

## **AURIX™ TC2xx Workshop: 32-Bit Multicore Microcontroller Family - Face-to-Face Training**

### **Objectives**

You know the architecture, basic on-chip peripherals and features (especially of the multicore architecture and safety extensions) of the AURIX™ device family.

You are able to program low-level drivers for this hardware, adapt them and test them with a debugger.

You can moreover generate interrupt and trap routines.

### **YOUR BENEFIT:**

Efficient and compact jump-start into the overall topic

Practical tips on multicore and safety

Tips on how to create an efficient software architecture

Download of exercises

### **Participants**

Hardware and software architects, hardware and software developers, test engineers // **IMPORTANT NOTE:** A valid NDA with the chip vendor is a pre-requirement to attend the course.

### **Requirements**

ANSI-C knowledge; experience in microcontroller/microprocessor system programming and architecture

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### **Content**

#### **Infineon AURIX™ Architecture: Overview**

#### **AURIX™ Multicore**

- CPU, pipelines, register sets, floating point unit FPU, DSP extension
- Memory model, local and global memory units
- On-chip bus systems: 64-bit XBAR, 32-bit system peripheral bus SPB
- TRAP handling

#### **Ports (Pin Definition and Port Functions)**

#### **Protection System**

#### **Multicore Interrupt Processing: Interrupt Router**

#### **Direct Memory Access Controller DMA**

#### **On-Chip AURIX™ Peripherals**

#### **Timer**

- System timer module STM
- Generic timer module GTM
- Capture and compare unit CCU6

**Communication Interfaces**

- UART/LIN, QSPI, I2C, MSC, HSSL & HSCT
- Overview: MultiCAN, Ethernet, FlexRay®

**Sensor Interfaces**

- Single edge nibble transmission SENT
- Peripheral sensor interface PSI5

**Analog-to-Digital Converter**

- Versatile analog-digital converter VADC
- Delta-sigma analog-digital converter DSADC

**System Control Unit SCU**

- Clock control
- Reset system
- Power management
- External request unit ERU
- Start-up process
- Watchdog timer WDT

**Safety****On-chip Debug System OCDS****Overview: Emulation Device & Calibration****Exercises**

- Exercises are performed with an Infineon AURIX™ board, covering the following aspects: interrupt controller, DMA controller, multicore start-up, initialization of peripherals.

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**ADAS specific blocks are not covered**

**FACE-TO-FACE TRAINING****Price \*            Duration**

-                    5 days

Training code: E-AURIX

\* Price per attendee, in Euro plus VAT

**Live Online - English****Duration**

5 days

**Face-To-Face - German****Duration**

5 days

**Live Online - German****Duration**

5 days

**Coaching**

Our coaching services offer a major advantage: our specialists introduce their expertise and experience directly in your solution process, thus contributing to the success of your projects.

We will be happy to provide you with further information or submit a quotation tailored to your requirements.

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All prices per attendee, in EUR plus VAT.

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