EtherCAT®
Technology Group

ETG Newsletter
December 2010 | #24

**Christmas Illumination in Switzerland
powered by EtherCAT**

Content Overview

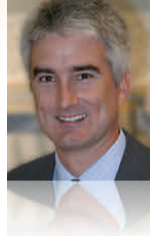## Further Information

www.ethercat.org

Editorial

Dear EtherCAT Technology Group Members,

2010 has been an exciting and busy year for all of us: economy has rebounded, and those who had to postpone their EtherCAT launching plans in 2009 are back.
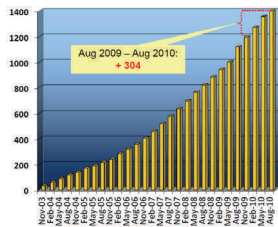
The feedback that we receive indicates that for most automation device vendors it is no question any more *if* to implement EtherCAT— those who have not done it yet are only considering the "when". We meanwhile count over 100 vendors of EtherCAT masters, over 80 vendors for EtherCAT drives, and over 50 for EtherCAT I/O.

The EtherCAT adoption rate is outstanding, and it looks as if the next year will be another thrilling one for EtherCAT. We hope that you will find some time to relax before the new year starts and wish you a merry Christmas, happy holidays, and a good start into a successful 2011—successful with EtherCAT.

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

Martin Rostan
Executive Director

EtherCAT Technology Group Now World's Largest Fieldbus Organization

Aug 2009 – Aug 2010:
+ 304

The EtherCAT Technology Group (ETG) is pleased to announce that it has become the world's largest fieldbus organization.

The ETG has been the largest Industrial Ethernet organization for some time, and now with the group attracting over 1500 member companies from 52 countries, it can claim the title of world's largest fieldbus organization of any kind. However, these numbers will continue to rise as ETG growth continues at an unabated pace. In Europe and North America the growth remains robust, but it has become even stronger in Asia: in this region we have exceeded 400 member companies.

The worldwide acceptance, openness and success of the technology is not only underlined by the membership figures, but in particular by the exceptional variety of devices with EtherCAT interfaces from numerous vendors. ▸ www.ethercat.org/press

Christmas Illumination powered by EtherCAT

The new Christmas illumination in the Swiss town of St. Gallen is networked with EtherCAT.

In the current stage of expansion about 640 stars and 330 so called power boxes are EtherCAT slave devices. The network is partitioned in several segments. Along the streets line topologies are used to connect the power boxes, which convert 230VAC into 48VDC. The power boxes are able to provide diagnosis information and feed the DC power into drop lines where 1 to 5 stars are daisy chained. The drop lines are made of hybrid cables with separate power supply and EtherCAT data wires - altogether 7km of hybrid cable is used. Each of the stars -

which have a diameter of more than 2 m - is illuminated by 14 LEDs and is controlled in a highly dynamic fashion, forming light patterns along the streets.

The engineers originally planned to use other Industrial Ethernet protocols, but found that due to the large number of nodes and the topology constraints of the project only EtherCAT could provide the performance that is needed to provide full freedom for the light designers. Further information in German language can be found here:

▸ www.allerstern.ch

HOT TOPICS

Jan/Feb 2011: EtherCAT Roadshows in France, Italy and India
Industrial Ethernet Seminar Series in Europe and India at 9 different locations: Join the seminars for free!

ETG is offering EtherCAT / Industrial Ethernet Seminars taking place in Paris and Lyon on January 25-26, 2011 as classical fieldbus systems are challenged by new technologies that provide more performance and support for internet protocols.

Automation system users have to decide if, when and how to adopt these next generation networks. The seminar addresses end user, machine builder, system integrator, OEM or consultant for control and automation systems for different industries alike, who are invited to come, explore and understand the EtherCAT technology and see how it can improve their or their customers application.
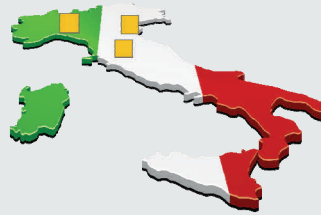
It provides detailed information about the benefits and the challenges of Industrial Ethernet. Attendance is free of charge. Further seminar details and online registration are available online. Please invite your contacts and register as soon as possible, because the number of seats are limited.

▸ www.ethercat.org/2011/france

Location & Dates:

Paris, 25 January 2011

Lyon, 26 January 2011

ETG is holding EtherCAT seminars addressing both potential users and implementors of the technology. Locations on February 8-10, 2011 are Milano, Bologna and Padova.

The joint morning session will have an introduction of the EtherCAT technology, and in the afternoon there will be two sessions in parallel: one highlighting EtherCAT user benefits and application reports addressing machine builders and system integrators, and another one focusing on EtherCAT implementation topics for device vendors considering to implement EtherCAT.

The main purpose of the seminar is to provide an understanding of the benefits using EtherCAT technology for end users as well as device vendors and integrators. Attendance is free of charge. Further seminar details and online registration are available online. Please register as soon as possible to ensure a seat at the seminar!

▸ www.ethercat.org/2011/italy

Location & Dates:

Milano, 08 February 2011

Bologna, 09 February 2011

Padova, 10 February 2011

Following two successful seminar series in 2008, ETG returns to India in February 2011: this time the seminars specifically address potential EtherCAT users, such as machine builders, system integrators, control system consultants and end users.

The seminar agenda not only covers Ethernet and EtherCAT introductory presentations, but also addresses migration strategies, competitive advantages for machine builders through EtherCAT and applications in India and worldwide. ETG members are encouraged to make their customers and partners in India aware of this excellent opportunity to learn about EtherCAT. Participation is free of charge.

▸ www.ethercat.org/2011/india

Location & Dates:

New Delhi, 21 February 2011

Bangalore, 22 February 2011

Coimbatore, 24 February 2011

Mumbai, 25 February 2011

Award for the 1500th Member
Bobst Group from Switzerland

Marc Nicole, representing Bobst Group, received an award from ETG Board members Erich Hutflesz (right) and Martin Rostan (left). Bobst is a leading supplier of equipment and services to packaging manufacturers in the folding carton, corrugated board and flexible materials industries headquartered in Lausanne, Switzerland.

Marc Nicole, Head of Controls & Electronics of Bobst SA:
"*We chose EtherCAT as future fieldbus for our own developed Control system for the following reasons:*
- *the performance both of the fieldbus itself as well as the master which needs less CPU time compared to other solutions*
- *the ability to build our own slaves easily and cost efficiently; this allows us to create differentiating function for our machines*
- *the number of commercial components available or coming soon, with a special focus on drives.*
- *the openness to other fieldbus though different gateways. This is important since we know that even choosing EtherCAT for the future, other fieldbus exist and we will eventually to connect those. We already use many different bus in the Group and this will definitely help us in migrating to EtherCAT.*"

HOT TOPICS

New Members
Welcome new ETG members!

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

- NIAN CHINQ
- eubus
- School of Mechanical & Automotive Engineering (SMAE), South China University of Technology (SCUT)
- Kistler Instrumente
- Mechatronics and Automatic Control Laboratory (MACLAB), Department of Communication, Computer and System Science (DIST), Faculty of Engineering, University of Genova
- TÜV SÜD Rail
- KPIT Cummins Infosystems
- Mühlbauer
- Foshan Shunde Industry and Information Technology Research Center
- Leica Geosystems
- Brooks Instrument
- Emerson Network Power
- DECS Department Embedded Control Systems, School of Electronics Engineering, Kyungpook National University
- AltairMed Department of Computer Science, University of Verona
- INGENIA-CAT
- AIXTRON
- School of Electrical Engineering Iran University of Science & Technology (IUST)
- Kozaka Electronic Design
- Sealevel Systems
- INTRAX
- TelDaCom
- aixcon PowerSystems
- Pepperl+Fuchs
- Institut für Automatisierungstechnik, Technische Universität (TU) Bergakademie Freiberg
- Dah Heer Industrial
- Steinbichler Optotechnik
- Stirling Dynamics
- Fraunhofer IOSB-INA Kompetenzzentrum Industrial Automation
- Sanpa Endüstriyel Otomasyon
- BeiJing DragonStar Electronic Equipment
- Ackermann Automation
- Moehwald
- ASAHI ENGINEERING
- School of Information Engineering, NanChang HangKong University
- Technofusion
- Synapticon
- EOStech
- Institute of Electronic CAD of XiDian University
- Conductix-Wampfler
- LG Innotek
- Paul Scherrer Institut
- Glentek
- UNION DENSHI WORKS
- Wavetrix
- ONTEC
- Pyramid Technical Consultants

- CAN Automotion Pty Ltd
- Tokyo Sokki Kenkyujo
- Ningbo Yunsheng
- SONIMAT Ultrasons
- wenglor sensoric
- MicroCreate System
- TOYOGIKEN
- SOHWA
- Automated Design
- Rong Shun Xuan
- School of Electronic and Information Engineering, Xi'an Jiao Tong University
- Cosateq
- PC Krause and Associates
- BODA China Electric Technology
- Sankyo Seisakusho
- SoftEnergy Controls
- HI-P Tech
- Gluth Systemtechnik
- Oppila Microsystems
- Technology Kitchen
- softgate
- Compac Sorting Equipment
- TWERD Power Electronics (Zakład Energoelektroniki "TWERD")
- CREVIS
- SIGMA Chemnitz
- Hangzhou Y.M&C Electronics
- Pteris Global
- Daewoo Shipbuilding & Marine Engineering (DSME)
- Nanotec Electronic
- Micro-Vu
- Camsensor Technologies
- CanTops
- LIMTEC
- School of Electrical and Information Engineering, Beijing University of Civil Engineering & Architecture (BUCEA)
- Pro-Dex, Oregon Micro Systems
- Moog Japan
- Baumer Holding
- IAE (Institute for Advanced Engineering)
- YOSIO ELECTRIC COMPANY
- Weintek Labs
- China Techenergy
- Ing. Markus Pöll Steuer- und Regelungstechnik
- SINFONIA TECHNOLOGY
- GE Intelligent Platforms
- Bachmann
- HORIBA STEC
- Fike Corporation
- Technology Service
- Systematix (a Tennessee Corporation)
- Tonichi Kyosan Cable
- TAMAGAWA SEIKI
- Bobst
- Rohregger-Gebäudetechnik
- Octrian
- Quintesson
- Control Technology (CTC)
- T.P.A.
- Schneider Electric
- CraneSoft

- FLORIDA INSTITUTE FOR HUMAN & MACHINE COGNITION (IHMC)
- Douglas Scientific
- Mesacon Messeelektronik (GmbH) Dresden
- CSM Instruments
- Knorr-Bremse Systems for Rail Vehicles Hungary
- Fraunhofer-Institut für Werkstoff- und Strahlentechnik (Fraunhofer IWS)
- BP&M Representações e Consultoria
- Real Time Network Systems Lab., Engineering Faculty, Computer Engineering Department, Sakarya University
- KYOWA ELECTRONIC INSTRUMENTS
- Image & Information Technology (I²T)
- Mega-Fabs Motion Systems (A Hiwin Company)
- NIDEC-SHIMPO
- SHANGHAI SANY SCIENCE & TECHNOLOGY
- easiTEC
- Emcore
- QNX Software Systems
- synertronixx
- Symmetry Innovations
- Custom Technology
- Intelligent Autonomous Systems Group, Computer Science Department, Technische Universität München
- NICHICON (KUSATSU)
- ABB Schweiz - Power Electronics
- Baumer hhs
- Compressor Controls (CCC)
- Hanwha
- Guodian Nanjing Automation
- Nucleus
- EAT Elektronische Antriebs-Technik
- KOSTAL Industrie Elektrik
- WITTENSTEIN electronics
- Varian Semiconductor Equipment Associates (VSEA)
- Department of Electrical and Computer Engineering, Faculty of Engineering, The University of Auckland
- NDK Engineering
- TOKAI RUBBER INDUSTRIES
- School of Computer Science and Technology of Henan Polytechnic University
- Googol Technology (HK)
- INAT
- acuitas
- Mitsubishi Electric Europe (Factory Automation)

- Altera
- NIKA
- eFALCOM
- Seichter
- MACTECH
- Groschopp
- TREI
- Fakultät Elektro- und Informationstechnik, Hochschule Mittweida
- APROTECH
- Hecht Automatisierungs-Systeme
- M&P motion control and power electronics
- KENERSYS
- DUT Racing Team
- Shanghai LYNUC CNC
- LINAUTOM
- iAR (Industrie Automation Rationalisierung)
- robonaut
- DMP Electronics
- L&T Integrated Engineering Services (L&T IES) Division of Larsen & Toubro
- ADTECH (SHENZHEN) CNC TECHNOLOGY
- HIWIN MIKROSYSTEM
- Avnet Japan
- Carl Zeiss Industrielle Messtechnik
- Division of Accelerators, Institute of High Energy Physics, Chinese Academy of Sciences
- plating electronic
- State Engineering Center Moscow State Technological University "STANKIN"
- Kynetics
- Kuramo Electric
- Delta Tau Korea
- SYS TEC
- Test Systems Research Centre
- YASUNAGA
- CERC, Harbin Institute of Technology
- Toshiba Personal Computer System
- ICSA
- Deprag Schulz
- BASF– Catalysts Division
- Histar Technologies
- Woori Technology
- SMSC
- NEXTID
- ESA elettronica
- ABE Technologies
- Toniolo Research & Development
- Chemstress Consultant Company
- Rofin-Sinar Laser
- Robotiq
- Atos

We welcome all new members and thank you for joining forces to promote and advance the EtherCAT technology. As of today, ETG has **1525** member companies from **52** countries of **6** continents! Please find the members roster online:

▸ www.ethercat.org/members

SPECIAL

SPS/IPC/DRIVES 2010
Review: ETG Joint Booth Highlights

At SPS/IPC/DRIVES 2010 ETG presented its successful booth concept highlighting the EtherCAT features.
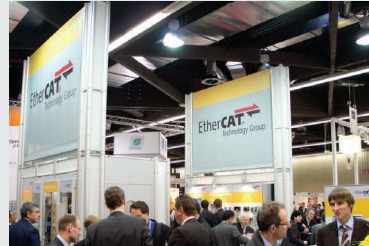
Besides presenting over 260 (!) different devices from 63 co-exhibitors on several booth walls—and thus indicating the support for the technology within the EtherCAT device vendors—the goal is to emphasize the technical and strategic advantages of the technology in a very visible way.

One highlight and also new world record is the enhanced multi-axis presenter, showing 35 different axis from 22 vendors synchronized by one EtherCAT master (see picture above). With 25 diverse masters from 25 vendors controlling I/O devices from two manufacturers EtherCAT demonstrated the outstanding master variety and interoperability of these devices.
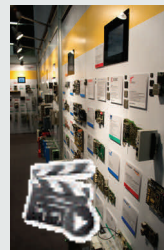
As safety is becoming more and more a significant part of Industrial automation networks, Safety over EtherCAT (FSoE) is becoming a most important feature of the EtherCAT technology. The FSoE demonstration showed the exchange of safe data between safe devices as well as between two different EtherCAT networks including safety devices from various vendors.

Other parts of the booth covered further outstanding features of EtherCAT, e.g. high performance (axis demo with velocity control loop with a cycle time of 62.5 us), flexible topology (including Master-Master communication, Video streaming via EoE, Hot Connect as well as Power over EtherCAT) and tool variety (EtherCAT configurators, network monitors).

Conformance and Interoperability is the crucial factor of every successful technology. Products with conformance certificate were marked accordingly at the booth.

We shot a short film sequence that highlights the EtherCAT features by means of the booth. This new film can be found at the EtherCAT website:

▶ www.ethercat.org/en/video.html

ETG Membership Assembly
@ SPS/IPC/DRIVES on Nov 24, 2010

The annual membership assembly of the ETG took place in Nuremberg at the fair ground of the SPS/IPC/DRIVES, in the evening right after the show hours of the first day.

The designated ETG representatives had been invited to receive the report from the board of directors and from the chairman of the Technical Committee (TC). The Board of Directors was exonerated and reelected unanimously: Prof. Dr. Peter Heidrich (Hochschule Pforzheim), Erich Hutflesz (Schuler SMG) and Martin Rostan (Beckhoff).

A special highlight was the presentation from Dr. Guido Beckmann (Chairmain TC). He gave an overview about the latest EtherCAT technology and specification updates. Mr. Rostan informed the audience about the various activities of the EtherCAT Technology Group worldwide. Please find the minutes and the slide set of the membership assembly in the members only section of the ETG website:

▶ www.ethercat.org/en/publications.html#ETG_Events

ETG Press Conference
@ SPS/IPC/DRIVES on Nov 25, 2010

At the ETG Press Conference during the SPS/IPC/DRIVES new offerings for developing Safety over EtherCAT solutions were announced.

Dieter Hess, Managing Director of 3S-Smart Software Solutions GmbH, announced the support of the CoDeSys Safety editors for the decentralized safety controller from Beckhoff. As a result, CoDeSys customers can enhance their control systems with functional safety without having to develop and certify their own safety controller. 3S-Smart Software Solutions GmbH will also implement Safety over EtherCAT (FSoE) in the company's own safety control package.

FSoE protocol stacks for master and slave devices were announced by IXXAT managing director Christian Schlegel. IXXAT not only offers the protocol software itself, but also supports its customers with implementing and certifying their Safety over EtherCAT devices. Read the full press release here:

▶ www.ethercat.org/press

ASIA

ETG Member Meetings in Japan and Korea well attended
Annual Meetings 2010

Many Japanese and Korean member representatives of the EtherCAT Technology Group (ETG) used the opportunity to get the latest EtherCAT technology updates at first hand on one of the local member meetings.

The annual ETG Member Meeting Japan was held in Tokyo. Like previous meetings it was well attended again by over 130 representatives of ETG member companies in Japan. Martin Rostan, Executive Director of the ETG, provided an update on worldwide ETG activities. He also presented the latest technology enhancements that have been developed by ETG Working Groups. The ETG Task Force Japan gave an overview over the various initiatives of the group that has joined forces to promote and support EtherCAT in Japan. The Task Force not only organizes joint trade show booths (such as the one described below), press articles about EtherCAT, seminars and training

classes, but also organizes an effective technical support team in Japan (see also below). Task Force Japan members are Algosystem, Hitachi, Nagano Oki, Omron, Sanyo Denki, Soft Servo and ASTEM, the current host of the ETG office Japan.

More than 60 representatives of Korean ETG member companies joined the ETG Member Meeting Korea, held in Seoul.
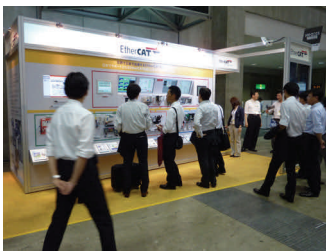

In addition to the ETG update a highlight was the speech of Prof. Yongseon Moon from Sunchon National University: he presented several successful robotic applications – all equipped with EtherCAT which has been established as the de-facto standard for robotics in Korea. The highly technology-oriented Korean market identified early the outstanding advantages of EtherCAT and now profits in its various machine applications.

EtherCAT at TECHNO FRONTIER
First time participation

The first participation of ETG on the TECHNO FRONTIER, the largest Japanese Electronic & Mechatronic devices and components exhibition at Tokyo Big Sight, was a great success.

Over 20 ETG member companies showed a broad range of their EtherCAT products that are available on the Japanese market: PLCs and motion controller with EtherCAT master functionality as well as EtherCAT slave devices such as servo drives, digital or analogue I/O devices and evaluation kits were demonstrated live.

Besides the booth itself ETG offered a free EtherCAT introductory seminar. The large number of visitors - over 80 participants attended - reflected the huge interest in the technology, too.

The trade show booth was organized by a team of ETG Task Force Japan members led by Hitachi IES, who did an excellent job in preparing and running the booth.

The English version of the TECHNO FRONTIER website can be accessed via the following link directly:
▶ www.jma.or.jp/tf/

EtherCAT at SEMICON Japan
EtherCAT next gen network for SEMI industry

EtherCAT is on its way to become a de-facto standard in the semiconductor industry, and many large Japanese semiconductor tools makers have already selected EtherCAT as their next generation network.

In order to support this development, ETG participated again at the SEMICON Japan trade show in Chiba, this time with a joint booth with 20 co-exhibitors.

The concept of the successful TECHNO FRONTIER booth was adapted to the Semicon industry. On each day, there also was an EtherCAT introductory seminar held at the show.

EtherCAT devices were not only shown at the ETG booth, but at many other booths as well. Some exhibitors had selected EtherCAT as their main topic at their own booth, and others used the Semicon show to introduce new EtherCAT enabled products.

Similar to the TECHNO FRONTIER booth, also the booth at Semicon Japan was organized by a team of Task Force members. Find the English Version of the SEMICON website here: ▶ www.semiconjapan.org/en/index.htm

ASIA

EtherCAT Specification in Korean
New language variant available

Robotics, semiconductor and FPD manufacturing, ship building: EtherCAT is popular in many major industries in Korea.

Consequently, Key Yoo, MD of Tri-TEK and manager of the ETG Office Korea has put in some extra effort and translated the EtherCAT specification Korean language. In line with that initiative the 480 page specification has been submitted to the Korean Agency for Technology and Standards (KATS), the Korean national standardization body. EtherCAT, which is an international IEC standard since 2007, is thus on its way to become a national Korean. ▸ www.ethercat.org/memberarea/download_spec.asp

2nd Asian EtherCAT Plug Fest
Japan follows Korea as hosting country

Following the 1st Asian EtherCAT Plug Fest, which was held in fall 2008 in Korea, the 2nd Asian interoperability event was held in October in Japan. It was hosted by ASTEM RI in Kyoto and well attended by 21 participants representing 13 Japanese and Korean ETG member companies.

In the same week also EtherCAT implementation training classes were held at ASTEM, addressing the needs of new technology adopters.

EtherCAT Seminar Series in China
Beijing, Shanghai, Shenzhen

The EtherCAT Seminars in China were well attended: 175 participants joined the events in Beijing, Shanghai and Shenzhen in October.

The agenda contained a detailed EtherCAT introduction as well as an overview over Chinese and International EtherCAT applications. Dr. Yanqiang Liu from the EtherCAT competence center at Beihang University, Beijing, pointed out that most new Chinese CNC developments are EtherCAT based. He also showed Chinese EtherCAT applications in the semiconductor industry, in power generation and packaging machinery.

The new 610m (!) high Canton tower in Guangzhou—the tallest tower in the world—has been equipped with an EtherCAT based active vibration damping system: another example where the outstanding performance of EtherCAT paired with its topology flexibility was beneficial.

ETG website in Japanese Language
EtherCAT website enhanced

The Japanese translation is maintained by ASTEM RI which also hosts the ETG Office Japan.

Currently 152 member companies from Japan form the third largest national EtherCAT community in the EtherCAT Technology Group. The ETG Task Force Japan is very active promoting and supporting EtherCAT technology in Japan. ETG is happy to respond to the wish of the Japanese EtherCAT community by introducing the Japanese version of the website, which was made possible by the special effort of the EtherCAT team at ASTEM RI in Kyoto who provided the translation and maintains the updates.

Thus the website of the EtherCAT Technology Group now offers three language variants: English, Chinese and Japanese.

▸ www.ethercat.org/jp.htm

Mail-based technical support in Japan
Task Force Japan started service

Through surveys at various trade shows and seminars, ETG Task Force Japan has been studying issues and requirements regarding support and services to be provided by ETG, and solving them step-by-step in order of priority.

Following this analysis, the Task Force has just started offering mail-based technical support and service in the local language. ETG Office Japan will continuously improve its support and service system. For further information in Japanese language, please read the more within the news section:

▸ www.ethercat.org/news

Industrial Automation Show
Shanghai

Strong interest in EtherCAT at Industrial Automation Show.

The EtherCAT booth at IAS in Shanghai was so well frequented that we ran out of EtherCAT brochures mid of the show. The booth featured a variety of EtherCAT products both from Chinese and foreign automation vendors.

ETG has been exhibiting at this show in the Shanghai New International Exhibition Center since 2006, when it was called Factory Automation Asia. What started as a small EtherCAT info booth, meanwhile has more the character of a larger joint booth of EtherCAT members.

Members interested in co-exhibiting are invited to contact ETG office China. ▸ www.industrial-automation-show.com

REPORTS

EtherCAT at SEMICON West
Tradeshow participation and Conference Paper

ETG participated again in the SEMICON West trade show in San Francisco, USA.

Introducing a new booth concept with better visibility the ETG booth at Semicon West was easy to find—and many visitors took the opportunity to inform themselves about the technology that has been adopted by so many large OEMs in this industry.

Together with the show, SEMI held the Advanced Semiconductors Manufacturing Conference (ASMC), where a paper titled „EtherCAT–enabled Advanced Control Architecture" was presented. The paper, coauthored by Martin Rostan, Joseph E. Stubbs (ETG) and Dmitry Dzilno (Applied Materials), generated lots of interest at the ETG booth; it can be downloaded here:

▸ www.ethercat.org/en/publications.html#Conference_Papers

Technical Committee Meeting

The fall meeting of the EtherCAT Technical Committee (TC) took place in Raunheim, Germany, near Frankfurt Airport.

Besides the reports of Working Groups other topics like EtherCAT

document types and states, Safety over EtherCAT technology enhancements, implementation aspects regarding the modular device description as well as ETG activities 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 fall 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:

▸ www.ethercat.org/memberarea/tc_2010_fall.asp

RTECC in Boston and Seattle
EtherCAT for Embedded Designs

ETG participated at the Real Time & Embedded Computing Conference (RTECC) in Boston (MA) and Seattle (WA) in 2010.

In seminars held in conjunction with the exhibition, Joey Stubbs, North American Representative of the EtherCAT Technology Group gave an in-depth introduction to EtherCAT. Both seminars were well attended, and ETG plans to participate in several RTECC events in 2011.

▸ www.rtecc.com

EtherCAT Plug Fests with record participation
10th European Plug Fest / 2nd North American Plug Fest

A record number of 54 participants attended the 10th European EtherCAT Plug Fest, hosted by Lenze Automation in Braunschweig, Germany on September 22-23.

At this EtherCAT Plug Fest, 10 different master implementations were tested with the slave variety of 21 different vendors. All slave devices were operated individually and in groups with all master devices. The EtherCAT Conformance Test Tool was used in addition to check all slave devices with regards to conformance to the EtherCAT specifications.

It was the first time that ETG had to turn down registrations because of room restrictions as well as to ensure qualified feedback to all participating companies.

The second North American EtherCAT Plug Fest was well attended again.

At this Plug Fest seven master implementations were tested with the slave variety of 10 different devices. Yaskawa Electric America in Waukegan (IL), USA hosted this interoperability testing event of EtherCAT implementations on September 9-10.

Due to the persistent demand and success of these Plug Fests, ETG will announce further dates soon at the event section. The main goal of EtherCAT Plug Fests is to test and improve interoperability of the devices from various vendors. In addition, the events act as a forum for discussing implementation tips and tricks as well as for clarifying questions regarding the technology.

MISCELLANEOUS

ETG Member Logo Rules
Definition of logo usage

The ETG Member Logo Rules define the framework and the conditions for the usage of company names and company logos of the members of the ETG.

This document is available for download now:

▸ www.ethercat.org/memberarea/Download/pdf/ETG_Member_Logo_Rules.pdf

The usage of the trademark and logo "EtherCAT" and any other logo of the ETG is specified within the ETG.9001 Marking Rules, which can be found here:

▸ www.ethercat.org/memberarea/Download/pdf/ETG9001_S_R_V1i1_MarkingRules.pdf

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

Your EtherCAT product and/or service is missing? Take the chance and send an email to info@ethercat.org to add your product for free today!

Use the EtherCAT Product Guide to leverage your EtherCAT product sales.

▸ www.ethercat.org/products

The product guide rules contains the requirements for a product entry:

▸ www.ethercat.org/MemberArea/Download/PDF/ETG_Product_Guide_Rules.pdf

Certified Devices @ Product Guide
Marking of Conformance Tested Devices

As already seen on the ETG Joint Booth at SPS/IPC/DRIVES 2010, ETG enhanced marking of officially **Conformance Tested devices within the online product guide.**

Please find the updated EtherCAT product guide with conformance marked devices here:

▸ www.ethercat.org/products

More about conformance & interoperability can be found within the Conformance section at the EtherCAT website:

▸ www.ethercat.org/conformance

EtherCAT Book in Chinese Language
published by Beihang University, Beijing

Prof. Dr. Ji Huan and Dr. YanQiang Liu from the Laboratory of Numerical Control and Automation (LNC) at Beihang University, Beijing published an EtherCAT book in Chinese language

Prof. Huan is a leading researcher in the field of CNC and Dr. Liu is well known in the EtherCAT community in China since he is the trainer at EtherCAT development workshops. LNC acts as EtherCAT competence center on behalf of ETG. The book serves as a detailed technical reference for developers of EtherCAT devices and is available from Beihang University.

If you are interested, please contact LNC directly:

▸ www.nc-servo.com

SAFETY

Safety over EtherCAT now an International Standard
FSoE Protocol accepted by 27 national IEC committees

Together with the IEC 67184-3 standard, the Safety over EtherCAT Protocol was accepted unanimously by the 27 national IEC committees.

Achieving this international standard is an important milestone for the EtherCAT Technology Group (ETG). It will further leverage the wide acceptance and uniform usage of EtherCAT technology within the automation world.

The Safety over EtherCAT protocol is referred to as FSCP 12 (Functional Safety Communication Profile) in IEC 61784-3. This standard defines the fundamental requirements of a communication system in terms of safety relevant data transmission. In order to do so, it also defines potential errors whose occurrences have to be assumed and describes possible recognition and corrective measures. All requirements are met safely by the Safety over EtherCAT protocol.

Usage of Safety over EtherCAT however is not limited to EtherCAT. By employing the "black channel" approach it is ensured that the safety quality is independent of the communication channel: EtherCAT, Ethernet, other fieldbus systems, underlying subsidiary bus systems and even wireless communication links are allowed.

This is confirmed by the certification of the notifying body TÜV SÜD and is used in practice: Safety over EtherCAT data containers are routed via standard controllers and even gateways to neighbouring systems where they are interpreted in a safe manner – thus one safety domain can successfully span the entire installation.

Read full press release within the press section:

▸ www.ethercat.org/press

UPCOMING EVENTS

EtherCAT Roadshows Q1/2011
Register for the seminar series now!

We invite everybody to register for free to one of the upcoming EtherCAT / Industrial Ethernet Seminar Series in France, Italy and India. In March, a Seminar Series in the UK will follow, and in May there will be a similar series in Switzerland.

Read more about the French, Italian and Indian event series on page 3 or visit the special websites, including agenda and online registration.

January 25-26, 2011 | EtherCAT Roadshow France
▸ www.ethercat.org/2011/france

February 08-10, 2011 | EtherCAT Roadshow Italy
▸ www.ethercat.org/2011/italy

February 22-25, 2011 | EtherCAT Roadshow India
▸ www.ethercat.org/2011/india

March 15-17, 2011 | EtherCAT Roadshow UK
▸ www.ethercat.org/events

May 11-12, 2011 | EtherCAT Roadshow Switzerland
▸ www.ethercat.org/events

Tradeshow Participations Q1/2011
Visit us, see new EtherCAT devices, meet experts

March 01-03, 2011 | Embedded world: ETG Joint booth
▸ www.embedded-world.de/en/

March 07-10, 2011 | SIAF 2011: ETG Booth
▸ www.siaf-china.com/english/

March 08-11, 2011 |Automation World 2011: ETG Booth
▸ www.automationworld.co.kr

Working Group Dates
Join a Working Group and contribute to their work

The Working Groups "Master Classes", "EAP" and "Conformance" will meet in January 2011, next meeting dates will be announced soon in the events section or the Working Groups overview page:
▸ www.ethercat.org/memberarea/working_groups.asp

January 25, 2011 | Working Group: Master Classes
▸ www.ethercat.org/memberarea/wg_masterclasses.asp

January 26, 2011 | Working Group: EAP
▸ www.ethercat.org/memberarea/wg_eap.asp

January 27, 2011 | Working Group: Conformance
▸ www.ethercat.org/memberarea/wg_conformance.asp

EtherCAT Events 2011
Online now.

Please check out the actual event section of the EtherCAT website for further events and details:

▸ www.ethercat.org/events

EtherCAT Technical Training Class & Safety over EtherCAT Seminar
Join a seminar one day before the Technical Committee Meeting

March 22, 2011 | EtherCAT Technical Training Class

One day before the Technical Committee there will be a full day EtherCAT Technical Training Class in Raunheim, Germany. There will be a separate invitation send to this event soon.

March 22, 2011 | Safety over EtherCAT Seminar

One day before the Technical Committee there will be a half-day Safety over EtherCAT Seminar in Raunheim, Germany. There will be a separate invitation send to this event soon.

Technical Committee Spring Meeting

March 23, 2011 | ETG Technical Committee Meeting

The next TC meeting will be held again at the Mercure Hotel Frankfurt Wings Airport located in Raunheim, Germany (near Frankfurt). There will be a separate invitation send to this event soon. Please find former meeting minutes here:
▸ www.ethercat.org/en/publications.html#Technical_Committee

Marketing Committee
First Meeting 2011

February 15, 2011 | ETG Marketing Committee Meeting

The first MC meeting in 2011 will take place in Berlin at the Beckhoff office. If you are interested in active participation please write an email to info@ethercat.org.