PLS' UDE is ready for the new S32M2 motor control MCU family from NXP

Lauta (Germany), November 13, 2023 – The Universal Debug Engine (UDE) from PLS Programmierbare Logik & Systeme is now supporting the new S32M2 motor control solution from NXP® Semiconductors.

The S32M2 is a highly integrated solution that is optimized for efficiency improvements across body and comfort applications such as sunroof, pumps, fans, trunk openers and more, thus contributing to energy saving and range extension of electric vehicles, while offering in-cabin noise reduction and occupant comfort enhancement.

The new S32M2 series is based on Arm® Cortex®-M4 or -M7 cores and is fully software-compatible with the widely adopted S32K MCU products. The main core clocks at 80 MHz in the Cortex-M4 devices, and 120 MHz in the Cortex-M7 devices. For the addressed target applications of 12V motor control applications the S32M2 comes with additional high voltage analog features such as MOSFET gate pre-drivers, LIN or CAN FD as physical communication interfaces and voltage regulators which can directly run from the cat battery. The S32M2 can be used in safety applications up to ASIL B in accordance with ISO 26262 and provides dedicated hardware security features.

PLS' UDE offers S32M2 users not only extensive and interactive debug functions, but also various visualization options for application states directly in the UDE user interface. These many different options enable comprehensive system tests and system analyses in addition to highly efficient debugging. The intuitive design of the UDE user interface also ensures a short training period and enables efficient use of the tool. Especially when moving from the S32K MCU family to the development of S32M2 and vice versa only minimal training effort is required.

A significant benefit for software development and testing with the Universal Debug Engine is the tool's extensive customization options. The UDE fully supports multi-screen operation and has freely configurable perspectives that let developers define multiple views and switch between them to focus on a specific debugging task. Predefined configurations for the S32M2 and the evaluation boards supported by UDE enable developers to quickly begin their debugging or testing tasks without worrying about detailed settings.

The UDE debugger system is complemented by the UAD2pro, UAD2next and UAD3+ devices from PLS' Universal Access Device family. They provide fast and reliable access to the S32M2 MCUs via the Arm-specific Serial Wire Debug (SWD) interface. For demanding environmental conditions this adapter is also optionally available with additional galvanic isolation. While the UAD2pro exclusively communicates with the

UDE on a Windows PC through USB, the UAD2next and UAD3+ devices possess an Ethernet interface as well. This enables them to be used for remote debugging. as well.

The debug functions of the UDE are complemented by the integrated UDE MemTool that provides functions for easy and safe programming of flash memory. For automated debugging and testing the UDE also offers comprehensive scripting support. A unique feature is the independence from a specific scripting language. Thanks to the use of Microsoft COM as the base technology for the UDE's software API, developers can keep using their preferred scripting language such as Python, Perl, or JavaScript. Besides its standard debugging features, UDE also supports the Arm CoreSight™ trace capabilities of the S32M2.

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PLS Programmierbare Logik & Systeme GmbH

PLS Programmierbare Logik & Systeme GmbH, based in Lauta (Germany), is the manufacturer of the debugger, test and trace framework Universal Debug Engine® (UDE®). Thanks to its innovative tools for embedded software development, PLS has developed into one of the technology leaders in this field since its foundation in 1990. The UDE combines powerful capabilities for debugging, testing and system-level analysis with efficiency and ease of use. The UAD2pro, UAD2next and UAD3+ access devices of the Universal Access Device (UAD) family complete the comprehensive debug functions of UDE and enable fast, robust and flexible communication with the target system. For further information about our company, products and services, please visit our website at www.pls-mc.com.

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