

The X67 I/O modules are mounted directly on-location and control up to four motorized transport rollers.

# The highest in laser tec

### Simple configuration thanks to modular construction

Thanks to the modular construction, multiple sections consisting of the motorized rollers can be combined to form an integrated conveyor system. The drives for the rollers are controlled using modern X67 I/O modules, which connect the separate sections with only a single X2X cable for minimal cabling effort.

The X67 modules can control up to four motorized rollers. The rollers contain a compact, electronically rectified brushless motor.

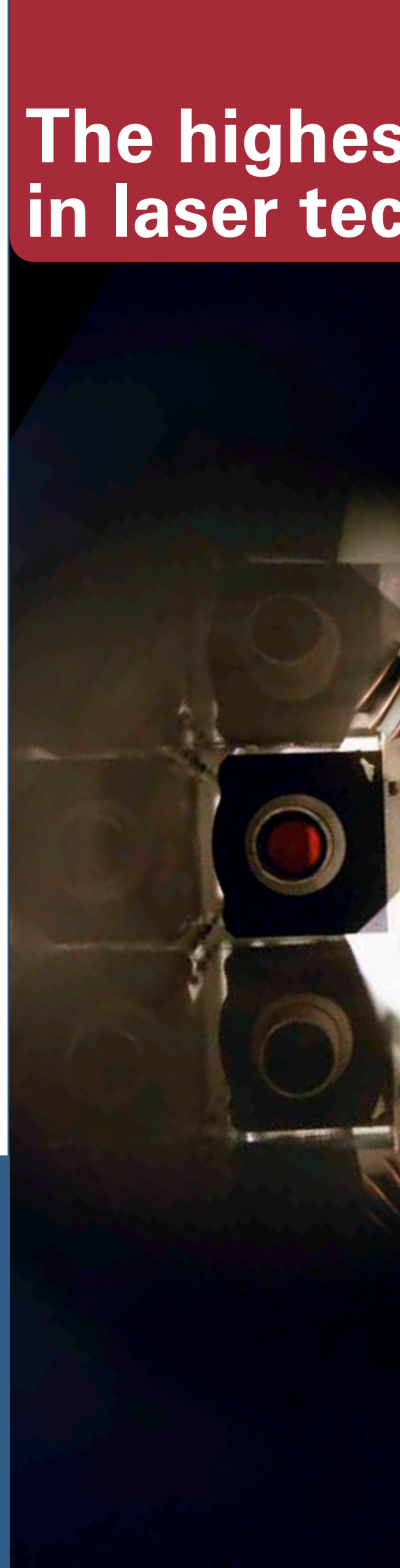
### Optimum integration

The architecture of the B&R components can be adapted to the customer's particular application requirements. All the components can be easily integrated in the customer's own communication system. Although Intelligrated Inc. still uses Profibus for its control, they are currently preparing to switch over to POWERLINK. The goal is to increase performance and reduce cost. The fieldbus interfaces are bus controllers from the X20 or X67 series. It doesn't matter which controller series the customer selects - the motorized rollers can be freely configured and even controlled remotely.

### A partnership for high customer satisfaction

"With the X67 series from B&R we were able to implement a central

point of knowledge for the conveyor system," says Mark Corsmeier, Senior Controls Product Engineer at Intelligrated Inc. "Thanks to this, we have increased the diagnostics of the new conveyor line. The B&R technology has also drastically increased performance and reduced the amount of wiring. Increased functionality allows us to provide solutions for our customers' most demanding tasks. We have easily achieved our goal of reducing total costs with a uniform system architecture and using energy efficient automation components," explains Mark Corsmeier. ■



### Intelligrated:



**Founded:** 2001

**Employees:** 300

**Turnover:** approx. 132 m EUR

**Locations:** Mason and London, Ohio (US)

**Products & Services:** Conveyor systems for the warehousing and distribution sector

[www.intelligrated.com](http://www.intelligrated.com)

# st precision hology

Whether for engravings, precise cuts or embellishments - today, laser machines are an important tool used for processing materials with various properties. Sophisticated positioning and cutting systems guarantee the best work results.

Active on the Polish market since 1992, Wichary Technologies Sp. z o.o. has established itself today as a provider of laser technologies for heavy and light industry. According to the company's founder, Mirian Wichary, the basis for the company's success is the intimacy with its customers and the extraordinary meshing of development and project implementation.

### Success thanks to technological partnerships

In addition to selling a broad range of high-quality machines, the company's own Laser Center offers extensive services in the areas of laser cutting, labeling, engraving and embellishing. Here, the company's laser devices guarantee precise processing of all materials such as paper, plastic, silicon, leather, artificial leather, rubber, cork, wood, various metals, stone, ceramic, etc. Thanks to the company-owned Laser Service Center, the processing time of customer orders is significantly reduced. Customers benefit from the resulting cost advantages.

To meet the highest industrial quality requirements, a management system for quality and work safety was introduced.

### An innovative laser cutting system

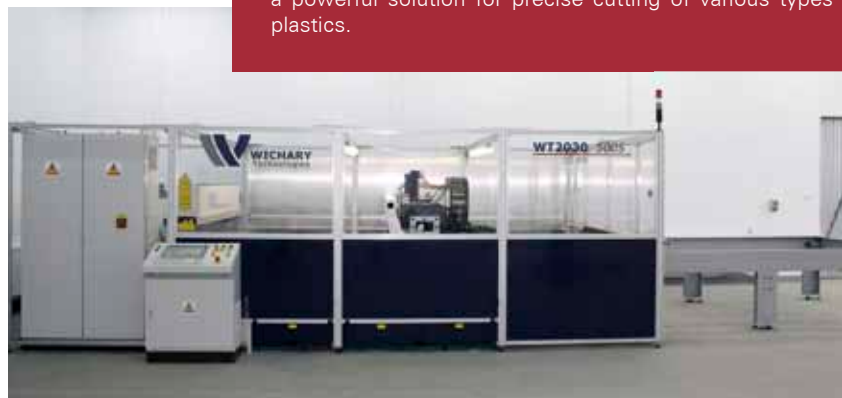
In May of 2004, Wichary's engineers began constructing the first prototype for precise laser positioning and precise laser cutting. This development is the basis for the current device series which can cut various materials with great precision. An example is the WT2030 laser cutting system.

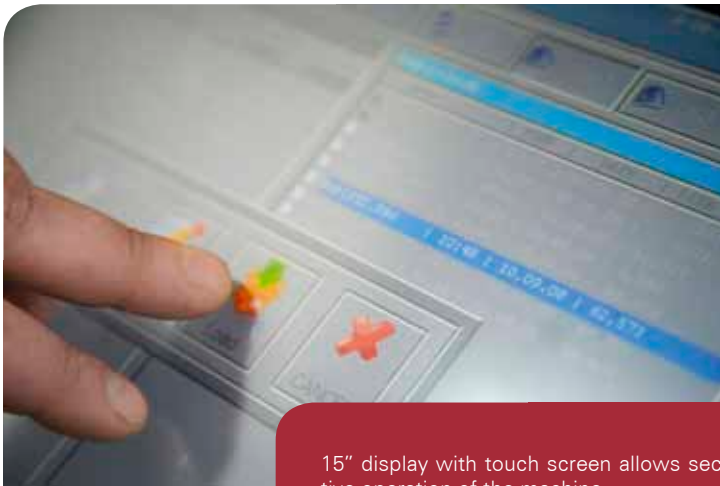
Equipped with a water-cooled industrial laser with 500 W power output and an operating area of 2.050 x 3.050 mm, the new development is particularly well-suited for cutting different plastic materials. A new drive system from a technology partner in combination with a B&R control system are responsible for machine control.

### High-quality machine solution with B&R technology

At the core of the control system is a B&R Power Panel, which features control and visualization in a single device. The remote X20/X67 system connected via X2X Link allows inputs and outputs to be placed where they are needed. Five ACOPOS drives in combination with B&R synchronous motors guarantee an axis speed of up to 3 m/s and an acceleration of up to 20 m/s<sup>2</sup>. The use of POWERLINK allows the shortest cycle times for communication between >>

With the new WT2030 laser cutting system, Wichary offers a powerful solution for precise cutting of various types of plastics.





15" display with touch screen allows secure and intuitive operation of the machine.

the ACOPOS drives and the Power Panel.

The control program interface was designed to guarantee safe and intuitive machine operation while using the entire function spectrum of the 15" TFT display with touch screen.

### G code for precise control of movement sequences

For processing a specific work item, a G code program was created from the CAM software in accordance with DIN66025 that contains information regarding shapes and movement sequences. This program is transmitted to a controller either via Flash drive or Ethernet. A specially-designed management program selects the correct G code program and manages directories and files.

While the program is uploaded, the controller checks the completeness and correctness of the generated code. Processing is started after a detailed

code inspection. Operating personnel can enter several different processing parameters, i.e. speed, minimum/maximum performance of the processing speed, duration and intensity of the burn as well as the process gas pressure during the cut. In addition, the CNC from B&R offers the option of simulating and displaying the program, so it can be checked for correctness.

In the course of executing the G code, the system uses the implemented M functions within the code. This controls opening a mechanical cover and switching on and off the laser source as well as pneumatic operation of the system. The M functions allow setting to be easily made for the desired device parameters. In the latest development from Wichary, the new WT2030 Blade 500S ZS BR, synchronous M functions are used for highly accurate connection of all tasks contained in the code.

Synchronization of the machines with all the peripheral devices, i.e.

laser source, the exhaust and pneumatic systems and the resonator and process gas station, is handled easily by the B&R control system.

### Precise detection of the motor position

Using Multiturn EnDat encoders, the motors used on the machine make it possible to precisely determine the position of the machine axes. As a result, the machine can determine the current position of a cutting head as well as additional mechanical components at any time. Even if the power supply is interrupted, processing can be resumed at the position before the power failure when the machine is restarted. An additional advantage of the Wichary machine construction is the option of remote diagnostics and maintenance via internet.

### Continued cooperation

Wichary has plans to introduce B&R's SafeLOGIC integrated safety system in order to better satisfy industrial safety standards for technology in the future. Because of the positive experience with B&R's cutting edge components, founder Mirian Wichary is confident that the company, with its state-of-the-art machine solutions, will successfully enter the Polish and Russian markets. ■

With the help of G-code programs, the movement procedures for laser cutting can be precisely controlled.



### Wichary:



Founded: 1992

Employees: 58

Turnover: approx. 6 m EUR

Locations: Siemianowice (PL)

Products & Services: Laser technology for heavy and light industry

[www.wicharytech.com](http://www.wicharytech.com)