EPSG press conference at 2010 HMI exhibition:
“openSAFETY, first safety standard for all fieldbuses”

At this year’s HMI exhibition, the EPSG presents openSAFETY, the first safety concept for all fieldbuses. At their stand A36 in hall 9, the POWERLINK user organization showcases solutions for four Industrial Ethernet systems demonstrating the benefits for machine manufacturers and users. Sensor manufacturers in particular benefit from this development – with a single safety solution, they can cover the complete range of protocols and thus save enormously on production costs and investment risks. On Monday, the user organization held a press conference in the Hannover Messe Convention Center. “openSAFETY presents the automation industry with the first universal, fieldbus-independent standard for safety networks which can be implemented on all Industrial Ethernet systems and fieldbuses”, said Stefan Schönegger from B&R’s Open Automation Technologies business unit in front of many trade journalists. The solution is now available and has been IEC61508-certified both by TÜV Süd and TÜV Rheinland for use independently from the transport protocol. Apart from Schönegger, Günter Greil from TÜV Süd answered the journalists’ questions. The current flight situation prevented the attendance of Heinz Gall from TÜV Rheinland and Anton Meindl, CEO of the EPSG. Schönegger’s presentation concentrated on the safety protocol’s openness which guarantees not only high legal security but also interoperability with all communication
openSAFETY at the 2010 HMI exhibition:
EPSG presents the first universal safety standard

openSAFETY over Modbus TCP, openSAFETY over SERCOS III, openSAFETY over EtherNet/IP, and openSAFETY over POWERLINK – at the 2010 HMI exhibition, EPSG presents the first safety standard which is universally valid for all Industrial Ethernet solutions.

Since the development of safety technology is very costly and carries a high investment risk, the automation industry has been demanding a standard for safety systems for a long time. The Ethernet POWERLINK Standardization Group (EP SG) now lays the...
founded for such a standard: openSAFETY is the first completely open safety communication solution for all automation areas. With communication cycles in the microsecond range, the TÜV-certified protocol ensures minimal reaction times and maximum safety. It is suitable for use in SIL 4 systems.

Safe and fully operational on all fieldbuses: The first universal safety solution for all communication systems

openSAFETY is suitable for all fieldbuses and Industrial Ethernet systems. At the 2010 Hannover Messe exhibition, the EPSG demonstrates the safety software’s interoperability with different protocols by presenting openSAFETY solutions for four of the most common Industrial Ethernet protocols, SERCOS III, Modbus TCP, EtherNet/IP, and POWERLINK. For the first time, users of Industrial Ethernet systems other than POWERLINK can draw on a complete, certified safety solution. Although the respective user organizations have been announcing the development of safety protocols for some time, EPSG is the only consortium with an actually operational product which runs on all transport protocols.

Black Channel principle

Fully implementing the Black Channel principle, openSAFETY is interoperable with all transport protocols, i.e. its functionality does not depend on the particular protocol which transports the safety frames. All safety-oriented mechanisms are fully integrated in the application layer, independent from the underlying transport layer. openSAFETY
continuously checks all transmitted data for completeness, correct chronological order, and observation of the maximum transmission time. It registers any transmission error in hard real time. Therefore, even specific communication solutions and single-channel, unsafe transport networks can be employed without compromising safety.

Unique properties

openSAFETY is characterized by three properties: an extremely flexible telegram format, integrated services for configuration and automatic parameterization, and, most importantly, a communication structure enabling cross-traffic which supports maximum machine productivity. The crucial advantage of openSAFETY is the reduction of safety-critical braking distances: it enables a minimizing of safety distances and an increase of production rates.

EPSG support for users

EPSG actively supports the implementation of openSAFETY on any transport protocol, e.g. by offering support in certification and conformance testing. The ‘open’ in openSAFETY stands for technological as well as legal openness: the protocol is available for free downloading as an open source software under a BSD license. This, along with the technology’s suitability for all fieldbuses, ensures excellent investment security for all users and enables manufacturers and plant operators to drastically reduce their development efforts.