

## 2024 Public ARINC 664 Part 7 / TTEthernet Training

Open-standards-based networking technologies for safety-critical real-time applications

Deterministic Ethernet is being increasingly used in safety-critical aviation and space applications. This newly composed two-day training by TTTech Aerospace offers the unique opportunity to learn about the key technology extensions driving this (ARINC 664 Part 7, also known as AFDX®, and Time-Triggered Ethernet (=SAE AS6802), both integrated in TTEthernet).

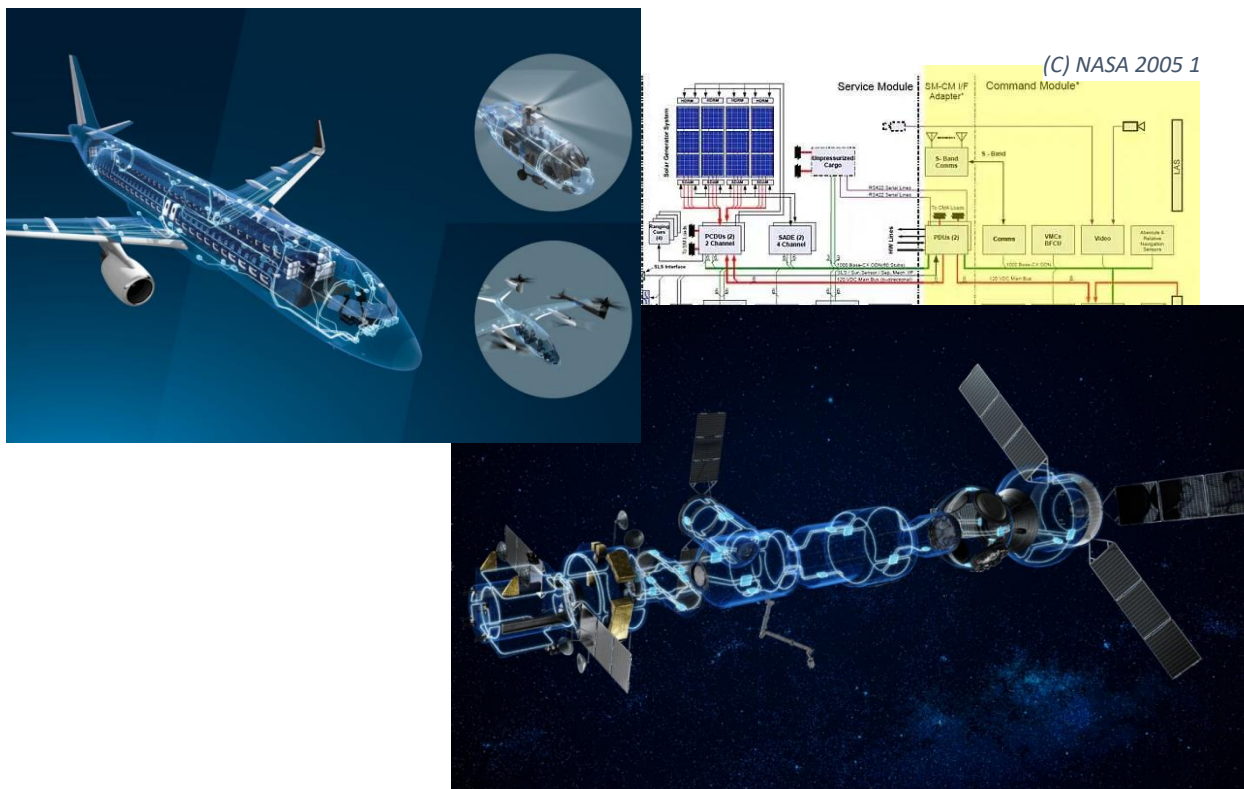
We will also explain industry-specific implementations in aviation and space. This unique training is based on our “TTEthernet Seminar” which was developed over the last 15 years and is augmented by application-specific sessions on the second day. Participants will also learn about the integration & compatibility of standard Ethernet (IEEE 802.3), ARINC 664 P. 7 and SAE AS6802 (Time-Triggered Ethernet) solutions via TTEthernet and possible updates to ARINC664 P. 7.

TARGET AUDIENCE: E/E architects, system engineers, technical experts, product managers – from aircraft/spacecraft and equipment manufacturers or system integrators or supervising/regulatory bodies

LANGUAGE: English

LOCATION: **Airbus Leadership University** in Ottobrunn/Munich, Germany

DATE: October 21<sup>st</sup> and 22<sup>nd</sup>, 2024 (Monday/Tuesday)



## Detailed Training Agenda

### DAY 1 (MONDAY, Oct. 21<sup>st</sup>):

10:00 – 10:15	Welcome, agenda, logistics
10:15 – 10:45	Introduction to ARINC664 Part 7 and TTEthernet / SAE AS6802
10:45 – 11:15	Seminar – Part 1: Basic Concepts: Clock Sync, Fault Tolerance, Composability
11:15 – 11:30	Coffee Break
11:30 – 12:00	Seminar – Parts 2 & 3: Ethernet Overview, Virtual Links, Time-Triggered and Rate-Constrained Traffic Classes
12:00 – 13:00	Lunch Break
13:00 – 14:00	Seminar – Part 4: Traffic Classes & Topology Examples
14:00 – 14:45	Seminar – Parts 5 & 6: Time Synchronization
14:45 – 16:00	Seminar - Part 7: Network Planning, Traffic Types & Priority Routing
16:00 – 16:15	Coffee Break
16:15 – 17:00	Network Architecture Overview and Examples like Vestas, Ariane 6
19:00	Joint Dinner

### DAY 2 (TUESDAY, Oct. 22<sup>nd</sup>):

9:15 – 10:00	Summary of Day 1 – Key Features
10:00 – 10:45	Actual implementations (incl. chip IP, TTE-Controller and TTE-Tools, development systems, third-party products)
10:45 – 11:00	Coffee Break
11:00 - 12:00	Robustness and testing/test means (traffic generator, remaining network, sniffing (Wireshark)/port mirroring, SNMP, etc.)
12:00 – 13:00	Lunch Break
13:00 – 14:30	Outlook on the next generation ARINC664 P. 7 and TTEthernet
14:30 – 17:00	<b>Industry Implementation Sessions:</b> Aviation / Space Running in parallel in two separate rooms, see below

#### Aviation session:

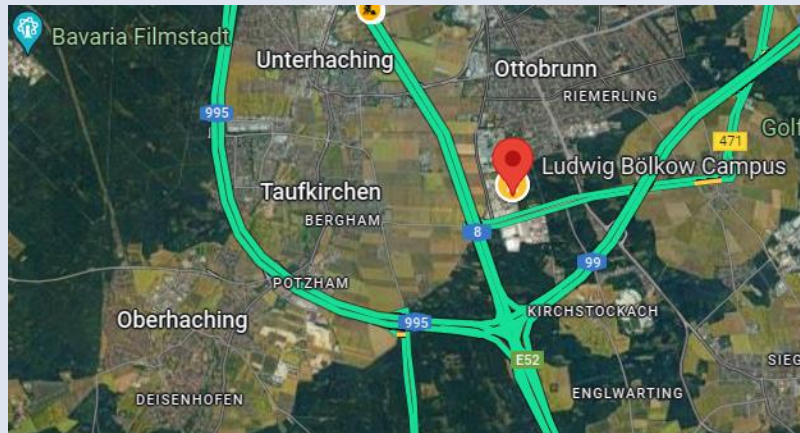
- Industry-specific standards (SAE, ARINC 664 P. 7)
- Implementations and products (switch units, end systems, embedded software, development and qualified V&V tools)
- Potential failure modes
- Certification and incremental certification
- Physical layer
- Security vs. safety (signature file)

#### Space session:

- Industry-specific standards (ECSS, IASIS)
- Applications, implementations and products
- Radiation mitigation
- TTE-Controller ASIC, qualification, errata
- Potential failure modes
- Qualification and test approach
- Physical layer
- Security (tbc)

## Logistics

LOCATION: **Airbus Leadership University**  
(Building 74D, Ludwig Bölkow Campus, Ottobrunn/Munich, Germany)



40 minutes from Munich airport (MUC) by taxi or about 1 hour by public transport

## Cost

**Euro 2490.-** net of VAT per person including printed material, all breaks, refreshments and dinner, or USD 2790.- if billing in US currency is preferred.

We offer group discounts and attractive reductions for academic staff and students.

## Registration

Please contact your regional sales representative or write to us at [training@tttech.com](mailto:training@tttech.com). **Registration will close by October 15<sup>th</sup>, 2024.** At registration you need to choose one of the two available industry sessions.

## Registration Information

Organization: \_\_\_\_\_

Participant Name(s): \_\_\_\_\_

Billing Address: \_\_\_\_\_

Contact E-mail Address and Telephone Number: \_\_\_\_\_

Industry Session:     Aviation     Space

*Status: September 2<sup>nd</sup>, 2024*

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