EtherCAT®
Technology Group

| Hannover Fair 2010
| Technology Updates
| Working Group Results
| Upcoming Events

ETG Newsletter
May 2010 | #23

Content

Editorial

Dear EtherCAT Technology Group Members,

The other week a machine manufacturer called us and asked for stickers saying "Powered by EtherCAT" - he told us that he wanted to place them on his (EtherCAT powered) machines, since he wants to benefit from the reputation of EtherCAT as the leading Industrial Ethernet Technology.

Using EtherCAT as a sales argument for machines - this is great, but certainly not yet a common situation everywhere. It has to be our goal to reach that stage globally. With support from many members, the ETG team is active in a variety of ways to achieve that. This newsletter gives an overview and update on ETG events, provides information about technology news and also aims to encourage you to get involved: in working groups, with trade show participations or simply by spreading the word about EtherCAT.

A team that is contributing in an exemplary way is the ETG Task Force Japan: several members join forces to organize and also fund practical EtherCAT marketing activities in their region, closely coordinated with ETG headquarters in Germany.

Beginning of July, we will have ETG Member meetings in Korea and Japan, and we hope to meet many of you at these events which do not only provide the latest information about EtherCAT and the ETG, but also are excellent networking opportunities.

Of course the ETG trade show booths primarily focus on potential users of EtherCAT technology; but they also act as a meeting point for ETG members. Make sure you stop by at the ETG booth - we exhibit at major shows in Europe, Asia and North America.

The various technical working groups deserve that name: this week, for instance, we are hosting a series of meetings here in our Nuremberg office. Contributing participants are always welcome!

In September and October there will be EtherCAT plug fests in the US, in Germany and in Japan. We strongly encourage all vendors of EtherCAT devices to attend and avoid interoperability issues before they lead to customer frustration in the field. And we encourage all EtherCAT users to look for the "Conformance tested logo" when selecting their suppliers.

EtherCAT recently reached another milestones in international standardization: IEC 61784-3, containing the Safety over EtherCAT Specification, was approved unanimously and will be published soon. Also, the voting period for the installation profile (IEC 61784-5) and for the next edition of the protocols and services standard (IEC 61158) has begun. We expect a positive result for both standards.

The EtherCAT community is a very active one, and we would like to thank all of you that support the promotion and further advancement of the technology.

With best regards on behalf of the entire EtherCAT Technology Group Team,

Martin Rostan
Executive Director

HOT TOPICS

Hanover Fair (HMI) 2010
Review / EtherCAT Presentation / Booth Highlights

With the strong support of 54 co-exhibiting ETG member companies the ETG Joint Booth was again well represented at the HMI 2010.

At the enlarged booth more than 200 different EtherCAT products were shown as well as several active EtherCAT network demonstration areas. This great product variety emphasizes the openness of the technology, as well as a persistent continuation of the EtherCAT success story. Again the ETG booth showed more products than all other Industrial Ethernet organizations altogether.

The Hanover Fair in general was swayed by the volcano eruption in island and the associated flight cancellations for most of Europe due to the ash cloud. Hence it was a little bit surprising that we collected more leads than in any other HMI participation before. For us it is a clear indicator of the unbowed interest in Industrial Ethernet networks like EtherCAT.

For the first time also official EtherCAT conformance tested devices were clearly marked and a new wall informed about Conformance & Certification.

A printed Product Flyer included all exhibiting ETG members and listed their offered product types.

In addition the ETG offered a daily EtherCAT Introductory Presentation, including EtherCAT functional principle, technology features, benefits for vendors and end users, application examples as well as implementation aspects.

The booth features the following booth highlights:

Multi-Axis Presenter with 30 synchronized axes from 20 different vendors within one EtherCAT network – presumably a world record.

EtherCAT Master Presenter with 17 different EtherCAT masters controlling I/O terminals from different vendors.

Safety over EtherCAT Demo with functional safety components from several different vendors running within one system and also exchanging safety data via EtherCAT Automation Protocol (EAP) between two EtherCAT networks.

Flexible Topology Demo with Master to Master communication, as well as showing Power over EtherCAT devices included in the same network and integration of classic fieldbus systems via gateways. In addition this display showed cable redundancy, hot connect of network segments, tunneling of Ethernet frames (EoE) as well as various topology variants.

Conformance & Certification to point out the need of conformity of EtherCAT devices as well as the advantages of the EtherCAT Conformance Test.

EtherCAT Automation Protocol which enables EtherCAT also for factory communication purposes.

Product Variety Walls to show EtherCAT products available, including Master (PLC, embedded, motion controller), tools (software, hardware), Slaves (servo drives, inverter, encoder, sensors, valves, I/O,...) and Development products.

We want to thank all supporting ETG members and especially their booth personnel for their active support!
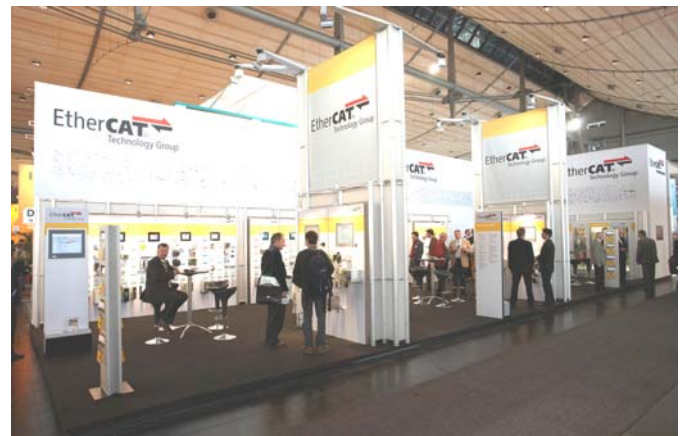
Active Task Force Japan
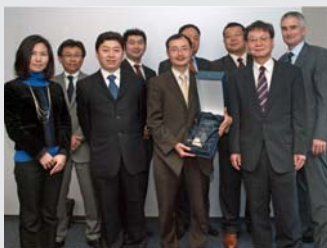
The ETG Task Force Japan was formed in July 2009 to take an active role in EtherCAT promotion in Japan.
Invited were (and are) all Japanese ETG member companies, which are prepared to contribute with ideas, (wo)man power and also financial resources.
Currently the Task Force is busy with the preparation of the ETG booth at Techno Frontier Show (July 21-23), with the preparation of the ETG member meeting on July 7th, as well as with the

planning of further promotional activities. The very active committee works together well in close cooperation with ETG-HQ Nuremberg and meets about once a month. It is chaired by Yasuhiko Tabata, ASTEM RI and manager of the EtherCAT Test Center Japan. Besides ASTEM, current members are Fuji Electric Systems, Hitachi IES, Nagano Oki, Omron, Sanyo Denki and Soft Servo. In January, the former chairman Takeshi Kameda of K.MECS was honored for his exceptional contribution to the EtherCAT success story in Japan. He had passed his ETG functions down to Yasuhiko Tabata since due to a change in his professional focus he was not able any more to keep up with his time-consuming ETG activities.

HOT TOPICS

New Members

Welcome new ETG members!

Since the last news mail, the following members joined the ETG. Please find them in order of membership application:

– IHT Automation
– College of Electrical and Information Engineering, Hunan University
– Bosch Transmission Technology
– comemso
– Jiangsu Renhe New Technology Industrial
– XLNT Advanced Technologies
– Inelta Sensorsysteme
– Naim Technology
– TeamProjects
– PRISMA
– Kyoei Electronics
– System
– Non-Traditional Machining Laboratory (NTM Lab), School of Mechanical Engineering, Shanghai Jiao Tong University
– MYCOM
– RS Automation
– Studio Andrea Santachiara
– EMG Systems
– Hochschule Pforzheim, Fakultät für Technik, Bereich Maschinenbau
– Tsukuba Software Engineering
– Centerless & Automation
– Bertec
– FlexLink
– Retostronik
– SUNX
– SMART Electronic Development
– PZH Produktionstechnisches Zentrum
– Schweitzer Engineering Laboratories
– MicroSys Electronics
– Robotic Systems Integration
– HCL Technologies
– PRIMA ELECTRONICS
– MDSI Ventures
– Birke Systemtechnik
– NSTEL
– Alcatel Vacuum Technology France
– Nagano Oki Electric
– Larsen & Toubro, EMG Division
– PCH Engineering
– Revolution Controls
– Prevas
– HEITEC
– Distributed Systems Engineering
– Cranfield Aerospace
– TLU- Thüringer Leistungselektronik Union
– LAUDA DR. R. WOBSER
– Allied Motion Technologies
– Stäubli Faverges
– Servotronix Motion Control
– Flexenclosure
– HESCH Industrie-Elektronik
– SSB Wind Systems
– CAMotion
– KALIBURN (ITT Corporation)
– IACS Solutions
– Muscle
– Shanghai Empower Technologies
– Danfoss Power Electronics
– Diamond Light Source
– Control Technology
– iba America
– NewTec
– Department of Automatic Control, Faculty of Automation, Guangdong University of Technology
– Laboratory for Mechatronic Systems (SMT), Institute for Systems and Applied Electronics (ISEA)
– Department of Innovative Technologies (DTI), University of Applied Sciences of Southern Switzerland (SUPSI)
– Galaxy Intelligentia
– Parker Hannifin
– Industrial Technologies (itec)
– Mahindra Satyam Computer Services
– REX Controls
– KNR SYSTEMS
– TOSHIBA INFORMATION SYSTEMES(JAPAN)
– Michel Van de Wiele
– VITAL Systems
– State Grid Electric Power Research Institute
– Nautilus Hyosung
– megatec electronic
– Wachendorff Automation
– Minebea
– Zhuhai Motion Control Motor
– Condalo
– Department of Cybernetics (KKY), Faculty of Applied Services (FAV), University of West Bohemia (UWB)
– Schneider Electric Power Drives
– be @head
– Department of Automatic Control and Systems Engineering (DISA), Faculty of Engineering (ETSI) of Bilbao, University of Basque Country
– Great Computer (GCC)
– XJ POWER
– MicroNova
– Chen Hsong Holdings
– Moog Ireland
– Deto Mechatronic
– Department of Mechanical Engineering, Katholieke Universiteit Leuven
– NISSEI PLASTIC INDUSTRIAL
– Kinlo Technology & System (Shenzhen)
– Motor Power Company
– Manufacturing Data Systems (MDSI)
– Solaris Laser
– PP-Design
– PLR Prüftechnik Linke & Rühe
– Nabtesco
– Woodward SEG
– EATON Technologies
– Froude Hofmann
– Forschungszentrum Dresden-Rossendorf
– Siskon Industrial Automation Systems
– MIE ELECTRONICS, iSPC
– Faculty of Materials and Energy, Guangdong University of Technology
– MICRO TREND AUTOMATION
– LumaSense Sensor
– Terasic Technologies
– FATEK Automation
– SIEI-AREG
– CAE Elektronik
– EMV-KlinikBosch Packaging Technology
– Beijing CONTEC Microelectronics
– Hommel-Etamic
– Beijing E-cube Technologies
– PSA Elettronica (di F. Grifa)
– IHI
– SFERA

We welcome all new members and thank you for joining forces to promote and advance the EtherCAT technology. As of today, ETG has **1342** member companies from **49** countries of **6** continents! Please find the members roster here:

→ www.ethercat.org/en/members.php

HOT TOPICS

Safety over EtherCAT
IEC-Standard Approved

The standard IEC 61784-3 Ed.2.0: "Industrial communication networks - Profiles - Part 3: Functional safety fieldbuses" which includes Safety over EtherCAT (IEC 61784-3-12) has passed the voting period with 100% approval and will be published as International Standard by IEC soon. This is another mayor milestone in EtherCAT standardization and underlines the openness not only of EtherCAT, but of the official EtherCAT Safety Technology as well.

EtherCAT Installation Profile
IEC-Standard in FDIS Stage

The EtherCAT Installation Profile standard with the official name: IEC 61784-5-12 ed1.0, "Industrial communication networks – Profiles – Part 5-12: Installation of fieldbuses – Installation profiles for CPF 12 (EtherCAT)" has reached the final voting stage (FDIS). The voting period lasts until June 25, 2010 – if the standard is approved by national committees, it will become an International Standard (IS) afterwards. For review and comments the EtherCAT sub-set is available in the members only section of the EtherCAT website:
→ www.ethercat.org/MemberArea/download_IEC61784-5-12.asp

ETG Member Meeting Korea

On July 2nd, there will be an ETG member meeting Korea in the GwangMyung Culture Center near Seoul. The ETG regional committee Korea invites all Korean ETG members as well as the Korean distributors and partners of all members to get an update on ETG activities, the latest technology news, and learn about exciting EtherCAT applications in Korea. The official invitation will be distributed soon. A preliminary agenda as well as information about the venue can be found here:
→ www.ethercat.org/en/korea_mm_2010.html

ETG Member Meeting Japan

The next ETG Member Meeting Japan will take place in Tokyo on July 7, 2010. Venue location is the TKP Nihonbashi Business Center Hall 5C (5 minutes walk from Tokyo Station). The agenda will comprise an update on the ETG activities worldwide and in Japan, as well as information about technology enhancements, EtherCAT applications and projects in Japan. The member meeting will also be an excellent networking opportunity, and we expect a large participation again. The agenda and the official invitation will be distributed soon, information about the venue can be found here:
→ http://tkptn.net/

Active Members within ETG

Not only the membership figures were still increasing, also a lot of companies implementing EtherCAT actively. By April 2010, Beckhoff alone has sold 950 implementation kits (75% slave kits, 25% (!) master stacks) and there are slave implementation kits + master stacks from many other vendors, too. The number of products within the EtherCAT product guide is increasing, too.

CiA402 Sample Implementation
Slave Sample Code

In order to provide ideal support to drive vendors the EtherCAT Slave Sample Code now includes the CANopen™ drive profile according to the ETG implementation guideline.
With this new update it becomes even simpler for drive vendors to implement EtherCAT. The common code basis leads to unified interfaces and simplified setup, especially considering that the drive parameters have also been integrated into the EtherCAT conformance test tool.
Device profiles define the functionality and their parameters as well as the content and formatting of the process data. IEC 61800-7 specifies the drive profiles that EtherCAT uses: part 201 of the standard is the CANopen drive profile CiA402, while part 204 is the SERCOS™ drive profile.
The ETG implementation guideline for CiA 402 selects the cyclic synchronous communication modes among the various drive operation modes: they are not only the ones with the best performance, but also have the fewest parameters and provide the simplest interface as a result. These operation modes have been covered by the EtherCAT conformance test tool for some time. The new development is their implementation in the sample code for slave devices, which is shipping with the EtherCAT slave evaluation kits. So far Beckhoff Automation has shipped over 700 of these kits and the kit purchasers get the enhanced code as a free update.

Rainer Hoffmann, who is in charge of the code within the ETG Team says: "Even though we do not consider the Slave Sample Code to be the official reference slave application code, it has gained this de-facto status due to its wide distribution. Many EtherCAT drives support the CANopen device profile, but so far some of them only support the classic operation modes, which were developed with CAN performance in mind. Now it is easier to also integrate the new, faster and yet simpler operation modes in EtherCAT devices. Drive vendors who are just starting with EtherCAT can base their development on this software right away. Enhancing the code with this drive functionality facilitates the unification of the interfaces and will support the further adoption of EtherCAT industry-wide."

REPORTS

Technical Committee Meeting
Spring 2010

The spring meeting of the EtherCAT Technical Committee (TC) took place in Raunheim, Germany, near Frankfurt International Airport. Besides the reports of Working Groups other topics like CiA402 Sample Implementation, Specification reviews, ETG activities and Conformance Test updates were covered.

In conjunction with the Technical Committee meeting, the ETG organized several trainings: the Training Class for developers of those member companies that want to start an EtherCAT implementation and a Safety over EtherCAT seminar in order to address the requirements of those members who have to consider the topic Safety.

The spring meeting events were attended by around 50 people. The proceedings of the meeting which are a valuable source of information about the latest EtherCAT technology developments are available for download here:

→ www.ethercat.org/memberarea/tc_2010_spring.asp

Industrial Ethernet Seminar Series
Norway 2010

The EtherCAT seminar series in Norway took place in February in Horten near Oslo, Stavanger and Trondheim. Norway is strongly reliant on process technology; oil and gas production in particular have a high significance. The high availability options of EtherCAT and the topology advantages prove their worth especially in these applications. Line redundancy combined with large numbers of nodes, fiber optic for intrinsically safe transmission and the outstanding diagnostic characteristics are particularly in demand here. These seminars were supported by ETG, Beckhoff and HMS.

ETG Info Booth @ embedded world

As the only hard real-time capable Ethernet technology that needs neither coprocessor nor special chips in the master, EtherCAT is in demand not only in classic automation technology, but also and especially in Embedded applications; after all, virtually every microcontroller board today has an Ethernet port on board and therefore already satisfies the hardware requirements for an EtherCAT controller.

Naturally, the ETG was also represented at the Embedded World in Nuremberg, Germany, with its own booth. The trade fair closed with a new attendance record and the ETG booth was also very well attended. Many developers took the opportunity to familiarize themselves with the technology or to address the ETG team directly regarding current projects. EtherCAT can already be found in many embedded applications, for instance in medical or measurement technology – not only in applications, in which classic embedded bus systems such as CAN reach their performance limits. ETG intends to participate in the Embedded World in 2011 again.

→ www.embedded-world.de/en/

Korean Industrial Communication
Network Technology Seminar

Prof Yongseon Moon, ETG Representative Korea and well known researcher in the field of robotics, gave a talk about Robot Networks and EtherCAT during the Korea Industrial Communication Network Technology Seminar in March at the COEX Conference Center in Seoul, Korea. EtherCAT has established itself as the network of choice for robotics in Korea.

ETG Info Booth @ FA/PA China

ETG also participated again at the International Exhibition of Modern Factory/Process Automation Technology and Equipment 2010 (FA/PA), which took place in Beijing on May 12-15 and is considered the most professional and influential industrial automation brand show in North China. 15 ETG members showed their EtherCAT products at the ETG booth. The show was organized with support from the Deutsche Messe AG, who also is in charge of the Hannover Messe and the Industrial Automation Show (IAS) in Shanghai.

→ www.fa-pa.com.cn

ETG Info Booth @ SIAF China

ETG was well presented in March with an Info Booth in China at the first SPS-Industrial Automation Fair Guangzhou (SIAF) with over 16.000 visitors, which took place at the biggest exhibition centre in Asia. This fair is considered as an ideal platform to launch products and gain entry to the southern China market.

→ www.siaf-china.com

REPORT

9th European EtherCAT Plug Fest
March 2010

35 participants of ETG member companies met at the 9th European EtherCAT Plug Fest hosted by VIPA in Herzogenaurach, Germany.

The main goal was again testing interoperability of EtherCAT master and slave device implementations. Overall 9 different EtherCAT master and 18 diverse slave device implementations were tested. Conformity of slave devices was checked by using the updated official Conformance Test Tool (CTT). This tool was enhanced with new features to improve the level of testing coverage as well as better test handling. Several master manufacturers put their focus on Safety over EtherCAT.

Thus the Plug Fests will continue to be a popular and important event for developers to ensure quality of EtherCAT products. Furthermore these well attended activities serve as basis for device interoperability and guarantee simple configuration of devices from different vendors within heterogeneous EtherCAT networks.

SAFETY

ANNOUNCEMENT

EtherCAT Seminar Series in China
October 2010

ETG plans an Industrial Ethernet Seminar Series in China, to be held end of October 2010.

According to a recent study by Roland Berger Strategy Consutants, with an annual growth of 8% China already is the biggest market for automation technology, replacing the US as the worlds largest national market. EtherCAT is already doing very well in China, and the upcoming seminar series aims to support that success by raising more awareness for the technology among system integrators and machine builders alike. The seminars will take place in the following cities:

Beijing | Wednesday, October 20, 2010
Shanghai | Friday, October 22, 2010
Shenzhen | Tuesday, October 26, 2010

Details regarding the agenda and the venues will be published on the ETG website a few weeks from now.

Safety over EtherCAT
Implementation Guide available

Safety becomes more and more an important topic in Industrial Automation.
The Safety over EtherCAT (FSoE) protocol is not limited for use with EtherCAT, but dedicated perfectly to. This guideline helps to get detailed information about how to start an FSoE implementation.
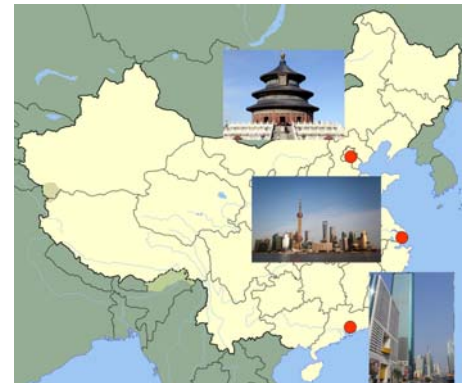
This document can be found for download within the public area of the download section:
→ http://www.ethercat.org/download/implementation_FSOE/default.asp

EtherCAT Website
ETG.6100 Safety Drive Profile Draft available

The Safety over EtherCAT Safety Drive Profile ETG.6100 has been defined in the ETG for the control and configuration of integrated drive safety functions.
The definition of a uniform control and status word in this safe device profile enables users to operate drives from different manufacturers in the same way on their safety controllers. Thus, the variety of function blocks in the controller is reduced and the operation simplified.
Typical implementations of the integrated drive safety functions, which are only very generally defined in the IEC 61800-5-2 standard, are clearly specified in terms of their behavior and the necessary parameters are described. In order to keep the profile independent of the safety bus employed, the mapping of these parameters to Safety over EtherCAT has been outsourced in a further document. This underlines the EtherCAT Technology Group's efforts to also make it possible for different interested organizations or technologies to use the Safety Drive Profiles.
Please find the draft and comment form for ETG.6100 here:
→ www.ethercat.org/memberarea/download_fsoe_sdp.asp

CONFORMANCE

Release of ETG.7000A: Conformance Test Specification
Amendment for DC Device Testing

The EtherCAT Conformance Test Tool is a standard MS Windows application, so that it can be used on any Windows PC without RTOS or special hardware. This, however, limit the real time capability of the Tool, which is why devices under test cannot (reliably) be set to Operational in Distributed Clocks (DC) mode. Therefore, not all tests can be reliably performed for devices which run in DC mode.

For those tests which are affected by this limitation of the CTT manual tests are specified by ETG.7000A Conformance Test Specification - Enhancement for DC devices. The document describes manual tests which are performed by using a standard

EtherCAT master which supports real time and DCs. The tests defined by ETG.7000 Amendment for DC Device Testing are used by the ETCs and have to be passed by DC devices for obtaining the EtherCAT Conformance Tested certificate. Devices supporting DC-mode and non-DC-mode have to be tested in both modes.

Besides this, it is highly recommended to use the test specification also for in-house testing before device release, too.

The ETG.7000A is included in the Conformance Test Record ZIP file which is available for download here:

→ www.ethercat.org/download/conformance/default.asp

Enhanced Conformance Test File and new Conformance Test Tool V1.20.0.0

In close cooperation with the ETG Working Group Conformance the TAB (Technical Advisory Board) has released the enhanced test files and the new version of the Conformance Test Tool (CTT).
The main new features are:
| Full support of devices with flexible process data configuration
| Enhanced logger output for better tracking of test course
| Detailed description of test including pre-condition, action, post-condition, and references
| Introduction of unique test identifiers
| CiA402 drive profile test including default test set
The enhancements aim for valuable support already during the development process, and ensure consistency of the EtherCAT
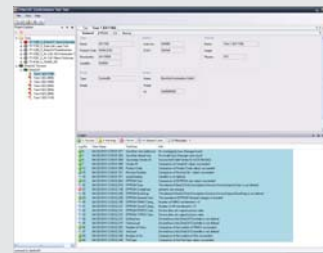
device behavior according to the specification. All Conformance Test Tool subscribers have been informed about the update automatically.

Please notice: All device vendors shall have a valid Conformance Test Tool subscription before placing an EtherCAT product on the market. For details please refer to EtherCAT Conformance Guide:
→ www.ethercat.org/download/conformance/default.asp

EtherCAT Conformance Test
Test Cases added

In addition to the Conformance Test exceptions mentioned above, ETG added the latest Conformance Test versions used with the Conformance Test Tool:
→ www.ethercat.org/memberarea/ct_version.asp

MISCELLANEOUS

Vendor ID
EtherCAT Website: Vendor ID Info Enhanced

Detailed information about the EtherCAT Vendor ID has been added to the website at several parts.
Now all official assigned Vendor IDs are listed online:
→ www.ethercat.org/en/vendor_id_list.html
In addition there is a new Vendor ID information overview page available:
→ www.ethercat.org/en/vendor_id.html
The FAQ section was enhanced by Vendor ID topics:
→ www.ethercat.org/en/faq.html

Certified Devices @Product Guide
Marking of Conformance Tested Devices

As already seen on the ETG Joint Booth at Hanover Fair (HMI) 2010, ETG started with marking of officially Conformance Tested devices within the online product guide. Please find the updated EtherCAT product guide here:
→ www.ethercat.org/en/products.html

Wanted: Product Guide Entries
Add Your Product free of charge!

Your product is missing? Take the chance and send an email to info@ethercat.org to add your product for free today!
The product guide rules contains the requirements for a product entry:
→ www.ethercat.org/MemberArea/Download/PDF/ETG_Product_Guide_Rules.pdf

MISCELLANEOUS

EtherCAT Specification
ETG.1000 EtherCAT Specification Updates Available

Please find the release of the updated official ETG.1000 EtherCAT Specification series (V1.0.2, Protocols and Services) available for download within the Member Area. The TAB (Technical Advisory Board) has released this document series. There is also an updated version of the corresponding Errata Sheet (including all changes to V1.0.2). The new release contains error corrections and clarifications.

An updated Japanese Version of ETG.1000 EtherCAT Specification series (V1.0.2) has been released also and both are available for download within the Member Area:

→ www.ethercat.org/memberarea/download_spec.asp

Servo Drive Implementation Guideline
Update: ETG.6010 EtherCAT Implementation Guideline for CiA402 Drive Profile

The behavior of EtherCAT servo drives is specified within the IEC 61800-7 standard. In this international standard, both the CANopen drive profile (DS402) and the SERCOS drive profile are mapped on EtherCAT.
In order to simplify the implementation of the DS402 profile on EtherCAT, the ETG.6010 implementation guideline was published as early as 2007. This guideline, for example, selects the three cyclic synchronous operating modes from the 10 drive modes described in the standard, and thus realizes the direct control of position, velocity or torque via the bus system. These operating modes had already been developed with EtherCAT in mind; the short cyclic deterministic operation requires the high-performance EtherCAT communication. Additionally, the behavior of optional functions, such as homing and touch-probe functions, is clearly described by so called function groups.

The acceptance of the guideline is reflected in the increased number of drives made by ETG members, which are implemented according to the guideline. In addition, the conformity of servo drives with DS402 device profiles is tested in the official EtherCAT Conformance Test on the basis of the guideline. The new version of the guideline is available to ETG members for download. It contains additional explanations and improvements, which have been developed in the ETG work group in cooperation with the corresponding CAN in Automation work group.

→ www.ethercat.org/memberarea/download_5.asp

EtherCAT Unit Specification
ETG.1004 Unit Specification Draft

ETG.1004 EtherCAT Unit Specification defines the representation of units for objects defined in EtherCAT object dictionaries.
It is based on the international systems of units (SI). Furthermore, derived unit types defined in the ISO 1000 are also adopted.
Please find the draft and comment form here:
→ www.ethercat.org/memberarea/download_unit_spec.asp

EtherCAT Website
New EtherCAT Publications

New articles and papers related to EtherCAT have been mad available within the download section of the EtherCAT website.
Among other topics please find an interesting article about EtherCAT for factory networking there.
→ www.ethercat.org/en/publications.html#Publications

Working Group
Results

WG EtherCAT Automation Protocol
Main topics of the recent meetings were the discussion of the EAP Draft Specification as well as some proposals for the EAP State Machine.
→ www.ethercat.org/memberarea/wg_automation_protocol.asp
WG Device and Network Description
The agenda of the last web meeting included the updated ESI + ENI Draft Specifications as well as proposals to reduce the size of ENI file.
→ www.ethercat.org/memberarea/wg_esi_eni.asp

CANopen
Trademark

CAN in Automation (CiA) e.V. has obtained European trademarks for the term "CANopen". This has no influence on the usage of CANopen device profiles in EtherCAT devices, which the CiA Interest Group CANopen has welcomed. In order to avoid any issues, ETG has changed the meaning of "CoE" from "CANopen over EtherCAT" to "CAN application layer over EtherCAT" in new publications as well as in the new edition of IEC 61158. We suggest using the ®-sign when referring to CANopen® profiles – as we ask to use the ®-sign when referring to EtherCAT®.

UPCOMING EVENTS

EtherCAT Plug Fests
Asia, Europe and North America, September + October 2010

Mark your calendar and adjust your EtherCAT implementation plans accordingly to the next three EtherCAT Plug Fests taking place in Asia, Europe and USA.
Not only US ETG members are invited to participate in the 2nd North American EtherCAT Plug Fest, hosted by Yaskawa in Waukegan, IL (USA) on September 9-10, 2010. The 10th European EtherCAT Plug Fest will be hosted by Lenze in Braunschweig (Germany) on September 22-23, 2010. Asian and non-Asian ETG members alike can test their products at the 2nd Asia EtherCAT Plug Fest, hosted by ASTEM in Kyoto (Japan) on October 28-29, 2010.
The invitation including further information and registration form for these events will be made available at the event section of the ETG homepage in time. ETG members will be invited via a separate email, too.

Tradeshow Participations
Visit us / See EtherCAT devices / Meet experts

SEMICON West: ETG Info Booth | South Hall - # 2415
Jul 13-15, 2010 | San Francisco (CA), USA
Please visit the ETG Booth at the SEMICON West. The flagship annual event of the global microelectronics industry takes place July 13-15, 2010 in San Francisco (CA), USA, at the Moscone Center. Discuss your application with EtherCAT experts and inform yourself about EtherCAT technology and how you can benefit.
→ www.semiconwest.org

Techno-Frontier 2010
Jul 21-23, 2010 | Tokyo, Japan
The Techno-Frontier tradeshow is Japan's largest Electronic and Mechatronic parts exhibition. This year the show has moved to Tokyo Big Sight exhibition center. ETG will be present with an Info Booth showing technology highlights as well as a variety of EtherCAT products, supported by the ETG Task Force Japan and many more Japanese ETG members. In addition an EtherCAT session will be held at the exhibitor's seminar.
→ www.jma.or.jp/TF/en/

ETG Member Meetings in Asia

ETG Member Meeting Korea
July 2, 2010 | GwangMyung Culture Center, Seoul, Korea
ETG Member Meeting Japan
July 7, 2010 | TKP Nihonbashi Business Center, Tokyo, Japan

RTECC
Real Time and Embedded Computing Conference

ETG will be present at the RTECC (Real Time and Embedded Computing Conference), taking place May 25th near Boston (MA), USA, at the Sheraton Framingham Hotel.
Joey Stubbs, ETG North America Representative will hold a presentation about EtherCAT – the high performance Industrial Ethernet solution for embedded designs.
→ http://rtecc.com/conferences/view/26

Working Group Dates
Join a Working Group / Contribute to their work

The Working Groups Conformance, EAP and Master Classes met this week, next meeting dates will be announced soon in the events section of the ETG website: → www.ethercat.org/en/events.php

Working Group: Device & Network Description
June 15, 2010 | Web Meeting
Working Group: CiA402 Drive Profile
September 14, 2010 | ETG HQ, Nuremberg, Germany
Working Group: Safety
September 15, 2010 | ETG HQ, Nuremberg, Germany
An overview of all Working Groups can be found here:
→ www.ethercat.org/memberarea/working_groups.asp

Technical Committee

ETG Technical Committee Meeting
September 29, 2010 | Raunheim, Germany (near Frankfurt Airport)

Implementation Workshops

The next **EtherCAT Implementation Workshops** in Europe will take place **July 20-22** in Nuremberg, Germany. Each day of these seminars, organized by Beckhoff, can be booked individually: day one is a detailed EtherCAT technology introduction for developers, day two covers the slave implementation and day three the master implementation. In addition, there will be the following EtherCAT Implementation Workshops in the US, in Korea and in Japan:

July 27+28, 2010 | Silicon Valley, Milpitas, CA, USA
October 25+26, 2010 | KwangJu, Korea
October 25+26, 2010 | Kyoto, Japan
Please see the events section of the ETG website for details.

ETG Website
Please check out the events section of the EtherCAT website for further events.
→ www.ethercat.org/en/events.php