AUTOSAR Release R20-11 published

The AUTOSAR (AUTomotive Open System ARchitecture) development partnership constantly works on developing and improving its standards. Release R20-11 AUTOSAR supports the developers with a parallel, well-synchronized release of new features and improvements both for the Classic and Adaptive Platforms.

The AUTOSAR Release R20-11 includes several new concepts such as:

- **Identity and Access Management with Specific Functional Clusters** (Adaptive Platform) **Cryptographic API (Adaptive Platform)** which will allow the user to handle encrypted and/or signed data in order to authenticate ECUs, communication partners, or services.
- **System Health Management** will allow the user to operate, within the adaptive platform, multiple PHM instances in a daisy chain, coordinate error handling across multiple controllers and virtual machines, and monitor multiple instances of AP.
- **Safety** requirements for the AUTOSAR Platforms closes the gap between the AUTOSAR main requirements and the software specification level in order to achieve traceability between these levels.
- **Automated Driving Sensor Interfaces** define all aspects of the interfaces to make them fully compliant to the AUTOSAR Adaptive Platform and achieve compatibility between sensors from different suppliers and the connected data fusion algorithm layer.
- **Classic Platform flexibility** splits today’s monolithic AUTOSAR Classic Platform binary into several software clusters which can be independently developed, integrated, tested, released and programmed on the target ECU.
- **Vehicle Motion Control Interface (Classic Platform)** standardizes the logical architecture and interface between ADAS and actuators to support efficient development and deployment.
- **Intrusion Detection System Manager** adds an additional important security control to AUTOSAR based systems. It allows basic software components, functional clusters and applications to report onboard security events.
- **Deterministic Synchronization** addresses these synchronization issues to complement the safety and security feature set of AUTOSAR up to software lockstep solutions.
- **Static Configuration of Remote ECU Identity and Access Management (SCREIAM)** prevents an attacker that has gained control of an ECU from going beyond the ECU’s intended functionality.
- **ara Communications Group** provides a method to speed up the mode switching process. Making the interdependent applications interconnected in a standardized way in order to exchange status information and to perform the mode switching without communication clashes.
- **Rework of PNC** related ComM and NM handling enables a synchronized shutdown of Partial Network Clusters (PNCs) and using PNC network management within advanced network topologies, including synchronized shutdown and forwarding of PNC requests.

**About the AUTOSAR Adaptive Platform**

AUTOSAR first released its Adaptive Platform on March 31st, 2017 as a standardized integration platform for electronic control units (ECU). The AUTOSAR Adaptive Platform is based on POSIX operating systems and is the ECU standard for new automotive megatrends. It combines the safety and security of microcontroller-based ECUs with the high performance provided by microprocessor-based multimedia ECUs. By doing so, the new standard avoids the costly alternative for OEMs and their suppliers of repeatedly developing the critical and complicated functionality of such a software platform with proprietary and individual approaches.

**About the AUTOSAR Classic Platform**

The AUTOSAR Classic Platform is a well-established standardized software framework and methodology for deeply embedded electronic control units (ECUs), which offers OEMs and suppliers a stable foundation to build their distributed software systems on. By using a layered software architecture with a compatible methodology, the AUTOSAR Classic Platform supports all kinds of microcontroller-based ECUs. In future AUTOSAR plans further specification updates to fulfil the needs of embedded system architectures.

**About AUTOSAR (AUTomotive Open System ARchitecture)**

AUTOSAR (AUTomotive Open System ARchitecture) is a global development partnership of car manufacturers, suppliers and other companies from the electronics, semiconductor and software industries. Since 2003, they have been working on the development and introduction of several open, standardized software platforms for the automotive industry. By simplifying replacement and update for software and hardware, the AUTOSAR approach forms the foundation for reliably controlling the growing complexity of electronic and software systems in today’s and future vehicles. In addition, AUTOSAR improves cost efficiency by enabling its partners to cooperate in a competitive way. The “Core Partners” of AUTOSAR are the BMW Group, Bosch, Continental, Daimler, Ford, General Motors, the PSA Group, Toyota and the Volkswagen Group. In addition to these companies, more than 270 partners play an important role in the success of the partnership and can use the standards free of charge.

**Further information**

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