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New look & feel for EPSG website**Contact:****EPSG POWERLINK-OFFICE**
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info@ethernet-powerlink.org
www.ethernet-powerlink.org**+++Newsticker+++Newsticker+++Newsticker+++****POWERLINK now officially included in international IEC standards**

The open real-time Ethernet technology POWERLINK has been standardized by the IEC. All documents have been approved by the IEC committee, and POWERLINK has been included in the IEC standards 61784-2, 61158-300, 61158-400, 61158-500 and 61158-600.

The IEC standard 61784-2 specifies communication profiles, while IEC 61158 specifies fieldbus services and protocols. POWERLINK, also called "CANopen over Ethernet", offers a wide range of technical advantages. Moreover, the standardization ensures investment protection for users and manufacturers.

Used in automation networks since 2001, POWERLINK has become the market leader among real-time fieldbuses and now features more than 40,000 serial machines operated by more than 200 machine builders. The user organization Ethernet Powerlink Standardization Group (EPSG) has more than 400 members, including drive and component manufacturers, users and supporters.

+++Newsticker+++Newsticker+++Newsticker+++**EPSG invites interested parties to POWERLINK introductory seminar in January**

On January 16, a general introduction to POWERLINK basics is scheduled to take place at Nuremberg Airport. EPSG sales experts Stefan Schönegger and Rüdiger Eikmeier will give a simple, concise presentation on the structure and functionalities of the real-time protocol.

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*continued:***EPSSG invites interested parties to POWERLINK introductory seminar in January**

The event is targeted at decision makers and parties interested in technical aspects, such as the basic functional principle of POWERLINK and the challenges in networking time-critical applications. The speakers will explain the advantages of the protocol's close adherence to the Ethernet standard as well as further network layout concepts, such as safety and high availability.

The venue for this event will be the Mövenpick Airport Restaurant & Conference Center, located on the first floor of the Nuremberg airport terminal. The workshop will take place from 11 a.m. to 3.30 p.m. Lunch is included in the registration fee (max. 80 EUR per person) which will be collected directly at the venue. Should you be interested in participating, please contact the EPSSG Office via telephone (+49 30 / 85 08 85 29) or via email (heide.ihlenburg@ethernet-powerlink.org).

The deadline for registrations is January 8, 2008.

EPSSG Office: telephone: +49 30 / 85 08 85 29
Email: heide.ihlenburg@ethernet-powerlink.org
Venue: Mövenpick Restaurant & Conference Center, first floor of the Nuremberg airport terminal
Date + time: January 16, 11 a.m. to 4 p.m.
Registration fee: 80 EUR (depending on number of participants)



Figure: Rüdiger Eikmeier and Stefan Schöneegger

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A comparison of systems

Many people who spoke to us at this year's SPS/IPC/Drives trade show showed great interest in a table contrasting the key features of the most important Ethernet-based real-time systems. Since this table was requested many times, we have decided to publish it in this issue of the EPG newsletter.

Criteria	EtherCat	POWERLINK	Profinet IRT	Sercos III	Ethernet IP with CIP Sync
Method	sum frame	single telegram	single telegram	sum frame	single telegram
Standard Ethernet	--	++	--	--	++
Gigabit ready	--	++	--	--	++
Direct cross-traffic	-	++	++	++	++
Decentral architectures	-	++	++	+	++
Application range	+	++	++	+	+
Theoretical minimal cycle time	++	+	+	++	--
Jitter	++	++	++	++	++
Application performance	+	++	++	++	-
Redundancy	+	++	+	+	+
Choice of topology	+	++	++	-	++
CANopen compatibility	-	+	--	--	--

The table provides an objective comparison of the specification and distribution of technical features in POWERLINK, EtherCat, Profinet IRT, Sercos III and Ethernet IP. Since Ethernet is based on the stochastic CSMA/CD access procedure, which typically does not permit real-time capability, system suppliers have taken different measures to ensure deterministic time behavior, including e.g. special time-based switching mechanisms and the use of ASICs to reduce transfer times. Therefore, these systems have different characteristics. The comparison considers key figures as well as data about flexibility and investment safety.

Should you have any questions, critical remarks or suggestions concerning this table, please send an email to EPG sales experts Rüdiger Eikmeier or Stefan Schöneegger. Their addresses are:
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 stefan.schoenegger@ethernet-powerlink.org

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The fastest robot of the trade show

Berlin – The trade show booth of the POWERLINK user organization EPSG featured a special eye-catcher: the Galileo Sphere robot for pick-and-place applications, which provides a dynamic torque up to 1,036 Nm and handles loads with a maximum weight of 4 kg with utmost precision and repetitive accuracy.

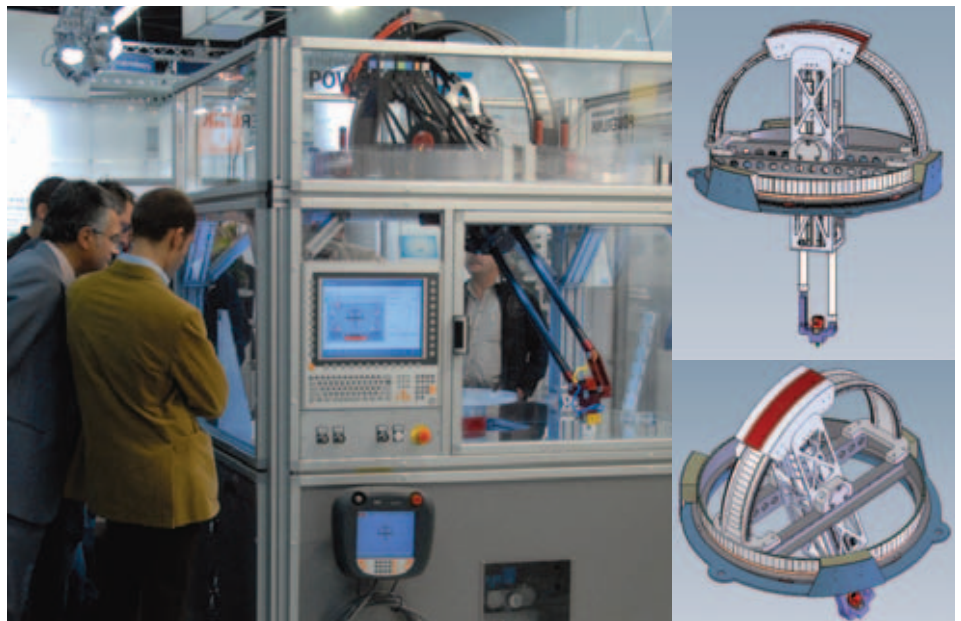


Figure: Highly dynamic operation with POWERLINK: Galileo Sphere robot for pick-and-place applications

The prototype was developed by Mechatronic System Company, part of the Italian Motor Power Group, and automated by the control manufacturer B&R. A higher-level controller calculates the path for all six axes. The real-time protocol POWERLINK ensures smooth communication between the controller and the axes at a 800 μ s cycle time.

The system mainly consists of a torque motor, an arc-shaped linear motor and two ironless linear motors housed in tubes fitted with a gripper which is attached to a mechanical “wrist”.



Figure: EPSG trade show booth

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SPS/IPC/Drives rated as a success: Visitors show great interest in POWERLINK

The EPSG is very satisfied with the outcome of this year's SPS/IPC/Drives trade show. The POWERLINK user organization received many inquiries concerning technical implementation, successfully established new contacts and welcomed Yacoub Automation, an important automation company, as a new member. Talat Yacoub, managing director of Yacoub Automation, signed the EPSG membership documents directly at the EPSG trade show booth. The Berlin-based company has been manufacturing industrial automation components and systems since 1992, focussing mainly on outdoor applications.



Figure: Talat Yacoub, managing director of Yacoub Automation GmbH, signs the membership documents at the EPSG trade show booth

“The EPSG membership is a very attractive opportunity for a company of our size, since we can now directly contribute to future technical developments”, says Yacoub. “We very much appreciate the non-proprietary POWERLINK technology provided by the EPSG. We see great advantages in open concepts, especially in the field of communication protocols.” Yacoub Automation will contribute its expertise to the EPSG and is already considering several projects.

The company mainly focuses on the fields of traffic engineering, machine and plant construction and industrial networks. Well-known product families include the ricsTP automation, control and I/O system and the etherRAIL network components for Industrial Ethernet. In addition to that, Yacoub Automation also develops and manufactures customer-specific automation and network components.

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New look & feel for EPSG website

Figure: New look & feel: EPSG website with a concise navigation bar

The Ethernet Powerlink Standardization Group (EPSG) has relaunched its homepage with a new look and feel. The content is structured by means of three new key navigation items – Why POWERLINK, Introduction and Technology. A main navigation bar on the left which is kept throughout each page and a central sub-navigation bar which allows users to choose the content further enhance the website's usability.

The EPSG website provides information on the real-time Ethernet protocol POWERLINK, including topics such as central POWERLINK features, network topology, cross-traffic, hot plugging, CANopen, security and redundancy. Compared with its earlier version, the new website offers a wider range of topics and in-depth information about technical features. The download area and the full-text search function remain unchanged, allowing users to access public and non-public documents (the latter require a password). The clearer, more modern layout has also been applied to the navigation item Products, which now includes printable PDF data sheets for each product.

Masthead:

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