"We open our systems to facilitate simple integration of third-party products"

Company

Jetter AG with nowadays about 250 employees was founded in 1980 by Martin Jetter, who had it listed at the stock exchange in 1999. The company has subsidiaries in China, Great Britain, Switzerland, and the USA. In 1999, the JetWeb Industrial Ethernet approach was presented at Hanover Fair. In the course of time, the company acquired Ebelt (2000), Futronic (2005) and Control Developments (2008).
In 2006, the JX3-I/O system was introduced, which includes the JX3-BN-CAN bridge module.

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Since April 2013, Christian Benz has been leading the technology and sales staff in the Jetter AG. At the beginning of next year, he will assume the chairman position of the Management Board. "CAN was, is, and will be one of our network technologies which we believe in," said Christian Benz. "The Jetter AG was the first company which introduced Ethernet into industrial automation. "However, for applications that do not require high bandwidth we have been using CAN and CANopen for many years," explained Benz. The company is committed to support open standards such as CANopen and Ethercat. "We will make some announcement during the SPS IPC Drives exhibition in Nuremberg," he added. Nevertheless, the company does not intend to become a device supplier, it will remain mainly a turnkey system provider. However, the integration of third-party products with CANopen and Ethercat interfaces as well as additional communication technologies into Jetter control systems will be simplified.

The company headquartered in Ludwigsburg (Germany) has two business areas: industrial automation and mobile automation. In industrial control systems, CANopen is used as the preferred network only for digital and analog I/O modules. Drives and motion controllers use the company's Ethernet-based network solution.

Figure 1: "For mobile machines we have developed a modular control unit, which can be used in different kinds of vehicles," said Christian Benz, the director of technology and sales

In the mobile automation business, the company provides CANopen and Isobus (ISO 11783) products as well as CAN-related solutions with proprietary higher-layer protocols. "Industrial automation is our main business," explained Benz. "Some 80 % of the income is generated from industrial control systems." The most important industrial customer is Emhart Glass (Switzerland) belonging to Bucher Industries (Switzerland).

Emhart Glass is a leading supplier of equipment, controls and parts to glass container industry. With expertise in glass container forming, glass conditioning, gob forming, ware handling, cold end inspection, refractory parts and quality assurance, the company's machines and systems are ▷

Figure 2: The JVM-104 human machine interface designed for outdoor applications is IP65-rated

sold worldwide. The control systems designed by Jetter use CANopen networks for "slow" I/Os clocked in milliseconds. The company invests about 20 % of the turnover in research and development. "We have a high vertical integration," said Christian Benz, "which is why we are flexible and can provide a high quality."

In mobile automation, the company has several key customers. Rosenbauer (Austria) makes firefighting trucks, Grimme (Germany) produces potato harvesters, and Bucher Municipals (Switzerland) manufactures municipal vehicles. The two electric drives used by Grimme in a prototype vehicle improve its harvesting performance. Operation even in wet fields under harsh environmental conditions is possible.

Additionally, Jetter has developed a version of the Jetviewsoft development tool specifically for the Isobus market, called ISO-Designer. The ISO-Designer is a high level tool to design screen masks for HMIs on agricultural machines. These masks are distributed via the Isobus protocol on the CAN network from the ECU to the (ISO) terminal. Jetsym, the programming tool with the Jetsym STX plain text high-level language, is continuously adapted to meet market and customer requirements. Accordingly, the latest version can run under Windows 8 and contains functions that make programming, diagnostics and commissioning more efficient. For example, recordings in the integrated oscilloscope can also be made via CAN networks. Previously, this was only possible via Ethernet or serial interface.

At the Bauma exhibition in Munich (Germany), the JVM-104 human machine interface (HMI) has been introduced. Its 3,5-inch TFT display with LED backlight is installed in a rugged plastic enclosure. This product is designed for both day and night use due to the backlit keys and the light sensor, which automatically adapts the illumination of the display to the brightness of the surroundings. The HMI is equipped with four function keys and is available with an optional Digipot. The operating temperature ranges from -20 °C to +65 °C. Thus, it can be used for outdoor applications. The HMI runs Windows CE as its operating system. Peripheral devices can be controlled via CAN interface. Two multi-purpose inputs and four PWM outputs are available as options. The device can be equipped with an optional USB and Ethernet port. Typical applications include automated construction and agricultural machinery, but also traditional industrial automation.

Bucher Industries took over 90 percent of the Jetter shares

Bucher Industries (Switzerland) offered via one of its subsidiaries a price of EUR 7 (about 150 percent of the market price) to shareholders. The Swiss group has held a stake in Jetter since 2005, which most recently amounts to about 30 %. Bucher Industries is planning to strengthen the competence of the Jetter company in the area of automation solutions and to expand its market share. The aim of the takeover offer is to acquire all of the shares in Jetter AG. The Supervisory Board and the Management Board of Jetter supported the takeover offer.

Since 2002, Jetter has been an important partner of Bucher Industries, not only developing and manufacturing electronic control systems for Emhart Glass, but also supplying the electronics for municipal vehicles manufactured by Bucher Municipal. In the past two financial years, Jetter generated on average around 50 % of its turnover with the Bucher Group, with the majority of that turnover being accounted for by the Emhart Glass division.

The old and the new chairman of the Management Board (Martin Jetter on the right, Christian Benz in the middle), and CFO (chief financial officer) Günter Eckert (on the left), who is responsible for finance and production

The founder of the company, Martin Jetter, will continue to be responsible for the development. Nevertheless, he intends to resign from his position as member and chairman of the Management Board of Jetter AG at the end of the year, and to subsequently take a seat on the Supervisory Board. Christian Benz will succeed him as chairman. He said, "Our goal must be not only for the company to be seen as the supplier of technology to the Bucher Group, but also for it to continue securing market share in the industrial and mobile automation segment through highly active market cultivation."

Figure 3: "We see great potential in China, both in industrial and in mobile automation, and are convinced that our innovative products will quickly find their buyers here," stated Bruno Dörig, manager of the subsidiary in China

At Bauma, the company also launched the JXM-TX5 controller for hydrostatic drives, which was designed for outdoor use. Among other things, it meets all requirements for use in harsh environments, such as vibration and shock resistance. It comes in an IP68-rated enclosure. The operating temperature ranges from -40 °C to +85 °C. The product communicates via two CAN interfaces using CANopen and SAE J1939 protocols. A permanent Eco mode reduces exhaust emissions and fuel consumption. The controller is configurable and can be parameterized. This makes it possible to start on an incline, or drive in mountainous conditions with full-load or idle, without the driving wheels locking up. An ABS control unit can also be connected to the controller. The software of the control unit enables jerk-free acceleration and deceleration. Trips at a constant diesel engine speed, as well as the speed-dependent adjustment of the hydro-pump and engine are also possible. The built-in load limit control function prevents the diesel engine from stalling. A typical application is the hydrostatic drivetrain, which can be found in most municipal vehicles, or agricultural and construction machinery.

Jetter has had a presence in China with its own branch office since the middle of 2012. Bruno Dörig has been managing the office for the first few years. As an application engineer, he had already been supporting various customers in the Far East for a number of years. Dörig is therefore familiar with the culture and characteristics of countries in that part of the world. Before leaving for China, he headed up the Product Management department in Germany. The Chinese branch office provides customer advice, sales and order processing, as well as technical support locally. "Closeness to the customer is very important in this fast-growing market. This is why we also want to offer all these services locally," said Dörig. ◀