

# Functional Safety Manager Master Training Schedule

## Background

ISCN is a certified training partner of INTACS and VDA-QMC for Automotive SPICE.

<https://www.intacs.info/index.php/component/weblinks/category/122-training-organisation>

ISCN is a certified training body for the EuroSPI/ASA Certified Functional Safety Manager, accredited by EuroSPI/ASA (EuroSPI Certificates & Services GmbH and the ASA Automotive Skills Alliance led by ACEA).

<https://conference.eurospi.net/index.php/certification>



The course is based on a joint development with leading Tier 1 companies in the Soqrates group ([www.soqrates.de](http://www.soqrates.de)) such as ZF Friedrichshafen AG, Continental Automotive AG, Hella KG, etc.

## Functional Safety Course

In the 5 days training course the attendees get introduced to ISO 26262 based on examples from real ASIL classified projects in Automotive. You will participate actively in case studies and elaborate an ISO 26262 safety case based on your own products.

The approach of „Learning by Doing“ is used to elaborate a Hazard and Risk Analysis, system analysis (FuSiCo, TeSiCo, diagnose matrix, HSI) and to apply this in the software architecture. Also the course

introduces to HW safety analysis, fault trees, and FIT rates calculation. Also we include information about legal aspects.

### **Target Group Functional Safety Manager Strategy Level**

Managers who need to understand the impact of functional safety on their products, the liabilities and the processes.

### **Target Group Functional Safety Engineer**

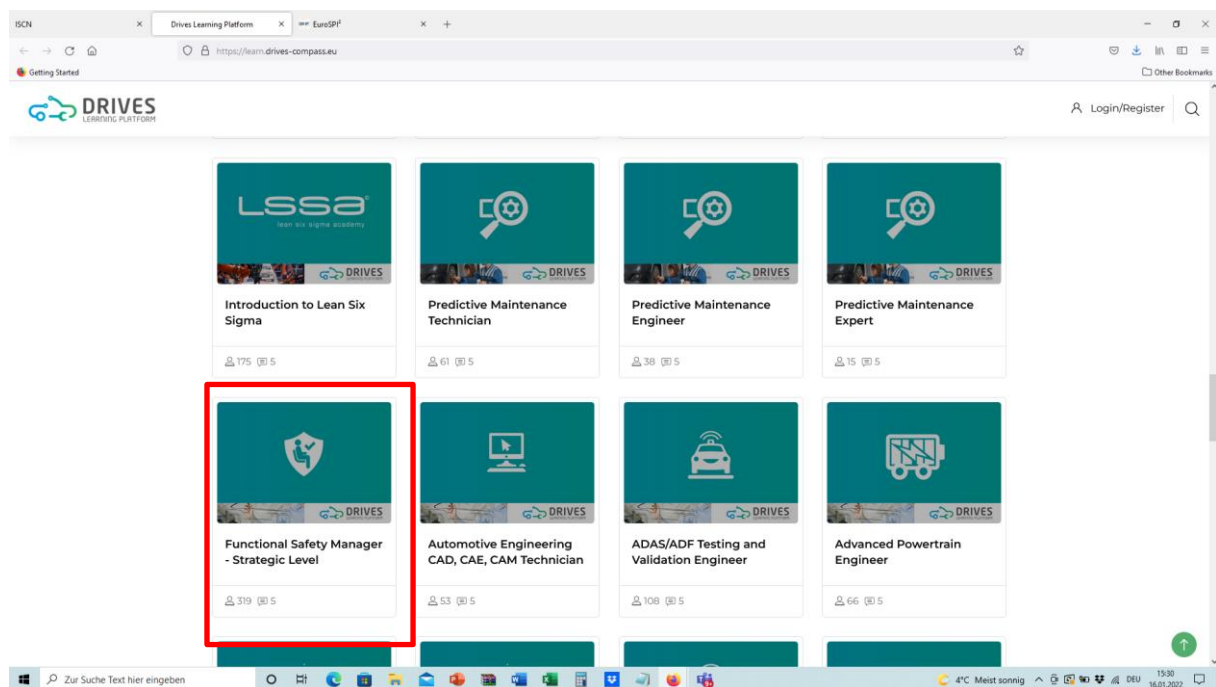
Safety Manager, Quality Manager, System- and SW Architects, project leaders, experienced engineers who are confronted with functional safety design.

## Resources

### **Functional Safety Manager Strategy Level**

The course materials and lectures are online available on the DRIVES platform.

<https://learn.drives-compass.eu/>



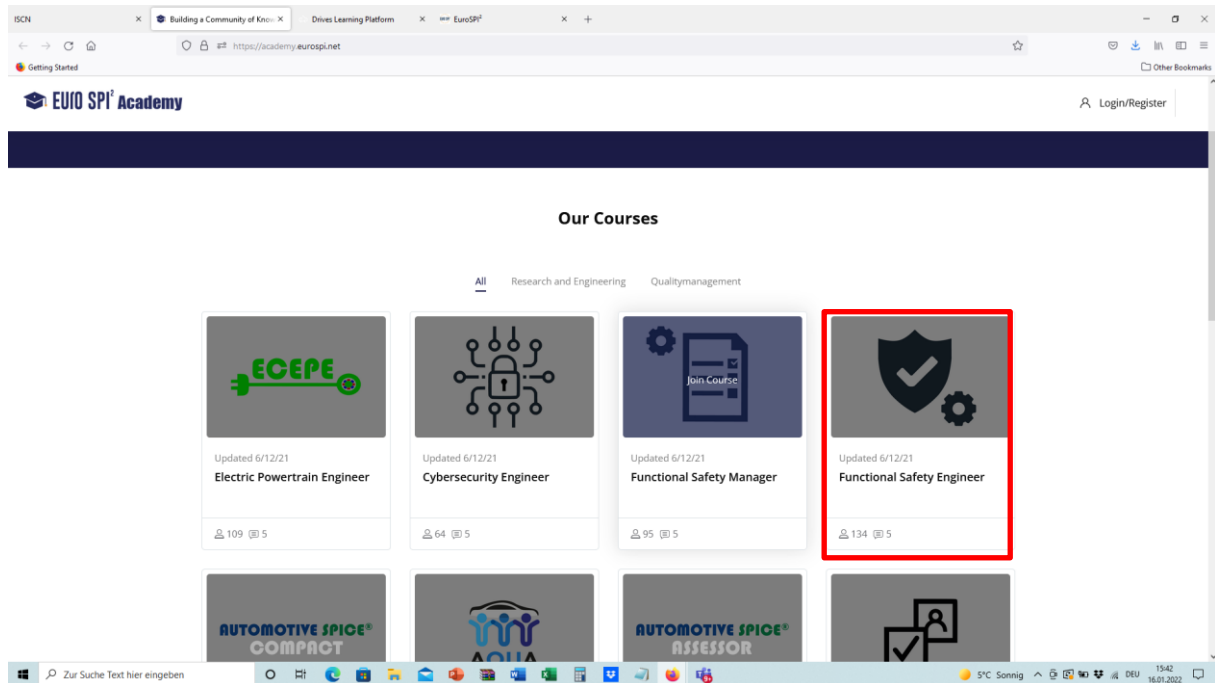
Scroll down and select the course.

- Select the course Functional Safety Manager – Strategic Level.
- Register
- You receive an email and need to confirm by clicking the link in your email.
- Then you can login

## Functional Safety Engineer

The course materials and lectures are online available on the EuroSPI Academy platform.

<https://academy.eurospi.net/>

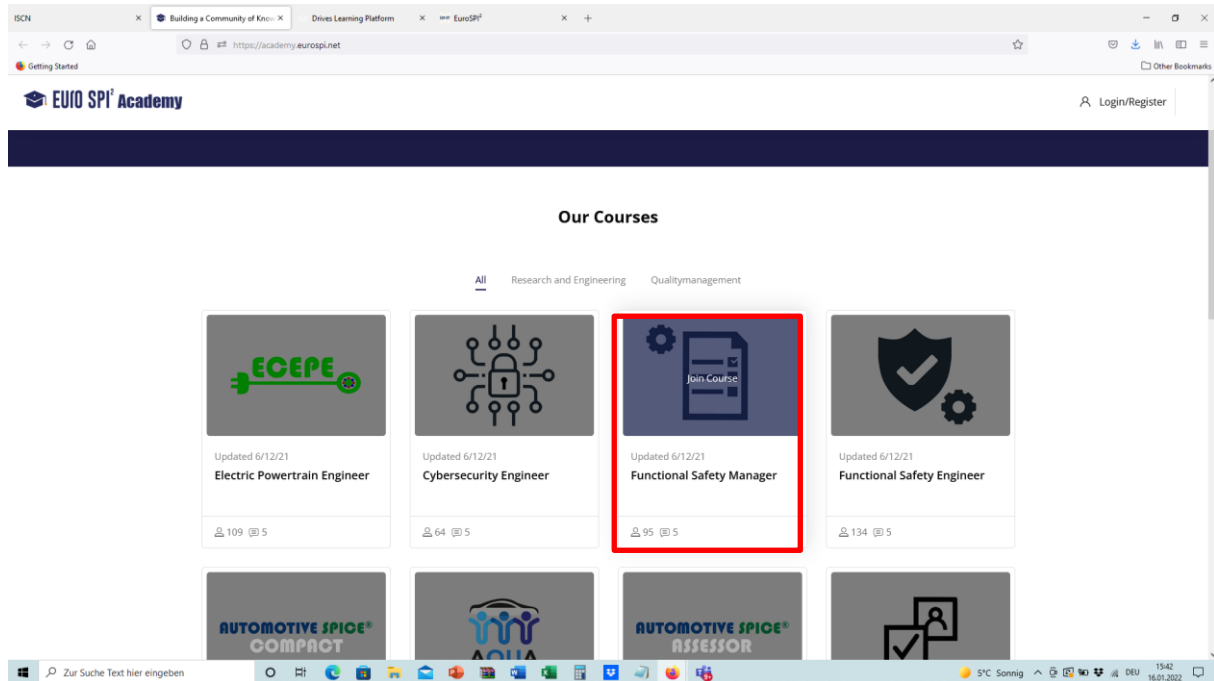


- Select the course Functional Safety Engineer.
- Register
- You receive an email and need to confirm by clicking the link in your email.
- Then you can login
- You need the enrollment key - **will be provided** -

## Functional Safety Management Materials

The course materials and lectures are online available on the EuroSPI Academy platform.

<https://academy.eurospi.net/>



- Select the course Functional Safety Manager.
- Register
- You receive an email and need to confirm by clicking the link in your email.
- Then you can login
- You need the enrollment key – **will be provided** -

## Course Schedule

### Functional Safety Manager Strategy Level

This is a free MOOC available at

<https://learn.drives-compass.eu/>

and can be attended online. It is assumed that all attendees will visit this course before they attend the safety engineer and additional safety manager modules.

U1.E1 Motivation and Introduction to Functional Safety

U1.E2 Understanding Hazard and Risk Analysis and Safety Goals

U1.E3 Impact of Functional Safety on Product Design and Cost

**Functional Safety Engineer****Functional Safety Design – H&R Analysis**

- Day 1 09.00 - 10.15 U3.E1 System Hazard Analysis and Safety Concept (Continued)  
(H&R in different standards, in ISO 26262, examples)
- Day 1 10.15 - 10.30 Coffee Break
- Day 1 10.30 - 12.00 Exercise 1: Item Drawing and Fill out H&R (Minimum 3 Risks)
- Day 1 12.00 - 13.00 Lunch Break
- Day 1 13.00 - 14.00 Discussion of Exercise 1

**Functional Safety Design – System Level**

- Day 1 14.00 – 15.00 U3.E2 Integrating Safety in System Design & Test  
(FSC, TSC, Safety Critical Signal Flow, HSI System level content)
- Day 1 15.00 - 15.15 Coffee Break
- Day 1 15.15 – 17.00 U3.E2 Integrating Safety in System Design & Test  
(FSC, TSC, Safety Critical Signal Flow, HSI System level content)
- Day 2 08.00 – 10.00 Exercise 2: FSC/TSC Exercise based on safety goals plus preliminary architecture decisions  
(based on exercise 1 outcomes)
- Day 2 10.00 - 10.15 Coffee Break
- Day 2 10.15 – 11.30 Discussion of Exercise 2

**Functional Safety Design – System Level – HW-SW Interface Specific**

- Day 2 11.30 - 12.30 Exercise 3: HSI Exercise based on functional safety concept  
(based on exercise 2 outcomes)
- Day 2 12.30 - 13.30 Lunch Break
- Day 2 13.30 - 14.30 Discussion of Exercise 3

## Functional Safety Design – Software Level

Day 2 14.30 - 14.45	Coffee Break
Day 2 14.45 - 16.00	U3.E4 Integrating Safety in Software Design & Test (HSI continued SW level, SW FMEA, Diagnose Matrix, SW safety Architecture with E-Gas, Diagnostic Coverage)
Day 3 08.00 - 09.30	U3.E4 Integrating Safety in Software Design & Test Continued
Day 3 09.30 - 10.00	Exercise 4: Elaborating Diagnose matrix based on signal inputs (for the signals in the HSI)
Day 3 10.00 - 10.15	Coffee Break
Day 3 10.15 - 11.30	Exercise 4: Elaborating Diagnose matrix based on signal inputs (for the signals in the HSI)
Day 3 11.30 - 12.30	Discussion of Exercise 4
Day 3 12.30 - 13.30	Lunch Break

## HW Safety Design Aspects

Day 3 13.30 – 15.00	U3.E3 Integrating Safety in Hardware Design & Test (Fit rate Calculation Example, FMEDA, Diagnostic Coverage, FTA)
Day 3 15.00 - 15.15	Coffee Break
Day 3 15.15 – 16.00	Exercise 5: FMEDA, FTA
Day 4 08.00 - 09.00	Exercise 5: FMEDA, FTA Continued
Day 4 09.00 – 10.00	Discussion of Exercise 5
Day 4 10.00 - 10.15	Coffee Break

<b>Functional Safety Manager Materials</b>
--

## Management Aspects

Day 4 10.15 – 12.00	Management Topics U2.E1 Safety management on organisational level U2.E2: Safety Case Definition
---------------------	---

## U2.E4 Safety management on project level

Day 4 12.00 - 13.00	Lunch Break
Day 4 13.00 - 14.30	Exercise Safety Plan / DIA & Discussion
Day 4 14.30 - 14.45	Coffee Break
Day 4 14.45 - 15.30	U5.E1 Legal Aspects and Liabilities
Day 4 15.30 - 16.00	Wrap Up and how to get the certificates – EUROSPI & ASA Registration

This course is based on practical Automotive examples from ASIL-D and ASIL-C classified projects. The exercises are based on best practices in functional safety projects which were implemented in leading Automotive suppliers and OEMs.

Trainer
---------

**Two trainers from the below pool:**

**Dr Richard Messnarz**

- Principal Automotive SPICE Assessor
- VW Certified Software Quality Improvement Leader (SQIL)
- Internal coach for VW BS
- VDA Certified Competent Level Instructor for Automotive SPICE
- EUROSPI & ASA Certified Functional Safety Trainer
- Researcher Profile:  
<https://scholar.google.com/citations?user=v2xVInwAAAAJ&hl=de&oi=ao>
- 32 years of automotive industry experience
- System Architectures, SW Architectures, Requirements Management, Re-Use
- Requirements Management in Automotive
- Industry projects with BOSCH, ZF, Continental, Magna, HELLA, VW, etc.
- Chairman EuroSPI [www.eurospi.net](http://www.eurospi.net)
- Assessor at BOSCH AS / ZF Lenksysteme since 2003

**DI Damjan Ekert**

- Principal Automotive SPICE Assessor
- VW SQIL – SW Quality Improvement Lead
- EUROSPI & ASA Certified Functional Safety Manager Trainer
- EUROSPI & ASA Certified Trainer for AQUA (Automotive Quality Engineer)
- SW Project Lead and Architect Capability Adviser System
- 20 year Automotive industry experience
- PQ in Magna projects for 3 years
- Q-Support in ZF Lemförde Projects (ASIL C) for 9 years
- Q-Support in BOSCH Automotive Steering (ASIL-D) for 8 years
- Studied Telematics and Informatics at TU Graz

- Researcher Profile:  
<https://scholar.google.com/citations?user=4Sf3jdIAAAAJ&hl=de&oi=ao>

### **Dr Georg Macher**

- Provisional Automotive SPICE Assessor
- Chief Scientist Technical Informatics at TU Graz
- ECQA Certified Functional Safety Manager Trainer
- ECQA Certified Trainer for AQUA (Automotive Quality Engineer)
- R&D for AVL for 8 years
- Senior Scientist at technical University of Graz
- ISCN expert as part of university and ISCN cooperation (since 1997)
- Industry projects with AVL, Magna, AL
- EU Projects with ISCN (TUG + ISCN Partnership)
- More than 15 years work experience
- Automotive SPICE + HW-SW Design Concepts
- Lecturer about Functional Safety and ASPICE at TU Graz
- Studied Telematics and Informatics at TU Graz

### **Dr Andreas Riel**

- Provisional Automotive SPICE Assessor
- ECQA Certified Functional Safety Manager Trainer
- Software Architect at AVL for 8 years
- ECQA Certified Trainer for AQUA (Automotive Quality Engineer)
- Lecturer at Grenoble INP
- Lecturer at FH Düsseldorf
- Experiences in ISCN industry projects with ZF (Parkbremse, Lenkung, safety Coach, ...), BOSCH, AVL and Magna
- EU Projects with ISCN (TUG + ISCN Partnership)
- More than 20 years work experience
- Automotive SPICE + HW-SW Design Concepts
- Requirements Management for platforms at BOSCH AS, ZF Parkbremse, ZF PLZ, etc.
- Studied Telematics and Informatics at TU Graz

### **Dipl. Ing. Bernhardt Steger**

- Competent Automotive SPICE Assessor
- 20 years work experience Automotive
- ECQA Certified Functional Safety Manager / Engineer Trainer
- Project management SW PL for X-Drive
- Expert for SW Design, SW Architectures, SW Unit Tests etc.
- Lecturer for project management at Technical Academy Schwäbisch Gmünd (2015-2017)
- Developer of SW functions in X-Drive projects before becoming SW PL



- Programmer of tools e.g. project planning tool integrating CQ and MS Project at BOSCH AS
- Studied Informatics at ETH Zürich

**Dipl. Ing. Jürgen Dobaj**

- Researcher at TU Graz (highly autonomous driving systems)
- ISCN expert as part of university and ISCN cooperation (since 1997)
- ECQA Certified Trainer for AQUA (Automotive Quality Engineer)
- Lectures at TU Graz about AQUA
- 5 years Automotive work experience
- Studied Telematics and Informatics at TU Graz, does now his PhD
- Programmed SW for power plant management in the cloud for Austrian energy systems

<b>MS Teams Links</b>
-----------------------

Stream 1 (Mainstream, start here in the morning)

Will be provided

Stream 2 (2<sup>nd</sup> Exercise Team)

Will be provided