

More than 70 participants from 45 member companies attend ETG meeting

EtherCAT Technology Group kick-off meeting

The EtherCAT Technology Group (ETG) kick-off meeting, held 9/10 March 2004 near Frankfurt in Germany, was very well received. More than 70 delegates from 45 member companies gained insights into the EtherCAT specification, adopted new by-laws and exchanged information.

Through the publication of EtherCAT within the framework of the ETG, Beckhoff sets another milestone for opening up the technology. The ETG aims to prepare EtherCAT optimally for as wide a range of applications as possible. The interest in EtherCAT and the ETG is tremendous, both from the user and the vendor side: Within four months, 68 members - among them several well-known international companies - joined the group.

EtherCAT (Ethernet for control and automation technology) is the Ethernet solution for industrial automation, characterised by outstanding performance and particularly simple handling. EtherCAT was developed by Beckhoff and presented for the first time at the 2003 Hanover Fair. The ETG was established in November 2003 as an open interest group for users of EtherCAT technology with the following aims and objectives:

- Support for EtherCAT technology
- Critical analysis of the EtherCAT features and their implementation
- Provision of information on product, sector and application-specific requirements
- Development of profiles (e.g. in order to achieve optimum device integration and interface design)
- Assistance and promotion of the disclosure of EtherCAT

During the meeting, the ETG members elected a board of directors, which will manage and represent the ETG in future. With Clement Peters from Schuler AG and Dr. Peter Heidrich from the company Baumüller, both the user side and the manufacturer side are represented on the board. Martin Rostan was elected to the board of directors for Beckhoff. Once the formalities were out of the way, delegates started discussing technical issues. Developers from Beckhoff, headed by Dr. Dirk Janssen, gave insights into the details of the EtherCAT specifications. A live

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presentation of the main features rounded off the technology part of the meeting. In direct conversation, questions regarding the implementation of devices in EtherCAT networks could be clarified, and participants made good use of this opportunity.

Disclosure and international standardisation

Disclosure is not only driven from within the EtherCAT Technology Group - the international standardisation of EtherCAT has also been initiated already. Both the Real-Time-Ethernet-Working-Group of IEC and ISO have accepted an accelerated standardisation procedure for EtherCAT, so that EtherCAT is expected to obtain the status of an official IEC or ISO specification quite soon. In his new position as ETG chairman, Martin Rostan from Beckhoff reported on the current state.

Delegates received an impressive first user report from a pilot application of EtherCAT in the press sector, where fast real-time communication led to tremendous improvements of the complete process technology. Ralf Sohr, chief designer for electric systems at Schuler Hydrap, gave a presentation on the selection criteria that made Schuler decide to use EtherCAT and on practical experience from six months of operation of the new system.

EtherCAT devices from different manufacturers were already shown at the SPS/IPC/DRIVES fair. One example was an EtherCAT encoder from TR-Electronic. Martin Rostan looks ahead: "ETG members will soon present further products with EtherCAT interfaces, among them slave devices such as sensors and drives, but also master implementations such as controllers."

EtherCAT: History and roadmap

Notwithstanding the still "young" technology, EtherCAT has a history that started with the market introduction of the Beckhoff Lightbus, on which the EtherCAT technology is based in principle.

1989

- Market introduction of the Beckhoff Lightbus - the fast optical fibre fieldbus

1995-1999

- Beckhoff starts working on a next-generation fieldbus under the working title "Fast Lightbus" (FLB)

2000-2003

- Draft EtherCAT system - synthesis of Ethernet and Fast Lightbus

2003

- Presentation of EtherCAT technology at the Hanover Fair
- First EtherCAT devices: I/O terminals, encoders, drives
- Contribution to IAONA, start of IEC standardisation
- First pilot applications in Schuler presses

2004

- First EtherCAT Technology Group conference in Frankfurt (9./10. March)
 - Completion of the EtherCAT specification (2nd/3rd quarter)
 - Disclosure of the EtherCAT protocol (3rd quarter)
- Delivery of a first EtherCAT communication ASIC (4th quarter)

For further information see: www.ethercat.org

Please send readers' questions to:

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The EtherCAT Technology Group members at a glance:

ABB Power Technologies AB, Sweden
ABB Stotz-Kontakt GmbH, Switzerland
Alstom Power Conversion, Germany/France
Andrive Antriebstechnik GmbH, Germany
Applied Materials Inc., USA
Aradex AG, Germany
Baldor UK Ltd, United Kingdom
Balluff GmbH, Germany
Baumüller Electronic GmbH + Co. KG, Germany
Beckhoff, Germany
Binar AB, Sweden
b-plus GmbH, Germany
Brosis Engineering GmbH, Germany
Bruderer AG, Switzerland
Cimetrics Inc., USA
Cleveland Motion Controls, USA
Continental AG, Germany
Danaher Motion GmbH, Germany
Danaher Motion Stockholm AB, Sweden
Deutschmann Automation, Germany
Dieffenbacher GmbH & Co., Germany
Digitronic Automationsanlagen GmbH, Germany
DLR e.V., Institut für Robotik und Mechatronik, Germany
ESR Pollmeier GmbH, Germany
Finn-Power Oy, Finland
Fachhochschule Solothurn, Switzerland
Focke & Co., Germany
Fraba Posital GmbH, Germany
Fritz Kübler GmbH, Germany
Fronius International GmbH, Austria
GAS Gesellschaft für Antriebs- und Steuerungstechnik mbH, Germany
Hans Turck GmbH & Co. KG, Germany
Heesemann GmbH & Co. KG, Germany
Hilscher GmbH, Germany
Husky Injection Molding Systems Ltd., Canada
IgH GmbH, Essen, Germany
IMA Automation GmbH, Germany
IVECO Motorenforschung AG, Switzerland

Imperial Tobacco Limited, USA
IVO GmbH & Co, Germany
Jetter AG, Germany
Kayser-Threde GmbH, Germany
Komax AG, Switzerland
Kuka Controls GmbH, Germany
LG Industrial Systems, Korea
Lust Antriebstechnik GmbH, Germany
Mesco Engineering GmbH, Germany
MTS Sensor Technologie GmbH & Co. KG, Germany
Müller Weingarten AG, Germany
Philips Medical Systems, Germany
Reis Robotics, Germany
Saia-Burgess Controls AG, Switzerland
Samsung Electronics Co. Ltd, Korea
Schmidhauser AG, Switzerland
Schuler AG, Germany
Servo Dynamics Inc., USA
Sigmatek GmbH & Co. KG, Austria
SND Smart Network Devices GmbH, Germany
ST Microelectronics, Germany
Stöber Antriebstechnik GmbH & Co., Germany
TAS Engineering AG, Switzerland
Test-Fuchs Ges.m.b.H., Austria
ThyssenKrupp Presta, Fürstentum Liechtenstein
TR-Electronic GmbH, Germany
Unidor GmbH, Germany
Weidmüller Schweiz AG, Switzerland
Wiedeg Elektronik GmbH, Germany
WST Systemtechnik GmbH, Germany