



Level



Pressure



Flow



Temperature



Liquid
Analysis



Registration



Systems
Components



Services



Solutions

Field network engineering solutions

Unlock your plant's potential

What is field network engineering?

Building a new plant? Extending or modernising an old one? At the early stages of the project you will need to decide whether to use conventional analogue field-based technologies, one of the fieldbus protocols, Ethernet or even wireless communications.





Endress+Hauser will help you to choose the most appropriate process communications technology for your industry and your environment. Our methodical approach to design, implementation and support will ensure that your communication networks are accurate, reliable and robust.

Unrivalled experience

With more than 50 years' experience of working within the process industries, no other company has delivered more successful fieldbus projects or is more committed to sharing the benefits offered by fieldbus technologies than Endress+Hauser.

Proven benefits

Designing and implementing a fieldbus project brings new challenges. Our experience and understanding of your requirements allow us to apply the most appropriate technology in the most appropriate way, right from the start of the project.

Working with leading international process industry customers, our project teams have experience in delivering field network engineering projects with:

- Reduced capital expenditure and installation costs
- Faster commissioning
- Predictive maintenance and advanced diagnostic information to reduce downtime and help to optimise maintenance scheduling
- Centralised documentation and information management

Complete portfolio

We have an unrivalled range of measuring instruments and field network components to ensure a perfect fit with your project and industry requirements.

Our design processes and choice of networking components, combined with our asset management suite, ensure that the wealth of information available today from modern field devices can be used to reduce your operating costs and deliver new levels of process automation excellence.

Harmonised processes

The processes and procedures followed by our team of fieldbus experts are Endress+Hauser approved, controlled through our project office and rolled out throughout the world.

Our harmonised processes ensure:

- Clear communication and reliability
- Guaranteed quality
- Reduced risk



System design

Every successful project begins with a robust design. Early involvement of Endress+Hauser's engineers will ensure that your hardware and software requirements are expertly coordinated. Endress+Hauser brings together the expertise you need, tailoring our knowledge to the demands of each individual project.



Instrument engineering

Our instrument engineers will join your design team to create the documentation you need, including device schedules, instrument specification sheets and instrument location drawings. We ensure that the most accurate and reliable instrumentation is selected to suit your applications.



Network component selection

Using networking components that have been tested and proven in our Fieldbus Laboratory, 'System World' in Switzerland, we help you to select the components that are ideal for your specific industrial, environmental and hazardous area requirements.



Field enclosures

We design, build and test your bespoke fieldbus data collection enclosure at our dedicated production centre in Manchester. Following our proven and tested standards, costs are reduced and design time and errors are minimised. We ensure that every Endress+Hauser fieldbus installation is robust and healthy.



Performance and safety calculations

Our design service includes calculations to ensure that the networks are reliable and robust and deliver the cycle times required for your control requirements. For hazardous areas, we provide the necessary design and documentation to ensure that they are safe and easy to maintain.



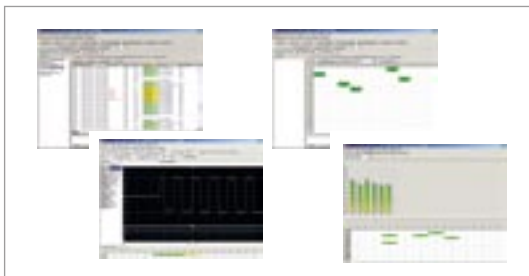
System architecture design

Armed with a process description, control strategies and instrument location information, we use our experience and know-how, combined with your local standards and design rules, to create a control system architecture that is perfect for your plant's automation needs.



Network design

Following correct device and component selection, the field network is designed to meet the needs of the project in line with associated international standards and guidelines. Software tools are used that ensure specifications are met and network documents are created. Considerations include network speeds, cable installation requirements, future expansion and maintenance.



Design deliverables

Deliverables available from our standard design package include everything that you need to commission, maintain or even extend your plant in the future. Our services include the production of segment design drawings, segment data and hazardous area calculations.



State-of-the-art testing facility

System World is Endress+Hauser's unique test facility in Reinach, Switzerland. It supports the open standards HART®, PROFIBUS® and FOUNDATION fieldbus™ as well as FDT. With process control systems, PLCs and asset management systems from various manufacturers, it provides a thorough testing facility for field devices in a multi-vendor environment.

On-site engineering services

Correct installation and commissioning ensure that the network performs as planned from day one. Endress+Hauser approved electrical and mechanical installation partners provide the installation expertise, backed up by our extensive system testing and supported with the essential documentation that you need.



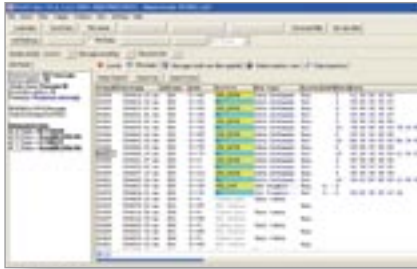
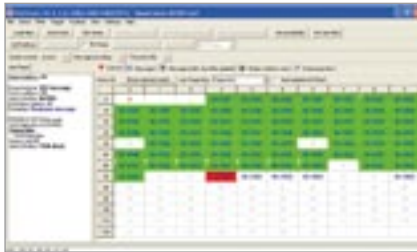
Mechanical and electrical installation

Our approved contactors are audited by Endress+Hauser for competency, training, safety and insurance. Endress+Hauser takes complete responsibility for the project management and quality of the installation, ensuring that it conforms to the relevant standards and is completed on budget and on time, whatever fieldbus you choose.

Within the scope of every field network engineering project, our expert services include everything you need to guarantee a successful installation.

Integration

When you buy instruments from Endress+Hauser you know that you have purchased high-quality, durable products. Having the best device does not help, however, if there are problems after installation because the device and the control system do not communicate with each other correctly. That's why every Endress+Hauser device is tested in the leading control systems currently on the market at our dedicated fieldbus test and competence centre, System World, in Switzerland. Before a project starts our specialist application engineers check that the proposed software and hardware combinations are viable and, if problems are identified, we provide the solutions that will eliminate them.



Test and verification

Our on-site test and verification services ensure that your installed networks are reliable, stable and robust. Hardware and software tools are used during network commissioning and operation to prove and record your fieldbus performance. Our software checks and troubleshoots the complete network and is an essential tool for maintenance, commissioning, predictive maintenance and asset management.

Project handover

Each system is installed, cabled and commissioned in full compliance with industrial guidelines. The project is handed over to the customer only after successful completion of a Site Acceptance Test. All relevant project documentation is delivered on handover of the project and a staff training programme is scheduled as required.



Unlock your plant's potential

Good fieldbus design unlocks a wealth of additional information from process instrumentation that can then be used intelligently to reduce operational costs. Knowledge is critical in driving productivity and competitiveness. Full knowledge of your plant status allows for good maintenance planning.

Endress+Hauser instruments create diagnostic information that is designed to inform owners of component failure, tendency towards failure and process-related problems. By accessing this information, the full potential of your plant can be realised through process optimisation and life cycle management, allowing you to get the most out of your installed base.

When embarking on a field network engineering project you should consider the three essential elements of the asset management system within the original design:

1. Intelligent field devices that create useful, intuitive diagnostic and predictive maintenance information.
2. A digital network transmission mechanism to convey this information to a remote or central location.
3. A software tool that collects this information and uses it in an intelligent way.

Endress+Hauser will help you to select the most appropriate field instrumentation, network design and asset management software to provide the functionality you need to optimise your business processes.

How does it work?

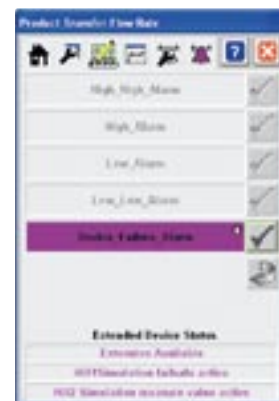
Each instrument within the network generates a specified set of function and error messages that are applicable to the application in which they function.

A software tool is added to the system to identify and translate these messages into meaningful text and then send that message via email, SMS or another method to the most appropriate person, who could be from maintenance or operations.

Meaningful information that improves safety and efficiency

The condition monitoring module within Endress+Hauser's FieldCare asset management software can be configured to transmit a wide variety of critical messages, such as:

- An ultrasonic level transmitter detects that the product being measured has encroached into its blocking distance (very close to the sensor surface) and sends a warning message to the plant operator before an overspill occurs.
- A radar level transmitter detects that the strength of the returned reflection has deteriorated and sends an SMS to a maintenance technician requesting cleaning of the sensor surface as soon as possible to avoid complete transmitter failure and possible unscheduled plant downtime.
- A Liquiphant vibrating level switch can generate error messages that not only alert the operator or maintenance staff of mechanical, electrical or electronic failure, but also process-related warnings such as fork corrosion or build-up.
- A Promass Coriolis mass flowmeter can generate warnings of component failures related to the sensor or the transmitter electronics, process-related errors, such as cavitation in liquids, two-phase flow and extremes of flow velocity.



Information transparency:
Faceplates display process variables and additional device diagnostics.



Support your business processes with life cycle management

W@M – Life Cycle Management provides up-to-date and complete information on all of your assets, including products from other suppliers, ensuring that the installed instrument base performs to its full potential.

What is it?

W@M (Web-enabled Asset Management) is an open information management system that provides data flow and archiving for the technical and operational management of your plant - completely, conveniently and at any time or place. From engineering, procurement and commissioning through to operation, maintenance and the replacement of individual components, W@M is an open and flexible information platform with on-site tools and services to support you throughout your plant's life cycle.

Along with data from the Endress+Hauser common equipment record, information gained during an installed base audit is used to populate the W@M platform.

Device configuration is carried out using FieldCare and calibrations are scheduled with the CompuCal software package. This allows you to comply with continually increasing quality and safety requirements through traceable and certified calibration and documentation.

The equipment record is based on each instrument's serial number, making operating instructions, technical specification sheets, standard operating procedures (SOP) and spare parts lists readily available. Furthermore, device-specific documents such as calibration certificates and material certificates can be attached to an individual instrument record for simple plant asset management (PAM) and accountability.

FieldCare also allows for device configuration and condition monitoring to enable predictive maintenance across the site. Utilising plain English, diagnostic reports are sent directly to defined email addresses with a web link to a complete device report, allowing checks and maintenance to be actioned without delay.

Increasing operational safety

In plant safety, W@M and plant asset management play a crucial role in making sure plant and personal safety are maintained. By knowing maintenance histories, calibration status, location and status of key assets, you can be sure that the installed instrument base is operating efficiently and maintain the highest level of safety.



Security of information is also vital. Our systems maintain data security, not only from external tampering but also from loss or degradation.

W@M – Life Cycle Management ensures secure, fast access and smooth information flow to improve process safety, productivity and economic efficiency throughout your plant.

Complete life cycle support

By taking a holistic view of your support needs and adopting our complete life cycle solutions you can actively reduce unscheduled downtime and safeguard productivity.

Our service packages comprise maintenance, calibration and repairs - all dedicated to help you maximise the productivity of your installed base. You can also benefit from our unrivalled depth and breadth of knowledge: we offer practical advice, consultancy, support and strategies for installed base management. This extends to tailored training resources for your key staff, which can be delivered either on-site or at our head office facility in Manchester.



Throughout the life cycle of a device W@M provides up-to-date and complete information for all Endress+Hauser products, as well as third party instruments.

Our Centres of Competence

Global hubs of industry and application expertise

Endress+Hauser has created a worldwide network of Centres of Competence, each of which acts as the ultimate authority for the Group in their chosen field of expertise. There are 10 Endress+Hauser Centres of Competence worldwide, each specialising in one or two particular industries or applications.

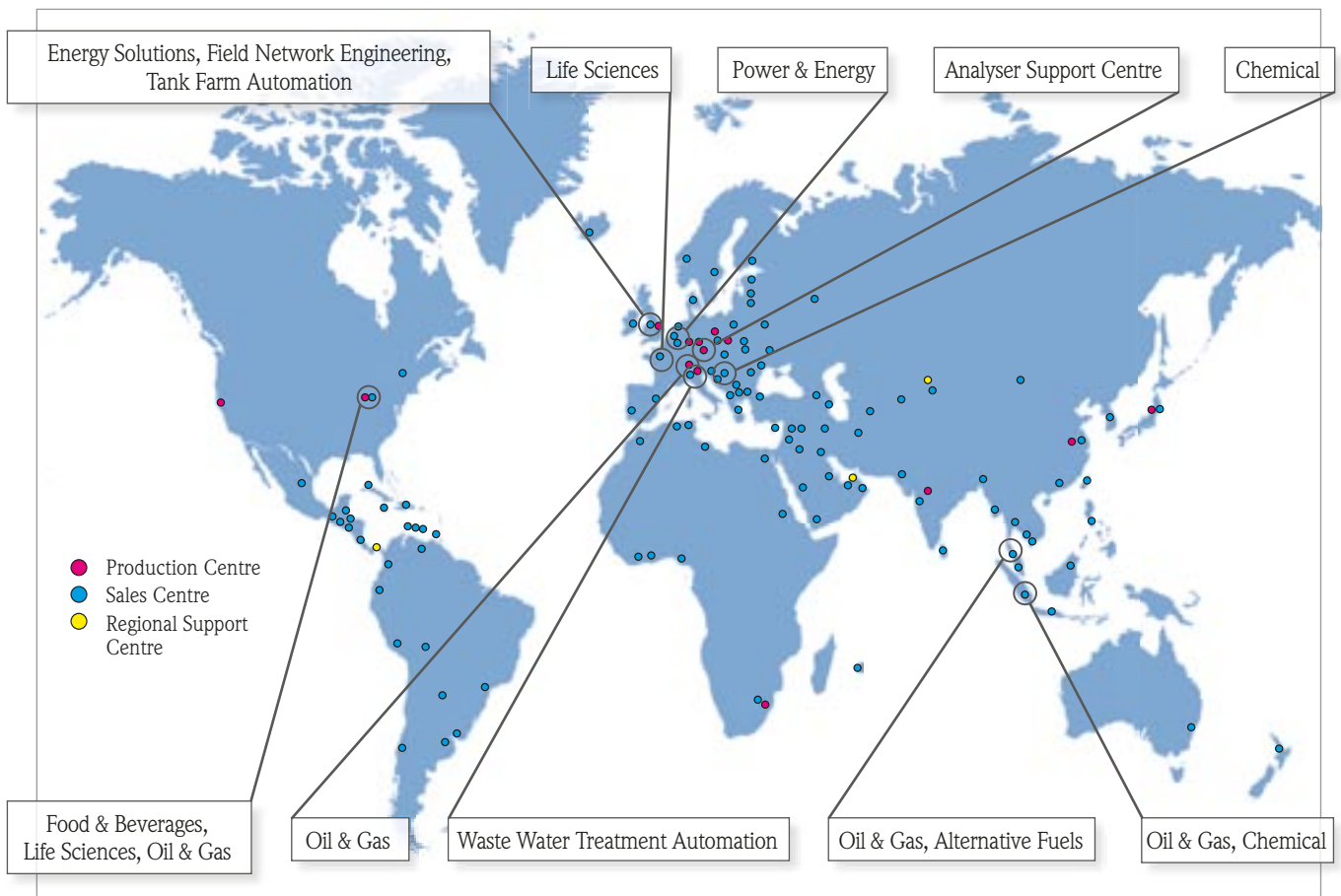
In addition to expertly delivering the field-based, application-based and automation-based solutions detailed on the back of this brochure, Endress+Hauser in the UK is the Group's Centre of Competence for:

- Field network engineering
- Energy management solutions
- Tank farm automation

We therefore have the best resources and specialists on hand at our Manchester headquarters to expertly implement each element of a field network engineering project. Our services range from consultancy and complementary services through to entire project management.

Our focused nature allows projects to be delivered faster and more efficiently, providing the highest standards at all stages, from project execution to after-sales service and support. Furthermore, Endress+Hauser in the UK is locally audited to ISO 9001 and accredited for the supply of intelligent automation systems.

Centres of Competence: dedicated support



At Endress+Hauser we consider our people to be one of our strongest assets. Based in Manchester, our loyal and committed staff members are highly trained to provide the best level of technical expertise and customer service in the process automation industry. Our team of project eng



Our experts include:



Project managers to execute projects on time, on budget, safely, to your satisfaction, all in accordance with Endress+Hauser procedures and quality standards.



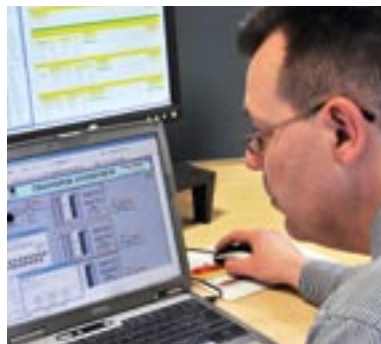
Project engineers who will design, test and commission engineered solutions that are specifically tailored to improve your automation and business processes.



Design engineers and panel builders who work together to design, build and test the panels and enclosures that house our process automation equipment and networking components.



System engineers who fully understand your process automation requirements and can translate these into system designs that completely meet your needs.



Software engineers with vast knowledge and experience of the most popular automation and control platforms used in the process industries.



Commissioning engineers who are fully trained and accredited to commission your projects safely and efficiently on-site, throughout all industries.



Harmonised engineering processes

At Endress+Hauser we appreciate that when you embark on a new project you need assurance that it will progress with minimum risk. That's why we have clear and defined project procedures that are followed by Endress+Hauser teams across the world.

Known as Standard 201, our project process has been designed to improve communication and collaboration, the quality of project results and, most importantly, customer satisfaction. From the very start, project resources are assigned to ensure that the right people are involved at the right time, utilising flexible project teams that have clearly defined responsibilities.

At the outset of a project an experienced project manager is appointed to take ultimate responsibility for decisions, risk and quality management. Then, at critical points in the project, additional risk management resources

are introduced. Following a methodical process and involving the whole project team, the risk management process has four steps:

1. Risk identification
2. Risk analysis
3. Risk response planning (mitigation)
4. Risk monitoring and control

The system also utilises a Quality Gate system, in which a verification checklist is agreed for each stage of the project. Fulfilment of each action on the checklist must be confirmed by the project manager before the project moves to the next phase.

Endress+Hauser reduces your risk:

- Our company is characterised by its highly stable, experienced workforce, who are true experts in their field.
- We follow harmonised standards that are used by Endress+Hauser worldwide.
- We have the flexibility to adapt our services to enhance your business processes.
- We offer a high level of collaboration and communication of information, enabling you to concentrate on your core business.

Our project delivery methodologies are standardised throughout the Endress+Hauser Group, enabling us to deliver guaranteed quality from concept to completion, with reduced risk to you.

In addition to this, our engineers follow audited procedures that allow us to meet ISO 9001 standard project delivery of intelligent automation solutions.

Our accreditations include:

- **ISO 9001:2008** Quality Management System for the design, manufacture, supply, service, maintenance, repair, calibration, supply of spares, associated equipment, accessories, project management of measurement instrumentation, automation instrumentation and intelligent automation systems for the process industries.

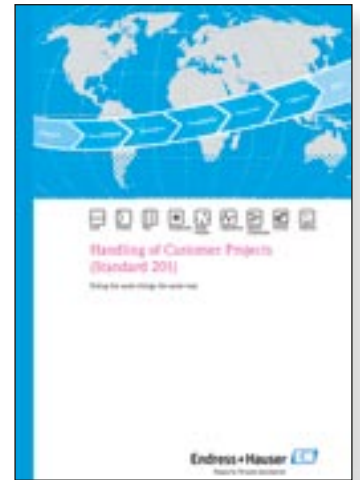
- **OHSAS 18001** international occupational health and safety management system, embracing BS8800, AS/NZ 4801 and NSAI SR 320.

- **ISO 14001:2004** certification in recognition of our Environmental Management System.

- Endress+Hauser Ltd is one of the first engineering companies in the UK to be awarded **EN 16001:2009** certification in recognition of our Energy Management System.

The benefits to you:

- Harmonised processes to deal with Endress+Hauser in project business
- Clear communication and reliability
- We do the same things the same way, every time



A common process results in better quality project delivery.



ISO 9001:2008



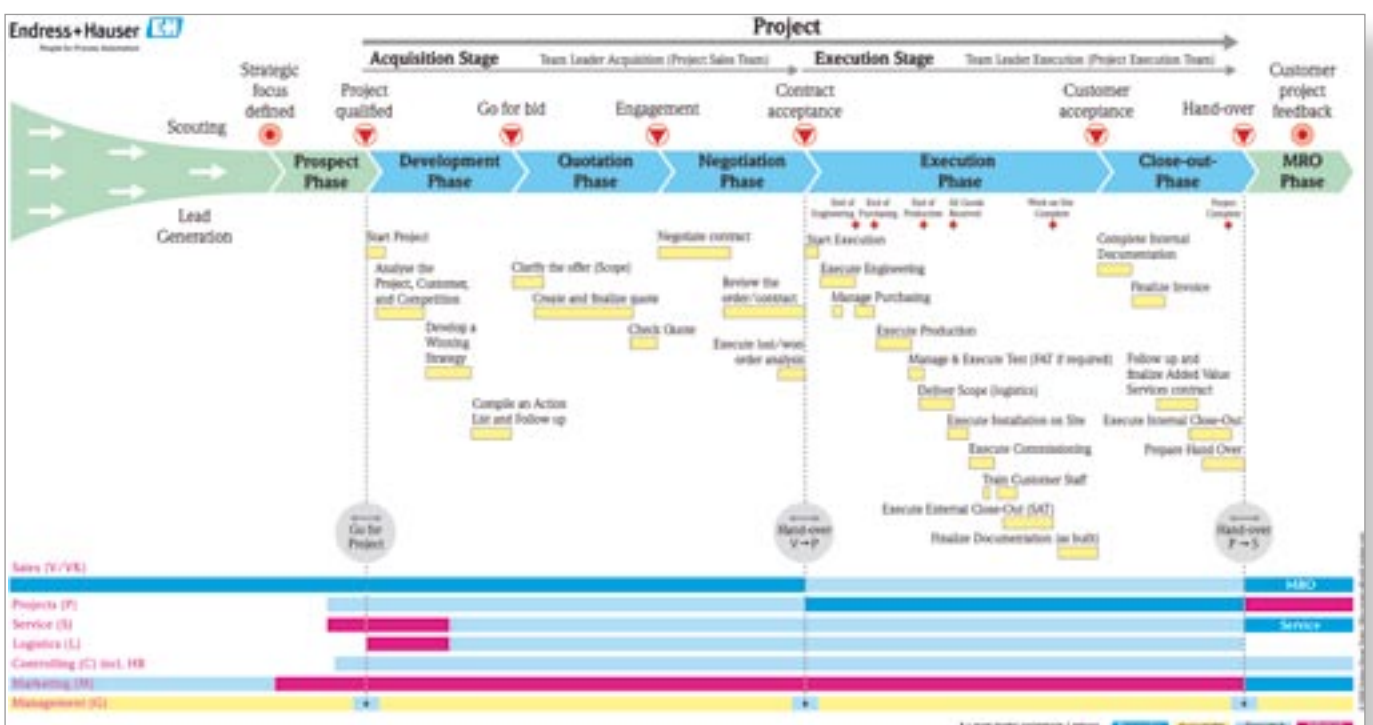
OHSAS 18001



ISO 14001:2004



EN 16001:2009



Our universal project delivery overview clearly assigns responsibility for each stage of the project.

Process solutions from Endress+Hauser



All of the solutions offered by Endress+Hauser have been designed to improve the operational efficiency of your plant, streamline logistical processes and have a proven return on investment.

Our range of field and application-based solutions are repeatable, tested and packaged. They are configured to

meet your needs, the demands of your defined project and the requirements of your industry - and they are immediately deliverable. Where there is no packaged solution, we can design tailor-made engineering systems to provide the ideal process automation for your specific requirements.

Field-based solutions	Application-based solutions	Automation-based solutions
<p>Field devices and network design, installation and commissioning services including multi-vendor device configuration and asset management.</p> <ul style="list-style-type: none"> ■ Plant asset management ■ Field network engineering 	<p>Repeatable, configurable, packaged solutions.</p> <ul style="list-style-type: none"> ■ Tank farm automation <ul style="list-style-type: none"> - Tank contents monitoring - High accuracy tank gauging - Overfill protection - Pump and valve control ■ Energy solutions <ul style="list-style-type: none"> - Automatic monitoring and targeting - Energy management ■ Inventory control ■ Control panel and analyser solutions 	<p>Programmable PLC/SCADA based automation solutions.</p> <ul style="list-style-type: none"> ■ Process automation <ul style="list-style-type: none"> - Intelligent automation solutions specifically designed to solve your process automation requirements

United Kingdom

Endress+Hauser Ltd
 Floats Road
 Manchester
 M23 9NF
 Tel: (0161) 286 5000
 Fax: (0161) 998 1841
 info@uk.endress.com
 www.uk.endress.com

Endress + Hauser 

People for Process Automation