Multi-network connectivity for your devices
Industrial protocols for TI Sitara processors
Today’s key factors in product development are availability, product quality and time-to-market. In particular, the time-to-market factor is becoming more and more important and leads to shorter product life cycles and faster development of new products. The trend is therefore away from a rather rigid product development towards a flexible, modular platform strategy.

Texas Instruments’ Sitara™ processor family forms such a platform that meets today’s challenges, such as easy and flexible integration into different industrial networks. For Sitara, KUNBUS provides a wide range of fieldbus and Industrial Ethernet protocols that can be used to equip your automation device with Master or Slave/Device capabilities.

The Sitara platform offers a number of benefits compared to other solutions available on the market:

**System on a chip**
The programmable real-time unit subsystem and industrial communication subsystem (PRU-ICSS) integrated on the processor makes it possible to map control and communication tasks on a single chip. The PRU-ICSS achieves deterministic, real-time processing, direct access to I/Os and meets ultra-low-latency requirements. There is no need for external communication ASICs or FPGAs. Costs and hardware footprint are significantly reduced.

**Multi-protocol capability**
The multi-protocol capability of the Sitara processors ensures fast and easy integration of different industrial networks such as PROFINET, EtherCAT or EtherNet/IP.

**Scalability**
The processor family is fully scalable and the real-time subsystems (ICSS: Industrial Communication Sub-System) of the modules are compatible with each other, so that the appropriate processor of the Sitara family is available depending on the application.

Furthermore, the Sitara processors offer safety and security on Chip, so that all the system tasks mentioned can be completely implemented in a single SoC. Whether you need development toolkits, i.e. individual protocol stacks for self-integration into your device, or a complete development service including production and certification of your communication units – We are able to offer you the perfect solution.
Our Development Toolkits provide you a fast, easy and flexible integration of your devices into various industrial networks and thus help you to achieve long-term success of your products.

The software design combines software and hardware components and is represented in the following three blocks: The portable protocol stack as a linkable object library, the operating system and the Sitara processor. The PRU binary code is included.

This gives you an adaptable and flexible industrial communication solution for all applications supported by the Sitara processors, including AM65x.

To keep the development effort as low as possible, there are important runtime software components and documents available, such as an exemplary application project in C/C++ including source code as a TI Code Composer Studio project for the respective evaluation platform. The CCStudio software is an Eclipse based integrated development environment, developed and supported by TI for TI’s embedded processor families.

Furthermore, you will receive a LINUX board support package incl. source code for LINUX RT (Kernel 4.14.40) with comprehensive documentation and examples for a quick introduction into your application development as well as a TI RTOS board support package.