EtherCAT® Technology Group

EtherCAT as communication technology for SERCOS and CANopen drive profiles now International Standard

The IEC standards 61158, 61784-2 and 61800-7 have passed the final voting unanimously: Thus EtherCAT now is an official IEC standard.

This is the positive result of more than 4 years of IEC committee work, during which the EtherCAT Technology Group was declared an official IEC standardization partner. As early as 2005 the EtherCAT specification was published by IEC as IEC/PAS 62407, which is now being replaced by the International Standards.
In IEC 61158, the EtherCAT protocols and services are standardized, while IEC 61784-2 defines profiles for specific device classes.
IEC 61800-7 is particularly important for Motion Control applications, since it makes EtherCAT a standardized communication technology for the SERCOS and CANopen drive profiles, on an equal footing with SERCOS I-III and CANopen respectively. The drive parameters and state machines as well as the process data layout of the device profiles remain untouched when mapped to EtherCAT. Hence the user interface does not change when moving from SERCOS and CANopen to EtherCAT, and device manufacturers can re-use major parts of their firmware.
"The international standardization that was now completed successfully is an important milestone for EtherCAT. It help us machine builders to further increase the acceptance of this superior technology in particular with our key-account customers. The device vendors get a complete specification which was written according to international rules," comments Erich Hutflesz, ETG board member and manager of control systems at Schuler.
The EtherCAT Technology Group continues to actively participate in IEC standardization. Currently Safety over EtherCAT is introduced to the appropriate work groups in order to include it into the next revision of IEC 61784-3, which is scheduled for 2009.

EtherCAT approved by SEMI

SEMI (Semiconductor Equipment and Materials International) has approved EtherCAT for their applications by accepting the EtherCAT SEMI standard. The leading standards organization thus responds to the growing interest of the industry in the fastest Industrial Ethernet solution.

EtherCAT is already used in many semiconductor and flat panel display manufacturing applications. The world's largest supplier of semiconductor manufacturing equipment, Applied Materials, was among the first EtherCAT Technology Group members back in 2003. EtherCAT was officially introduced to the industry at a SEMI congress in 2004. A year later, Samsung Electronics developed the first EtherCAT device for the ultra high resolution hybrid stage control. Many other manufacturers from this field have joined the EtherCAT Technology Group: About 100 of the now 590 member companies are particularly active in semiconductor manufacturing.

The North American SEMI Information & Control Committee accepted the EtherCAT standard, which will be published as SEMI E54.20 in October. This milestone will further accelerate the acceptance of EtherCAT within the semiconductor and flat panel display manufacturing industries.

"The superior performance, bandwidth and topology flexibility of EtherCAT allows to cover the entire range of communication requirements in semiconductor manufacturing equipment with just one technology: from process control via control computer integration to high-end Motion Control applications. Thanks to fully integrated fieldbus gateways, special devices, which may not yet be available with EtherCAT interface, can be integrated seamlessly and cost efficiently. The semiconductor industry appreciates this EtherCAT feature, since it supports simple migration. We are proud that EtherCAT has such an impact on this key industry," comments Martin Rostan, Executive Director of the EtherCAT Technology Group.