High-speed lasering with POWERLINK and openSAFETY

LASERVORM has developed a control concept for laser machines that works up to 40 times faster than comparable approaches. The real-time POWERLINK network guarantees the necessary high speed and precise synchronization – down to the microsecond.

“Laser machines have to become more and more flexible in order to efficiently handle small batch sizes and constantly changing component geometries,” explains Thomas Kimme, managing director of LASERVORM. This is why the company relies on a modular design that allows machines to be customized at any time without having to invest a great deal of effort. This applies to small-scale modifications, such as retrofitting measurement systems, as well as larger upgrades or conversions. „Modifying a laser welding machine to create a solution for powder laser cladding is no problem at all for us,” says Kimme.

POWERLINK and OPC UA: The perfect combination

“For our modular approach, the combination of POWERLINK as the universal machine bus and OPC UA as the interface between the machines as well as between the machine and process control layer has proven to be the perfect solution,” explains Kimme. Additional machine modules can be added easily, while quality data can be collected and even edited in real time. The OPC UA and POWERLINK also provide additional key advantages, especially the fact that they are both vendor-independent and based on open source software.

Safe with openSAFETY

This is also true for openSAFETY, which LASERVORM has fully integrated in its machines. „openSAFETY is the fastest safety system on the market,” says Kimme. This technology can be used to reduce the size of enclosures and the thickness of walls. „With openSAFETY, our machines can be made built less expensively without compromising safety or productivity a single bit.”
POWERLINK motion control center opens in Wuhan

On July 25, 2014, servo specialist Maxsine Electric officially opened the doors to its POWERLINK promotion center in Wuhan, China. The center’s team, led by manager Chen Yi, will develop POWERLINK-enabled motion control technology for robotics, machine tool, multi-axis synchronization and positioning applications. It will also provide customers in central China with training and technical support for POWERLINK master and slave implementations.

Open standard strengthens leadership position on Chinese market

“We will actively promote POWERLINK applications in the area of motion control to provide customers with a better system solution,” says Maxsine’s general manager, Xu Heng. With the high performance of centralized motion control and the reduced cost of a distributed architecture, POWERLINK reduces both overall system cost and installation time - all while providing real-time deterministic communication over standard Ethernet networking hardware.

Complete control solution

Maxsine has provided over 800,000 servo drive products for solutions in the machine tool, textile, packaging and semiconductor industries. To further strengthen its ability to offer total solutions and advanced drive performance, Maxsine developed the widely used POWERLINK-enabled EP3E servo drive, as well as a master with a POWERLINK interface, providing its customers with a complete control solution.
Open Robotics & Industry 4.0

The “Open Robotics & Industry 4.0” event held in Lyon, France, demonstrated how the future of Industry 4.0 is already within reach using today’s automation technology. Following an invitation from the EPSG and its members B&R, Cognex, Comau and Festo, more than 120 industry experts made their way to Lyon to find out about the latest developments in the field.

Robotics manufacturer Comau presented an open robotics platform that allows robots and humans to work hand-in-hand. At its heart lies the new “C5G Open” robotic controller and the real-time POWERLINK network, which deliver the necessary performance and speed.

Among the numerous other solutions on exhibit was the new CPX automation platform from Festo, which is particularly easy to integrate into POWERLINK networks.

“The decentralized automation logic that characterizes the production systems of Industry 4.0 creates an urgent need for high-speed, failsafe communication networks with unrestricted openness,” explains Stéphane Potier, technology marketing manager for the EPSG in France. “With POWERLINK and openSAFETY, the foundation has been laid already for the fourth industrial revolution.”

Report from the online television platform “Manufacturing.fr” covering the event (in French): http://www.manufacturing.fr/v/open-robotics-pour-industrie
embedded world 2015: Spotlight on safety

The EPSG will be teaming up with numerous system integrators to present a broad spectrum of openSAFETY solutions at the embedded world exhibition held from February 24-26 in Nuremberg, Germany.

“The task of integrating safety fieldbus systems is always a challenge for equipment manufacturers – particularly with regard to the costs and resources tied up in development,” explains EPSG Managing Director Stefan Schönegger. The solutions on display at the EPSG stand promise to reduce the time and cost of development by up to 80 percent. “That's what makes openSAFETY the most exciting solution on the market.”

POWERLINK for the construction industry

At the 2014 bauma China trade show, the Ethernet POWERLINK Association China held a seminar on research and applications in the field of construction machinery control technology. Attended by electrical engineers representing well-known construction and port machinery companies, the successful event reflected the growing awareness throughout the construction industry of the benefits of POWERLINK solutions.

Presenters explored current trends in construction machinery control such as heightened requirements for safety, intelligence and remote data acquisition, showed how these challenges can be met with POWERLINK and openSAFETY, and demonstrated practical aspects of development and integration.