

Many micro-controller manufacturers have a tool and software partner program. ST Microelectronics has established additionally a quality label.

The French-Italian chipmaker, ST Microelectronics, is further increasing the market appeal of its STM32 micro-controller family by launching the "MadeForSTM32" label for qualified, reviewed, and approved products from the company's partners in the development ecosystem. Engineers designing with micro-controllers rely on the ecosystem that provides configuration and development tools, ready-to-use software examples and libraries, and printed circuit boards to prototype their applications and bring them into production. Because those embedded systems require a standardized embedded CAN network, CANopen and J1939 protocol stacks are needed. The protocol stack vendors Emtas, Microcontrol, Port, and Simma are taking part already in ST's partner program.

For many designers, the quality and effectiveness of the ecosystem is an important factor when choosing among micro-controller manufacturers for current and future designs. The STM32 family offers an already ecosystem that provides important software products and evaluation boards for developing with STM32 devices. Addressing the constant aim of helping customers find a solution for their design, ST is launching the "MadeForSTM32" program to review and qualify offerings from ST partners within the STM32 ecosystem. The quality label ensures that all products within the ecosystem are of consistently high quality. "Our new label provides robust assurances for product designers by highlighting our assessment and approval of the quality and performance of third-party ecosystem products, as well as the customer support available," said Daniel Colonna, ST's Marketing Director. "There is added value for our ecosystem partners too, with branding using the MadeForSTM32 logo for approved products and literature, promotional opportunities, and access to the results of our technical evaluation to help drive continuous product improvement. The benefits of this program to both engineers and partners encourage significant expansion of the STM32 ecosystem with highquality products."

Seeger's Embos and Unison's Rowebots real-time operating systems (RTOS) have already been assessed and endorsed to become the first qualified approved pieces of embedded software. Other products are currently being evaluated. Microcontrol has submitted its protocol stacks for CANopen, CANopen FD, and J1939 for approval.

The chipmaker has promoted an open approach to maximize the choice of ecosystem products and services available to users of its STM32 micro-controllers. The introduced quality label now raises the bar by providing \triangleright

a structure for assessing key attributes of partners' ecosystem products, and a label that vouches for quality, performance, and dependability. Any ecosystem partner can submit a product for evaluation and, after a successful review and approval, use the quality label. Embedded software such as CANopen or J1939 protocol stacks must be compatible with the STM32Cube ecosystem, packaged as a software expansion for STM32Cube, and demonstrated running on appropriate STM32 boards. All products must be currently available to any customer as well as supported and maintained.

The STM32 family comprises 900 variants. Many of them are equipped with Classical CAN and CAN FD interfaces.

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CANopen protocol stack in ANSI-C

Emtas offers for the STM32 micro-controller family a CANopen protocol stack with NMT master/slave functionality, which conforms to CiA 301 version 4.2. It is written in ANSI-C and it is compliant with the Misra coding rules. As an addition the company provides all necessary tools for development and test of CANopen devices and networks. A special framework for the CANopen-based Energybus is available, too. The CANopen protocol stack is distributed by the HMS brand Ixxat. Microcontrol, Port, and Simma provide also CANopen protocol stacks for the STM32 family. Microcontrol's CANopen boot-loader protocol stack provides the complete functionality for integration of a bootloader according to the CANopen standard in CAN-connectable devices. Versatile configuration options facilitate individual customization to a target product. In implementation of the boot-loader special emphasis was placed on low storage requirements. The CANopenNode (Github) open-source project supports the micro-controllers, too.



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CANopen FD	2019-10-23	German	Frankfurt/Main (DE)
CANopen safety	2019-11-19	German	Nuremberg, DE
CAN for newcomers	2019-12-04	English	Nuremberg, DE
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