# CAN *Newsletter Online*

Q&A WITH EMTAS

## *"We are a late bird only at first glance"*

**Andreas Boebel from Emtas (Germany) on implementing CAN FD, CANopen in pedelecs, and what building a house has to do with developing CANopen stacks and tools.**

*Andreas Boebel, CEO and co-founder of Emtas (Photo: Emtas)*

**Q:** *Your are a late bird in the CANopen business. Why should people buy your CANopen protocol stack?*

**A:** Our business is young, but we are a late bird only at first glance. Some of us have been working with CANopen for nearly 25 years now. We have many years of experience in the stack and tools development and the realization of special customer projects. And also for a long time now we have participated in the process of the CANopen standardization. So we started the development of our CANopen stack and tools from scratch with all our experience and designed a complete package, for the best user friendly and usable interface, for efficient and reusable code, and for safety and high quality source code based on MISRA C.

**Q:** *Does this hold true, even though your CANopen software is not as mature as your competitors' software?*

**A:** Yes, of course. Please consider the experiences we have and as you know, our active participation in the CiA standardization work. Let me explain with an example: When you are building your second house, all the experiences you have from building the first one will help you to avoid errors and mistakes you made before. With the second house, you know the requirements better and the house will be more comfortable in the end.

Coming back to our products: We know a lot about customer requirements, comfortable development and feasible solutions and we put all this knowledge into our products.
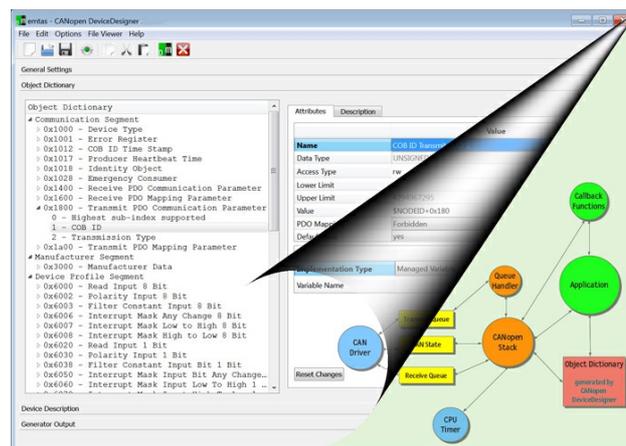


*The configuration tool CANopen Device Designer creates object dictionaries on the basis of predefined profiles (Photo: Emtas)*

**Q:** *You are active in the Pedelec business with your CANopen software. Is the acceptance of CANopen in this market already widespread?*

**A:** It is a similar situation as when CANopen was introduced. Currently, the most used bus system in electric bikes is CAN. And most of the bike manufacturers are looking for a standardized communication between the different components to reduce the price and to improve interoperability.

Therefore the Energybus association has established a joint working group with the CiA to develop CiA 454, which is currently transferred into an IEC standard. Of course an increased market penetration will need some more time, but Emtas provides communication stacks, tools and implementation services to pave the way for an easy migration and to further increase the acceptance of the protocol.

**Q:** *On which interface hardware do your CANopen tools run?*

**A:** Different kinds of CAN interfaces are supported. Emtas tools support interfaces from USB to PCI, from Linux to Windows, even exotic ones for PC104 or Ethernet to CAN gateways. Unfortunately there is no common driver interface available which makes it hard to support all interfaces. But the common ones by well-known manufacturers like Janz Tec, Kvaser, Systec, Vector, Peak, and EMS Wünsche are supported.

**Q:** *What comes next? CANopen tools supporting CAN FD?*

**A:** Our tools already support CAN FD, for example the CANinterpreter and the CANopen Device Explorer. But here we depend on the availability of CAN FD interfaces. Currently only Linux solutions with can4linux or socketCAN are supported. And as one of the first, our CANopen protocol stack also implements all CAN FD related services as defined in the latest CiA 301 document.