

# 30 years of CiA: Celebration and feedback



*On June 1 and 2, CiA and its members celebrated the 30<sup>th</sup> birthday of CAN in Automation in a nice location in Nuremberg in the midst of the city park.*

About 60 participants from 36 member companies and nine employees from CAN in Automation (CiA) joined the event. The event was an excellent opportunity to meet CAN fellows with different expertise and backgrounds. Besides the official program, there was plenty of time for individual talks in the breaks and on the first day's get-together. Most important for old and new CiA fellows was the opportunity to exchange experiences and knowledge, refresh personal networks, and establish new relations. Many participants took away new ideas for their future CAN product developments. The attendees also appreciated the detailed technical presentations and discussions with business partners, chipmakers, and competitors.

The success of the event may lead to the fact that more CiA community meetings will be held face to face. The newly-elected CiA Business Committee already discussed establishing of an annual event with technical presentations in conjunction with the General Assembly.

## Day one: focus on new CAN technologies

Holger Zeltwanger (CiA Managing Director) has opened the day with a look-back to the CiA beginnings. Since the CiA establishment on March 5, 1992 with 13 member companies, the CiA membership increased to more than 720. CiA has released more than 25 000 pages of specifications

and recommendations developed in about 40 CiA technical groups. There were published more than 120 issues of the CAN Newsletter magazine, and CiA organized 17 international CAN Conferences (iCC).

The first presentation session focused on recent CAN lower-layer developments CAN XL, CAN SIC XL, and CAN FD Light. Comparing features of the three CAN generations, Dr. Arthur Mutter (Bosch) gave an insight into the improvements achieved with the development of CAN XL. The achievable bit rates were shown in a graphics comparing Classical CAN, CAN FD, and CAN XL. Magnus Hell (Infineon) showed the different CAN physical layer options going through the history of CAN transceivers and Matthias Muth (NXP) compared the capabilities of the CAN SIC and CAN SIC XL transceivers regarding possible bit-rates and topology-dictated limits. A CAN SIC XL (signal improvement capability) transceiver can be used for bit rates of 10 Mbit/s and higher. The three experts are sure that CAN users are really good prepared for the future with CAN SIC and CAN SIC XL transceivers as they provide more freedom for different topologies.

In the next presentation, Fred Rennig (ST Microelectronics) gave an insight into CAN FD Light. The development was advanced by the automotive light industry, but industrial applications can profit from the simplified CAN FD data link layer as well. The solution offers cost >



Figure 1: Experts are sure that CAN XL brings great improvements on all areas and users are well prepared for the future with CAN SIC and CAN SIC XL transceivers (Source: CiA)

savings especially for industries deploying it in large piece numbers. In the second session Christian Schlegel (CS Consulting) and Uwe Koppe (Microcontrol) talked about the development and future of classic CANopen and CANopen FD.

On the General Assembly, Uwe Koppe, Christian Schlegel, and Holger Zeltwanger were re-elected as CiA Technical Director, CiA Business Director, and CiA Managing Director, respectively. Together, they group the CiA board of directors for 2022. Additionally, members of the CiA Technical Committee (TC) and the CiA Business Committee (BC) were elected. The permanent members of the TC are Bosch, emotas, Emsa, esd, and NXP. Emotas, Emsa, esd, HMS, and Vector were elected as permanent members of the BC.

Thirteen companies, which joined CiA in 1992 and are still members today were honored on the first evening of the anniversary event. These are Eckelmann, esd, G.i.N., Janz Tec, KEB, Kvaser, Moba, Moog, NXP (formerly Philips Semiconductors), Port, Selectron (today a part of Knorr-Bremse), Softing, and Vector.

## Day two: applications and specifications

The second day comprised application-oriented presentations and insights to CiA specification developments. Sebastian Karrer (W&H Dentaltechnik, Austria) reported about CANopen networks connecting tools in dentist chairs. Bjørnar Wilsrød (Kongsberg Maritime) talked about

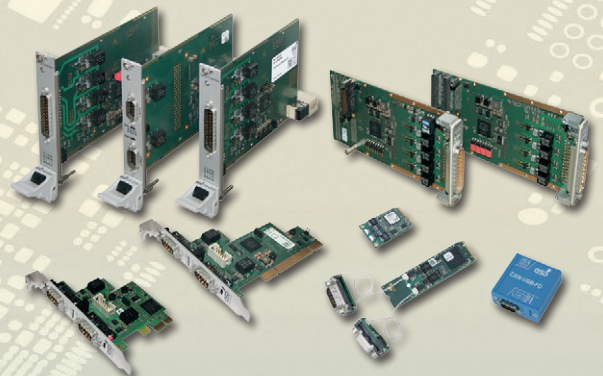


Figure 2: The event was an excellent opportunity to meet CAN fellows with different expertise and backgrounds (Source: CiA)



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Figure 3: Many participants took away new ideas for their future CAN product developments (Source: CiA)

CANopen usage in vessels and ships, where long networks are needed.

The fourth session was provided by CiA employees. Yao Yao gave an overview on CiA technical groups. Thilo Schumann informed about the UML (unified modeling language) usage in CiA documents, and Reiner Zitzmann talked about the generic CAN bootloader specification.

In the afternoon, the SIG CAN XL and the SIG CAN FD Light have had their regular meetings. In parallel, the newly-elected CiA Business Committee had its first meeting discussing the CiA activity plan for 2023.

## CiA member interviews

The anniversary event gave the CiA team a perfect possibility to get feedback about its work, to collect ideas, and to rethink the efficiency of some services. In an interview with Olga Fischer (CiA), experts from Microcontrol (Uwe Koppe), Port (Heidrun Scheller, Dietmar Franke), esd electronics (Dirk Flege, Oliver Thimm), ehb electronics (Harm-Peter Krause), emotas (Andreas Böbel, Torsten Gedenk), ifm (Dagmar Schymonski-Dederichs, Joachim Uffelmann), and Bosch (Dr. Arthur Mutter) answered four questions giving a valuable input for CiA work improvements.

**Q** What are the most important advantages of the CiA membership for your company?

**Microcontrol:** Of course, the work on CiA specifications and getting first-hand information. CiA is a basis platform to be contacted regarding all CAN issues. That's cool! Such possibilities as joint exhibition booths, product panels, and information distribution via CiA publications are very attractive marketing opportunities.

**Port:** Access to CiA specifications and the possibility to influence their content working under an independent umbrella. CiA also provides all-round information about CAN and gives support on further CAN inquiries. Being CiA member and providing specification-conform interfaces increases the customer's trust in our products.

**esd electronics:** Being informed! And, of course, to get and to work on specifications. A possibility to publish information about our new CAN products in CiA's media is important as well.



Figure 4: Christian Schlegel (left) and Uwe Koppe (right) congratulate Holger Zeltwanger for his 30-year engagement as CiA Managing Director (Source: CiA)

**emotas:** Networking within the CAN community and possibility to shape the future of CAN-based higher-layer protocols.

**ifm:** The possibility to work on and to access the CiA specifications. Nice is also that the members are really quickly informed about the ongoing and planned CAN-related activities. Being a CiA member, we are "sitting on the source" of the information. Available ideas can also be reused for work on other networking technologies, for example, to build gateways between them and CAN.

**Bosch:** CiA is a platform to exchange CAN-related information and a place where high quality specifications are worked out. To work together on an independent platform is of highest importance for us. At CiA, the topics can be specified together, no company is preferred. This is fantastic!

**Q** How important are the CiA publications, especially the CAN Newsletter magazine and CAN Newsletter Online?

**Microcontrol:** CiA's press work is a good multiplier of recent CAN news. The online availability of the information is a valuable searching source for any CAN topic.

**Port:** I (Heidrun Scheller) regularly read the information in the CIM, CMN, and CAN Newsletter Online with great interest. (Author's note: CIM is the monthly sent CAN Info Mail and summarizes news and activities regarding CAN technology. The monthly CMN - CiA Member News email provides exclusive information and can be subscribed only by CiA members.)

**ehb electronics:** I read the articles in the CAN Newsletter magazine, if the topic is of my interest. I'm also regularly updated via the CIM and CMN. Unfortunately, I didn't know about the existence of CAN Newsletter Online. When I saw this name, I always thought that it is an online version of the magazine.

**emotas:** CiA publications are important to stay updated. The articles in the CAN Newsletter magazine are suspenseful and informative. We read the CAN Newsletter Online articles in a selective way, mostly the news about competitor companies.

**ifm:** We are mostly reading the CIM and CMN. In the CAN Newsletter magazine (Joachim Uffelmann stated), we can find a lot of ideas for new application areas. ▶



# CAN Technology Symposium 2022 October 25, Stuttgart, Germany

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The presentations will be rounded off with an accompanying exhibition in which the companies of the speakers and Vector will present tools and solutions for various CAN applications.

**> Agenda & Registration:**  
[vector.com/vCAN2022](https://vector.com/vCAN2022)



Figure 5: The long-term CiA members (here Kvaser) were honored on the first evening of the anniversary event (Source: CiA)

**Bosch:** CiA publications are optically very nice! Unfortunately, the articles in CAN Newsletter magazine are mostly too long for my available time. But I regularly read the CIM and CMN, as these are short, laconic, and give a good overview on recent activities.

**Q** Which additional CiA services would you like to see?

**Microcontrol:** CiA should be more presentative and show its existence in a more widespread way. For example, on exhibitions, members could expose a symbolic item showing that a company is CiA-member. Social media (especially LinkedIn) is also a good opportunity to boost CAN image. A tip regarding videos: Make them short and put the issue in a nutshell to address the new engineer generation.

**Port:** At the moment, we are perfectly happy!

**ehb electronics:** We have no ideas for additional services.

**emotas:** We are very contented with the available services.

**ifm:** We have some ideas, but these relate to future technical group activities and we would discuss them first CiA-internally. On the whole, we are perfectly happy.

**Bosch:** I have no ideas for new services, but maybe some available services could be improved. As I work within several technical groups, I receive a lot of invitations, reminders, and working documents, which I have to handle. As a suggestion, CiA could prepare meeting invitations with a possibility to automatically save the date in Outlook. It would be nice to have a “standard” invitation text with only the required information. To have a clear view on documents, it could be sufficient to distribute a link to the group’s download area, when a new document, minute, or comment is available. Please, do not distribute the same files twice.

**Q** How do you estimate the future of the CAN technology?

**Microcontrol:** As CAN is in a continuous development, it will live for at least the next 30 years.

**Port:** In industrial automation, Classical CAN will be on-duty for at least next ten years, which is a typical application lifetime. The protocol stack business is stable for last ten years. Former, there was a high growth of this. CAN FD is (yet) not really used in industrial implementations.

CAN FD Light is also more reasonable for use in cars, as its benefits (e.g. price-sensitivity) are suited for mass-production and industrial applications are mostly individual solutions. We think, CAN XL has more perspectives as CAN FD. It is a lower-priced alternative to Industrial Ethernet, offers real-time capabilities, and provides comparable data throughput, if required.

**ehb electronics:** You know the EIA-232 serial interface? It is still alive! I think, CAN will live for at least the next 30 years. As you see, CAN is still in development. Currently, we are working with Classical CAN and CAN FD. CAN XL is not yet considered so far.

**emotas:** As long as CAN will be used in cars, it will be alive.

**ifm:** “Those declared dead live longer...” As long as the CAN technology is not locked for further developments and improvements, it will be used. CAN provides “good genes”, is well established, reliable, cost-effective, and proven in countless applications. The available toolchains simplify new developments. Looking at the conservative markets such as mobile machines (added Dagmar Schymonski-Dederichs), CAN will be deployed for a very long time, as they seldom change a running system.

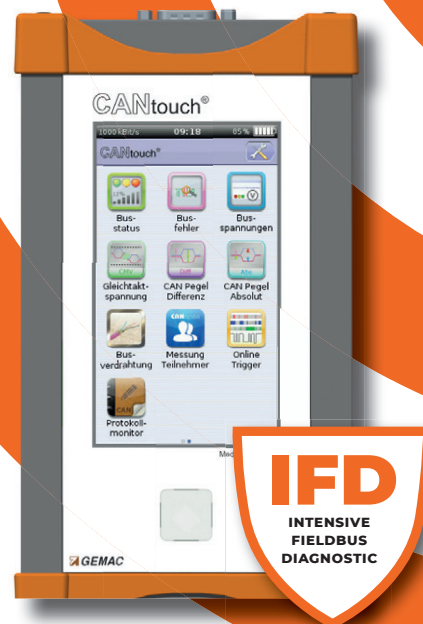
**Bosch:** CAN will be needed forever... The three CAN generations offering respective benefits are predestined for their own application fields. Regarding CAN XL, we are just at the beginning! It is like a crystal, which is starting to grow. The base CAN XL specifications (the crystal core) were recently released. Supplementary specifications are in work and first implementations are showing up. When the required ecosystem is developed, the CAN XL crystal will live and grow for a very, very long time. The only drawback I see, is the education of the new engineer generation(s). At technical colleges and universities, the lectures about communication technologies are very Ethernet centric. The graduates barely know anything about CAN. When they start working at companies, they promote solutions they know... Thus, CiA and the CAN community should be “louder” and more active in promoting CAN to get more attention. ◀



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