

As of 12.07.2025

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

#### **Objectives**

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

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

Numerous exercises make this training a practice-oriented software workshop.

## YOUR BENEFIT:

Efficient and compact jump-start into the overall topic

Practical tips on multicore and safety

Exercises for download

#### **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 Aurix-3G training course.

#### Requirements

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

# **Live-Online-Training**

28.07. – 01.08.2025 3.500,00 €5 Days ★ 13.10. – 17.10.2025 3.500,00 €5 Days 23.02. – 27.02.2026 3.500,00 €5 Days

Training code: LE-AURIX3G

# Face-To-Face - English

**Date Duration** 15.12. – 19.12.2025 5 days

#### **Live Online - German**

**Date Duration** 13.10. – 17.10.2025 5 days 23.02. – 27.02.2026 5 days

## Face-To-Face - German

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<sup>\*</sup> Price per attendee, in Euro plus VAT



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## Content

Introduction

#### **System Architecture**

# **Internal Infrastructure**

- SRI
- FPI
- LLI

# **Virtual Machines and Hypervisor**

#### TriCore™ CPU

- Context Switching
- New instructions
- Virtualisation
- Trap system
- MPÜ
- System timer

#### **Protection Mechanisms**

- PROT
- APU

#### Memory

- NVM
- UCBs
- SOTA
- Cache

#### **Ports**

# Interrupt Router (IR)

# **System Direct Memory Access Controller**

# **Safety Concept**

- CRC engine
- Watch dogs
- BIST
- Clocking
- Voltage monitors
- SMU

## **Security Concept**

- CS Real-time module
- CS Satellite

#### **Power Management System**

- Domains
- Wakup timer
- RTC
- Standby Controller

# **System Control and Management**

- Clocking
- NMI
- Reset
- Firmware
- Boot

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# **Complex Peripherals Overview and Special Features**

- PPU
- GTM
- CAN
- xSPI
- PCle
- 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.