

Q&A WITH 3S

Questions to software specialists

Stefan Blasi answered five questions about the Codesys PLCopen runtime system. 3S provides SIL-2 and SIL-3 runtime systems.

Q: Do you supply a CANopen protocol stack with your PLCopen runtime system? Which CiA 301 version does the stack comply with?

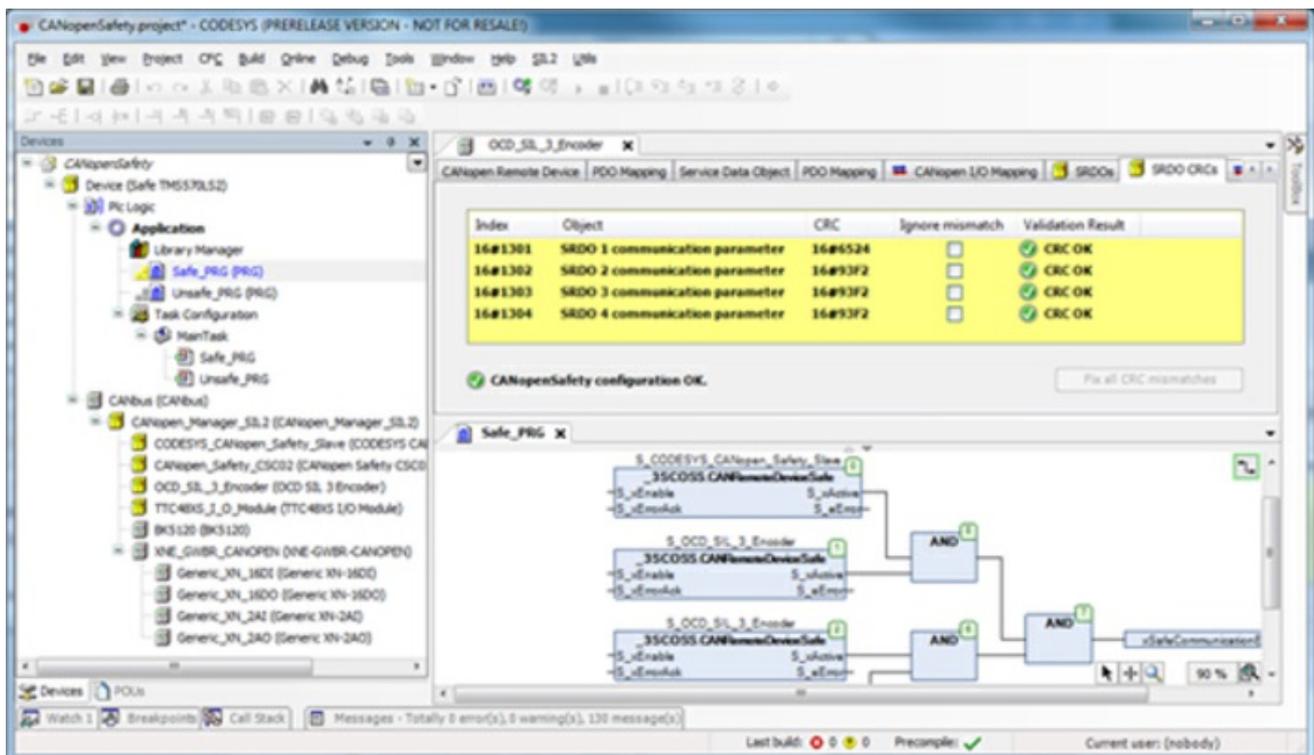
A: Both Codesys V2 and Codesys V3 come with a CANopen master and slave stack. They can be configured with integrated easy-to-use configurators. Our stacks comply with the latest CiA 301 specification and are implemented in the IEC 61131-3 language Structured Text as a portable Codesys library. They are compiled, linked, and downloaded together with the application to the runtime system.

Q: Does your CANopen protocol stack feature additional functionality as specified in CiA 302 series (e.g. Flying NMT master, SDO manager) or CiA 305 (Layer Setting Services)?

A: The master and slave stack support the optional Time protocol as specified in CiA 302. Furthermore it is possible to perform a CANopen network scan with the Codesys V3 CANopen master. All detected slaves are automatically added to the Codesys device tree.



The computer scientist Stefan Blasi is 3S' CAN specialist (Photo: 3S)



Screenshot of 3S' integrated CANopen Safety solution (Photo: 3S)

Q: Does your CANopen protocol stack support the CANopen-Safety protocol? Which Safety Integrity Level does it comply with?

A: Codesys V3 provides a SIL-2 and SIL-3 runtime system. The SIL-2 runtime system is designed for mobile machines and supplies a CANopen Safety extension for both master and slave. The CANopen Safety stacks are implemented as Codesys libraries as well.

The Codesys V3 IDE comes with an easy-to-use CANopen-Safety configurator extension. All CRCs for safety configuration are automatically calculated by Codesys so that no additional tools are required.

Q: Which CANopen profiles do you provide for CANopen slave implementations?

A: Our CANopen Slave stack is a complete generic implementation. It does not implement a specific profile. The user can import an object dictionary from any EDS file. In future versions we will also offer an object dictionary editor.

Q: Do you offer PLCopen function blocks for CANopen services? Do they comply with CiA 405 or are they proprietary?

A: Yes, Codesys V3 comes with a CiA 405 compliant library. It offers function blocks for diagnosis, SDO Read/Write and Network Management. Furthermore we supply certified PLCopen function blocks for motion control. These function blocks can operate with CiA 402 compliant CANopen drives through our CANopen motion drivers.

