibrate in a much more controlled environment." Yet the improved performance hasn't cost the company any more – in fact, operating costs have gone down because a more common, cheaper buffer solution can be used and the sensors last longer. "The Memosens sensors cost about the same as the old ones but I'm not having to buy new ones all the time," confirms Ian Castle.

Measurement confidence A big advantage for DS Smith is that Endress+Hauser's Liquiline

transmitter and Memosens pH sensor both have MCERTS certification from the Environment Agency. Complying with MCERTS gives the regulators confidence that a company is monitoring its emissions to the environment. The Memobase Plus software used to calibrate the sensors also helps with compliance, as all calibration records are stored digitally. "That was another big plus," says Ian Castle. "I've got a record of all my calibrations and we know that it's there should the Environment Agency want to take a look."



For more information on Memosens digital sensors: <u>www.uk.endress.com/memosens</u>

12 years of Memosens technology

For 12 years, Memosens digital sensors and Liquiline transmitters have been synonymous with easo of use and trouble-free operation. Complete measuring points with Memosens technology are now available for all relevant liquid analysis parameters and there is almost no limit to their potential use. Here are some of the most common applications that have benefited from the development of these revolutionary products:

Aeration basins In sewage treatment plants the focus is on the protection of downstream waters. The biological stage in which the decomposition of harmful substances and nutrients occurs is of particular importance in this process. This biological stage is extremely energy-intensive and uses up to 70% of the total energy requirements of a plant. This is due to the oxygen blowers used in sludge activation. In order to control the blower on the basis of its load and therefore conserve energy, reliable measurement of the oxygen content and the ammonium load is required. This is where the undisrupted digital data transmission feature of Memosens technology and the capacity to connect all the required sensors to just one multi-channel transmitter prove their worth.

Chemical The pH value is an important quality characteristic for chemicals such as sodium hydrogen sulfite, which is used as a preservative or antioxidant. As such, it must be closely monitored. With the old analogue technology, the sensors need to be calibrated as part of the process approximately every three days, which is expensive, and they reach the end of their service life after about five weeks. Thanks to Memosens, the sensors can

now be calibrated in the laboratory instead of the process. Furthermore, by regenerating the sensors in the laboratory with potassium chloride, the sensor service life can be extended to almost two years – a 20-fold increase.

Power stations and energy In power stations, the analysis of feed water, boiler water, condensate, saturated steam and superheated steam is of great importance for maximising the availability and service life of the boiler and feed water system and reliably detecting contaminants that could damage the facility. Since power stations are often operated round the clock with only a few employees, measuring points need to be extremely reliable, easy to operate and low-maintenance. Memosens technology transmits the sensor signal digitally and without interference to the transmitter, and enables simple replacement of sensors in a matter of seconds. If all of the devices are attached to a turnkey analysis panel, the entire water/steam cycle can be monitored from a central point.

For more information on Memosens digital sensors: www.uk.endress.com/memosens



Smart RFID identification

Quick and safe identification of measuring points is essential to avoid prolonged plant downtime and failures in data acquisition. But this can often be a difficult and time-consuming task as many plants have a large number of measuring points, often with illegible or difficult to access nameplates. The RFID tag harnesses existing technology to provide a solution to the problem.

The RFID tag allows instruments to be identified wirelessly, using the established and robust NFC (Near Field Communication) standard. Devices can be identified even if the nameplate cannot be seen or is no longer readable. The system is suited to even the harshest environments, where vibration or heavy soiling used to make identifying measuring points difficult. There is also a hazardous area version of the tag for use in explosive atmospheres.

Interacting with the free Endress+Hauser Operations app, in conjunction with the latest generation of smart devices, the RFID tag makes technical documentation and information concerning spare parts available for any specific measuring point on site. This makes work easier across the product's entire life cycle, potentially reducing costs of installation, commissioning and maintenance. Hazardous area solutions are available using our Field Xpert handheld tool.

Let us collect your asset data Endress+Hauser's Installed Base Audit (IBA) team can collect your asset data in the shortest time possible with minimal inconvenience to your plant. As part of this IBA we can now fit all Endress+Hauser and thirdparty devices with tags to enable easy identification and data access.

Radio Frequency Identification (RFID) is the wireless use of electromagnetic fields to transfer data for the purposes of automatically identifying and tracking tags attached to objects. The tags contain electronically-stored information.

The benefits of RFID tags are:

- Easy identification: devices can be identified even if the nameplate cannot be seen or is no longer readable.
- Easy access: all device documentation can be accessed locally via the Operations app or Field Xpert.
- Open standard: the NFC (Near Field Communication) standard works with most mobile devices.





www.uk.endress.com/rfid



CompEx training dates

Endress+Hauser is now an accredited and licensed CompEx centre. CompEx is a training, validation, assessment and certification scheme for managers, engineers and technical operatives working in potentially hazardous or explosive atmospheres.

Potentially explosive atmospheres are found not only in onshore and offshore petrochemical plants and refining plants but also in other industries such as chemical, life sciences and food & beverage. Failure to ensure safe working practices in these environments could result in the ignition of explosive gases or dust clouds leading to injury or fatalities. As a result, CompEx is fast becoming a mandatory requirement for technicians and engineers on many plants, both on and offshore.

The ideal training venue

Located in south Manchester, close to the airport and motorway links, Endress+Hauser's state-of-the-art training centre is easily accessed from all parts of the country.

We will be running CompEx courses here throughout 2016, including:

• 18-22 July: Five-day course on modules EX01 to EX04.

Companies have a responsibility to their staff to ensure their safety – and the safety of the public – and to encourage health and safety best practice in the workplace. The CompEx scheme is now recognised as a global solution for validating core competency of employees and contract staff working on equipment for use in potentially hazardous environments

Jointly developed by the Engineering Equipment and Materials Users' Association (EEMUA) and the training provider JTL, CompEx is nationally recognised as the industry standard and supported by the Health and Safety Executive (HSE).

The scheme combines practical training and assessment. Successful candidates will be awarded a credit card-style proof of competency, evidencing their ability to work safely in explosive atmospheres

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For more information or to book a place, please email <u>compex@uk.endress.com</u> or call 0161 286 5150.



Good vibrations

Being the most frequently measured parameter in process automation, temperature measurement has considerable potential for optimising processes in many industries. But it has not always been easy to record accurate temperature measurements in high-vibration applications such as those involving turbines or compressors. That's why Endress+Hauser's innovators have developed iTHERM StrongSens technology, offering an unmatched robustness to handle the toughest requirements without compromising on accuracy.

StrongSens Vibrations in a process can cause traditional temperature sensors to fail. Not only does this mean the thermometer cannot be relied upon, it also leads to increased operational costs as sensors have to be replaced frequently. The uniquely designed StrongSens Pt100 sensor has a vibration resistance greater than 60g (with changing frequencies in the range of 10–500Hz), which far exceeds the IEC 60751 requirement of 3g for standard Pt100 sensors.

Innovative design Unlike conventional 6mm RTD inserts, the StrongSens sensing element is not embedded in ceramic powder but in a special ceramic potting compound. This innovative design ensures the filling is free from any voids or gaps, leading to distinct improvements in mechanical stability and thermal properties. The high long-term stability guarantees reliable measurement values. Combined with an increased temperature range (total operating range -50 to +500°C), the vibration resistance and stability allow the use of high-accuracy RTD sensors in critical applications where previously only less accurate thermocouple sensors could be used.

Unrivalled quality The

manufacturing process for StrongSens sensors is fully automated, ensuring the highest reproducibility and total traceability of the components. This unrivalled quality maximises process safety for the user. As a result, thermometers with StrongSens technology are the ideal solution for the oil & gas, chemical, power & energy, food & beverage and life sciences industries. iTHERM StrongSens technology offers vibration resistance greater than 60g - more than 20 times the industry standard!





For more information, please contact us on 0161 286 5050.

Can your thermowells take the strain?

Thermowells are often needed to protect temperature sensors installed in industrial processes, particularly in applications with high flow rates and high process pressures. Due to the demands of these applications, thermowells are exposed to stresses that can cause their failure. In order to improve plant safety, Endress+Hauser has developed a tool to calculate the ability of a thermometer to withstand stresses under given process conditions: Thermowell Sizing, available in Applicator.

Susceptible to stress Depending on the application, thermowells are susceptible to different stresses that can cause either immediate failure or delayed failure due to material fatigue. If the thermowell is damaged the process medium can leak, potentially under high pressure and at a high temperature, which could result in significant injury as well as damage to the environment and financial loss. Therefore the calculation of the static and dynamic stresses on thermowells under certain process conditions is vitally important.

Thermowell Sizing The new Thermowell Sizing module in Applicator calculates the stress resistance of a thermometer under given process conditions. The tool helps the user to identify whether a selected thermowell is suitable for a chosen temperature measurement point, with regards to safety and preserving response times. Besides an expanded thermowell material database, which contains 35 new materials, the database for process media is an important feature of the Thermowell Sizing tool. In addition, the sizing tool makes it easy to convert units and calculate flow velocities in pipes.

Ideal for demanding applications Use of the Thermowell Sizing module is recommended for applications with demanding requirements, particularly in the oil & gas and chemical industries. It's ideal for safety-critical applications with high flow rates and high process pressures.

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The calculation of dynamic stresses on thermowells under certiain process conditions is vitally important.



Try Thermowell Sizing in Applicator for yourself at www.uk.endress.com/applicator





Why calibrate with us?

- Benefit from full compliance and audit readiness with complete and traceable calibration performed according to ISO 17025.
- Secure accurate and repeatable results for your devices over their entire lifecycle by putting our metrology expertise to work for you.
- Keep all your processes working reliably and your devices in spec. Our on-site calibration services deliver precise, dependable and cost-effective calibration.
- Make safe procedures a priority to prevent harm to users, consumers and the environment. Compliant calibration ensures the safety of your processes and products.



Mobile calibration rigs for on-site calibration.

Count on us for calibration

Regular calibration not only ensures that the measuring instruments controlling your critical processes remain in spec but also gathers information about the current condition of the device. Fluctuating measurements can impact on process stability and operating costs with potential legal and regulatory consequences.

Yet the needs of every industry are different. This is why Endress+Hauser offers a full range of calibration services, from laboratory calibration to on-site calibration and verification. Whatever your requirements, you can count on us for calibration.

Laboratory calibration for the highest accuracy

Calibration performed in a laboratory offers the best calibration uncertainty and the widest calibration ranges. At our UK headquarters our water and gas flow rigs incorporate the very latest developments in flow technology to provide high quality calibrations. The facilities are traceable to national standards and meet the requirements of ISO 17025.

- Flowmeters from 1-100mm (or up to 80mm for vortex meters) are calibrated against
 Endress+Hauser Promass Coriolis dual reference meters. Our flow rigs are suitable for any meter with DIN/ANSI flanges, screwed threads or hygienic process connections.
- Flowmeters bigger than 100mm in diameter are sent to our primary calibration facilities in Europe, so there's virtually nothing we can't handle. We also calibrate pressure and temperature devices, as well as test and measurement equipment, at our laboratories in Manchester.

Calibration close to operating conditions On-site calibration is performed by highly trained engineers. Convenient and cost effective, it removes the need to send instruments off-site as our specialists come to you, keeping downtime to an absolute minimum. It also offers the highest flexibility as calibration can be scheduled according to the needs of your process. Our qualified and experienced field service engineers can perform adjustments, diagnose faults and recalibrate instantly where necessary, regardless of manufacturer. Our mobile rigs are fully traceable to national standards.

On-site analytical calibration Using the latest advances in offline calibration, we can perform fully documented, traceable calibration of your pH/ORP, conductivity, dissolved oxygen and chlorine Memosens sensors. The final report includes all of

the sensor's calibration and operation history, including a chart showing historical slope and zero point – vital aids for predictive maintenance

Extend calibration intervals with verification

Endress+Hauser's new Heartbeat Technology or Fieldcheck tool will check the health of your flowmeter, ensuring key device parameters remain within Endress+Hauser's original specification. Instruments can be verified and be back in operation within 30 minutes and are not required to be removed from the line.

Clamp-on flow verification Clamp-on verification is an ideal alternative when an electronic verification is not possible. It allows the instrument to be verified without process interruption while still remaining compliant to ISO 9001, by confirming the operation of your instrument and helping to extend the time period between calibrations. It's a completely safe, non-invasive technology suitable or a wide range of liquids.

Optimised calibration Our service team can help you draw up a calibration schedule, defining calibration specifics for the applicable parameters. By relying on us to implement optimum and effective calibration processes, you will enhance productivity, ensure compliance and maintain the quality of your product.



For more information on any aspect of our service offering, please contact the team on 0161 286 5150.



Device configuration = your choice!

With the introduction of the Field Device Tool (FDT) standard over 10 years ago, the popularity of non vendor-specific configuration tools has grown. This provided the opportunity for manufacturers to have their devices fully represented in many different FDT-based applications. From the outset Endress+Hauser has been part of the FDT Group, helping to develop the technology and ensuring users at all levels benefit from this open standard.

As process devices become more complex the need for functional yet scalable configuration tools has emerged. Consideration has been given to the end user requirements and the platforms developed to meet these needs. In response, Endress+Hauser has produced a portfolio of tools addressing the requirements of both device configuration and connection to web-based asset management platforms.

DeviceCare: one click connection DeviceCare is the new FDT-based configuration tool that has been developed for use with Endress+Hauser devices. It is aimed purely at one-to-one device configuration and is available as a free download from the Endress+Hauser website. Developed to address the needs of the commissioning engineer, the tool incorporates many new features.

Automatic hardware identification ensures that the correct Device Type Manager (DTM) files are

selected based on the type of interface and field device in use – simply connect, click and configure. Even the device DTM library is updated into the tool - automatically removing the need to carry out a manual update once new DTMs are installed.

The package is designed to run on touch-enabled tablets, extending the hardware platform options. DeviceCare follows a design philosophy that focuses on ease of use. Intuitive menu design and a guided step-by-step approach and integrated help and feedback messages ensure your focus remains on configuring the device rather than setting up the tool.



Download DeviceCare with the latest Device DTM libraries: <u>www.uk.endress.com</u> FieldCare: the heart of asset management As

process devices and plant networks have evolved, the need for maintenance support systems has also developed. Whilst direct one-to-one device configuration tools like DeviceCare provide a local solution, more structured asset management type systems have become popular.

The assets on a process plant are rarely supplied by one manufacturer and on occasions there is also a mix of networking technologies such as HART, PROFIBUS, Ethernet etc. This additional complication requires a more structured and flexible tooling approach. The ability to access devicerelated information such as manuals and certificates is also attractive.

FieldCare forms part of the complete Endress+Hauser asset management portfolio. It provides the possibility to connect to multiple plant networks and devices. The devices can be displayed as either a network layout showing the physical connections or as a plant layout showing the device locations. This ensures both the engineering and operational departments have a familiar view to work with.

Devices from many manufacturers can be configured using FieldCare because the third party DTM driver files can be loaded into the application and used in the project. Where specific DTMs are not available, the FieldCare package includes a number of possible options.

The iDTM (interpreter DTM) uses registered Device Description (DD) files for both HART and

FOUNDATION Fieldbus, allowing these devices to be configured from within FieldCare. This extends its capability and doesn't rely on third party manufacturers producing DTM files. For PROFIBUS devices, various Profile DTMs are supplied allowing basic device configuration to take place.

When installed on a permanent engineering station and connected to the various networks and devices using suitable gateways and interfaces, FieldCare becomes an integral part of the maintenance process. However, with the addition of an internet connection to an Endress+Hauser W@M Portal – our web-based asset information system - all device-related documentation, device life cycle status, software and spares availability can be accessed and used to make informed decisions about device maintenance. The information is maintained by Endress+Hauser so you always know the life cycle status of your devices.

The link to the W@M Portal is made from within FieldCare - so using this one central platform you can not only connect to the plant devices but also to the relevant information – all available 24/7!

Engineering service Endress+Hauser can provide additional engineering services to ensure you get the best out of your device configuration and asset information system. This includes system design, installation and commissioning along with installed base audits that will enhance the information already available within the W@M Portal is complemented with plant related information.



Typical network integrating all relevant communication technologies.

Skilled and reliable support

Are you constantly under pressure? Do you need an instant response to handle emergencies? Endress+Hauser's service team is on hand – ready and willing to provide you with the appropriate support.

We know that maintenance staff in the process industries are facing huge challenges: with fewer personnel, you have to deal with an increasingly complex installed base of instrumentation and ever-changing technology. Moreover, as downtime kills productivity, you need to find immediate answers to any instrumentation issue. Endress+Hauser's service team is by your side to offer total support in any situation, whether you need help with breakdown prevention and process optimisation, routine calibration, training or quick diagnosis and repair.

A perfect balance Service Agreements offer more than regular, planned maintenance of your instruments. We can also help to develop a maintenance strategy for your plant by analysing the potential for standardisation, criticality and obsolescence. By creating a clear picture of

your installed base we will help you to find the right level of maintenance, ensuring downtime is kept to an absolute minimum. We can then put in place a bespoke Service Agreement, tailored to your exact requirements, as a means to achieving maximum value from your devices.

Easy access to documentation Any work carried out by an Endress+Hauser service engineer or by your own staff can be logged on our unique Web-enabled Asset Management (W@M) system. W@M offers instant access to device information and documentation via a secure login. All the information you need to comply with audits or to aid predictive maintenance and optimisation is available at the touch of a button. Never again will you have to waste time searching for that calibration certificate, operating manual or spare part list! And if





W@M offers instant access to device information and documentation via a secure login.

Endress+Hauser repairs or calibrates an instrument, this event is logged automatically. Thanks to the online connection to Endress+Hauser's product database, you'll automatically benefit from up-to-date information on your instruments such as product availability and obsolescence.

We understand your business We know

instrumentation, but we also have decades of experience in the varied applications in your industry. We pride ourselves on the training and personal development offered to our field service engineers, ensuring that when they work on your site they're of a recognised Endress+Hauser standard. As they have followed our comprehensive training structure we know that our engineers are technically proficient, have cross-industry knowledge and are able to comply with national safety standards and regulations. As part of your Service Agreement, you will be assigned a dedicated field service engineer who will get to know you and your plant so he can work independently and competently on your site.

Quality calibration We have the facilities to carry out in-house calibration of almost any flowmeter, whether it was manufactured by Endress+Hauser or a third party. Our water and gas flow rigs are traceable to national standards and meet the requirements of ISO 17025. We can also calibrate pressure, temperature and analytical devices in our laboratories. If your instrument cannot be removed from the line, then on-site calibration is the

answer. Our mobile trailers offer the highest flexibility as calibration can be scheduled according to the needs of your process.

Training from the experts Situated in our Manchester Business Park, our Application, Training & Engineering Centre offers a range of technical training courses to industry - from entry level such as our Introoduction to Process Measurement course right through to fully certified PROFIBUS engineering courses. Our standard courses cover all levels of expertise – from those just starting out through to fully qualified engineers wishing to enhance their knowledge. We can also design a course especially for your organisation to address your specific training needs.

Tailor-made solutions We don't offer a one-size-fits-all service. We will work with you and your team to assess your individual circumstances and needs. Regardless of your industry, the size of your company or your location, we will create a bespoke service solution for you. Trust us to take care of your instrumentation so you can concentrate on your core business.

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For more information on any aspect of our service offering, please contact the team on 0161 286 5150.



Practical magic! Our wizard offers simple commissioning for level devices



commissioning Levelflex FMP5x and Micropilot FMR5x devices couldn't be easier – even for demanding applications. All the relevant steps are included in one guided sequence to make the job stress-free.

With the new state-of-the-art wizard.

The integrated commissioning wizard guides you through all the necessary steps, one by one. It fits nearly all commissioning jobs and is easy to use, even for beginners.

The wizard can be used to set up more than 90% of applications, including:

- Liquids applications with one medium.
- Interface with two liquid media.
- Interface with two liquid media and emulsion layer.
- Liquids applications with the presence of a gas phase.
- Solids applications.

More information on our level devices <u>www.uk.endress.com/level</u>

The third generation takes the lead

The Managing Director of Endress+Hauser's UK sales centre, David Newell, has announced his retirement after serving the company for 30 years. He will be replaced by Steven Endress, the first third-generation member of the Endress family to take an operational role in the family business.

David Newell boasts 42 years of experience in the process automation industry, of which he dedicated three decades to Endress+Hauser. He will retire on 30 September 2016, satisfied in the knowledge that he leaves Endress+Hauser as one of the leading suppliers for process instrumentation in the UK. David Newell (65) joined Endress+Hauser in 1986. He became Director of Sales in 1997 and then Director of Sales & Marketing in 2002. After being promoted to Deputy Managing Director in 2010, he assumed responsibility for the entire operation two years later. David Newell is married with two grown children and the proud grandfather of two grandchildren.

Third-generation assumes responsibility The new Managing Director of Endress+Hauser Ltd, effective 1 October 2016, is Steven Endress, who is currently Director of Services at the UK sales

centre. Prior to joining the company in 2012, he spent 10 years in the software development industry. His last position was Vice President of Sales at AppSense Inc. in Munich, Germany, where he was responsible for the German, Austrian and Swiss markets.

Steven Endress holds a degree in business studies and subsequently received an MBA from Lancaster University. Married with two children, the 37-yearold is the eldest son of Chairman Hans-Peter Endress and grandson of the company's founder, Georg H Endress.

With Steven Endress taking over the management, Hans-Peter Endress (69) will relinquish his duties as Chairman of the Board at Endress+Hauser Ltd and concentrate on his work with the Supervisory Board of the Endress+Hauser Group.



Steven Endress (left) to become the new Managing Director upon David Newell's (right) retirement.



