Take the fast lane to automated driving with our highly efficient solution
Our vision: advancing safe technologies, improving human lives

TTTech Auto provides solutions for the challenges of future vehicle generations. The company specializes in safe software and hardware platforms for automated driving and beyond, used in series production programs. With our leading technology solutions, we ensure safety and electronic robustness for a more automated world.

Take the fast lane to automated driving with TTTech Auto

When turning automated driving projects into series production reality, the challenges for OEMs are manifold. Safety, real-time communication and handling complex systems are often uncharted territory for OEMs, nonetheless integral elements for automated driving. An experienced partner with a proven solution can give you a head start that will shorten your product’s time to market.

TTTech Auto has a track record in series production projects with major OEMs and 20 years of cross-industry experience in developing safety-critical applications. This experience is incorporated in our safety software platform MotionWise. We also offer high-end automated driving compute platforms that are perfectly synchronized with our safety software.

Find out more
www.tttech-auto.com
The safety mastermind for automated driving and beyond
The safety mastermind for automated driving

The centerpiece of TTTech Auto’s portfolio is the safety software platform MotionWise. It acts as the safety mastermind for automated driving within a vehicle architecture and handles the high complexity of such systems. Each application hosted by MotionWise will run encapsulated from its peers, resulting in a safe environment where applications with different safety and real-time requirements can coexist and interact.

MotionWise comprises in-house developed core modules as well as an extensive toolkit and a comprehensive set of system services, providing a homogenous platform out of SoCs of different safety or performance classes.

The MotionWise communication core enables freedom from interference in the memory domain, making it possible to integrate different applications with different ASIL levels in the same physical CPU. The scheduling policies provided by the MotionWise scheduling core ensure and ease the integration of apps from different vendors and with different ASIL. The features incorporated in the MotionWise time synchronization core altogether enable a completely synchronized system within a time-aware architecture. They make sure the task scheduling is correct and ensure that communication is happening when it needs to happen.

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Key Benefits

- Highly integrated sensor data fusion and all applications on one platform
- Our architecture encapsulates each application, guaranteeing freedom from interference
- Integrate and test software components by any vendor in a time and cost-efficient manner
- Implement your existing software components without re-validating TTTech’s experts are available on request to set up and guide the integration process
- The use of Deterministic Ethernet allows for safe, real-time transfer of mixed-criticality
- An extensive tool kit serves to support and to accelerate development

Benefits

- Safe
  Safety concept that adheres to highest standards based on the in-house developed scheduling and communication core

- Scalable
  Unique architecture and design that makes it possible to use MotionWise in projects from level 2 to level 5 automated driving

- Series-proven
  MotionWise incorporates know-how from previous automotive series productions projects and the cross-industry experience available within the TTTech Group
Automated driving compute platforms

Thanks to our know-how from pre-series to series production, we know the road blocks when making automated driving a reality. These projects do not only pose highest demands on software, but also on the corresponding hardware. Therefore, MotionWise was designed with a greater vision in mind: acting as the centerpiece of a platform for automated driving that is perfectly synchronized with the hardware it interacts with.

MotionWise is designed to interact with the hardware of your choice and become an integral element of your automated driving compute platform. However, if you haven’t made this choice so far, TTTech Auto is able to provide you with hardware that will give you a head start. Together with renowned silicon partners, we offer development ECUs that perfectly correspond with our proven safety software platform. These compute platforms combine the unique time-aware MotionWise architecture with high performance hardware components, ensuring highest safety standards in every element. TTTech Auto currently offers two automated driving compute platform variants called AthosMotion and RazorMotion.

Features

- Time-aware architecture
- High-performance compute
- Safety concept up to ASIL D
- Supports Deterministic Ethernet and PCIe backbone
The combination of two Renesas R-Car-H3 SoCs and the Renesas RH850P/1H-C MCU is the perfect mix of processing power and automotive microcontroller resources to target the automated driving era. The ARM Cortex A57 (quad) and A53 (quad) cores of the R-Car-H3 together with its real-time image recognition processor (IMP-X5) and PowerVR GX6650 GPU provide the computing power to handle the input from up to 12 camera interfaces.

AthosMotion supports the smooth transition from a PC development environment to an embedded multi-core hardware. It comes with Infineon Aurix and Altera Cyclone V, both running on TTTech Auto’s MotionWise, supporting an AUTOSAR RTE interface to the applications. A Deterministic Ethernet network is used for data exchange and synchronization.
Advancing safe technologies, improving human lives

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