

## Complete Suppliers for the Field Level Now also with RFID Focus

Over its forty year history TURCK has expanded its sensor operations and is now a complete supplier for the field level. *etz* spoke to Christian Wolf, executive vice-president at TURCK, about the reasons for this corporate strategy and about the latest product developments. The company set another milestone at the Hanover Fair with its new RFID system.

*Inge Hübner*

**etz:** *Mr Wolf, what is TURCK's current position on the market?*

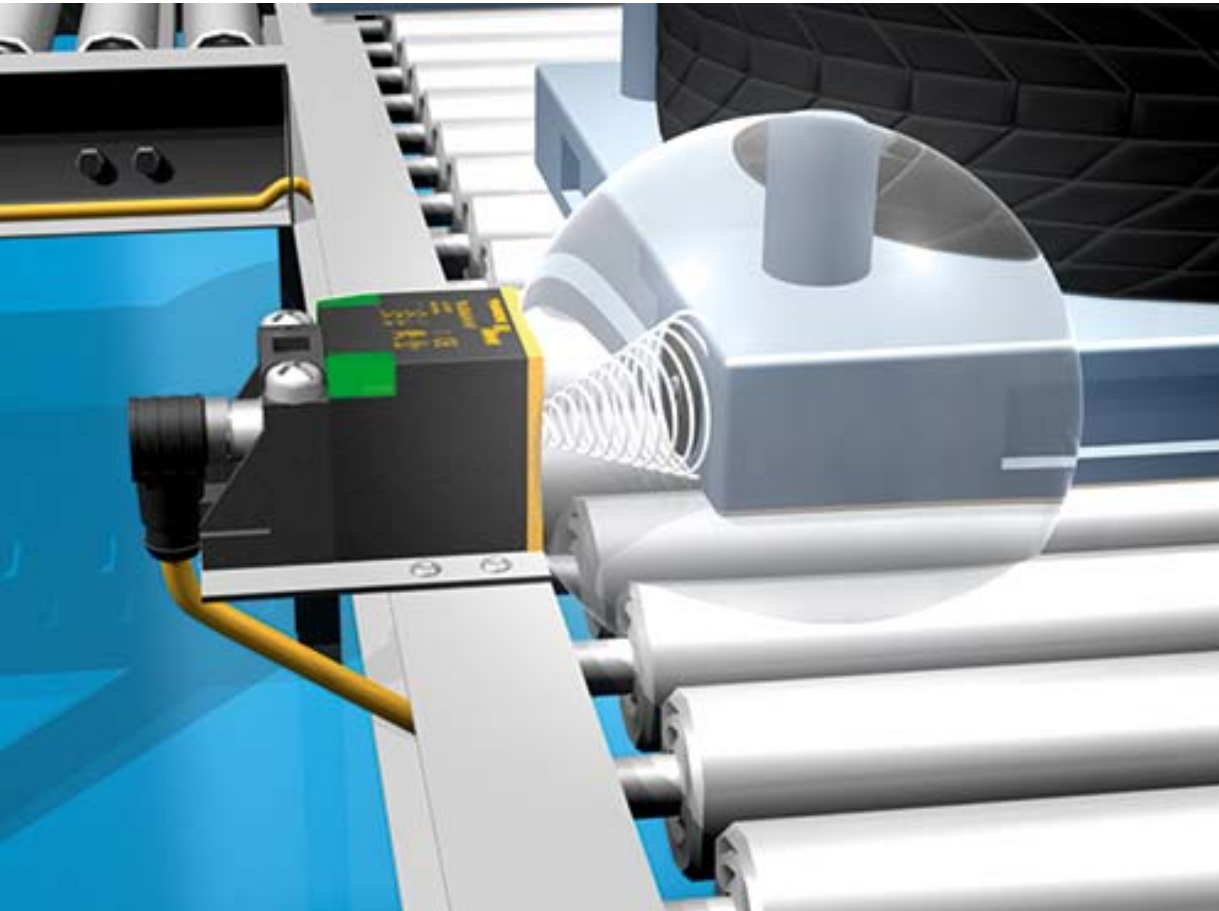
**C. Wolf:** We are complete suppliers of automation components for the entire field of industrial automation below the control level.

**etz:** *"complete supplier" is currently a very much used term in the automation sector. What does it mean for TURCK?!*

**C. Wolf:** Our product portfolio is made up of sensors, interface and connection technology, as well as fieldbus components. The sensor types range from sensors for length, angle and distance measurement to devices for monitoring pressure, temperature, level and flow rate. Our interface technology covers devices for isolating, converting, processing, transforming and adapting analog and binary signals. And on the field level we offer a complete range of products for all commonly available industrial fieldbus systems – from the sensor, actuator or bus cable to I/O modules and gateways for bus systems such as Profibus DP or Ethernet.



**Christian Wolf is executive vice-president of Hans Turck GmbH & Co. KG, responsible for marketing worldwide.**



Last but not least is the connection technology, which is also a very important product area for us. Just last year we increased our sales cooperation with Escha, who have transferred the sale of their standard connectors to us in order to concentrate on their own activities in the field of custom solutions, whilst continuing with development and manufacturing. We actually sell M8, M12, M16, M23, 7/8 connectors and connection cables. In addition to this we sell valve connectors in different sizes, as well as actuator/sensor junctions.

**etz:** *What are TURCK's objectives with regard to this cooperation and what are the benefits for your customers?*

**C. Wolf:** In our view, the trend towards decentralised automation as well as the increasing use of the plug & work philosophy requires a holistic approach. As a sensor and fieldbus technology supplier with operations worldwide, connector technology is an absolutely strategic product for TURCK. The products from Escha are the "connecting" link in our product portfolio, and it is becoming increasingly important for our customers to have a complete range of products from a single source in order to reduce process costs and the number of suppliers required. We therefore offer our customers the right pre-assembled cables and suitable actuator/sensor junctions for virtually all areas.

Together with the leaders in the sector, we are also now the only company to offer a complete IP67 solution below the control level. Our aim is to influence the market with innovative products. Developments such as the inductive *uprox*<sup>®</sup>+ sensor or the BL 67 modular fieldbus system reinforce this aim. The same applies to connection technology, and here too we have set our sights high. In this way, we intend to move away from being just another competitor towards a position of market leadership.

**etz:** *For a manufacturer that started off exclusively as a sensor supplier you have certainly spread your wings...*

**C. Wolf:** That is not quite right. TURCK originally started with amplifier modules for the explosion hazardous area. It wasn't until one or two years later that the founders moved into the field of sensor technology. The product range increased gradually, as result of which customer requirements also changed. In order to ensure efficiency and a competitive edge, it became increasingly important for customers to be able to obtain a wide range of products from a single source. We consequently saw and still see it as our duty to supply our customers with a perfectly matched product range for complete solutions. The move from component supplier to a solution supplier was for us a natural progression.

**etz:** *Despite its "Explosion hazardous roots", has TURCK moved more towards factory automation in the course of its history? What is the company's position in the process sector, and what are your objectives here?*

**C. Wolf:** Yes, we had the development know-how in-house from the very start; however, we had to increase sales and marketing expertise first of all. Only then was it possible to approach projects in the immediate vicinity of the process with a well-thought out strategy and address the relevant key customers effectively. However, this was already completed four to five years ago, resulting in the establishment of our own process automation division. This division now generates approximately 20 % of our turnover which is currently over 260 million € p. a. As far as the number of employees is concerned, around 25 % of our sales force and around 30 % of our development team are active in this sector.

We are expecting a substantial two-digit growth for 2006, and as far as our medium-term objectives are concerned, we intend to increase sales for the process automation division to 30 % of total sales by 2010.

**etz:** *... By expanding the product range?*

**C. Wolf:** We naturally intend to introduce further innovative products, the first of which will also be shown at this year's Achema fair. Innovation leadership has always been our aim and this also applies to process automation. We also intend to increase our sales activities. The USA, China, the Middle East and India are the regions where the greatest investments will be made by our customers, and a local presence here is essential. We are therefore investing heavily in these regions, since whoever is successful here will attain a leading market position in process automation, which will have a significant influence on our European business.

**etz:** *Apart from the sensors, which of your products will be particular winners for you in the process automation field? Are there any application examples?*

**C. Wolf:** Our portfolio features a whole host of interesting products for process automation. Let me take an example from the fieldbus sector: Our product line includes IO systems that are provided with protection from IP20 to IP67, right up to types suitable for the explosion hazardous area. The products for this last area are Excom and Sensoplex, both of which enable the use of fieldbus technology in zone 1 and zone 2.



One interesting application example is definitely the one for Goldschmidt Rewo, the Degussa subsidiary. This company chose our Excom remote IO system as part of the renovation of two batch reactors for tenside production. Vacuum and pressurised areas are used inside the reactors, and the modernisation included the exchange of existing Siemens S5 control technology for a PCS7 system; the 19" rack technology was replaced with a remote IO system. A total of six of our EExe systems were used, four for the reactors and two for the connected tank farm. The ability to access field instrumentation centrally via Excom using FDT/DTM technology was a major reason for Goldschmidt Rewo choosing this system. All the field devices used have a HART interface, and the FDT/DTM technology enables them to be parameterised simply with only one parameter tool, in this case, Field Care. Virtually the entire field wiring at Goldschmidt Rewo could be reused for the conversion to Excom.

**etz:** You mentioned earlier the wide range of IO systems. The IP67 versions have been in your product range for around two years. What are the current developments?

**C. Wolf:** On the one hand, there is the BL 67 modular IO system with IP67 protection, and the Piconet remote IO system on the other. The basic BL 67 product range consists of standard components such as digital and analogue I/O modules and serial interfaces. Through consistent further development in terms of gateways, technology modules and system expansions, the range now offers in every respect much more than a standard IO system. At present we offer gateways for Profibus DP, DeviceNet and CANopen. A gateway for Modbus-TCP will be available in the first half of 2006 and gateways for the Profinet IO and EtherNet/IP protocols will be available from the middle of the year. Last autumn we presented the option of the valve interface.

This firstly enables a multi-pole valve block to be connected via digital output modules using M23 connectors, and secondly allows any CANopen valve blocks to be integrated in the BL67 system using the CAN valve interface module. By the way, this is also possible for Piconet. With these new connection options both fieldbus systems can offer in future a vendor-neutral and economical alternative to fieldbus-enabled valve blocks.

The modular Piconet fieldbus stands out on account of its compact dimensions and rugged construction. It allows a wide range of different signals to be evaluated, processed and output in a small space. Thanks to the new fibre optic and power bridges, installation will be even simpler and more compact in future. The result is a modular and highly granular system with up to 120 expansion modules.

**etz:** *TURCK is well-known for its often revolutionary product innovations. One and half years ago this was the inductive uprox<sup>®</sup>+ sensors. What will be awaiting customers in the near future?*

**C. Wolf:** At the Hanover Fair we will be presenting a new modular RFID system, BL Ident. This consists typically of data carriers, write/read heads and interface modules. In this way, we intend to penetrate the market for radio frequency identification (RFID) with a clear focus on industrial applications. Different studies estimate the share of industrial applications in relation to the total market for RFID at between 10 % to 30 %. Furthermore, the growth forecasts in this highly dynamic market segment are very promising with up to 30 % p. a. The automotive manufacturing, transport & handling and machine building are the high priority sectors in our plan. We will be making advances in the process world of the chemical, pharmaceutical and petrochemical sectors as soon as we have obtained the necessary approvals.

**etz:** *TURCK is not the first automation company to have recognised the potential of RFID with the aim of exploiting it. What are the benefits of your system?*

**C. Wolf:** First I would like to emphasise that we develop every new product in collaboration with our customers. We were therefore able with BL Ident to make improvements to features that our customers found disadvantageous or less customer-oriented on established systems. For example, we use the new FRAM memory technology on our data carriers.

This makes it possible to write data carriers 1010 times and read them an unlimited number of times. Furthermore, the data transfer rate of TAGs with FRAM memory is higher than those with EEPROMs. This enables reading and writing "on the fly" at conveying speeds of over 10 m/s.

One area that previously could never be equipped with RFID TAGs were the paint lines in the automotive industry. Conventional data carriers are normally only suitable for use at temperatures up to approx. 80 °C. Thanks to a new type of coating, data carriers can now be used for high temperatures. We therefore offer many different types of data carriers that can be selected to suit the application at hand.

The interface modules we offer also come with several unique selling points.. The highly modular design with two, four, six or eight channels allows optimum adaption to the application, and with Profibus DP, DeviceNet, Ethernet Modbus TCP, Profinet IO and EtherNet/IP a unique range of interfaces that enable our system to be used worldwide.

Taking up the aspect of customer orientation once more, our configurator makes it easier for the user to select the right components. The most important factors of interest are the distance to the write/read heads, the speed at which the object can move past them and the data transfer rate. Other manufacturers refer to a number of formulae by which the required parameters can be calculated. Our home page at [www.turck.com](http://www.turck.com) provides the Online Configurator with which the application concerned can be simulated and the right selections carried out. The link to our product database enables the different options available to be tried out simply.

**etz:** *Are there any test runs of BL Ident at customers?*

**C. Wolf:** Yes, our pilot customers includes Ford where around 4000 of our data carriers are in operation. Another example is at Volkswagen Sachsen GmbH. This plant uses our high temperature data carrier, which, by the way, does not require any time for cooling. This means that read and write operations can be carried out directly after the temperature rise. This results in increased productivity and efficiency for the system.

Both customers have confirmed to us independently of each other that BL Ident is a solution that meets the requirements of state-of-the-art production for greater functionality and flexibility as well as meeting the need for cost optimisation.