EuroSPI / ASA Certified SW Design Patterns Engineer

Goal

System and software design are continuously updating based on new forthcom9ing challenges and standards. This includes typical functional safety or cybersecurity architectures. This also comprises concepts of re-use and product lines.
The training builds on industrial best practices and training material held with ECTS at lectures in partnering technical universities of EuroSPI.
The training includes materials from EU projects SafEUr (Functional Safety Engineer/Manager) and CyberENG (Cybersecurity Engineer). It also integrated agreed best practices from an innovation task force SOQRATES to which leading German and Austrian suppliers cooperated.

Content

The training consists of 2 days with integrated mandatory exercises.

2 Hours:

Automotive SPICE based SW architectural design and traceability concept (AQUA slides)

3 x 2 Hours = 6 Hours

Typical SW Design Patterns for Embedded und Safety SW Architectures (TU Graz teaching material, plus SafEUr training material - module SW Design, plus Safety and Security Architectural Best Practices from SOQRATES working party)

4 Hours

Concrete Design Patterns based on an gear box design example (SW architect role with additional safety and security knowledge).

Exercise for SW Design (4 hours including discussion):

- Safety task with correct application of the E-gas layer model
- SW architecture with traceability to requirements
- ASIL-specific application of SW Monitoring and diagnose coverage
- Verification criteria and related SW integration test and the example fault injection component in 8HPx for testing as part of the SW architecture

Training Materials

The training materials include slides, examples, and templates for software design patterns.

Additionally the training is supported by an online teaching environment set up on the online EuroSPI academy platform.

Target Group and Prerequisites

Target Group SW Architects

Engineers and managers who want to learn best practices of software design engineering.

Prerequisites

Attendees require a background in software engineering. Also a basic understanding of automotive mechatronic systems is helpful. Usually attendees require some minimum 3 years work experience in software or hardware to easily manage the course exercises.

Examination and Certification

Exams are organised by the EuroSPI / ASA certification organisation. In case of cybersecurity engineers the exam is based on a set of mandatory exercises to be performed in the course under the observation of the trainers.

The EuroSPI / ASA system allows to register with a job role, upload the exercises and have an assessor in the system assessing the student performance in the practical exercises. The EuroSPI / ASA system generates a unique certification ID and certificate for the attendee.

Every 2 years the certificate will later need to be renewed by attending a short update training of 1 day to learn about the new state of the art developments in functional safety.

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

The EuroSPI Academy

The training is held in the EuroSPI academy in cooperation with ISCN. The company ISCN is a certified training partner of VDA-QMC and Intacs® for Automotive SPICE.

The EuroSPI Academy (https://academy.eurospi.net) was founded in 2021 in cooperation with the ASA (Automotive Skills Alliance) and offers an advanced online training environment with materials,

templates and exercises. EuroSPI and ISCN are full partners of the ASA (https://automotiveskills-alliance.eu/#partners).

In cooperation with ASA WG 3.6 (IT in Automotive) and the EU project FLAMENCO this training platform will be further developed in the next years.