

## **AURIX™ TC4xx: 32-Bit Multicore Microcontroller Family (Aurix-3G Third Generation) - Live Online Training**

### **Objectives**

You know the architecture, essential on-chip peripherals and features (especially of the multicore architecture and safety extensions as well as virtualization and protection mechanisms) of the AURIX™ device family.

You get to apply low-level drivers for this hardware, adapt examples as required and test them with a debugger.

Numerous examples and demos illustrate and facilitate the use of the devices.

### **YOUR BENEFIT:**

Efficient and compact jump-start into the overall topic (3 months time saving according to customers).

Practical tips on multicore, safety, security, and virtualization

### **Participants**

Hardware and software architects, hardware and software developers, test engineers, integrators // IMPORTANT NOTE: A valid NDA with the chip vendor is a pre-requirement to attend the Aurix-3G training course.

### **Requirements**

ANSI-C knowledge; experience in microcontroller/ microprocessor system programming and architecture. Knowledge of the previous device generation is of advantage but not mandatory.

### **Live-Online-Training**

28.09. – 02.10.2026 3.500,00 €5 Days

\* Price per attendee, in Euro plus VAT

Training code: LE-AURIX3G

### **Face-To-Face - English**

<b>Date</b>	<b>Duration</b>
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20.07. – 24.07.2026	5 days
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### **Live Online - German**

<b>Date</b>	<b>Duration</b>
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28.09. – 02.10.2026	5 days
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14.12. – 18.12.2026	5 days
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### **Face-To-Face - German**

<b>Date</b>	<b>Duration</b>
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20.07. – 24.07.2026	5 days
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### **Content**

#### **Introduction**

#### **System Architecture**

#### **Internal Infrastructure**

- SRI
- FPI
- LLI

#### **Virtual Machines and Hypervisor**

#### **TriCore™ CPU**

- Context switching
- New instructions
- Virtualization
- Trap system
- MPU
- System timer

#### **Protection Mechanisms**

- PROT
- APU

#### **Memory**

- NVM
- UCBs
- SOTA
- Cache

#### **Ports**

#### **Interrupt Router (IR)**

#### **System Direct Memory Access Controller**

#### **Safety Concept**

- CRC engine
- Watchdogs
- BIST
- Clocking
- Voltage monitors
- SMU

#### **Security Concept**

- CS real-time module
- CS satellite

#### **Power Management System**

- Domains
- Wakeup timer
- RTC
- Standby controller

#### **System Control and Management**

- Clocking
- NMI
- Reset
- Firmware
- Boot

#### **Complex Peripherals Overview and Special Features**

- PPU

- GTM
- CAN
- xSPI
- PCIe
- ETH

**Data Routing Engine****Analog to Digital Conversion**

- TMADC
- Fast compare
- DSADC
- CDSP

**Multicore Debug**

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**Please note that the Aurix-3G training does not explicitly cover ADAS specific blocks. If required, please contact our service office prior to the training, phone +49 (0)89 450617-71.**