

## SEGGER joins world-wide organization of PROFIBUS users

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**SEGGER recently joined the PROFIBUS Nutzerorganisation (PNO), a worldwide community that is promoting, supporting and using the PROFIBUS and PROFINET automation enabling technology. As the Embedded Experts, SEGGER's emNet IP stack supports implementing PROFINET applications based on Ethernet technology, such as Ethernet-APL.**

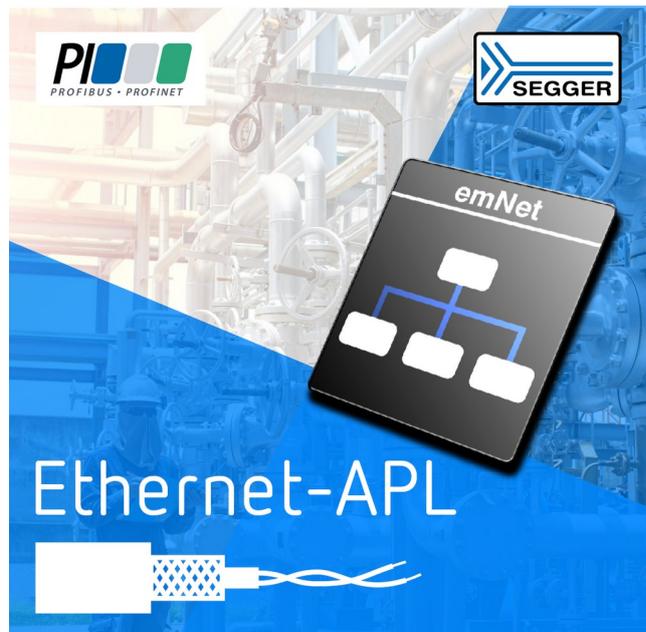
The PNO has developed PROFINET as an Ethernet-based communication solution for industrial automation. To ensure that Ethernet also meets the special requirements of the process industry, the advanced physical layer [Ethernet-APL](#) has been defined to transmit power and data via the same 2-wire cable to hazardous areas.

Shortly after the definition of the Ethernet-APL standard SEGGER developed a convincing solution for the requirements: The use of SEGGER's [emNet](#) in combination with an ultra-low-power microcontroller connected to an external MAC/PHY Ethernet-APL chip. This solution is being implemented by SIEMENS in future field devices.

“We are excited to support the adaptation of Ethernet-APL devices in the market as a new member of the PROFIBUS user organization,” said SEGGER's CEO Ivo Geilenbruegge. “PROFINET already is a widely used industrial Ethernet protocol. Its potential fields of application expands greatly with Ethernet-APL.”

“We are continuously developing our technologies. With Ethernet-APL, PROFINET will make Ethernet usable for all application areas of process automation. The first products will be available in the short term,” explained Dr. Peter Wenzel, Executive Director of PNO. “We warmly welcome SEGGER to PNO and look forward to a good collaboration.”

With emNet even the smallest ULP microcontrollers operate with high transmission speeds. The dual IPv4/IPv6 TCP/IP stack for embedded systems was developed from the ground up for resource-constrained embedded applications and is known for having low memory requirements while being flexible and expandable. For example, the complete stack on a Cortex-M-based microcontroller occupies less than 20KB of ROM and only 1.5KB of RAM (without read/write buffers).





emNet also offers easy integration without configuration effort. Its design, specifically targeted at embedded devices, makes it very efficient in terms of packet processing speed. This means that even small, low-frequency microcontrollers can deliver excellent network performance.

Last but not least, emNet's flexible PHY driver layer provides support for virtually any Ethernet PHY transceiver. emNet includes a generic PHY driver compatible with nearly all single-port PHYs on the market that follow the IEEE 802.3u standard. Support for other PHY-like devices such as Ethernet switches is also available.

For technical details about emNet and performance analysis please have a look here: <https://www.segger.com/products/connectivity/emnet/technology/performance/>

Detailed information on Ethernet-APL you can find here:

<https://www.segger.com/products/connectivity/emnet/ethernet-apl/>

For a case study on future Ethernet APL devices from SIEMENS please look here:

<https://casestudies.segger.com/segger-emnet-supports-siemens-smart-ethernet-apl-field-devices-for-the-process-industry/>

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## About SEGGER

SEGGER Microcontroller has over twenty-nine years of experience in Embedded Computing Systems, producing state-of-the-art software libraries, and offering a full set of hardware tools (for development and production) and software tools.

SEGGER's all-in-one solution emPower OS provides an RTOS plus a complete spectrum of software libraries including communication, security, data compression and storage, user interface software and more. Using emPower OS gives developers a head start, benefiting from decades of experience in the industry.

SEGGER's professional software and tools for Embedded System development are designed for simple usage and are optimized for the requirements imposed by resource-constrained embedded systems. The company also supports the entire development process with affordable, high-quality, flexible, easy-to-use tools.

The company was founded by Rolf Segger in 1992, is privately held, and is growing steadily. SEGGER also has a U.S. office in the Boston area and branch operations in Silicon Valley, Shanghai and the UK, plus distributors on most continents, making SEGGER's full product range available worldwide.

## Why SEGGER?

In short, SEGGER has a full set of tools for embedded systems, offers support through the entire development process, and has decades of experience as the Embedded Experts.



In addition, SEGGER software is not covered by an open-source or required-attribution license and can be integrated in any commercial or proprietary product, without the obligation to disclose the combined source.

Finally, SEGGER offers stability in an often volatile industry making SEGGER a very reliable partner for long-term relationships.

For additional information please visit: [www.segger.com](http://www.segger.com)

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