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Contact:

EPSG POWERLINK-OFFICE
Schaperstrasse 18
10719 Berlin · Germany
Phone: +49(0)30-85 08 85-29
Fax: +49(0)30-85 08 85-86
info@ethernet-powerlink.org
www.ethernet-powerlink.org

POWERLINK is highest National Standard in China

On March, 7, 2012, the Standardization Administration of China (SAC) presented the specification of the POWERLINK communication profile as the national standard GB/T 27960-2011. This makes POWERLINK the only industrial Ethernet protocol to comply with the highest authorized standardization level for communication technologies in China.

As a Chinese recommended industrial standard, GB/T must meet several requirements. It must be fully open technology, widely used and standard technology in the world and not subject to any country or company. POWERLINK's Open Source strategy contributed substantially to the required acceptance by local component manufacturers. There also needs to be a test and certification institution in China, which opened in 2011. Of the more than 80 renowned member companies in various industries of the Ethernet POWERLINK Association China, more than 15 already supply products with a POWERLINK interface, 30 more are under development.

"This turns POWERLINK into an unique selling point and success factor in China for export-oriented manufacturers of production machinery and components", Stefan Schönegger, Managing Director of the EPSG, points out an important aspect of this standardization. "It shows that due to the path of pervasive openness we have been following, in many countries POWERLINK is the only technology that can fulfill expectations". Schönegger is also convinced that this decision will have groundbreaking effects on the Chinese plant construction industry as well.



Ms. Sun Wei of the SAC (center) with members of the POWERLINK GB/T workgroup and Dr. Xiao Weirong of B&R China (orange tie): "China is facing manufacturing upgrading and independent R&D transformation. POWERLINK represents the most advanced RT-Ethernet technology. It will bring huge improvement in automation and information technology, real-time control and improving system performance."

April 23 - 27, 2012: POWERLINK at the Hannover HMI

At the leading international trade show on process and manufacturing automation as well as system solutions for production and buildings at Hannover, Germany, later this month, numerous exhibitors will showcase their technologies and solutions utilizing POWERLINK and openSAFETY. In addition, EPSG will also be there with its own booth: Hall 9, Booth F25

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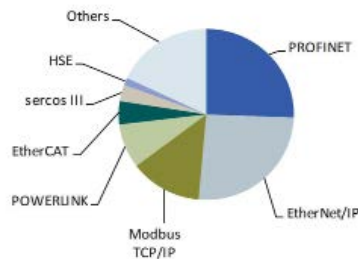
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EPSC POWERLINK-OFFICE
Schaperstrasse 18
10719 Berlin · Germany
Phone: +49(0) 30-85 08 85-29
Fax: +49(0) 30-85 08 85-86
info@ethernet-powerlink.org
www.ethernet-powerlink.org

POWERLINK is leading Real-time Ethernet

In December 2011, IMS Research published the latest edition of their report "The World Market for Industrial Ethernet". At an 8.4% share of the world market, POWERLINK ranges at fourth place behind Profinet, Ethernet/IP and Modbus TCP/IP. Counting in the 42.2% of the market that is covered by protocols for general use such as TCP/IP, POWERLINK comes in 5th with an estimated 4.4% share of the 7.4 million new Ethernet based nodes installed worldwide in 2011 with industrial quality products.

These percentages represent an estimated 318.000 extra nodes. "The forecast not only shows significant growth of POWERLINK in the past few years", says Stefan Schönegger, Managing Director of the Ethernet Powerlink Standardization Group. "With its position ahead of EtherCAT (4.4%) and sercos III (3.1%), POWERLINK underscores its outstanding position as the leading Industrial Ethernet system for motion-related real-time applications."



IMS Research www.imsresearch.com

In 2011 alone, an estimated 318,000 additional POWERLINK network nodes were installed. IMS Research has forecast that in 2015, POWERLINK will still have the most new nodes installed amongst real-time protocols used in motion-related applications. Diagram © IMS Research

embedded world: POWERLINK exhibition success

At the beginning of March, the embedded world 2012 exhibition came to an end after achieving two new records: The number of visitors increased by 17% to 22,262 and the number of international exhibitors increased by 9% to 872. This made the 10th embedded world exhibition the largest in the event's history. Stefan Schönegger – general manager of the Ethernet Powerlink Standardization Group (EPSC) – attributes the growth of the exhibition to the fact that industrial automation was added as an additional highlight. A greatly increased number of exhibitors in this field was proof of this positive development.

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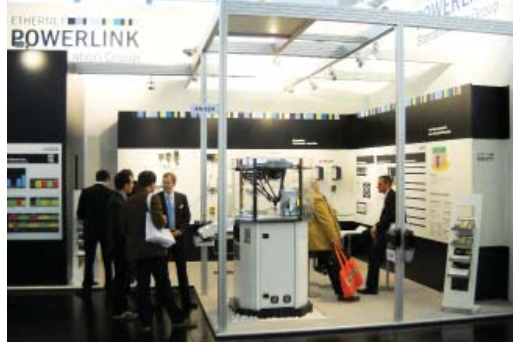
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The EPSG booth at the embedded world 2012 exhibition saw visitors crowded around a tripod robot used to prove the speed, precision and vendor neutrality that can only be achieved with drive synchronization via POWERLINK.

"The EPSG booth was extremely well attended. Not only that, many other users and suppliers of this open industrial Ethernet real-time technology reported a high level of interest for POWERLINK and openSAFETY at their own booths," stated Stefan Schönegger in summary. "embedded world has become another important exhibition for the EPSG, from both a technical as well as a commercial point of view."

Fast and stable POWERLINK data transfer via slip ring

Machine modularization is imperative for economic efficiency. It calls for a decentralized architecture of automation solutions. Control and drive components therefore frequently need to be installed on moving machine parts, and occasionally on rotating parts. Their power and data supply relies on slip rings.

At the Nuremberg SPS/IPC/DRIVES show, the Ethernet POWERLINK Standardization Group (EPSG) exhibited an assembly with ACOPOSmulti65 drives on a rotating machine part. With a Cobham slip ring, connectivity of the 24 V power supply and the 750 VDC DC bus as well as the control data was accomplished using POWERLINK and openSAFETY.



Comprehensive tests confirm the stability of fast POWERLINK data transfer via slip ring.

As a first in industrial applications, data at a rate of 100 Mbit/s and the DC bus voltage were simultaneously transferred via the slip ring. „Our engineers were impressed with the stability and EMC compliance of the POWERLINK protocol,“ stated Martial Favrat, Head of the Engineering Department and Product Quality Manager at the slip ring manufacturer, Cobham. „We performed comprehensive tests so we can guarantee the transmission quality of our slip rings.“ POWERLINK uses individual frames, so data transfer reliability is naturally higher than that of protocols using summation frames.

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Energy Efficiency through Responsiveness

Energy efficiency manifests as a reduction of energy consumption during operations, achieved by utilization of low-energy technology on one hand and as prevention of unproductive energy use by permanent monitoring of the system, followed by frequent corrections.

This is where the most significant contribution lies that POWERLINK can provide towards energy efficiency. The high data transmission bandwidth of the Ethernet-based Real-time field network system allows transfer of condition information of the various devices in the system and, in the opposite direction, of additional control signals as a reaction. This is how operational conditions in which devices use up energy without being productive can be recognised in time and terminated. This is also how with a high adjustment frequency devices can be made to keep working in operating modes optimized for low power consumption.

POWERLINK provides the data transfer capacity and speed required for energy optimization based on condition information without compromising system functions or the transmission reliability of superimposed safety signals possibly using openSAFETY.



EPSC General Manager
Stefan Schönegger

Ways to Superior Machine Safety

In automation, aims can be as diverse as uncompromised compliance with the EU machinery directive and stepping up machine efficiency. In a roadshow stopping in 26 places throughout Germany from the end of February to the end of May, B&R shows how these can be combined in a cost-effective way.

Information and registration:
www.br-automation.com/safetyroadshow

