

# PROTECTING YOUR PROCESS

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## EDITORIAL

### Dear Reader,

■ It's been an eventful summer.

An article from Management reviews how Pepperl+Fuchs is meeting the challenges of growing demand and what investments we have made for the future.

Many issues became clear during the upswing. Such as the question of obtaining resources, from energy to the technical specialists needed for new positions in nearly every field.

New requirements mean more training. The leading article describes how Pepperl+Fuchs' training courses can help you.

This latest newsletter once again contains plenty of new products and solutions that you can put to good use in your applications.

We would be delighted to show you our dynamic product portfolio at SPS/IPC/DRIVES between November 22<sup>nd</sup> and 24<sup>th</sup> (Hall 7A-338). Visit us in Nuremberg or go to [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).



**Thomas Kleinbongartz**  
*Director Global Marketing*

## TRAINING

# You Have Reached Yo

## Navigate safely through regulations



■ It's satisfying to hear the announcement your vehicle navigator makes when you have arrived at your destination. The voice of this trusty travel companion leads you in the right direction.

In an unfamiliar city, travel conditions are challenging. Considering all the noise, pedestrians, signs, traffic lights, and confusing traffic flows you have to contend with, an electronic assistant is worth its weight in gold.

Navigation systems are not the overriding factor in arriving at your destination. They do not specify the destination—that decision is left to the driver. Also, in-

# ur Destination



structions are only suggestions; the driver ultimately decides which way to turn and how to navigate the vehicle through traffic. Still, navigation systems are well worth having.

Vehicle navigation is like the safe, efficient operation of an industrial plant: Responsible personnel, who are involved with process know-how, competitiveness, products, and pricing policies, perform tasks that represent being in the driver's seat. These personnel follow the rules of safe plant operation, similar to driving according to the rules of the road. Many obstacles emerge: Guidelines, laws, and standards relating to industrial safety, explosion protection, and functional

safety must be observed. It is often difficult to implement these concepts quickly and efficiently especially when human resources within companies are scarce.

Despite any confusion, you should never lose track of your objective. So why not use navigational aids on the job?

Speak to our trainers and find out the best way to arrive at your destination!

#### **Michael Wenglorz**

*Trainer for Explosion Protection+Functional Safety  
Training and Committee Work*

#### ■ WEB INFO

[www.pepperl-fuchs.com/training](http://www.pepperl-fuchs.com/training)

## ■ SOLUTION

# Joint Strength

## Partners for your system solution

■ Pepperl+Fuchs products are used throughout the world in industrial settings and in hazardous and corrosive environments. Our customers have faith in our ability to develop and implement a whole range of solutions.

Among our latest products are industrial housings, terminal boxes, and command and signaling devices for electromechanical explosion protection applications. The product range is being expanded all the time, so we can offer the widest possible choice to meet your needs. Our technical specialists will develop a detailed solution with you and support you throughout the project. In other words, everything comes from a single source. A well-established and proven global sales network, including technical support and local production facilities, completes the package.

The decision to enter this business area and offer service has been a good one. The new product group has already racked up its first orders. For instance, we have just shipped 800 stainless steel terminal boxes for one of the world's largest gas production facilities.

Partner with us to get the solution you need!

**Andreas Schneider**

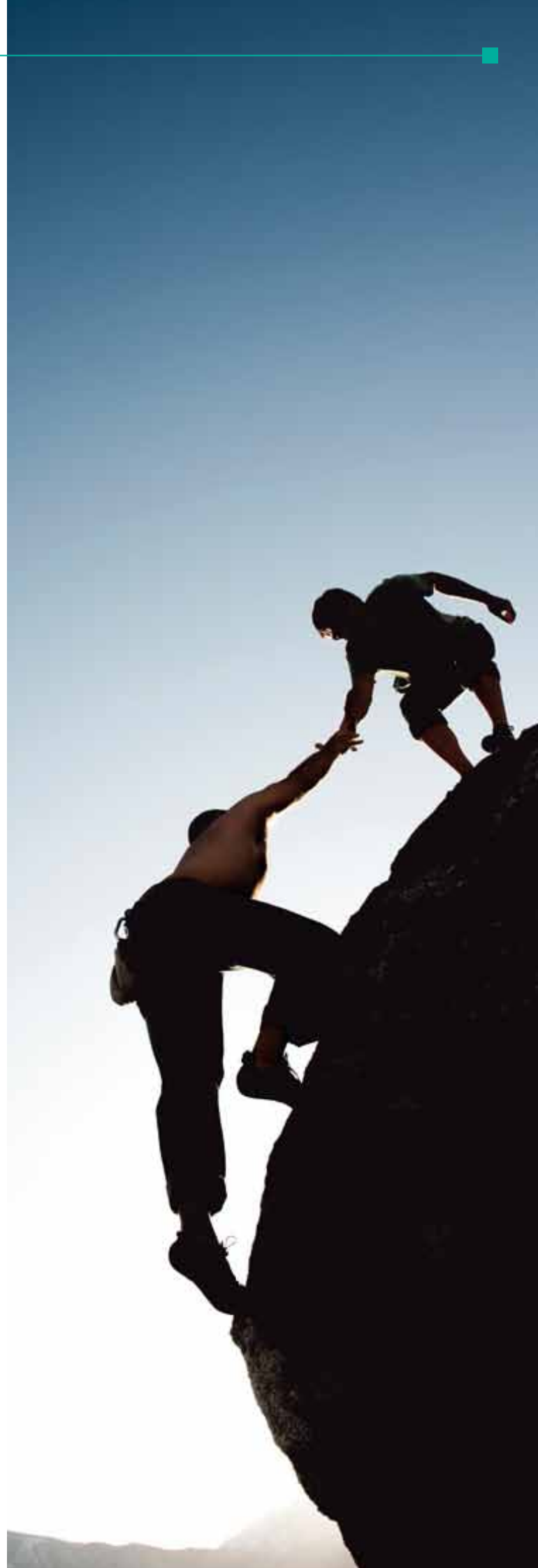
*Product Specialist Terminal Boxes*

**Markus Hertel**

*Manager Product Group Cabinet  
Junction Box Solutions+Operations*

## ■ WEB INFO

[www.pepperl-fuchs.com/terminal-boxes](http://www.pepperl-fuchs.com/terminal-boxes)



## ■ PRODUCT

# Mobile Barcode Reading in Hazardous Areas

## Wireless barcode reading system for Zone 1 (ATEX)

■ The new wireless barcode reading system, designed for rough industrial conditions in hazardous areas, completes the PowerScan product line.

It comprises a barcode reader and base station for use in hazardous areas with a charger located in the safe area. The system is suited for reading of all market-standard barcode families.

Even after a fall from a height of two meters, correct functioning is guaranteed. The patented technology allows safe recognition of barcodes that are dirty or damaged. By using the aiming option, even barcodes positioned extremely close to each other can be read safely.

PowerScan wireless barcode readers can be combined with VisuNet operator workstations, TERMEX operator terminals, or used as a stand-alone solution.

**Andreas Grimsehl**

*Product Marketing Manager  
Industrial Monitors+HMI Solutions*



## ■ WEB INFO

[www.pepperl-fuchs.com/powerscan](http://www.pepperl-fuchs.com/powerscan)

## ■ PRODUCT

# High-Density LB Remote I/O for Zone 2

## Aiming for the market's highest packing density

■ Pepperl+Fuchs' Remote I/O has an excellent track record with hundreds of thousands of modules in operation worldwide.

New LB modules take the system into the future while maintaining compatibility with existing installations. A universal I/O module reduces stock since it can be configured to accommodate analog inputs and outputs as well as digital inputs and outputs.

New devices have only half the width of their predecessors. This was made possible through energy management to efficiently reduce power dissipation. Subsequently, the cabinet size for analog signals is down by 50 %, which reduces the space required on site and brings down the cost per channel.

As an extra benefit, the quad channel devices are equipped with diagnostic LEDs on each channel to simplify fault finding.

**Rainer Hillebrand**

*Chief Consultant  
Remote I/O Systems*



## ■ WEB INFO

[www.pepperl-fuchs.com/lb-high-density](http://www.pepperl-fuchs.com/lb-high-density)

## ■ PRODUCT

# Seamless Integration

## Honeywell Experion® PKS with Advanced Diagnostics

■ Honeywell integrated the FieldConnex Advanced Diagnostic solution into their Experion Process Knowledge System (PKS). With this solution, seamless interaction accelerates and simplifies fieldbus segment management for increased plant availability.

With this software tool suite, the physical layer turns into a manageable asset within the Experion environment. An ActiveX software application serves as the interface to diagnostic data within Experion PKS. Operators and maintenance staff analyze fieldbus communications confidently, supported by their familiarity of the user interface including dialog boxes, alarm lists, and navigation.

Honeywell Experion users gain a number of tangible benefits, such as accelerated segment commissioning, improved plant availability, and targeted troubleshooting.

**Andreas Hennecke**

*Product Marketing Manager*

*Fieldbus Infrastructure*

## ■ WEB INFO

[www.pepperl-fuchs.com/experion](http://www.pepperl-fuchs.com/experion)

## ■ CONTINUITY

# From Idea to Innovation

## The road to success

■ Creativity drives innovation. But simply having a good idea does not guarantee success. Real innovation comes from actually putting ideas into practice. Manufacturers need persistence to see their ideas and inventions reach the market.

In 1958, we produced the first inductive proximity sensor. What was originally conceived as a customer-specific solution for the process industry has developed over many decades into a global industry standard for non-contact sensing.

The idea was to develop a robust, watertight component that could guarantee reliable operation even in the harshest areas of a chemical plant.

Technologies evolved that still represent segments of modern automation technology, e.g., functional safety and intrinsic safety.

And the sensor?

It keeps reinventing itself—even today.

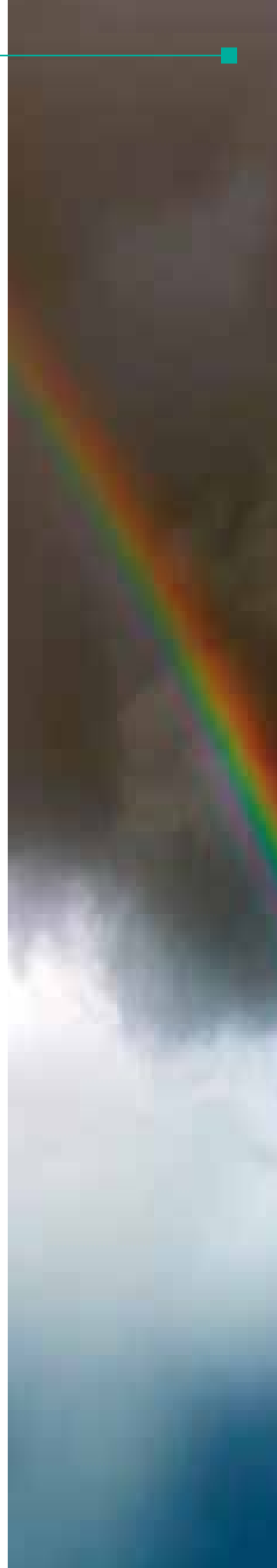
**Gerhard Jung**

*Trainer for Explosion Protection+Functional Safety*

*Training and Committee Work*

## ■ WEB INFO

[www.pepperl-fuchs.com/history-of-innovations](http://www.pepperl-fuchs.com/history-of-innovations)



## MANAGEMENT NEWS

# Dynamic Growth

## Order volume and sales continue to grow throughout 2011

■ The graph shows how quickly Pepperl+Fuchs recovered from the worst crisis in the industrial era and how strongly the upswing continues in 2011. We have drastically increased our manufacturing capacities and increased our stock of raw materials and finished goods significantly above pre-crisis volumes. We were able to manage this considerable increase in orders and eliminate the order backlog that developed in 2010.



But it took us more than twelve months to do it ... Why so long? First, the recovery took our industry by surprise. Almost all companies, including our customers and suppliers, reduced their stock and capacity, some even more drastically than Pepperl+Fuchs. Because orders almost doubled in only a few months, our stock of raw materials and finished goods quickly dwindled. Meanwhile, delivery times for electronic raw materials grew from two or three weeks to 25 weeks and more. Even confirmed deliveries were cancelled out of the blue. Even now, the delivery time for raw materials has not yet reached 2008 levels.

Our organizational structure was never designed to cope with rates of change in workload of  $\pm 40\%$  or more. The quick cutback in resources, followed by an immediate increase in only one year's time, was a completely new challenge.

There has never been a period in our history when we invested in so many structures and locations at the same time. We are building a new distribution center in Mannheim and intend to set up another in Singapore. Our operation in Vietnam grew from less than 100 operators to over 400; therefore, the next two floors of the building have already been put into use although that wasn't scheduled until 2012/2013.

We bought a new building for the Process Automation sales and solution center in Beijing. We are about to do the same in India for the Factory and Process Automation divisions. In these two fastest-growing sectors in the world we will build an adequate infrastructure in order to participate in new growth opportunities.

The dynamics of the markets are not yet equally spread out, but our regional sales structure has allowed all regions to participate in the recovery. Russia, China, and India are leading the pack. Also, countries like Germany are developing surprisingly well.

We are experiencing the first serious problems in recruiting young engineers around the world, most drastically in Germany. If we cannot find well-educated technical people in Germany, we must consider engineers outside of Germany. Globalization moves to the next level!

**Dr.-Ing. Gunther Kegel**

*Chief Executive Officer*

PRODUCT

## FieldConnex Redesign

### Zone 1, Class I, Div. 2 and DART Fieldbus

■ This redesigned surge protector supports easy cabinet installation and maintenance. It consists of a base unit for DIN rail attachment and a separate plug-in module.

Inserting the surge protector plug-in module results in an audible ‘click’ to signify that all contacts are firmly in place. This adds to secure installation and contributes to increased reliability and plant uptime.

Depending on the model, the base unit either disconnects the segment when the plug-in module is removed, or supports hot swapping while the fieldbus segment remains in operation. This allows easy adaptation to existing plant installation and maintenance rules.

The plug-in surge protector module with integrated gas discharge tube is available in two versions. Models with the screen connected directly to ground are suitable for cabinets with a central grounding point and field installation when multipoint grounding is applied. Models grounded through the gas discharge tube are the preferred choice for field installation without direct ground connection.

For Zone 1, Class I, Division 2 installation, all FieldConnex surge protectors feature ATEX, IECEx, CSA, and UL certification as well as DART Fieldbus.

**Andreas Hennecke**  
*Product Marketing Manager*  
*Fieldbus Infrastructure*

PRODUCT

## Ex e Plug-In Connector

### Space-saving increased-safety Remote I/O

■ Remote I/O connects traditional sensors and actuators to process control systems and hazardous-area mounted devices. In the past, Remote I/O connected to increased safety loops ended up big and bulky, or required separate marshalling terminals. Now, extra terminals are no longer needed which means that you can save space, shorten commissioning time, and thereby reduce installation costs.

The new, increased-safety Remote I/O modules come with a plug-in connector secured by a special cover. This type of connector allows modules to be mounted side by side with intrinsically safe I/O, again saving space in the enclosure.

These connectors simplify maintenance because you can unplug the wiring when you replace a module. In the past, all available channels had to be wired. Now, only those wires in use need to be connected, leaving room for future expansion.

All this has been achieved while maintaining full compatibility with existing installations.

**Rainer Hillebrand**  
*Chief Consultant*  
*Remote I/O Systems*



**APPLICATION**

# Waste Heat Energy

## Thermal power relies on Remote I/O

■ Energieversorgung Oberhausen AG harnesses heat dissipated from a chemical company and a waste incineration plant to supply district heating to Oberhausen-Mitte and Oberhausen-Sterkrade.

After decades of operation, the plant was modernized in 2010. A new power station control system was put in to improve safety and efficiency.

KH-Automation Projects handled the delivery, turnkey construction, commissioning, trial operation, and documentation of the upgrade. The engineers chose Remote I/O systems by Pepper+Fuchs to connect field signals with sensors and actuators from the PMSX<sup>®</sup>pro process control system. Universal redundancies and the lack of a "Single Point of Failure" in the architecture ensure the control technology meets required levels of availability.

Distributing process control tasks across redundant, highly available servers and redundant automation stations guarantees maximum reliability and economical plant operation.

Redundant Remote I/O systems were used in all areas to galvanically isolate signals and with PROFIBUS, guarantee efficient signal transmission to the control level while maintaining a high packing density. KH-Automation and Pepperl+Fuchs agreed that relevant signals from decentralized assemblies be time stamped using standard commands from PROFIBUS DPV1.

A plant-wide, redundant fieldbus incorporating fiber-optic technology guarantees smooth plant operation.

**Rainer Hillebrand***Chief Consultant**Remote I/O Systems***WEB INFO**[www.pepperl-fuchs.com/RIO-LB](http://www.pepperl-fuchs.com/RIO-LB)

IMPRINT

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PRODUCT

# The New All-Rounder

## Transmitter power supply and converter

Many process automation applications require versatile devices, the new transmitter power supply (KFU8-VCR-1) combines a universal power supply for 2- and 3-wire transmitters with signal converter functionality. Multiple outputs offer active and passive current sources and one voltage output, allowing a flexible adaptation of the field signal to the control system.

Front-sided rotary switches feature fast and easy setup and configuration without the need for software. Switch settings can be easily duplicated in case of replacements or expansions.

Finally, no 24 VDC supply is needed due to the integrated wide-range power supply. Ideal for small projects and worldwide usage. The new transmitter power supply is THE flexible all-rounder for input conversion and output signals.

**Stefan Pflüger**  
 Product Marketing Manager  
 Interface Technology

NEWS

## I/O Guide

Order the new Remote I/O Engineer's Guide today. You will learn more about the basics of bus technology, HART, and explosion protection as well as functional safety focusing on remote I/O.

**Rainer Hillebrand**  
 Chief Consultant  
 Remote I/O Systems

WEB INFO

[www.pepperl-fuchs.com/eg-rio](http://www.pepperl-fuchs.com/eg-rio)

SUDOKU

Fill this 9x9 grid with digits so that each column, each row, and each of the nine 3x3 sub-grids contain all of the digits from 1 to 9.

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## NEWS

# What Is SIL?

## Continuing education at Pepperl+Fuchs

■ SIL stands for “Safety Integrity Level” and is a unit of measurement for quantifying risk reduction. Just as wind strength is quantified with units on the Beaufort scale, risk reduction can be quantified with SIL.

The need to quantify something exists whenever a need or a goal is specified and a degree of fulfillment must be defined objectively. One example is the purchase of heating oil. The amount of oil is specified as a unit of measurement (liter or gallon). The supplier measures the oil (usually with a calibrated flow meter) to prove that the quantity supplied is correct. Safety technology is similar, except that the need for safety is a top priority and meeting the need for a material asset is not necessary.

Technical equipment can pose a risk to life and limb as well as to the environment. These risks must be reduced for safe operation. Precisely quantifying—or measuring—the risks provides proof of risk reduction and satisfies this requirement. This is where the SIL “unit” comes into play. The SIL level (1 ... 4) specifies how much risk reduction is required or fulfilled respectively.

For more information on this topic, visit our website.

**Dr. Andreas Hildebrandt**

*Manager Training and Committee Work*

## WEB INFO

[www.pepperl-fuchs.com/SIL](http://www.pepperl-fuchs.com/SIL)

## NEWS

# Explosion Protection Using Air

■ Electrical equipment that is not hazardous-area rated must reside in a flameproof or explosion proof housing or enclosure, or use purge and pressurization. The best solution to heat-related problems is a purge and pressurization system with compressed plant air that purges the enclosure of hazardous gas. Constant overpressure prevents the ingress of gas.

Fully automatic purge and pressurization systems like the 6000 series for Zone 1 and 21 or the 5000Q series for Zone 2 and 22 offer complete control of

the pressurized enclosure, including leakage compensation. The purge system monitors the temperature inside the enclosure and, if needed, generates an alarm or starts cooling or heating.

**Dr. Michael Lupik**

*Business Development Manager  
Purge+Pressurization Systems*

## WEB INFO

[www.pepperl-fuchs.com/purge](http://www.pepperl-fuchs.com/purge)

## EVENT

### SPS/IPC/DRIVES

Nuremberg  
22 – 24 November 2011

[www.mesago.com/SPS](http://www.mesago.com/SPS)

### AUTOMATION FAIR 2011

Chicago, Illinois USA  
16 – 17 November 2011

[www.rockwellautomation.com/  
events/automationfair](http://www.rockwellautomation.com/events/automationfair)

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# PROTECTING YOUR PROCESS



## We've got you covered—no matter what kind of protection you need.

Safety wear protects steel workers against flames and sparks. Pepperl+Fuchs equipment protects your entire plant against explosions. For over 60 years, we have been providing protection for the process industry.

Our intrinsic safety barriers protect thousands of chemical, pharmaceutical, oil & gas and other production plants against explosion hazards—but we have much more to offer: fieldbus infrastructure

solutions, remote I/O systems, HART interface solutions, level measurement devices, purge and pressurization systems, industrial monitors and HMI solutions, power supplies, separator alarm systems for oil and petrol separators, signaling equipment, lighting as well as emergency shutdown equipment and accessories.

With locations and partners all over the world we are there, wherever and whenever you need us.

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