EuroSPI / ASA Certified Requirements Engineer

Goal

Requirements Engineering and Management has become the fundamental backbone of achieving quality in modern industrial products, services, and processes. In particular, domains whose products and systems are characterized by a high technology density and a complex supplier network, the requirements challenge is particularly crucial to success.
Requirements on system (of systems) level need to be broken down to several technical domains (electronic hardware, software, mechanics, etc.) in ways that assure full consistency and traceability across the entire development V-cycle. Horizontal, cross-cutting dependability aspects such as functional safety, cybersecurity and increasingly also sustainability need to be integrated in the requirements, design and validation structure related to the expected functionalities of the product.
This training investigates best practice requirements engineering and management methods and guidelines in the context of Automotive SPICE®, and Functional Safety according to ISO 26262.
The training materials have been made to provide guidance in hands-on practical exercises on case studies from the trainee's own development projects.

Content

Day 1: Requirements Lifecycle, Structure, Specification

Unit 1: Requirements Lifecycle and Structure
- Element 1: Requirements Traceability and Consistency
- Element 2: Requirements Lifecycle and Re-Use

Unit 2: Requirements Specification
- Element 1: Natural Language Requirements

Unit 4: Examples and Case Studies
- Element 1: Examples Collection

Exercises:

1. Requirements structure along the V-cycle (Linkmodel)
2. Re-usable natural language requirements on several levels

Day 2: Requirements Specification, Verification and Validation

Unit 2: Requirements Specification
- Element 2: Architecture Requirements and Design

Unit 3: Requirements Verification and Validation
- Element 1: Requirements Quality and Review Criteria
- Element 2: Requirements Functional Testing

Unit 4: Examples and Case Studies
- Element 1: Examples Collection

Exercises:
3. Architecture specification and rationale
4. Test cases specification, review check-lists

Schedule

Day 1

Time	Unit / Activity
08.30 – 08.45	Introduction
08.45 – 10.00	U1.E1, U1.E2 Presentation
10.00 – 10.20	Coffee Break
10.20 – 12.30	Exercise 1 Elaboration & Discussion
12.30 – 13.30	Lunch Break
13.30 – 14.45	U2.E1, U4.E1 Presentation
14.45 – 15.00	Coffee Break
15.00 – 17.00	Exercise 2 Elaboration & Discussion

Day 2

Time	Unit / Activity
08.30 – 09.40	U2.E2, U4.E1 Presentation
09.40 – 10.00	Coffee Break

10.00 – 12.10	Exercise 3 Elaboration & Discussion
12.10 – 13.10	Lunch Break
13.10 – 14.45	U3.E1, U3.E2 Presentation
14.45 – 15.00	Coffee Break
15.00 – 17.00	Exercise 4 Elaboration & Discussion

Training Materials

The training materials include slides, templates for requirements and test case specification. Additionally the training is supported by an online teaching environment set up on the online EuroSPI academy platform.

Target Group and Prerequisites

Engineers and managers who want to learn best practices of requirements engineering and management in the automotive domain. Attendees require a background in automotive or software or electronic engineering. Also a basic understanding of automotive mechatronic systems is helpful. Usually attendees require some minimum 3 years work experience in automotive software or hardware to easily manage the course exercises.

Cancellation

Cancellation is not possible. You may determine a substitute or attend the course at a later date.

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.

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 (https://nqa2.iscn.com/images/PdfFiles/TP-Certificate-CCF15042021.pdf, http://www.intacs.info/index.php/component/weblinks/category/122-training-organisation).
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://automotive-skills-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.

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