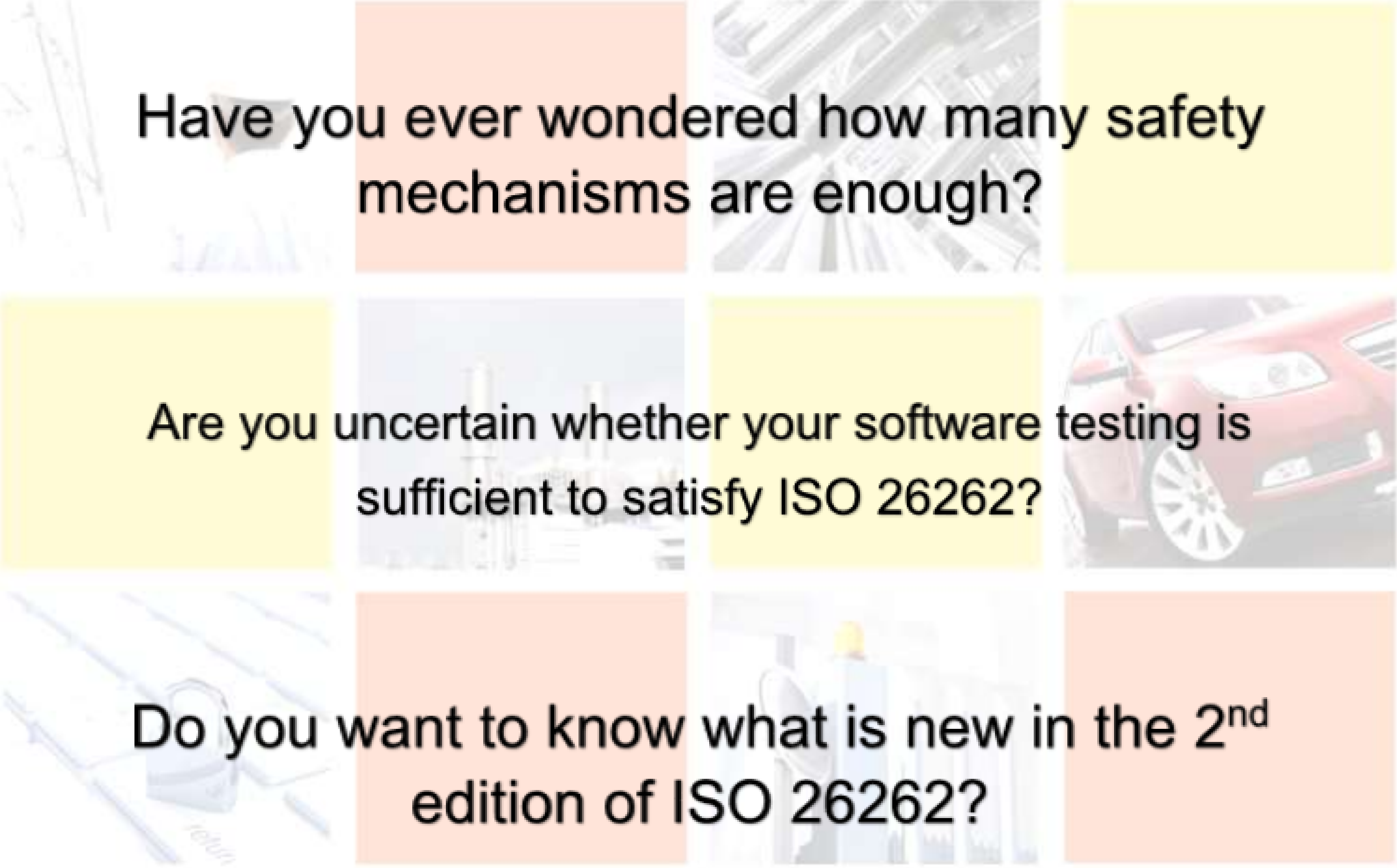
Have you ever asked yourself how to interpret the requirements of ISO 26262?

Do you want to know what Safety Analysis means?



Have you ever wondered how many safety mechanisms are enough?

Are you uncertain whether your software testing is sufficient to satisfy ISO 26262?

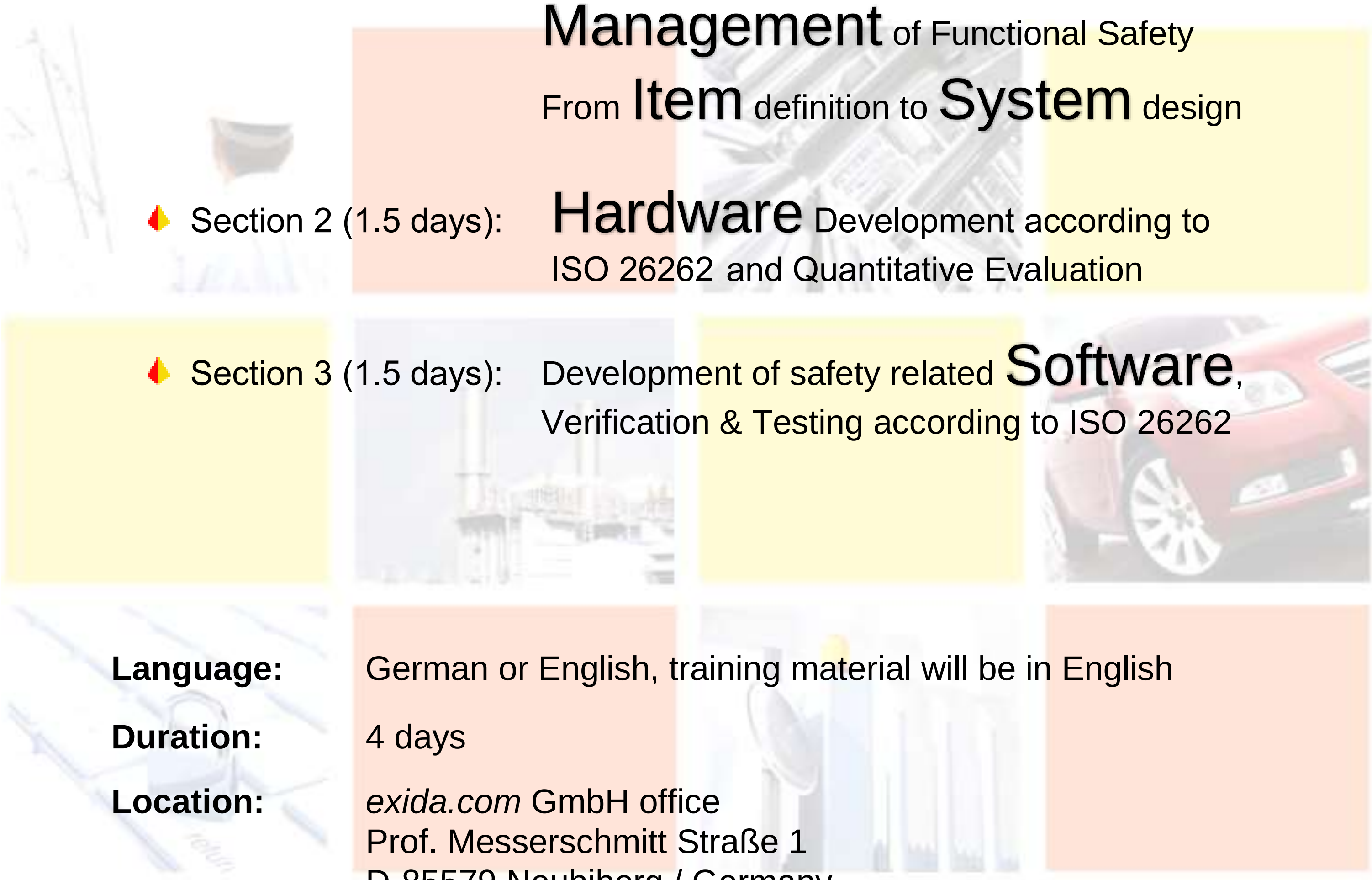
Do you want to know what is new in the 2nd edition of ISO 26262?

Join our training and learn more about these and other interesting topics regarding ISO 26262.

Training: Automotive ISO 26262

Road Vehicles Functional Safety

Content:



- Section 1 (1 day): **Overview** of ISO 26262
Management of Functional Safety
From **Item** definition to **System** design
- Section 2 (1.5 days): **Hardware** Development according to ISO 26262 and Quantitative Evaluation
- Section 3 (1.5 days): Development of safety related **Software**, Verification & Testing according to ISO 26262

Language: German or English, training material will be in English

Duration: 4 days

Location:
exida.com GmbH office
Prof. Messerschmitt Straße 1
D-85579 Neubiberg / Germany

Certificate: Each participant gets a letter of attendance.

After the end of the 4th day there is a possibility to do the **FSP** exam. This is optional and free of charge.

An CFSE/P exam will be given on the 5th day of the training week. This is also optional. For more information, please follow this link: http://www.exidacfse.com/.

Training: Automotive ISO 26262

Road Vehicles Functional Safety

Who should attend?

- Safety Managers
- Development Engineers (System, Hardware and Software)
- Product Managers
- Project Leaders of safety related development projects
- Managers responsible for establishment of work processes
- Quality managers

General approach:

- The exida approach is to explain how the ISO 26262 requirements can be fulfilled, and not only to show and introduce the requirements of the ISO 26262.
- The ISO 26262 defines the route, typical solutions are exemplified using e.g. tools delivered or recommended by exida.com (SafetyCaseDB, FMEDA-Tools, Enterprise Architect and other).

For more information, please contact:

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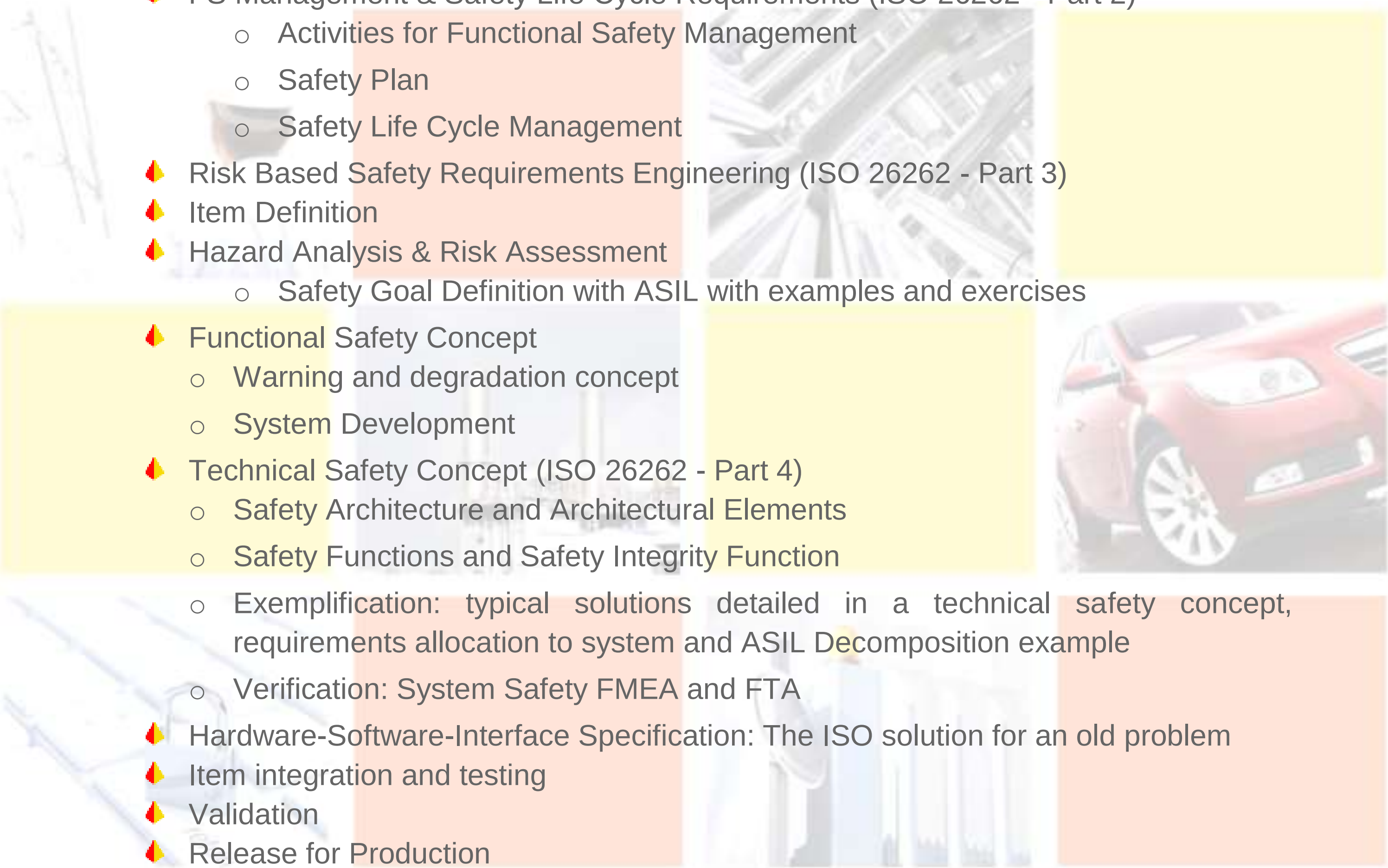
Section 1: Overview, Management, Item & System

Agenda



- Functional Safety Overview / General Introduction
    - Why is Functional Safety needed in Automotive Industry?
- FS Management & Safety Life Cycle Requirements (ISO 26262 - Part 2)
    - Activities for Functional Safety Management
    - Safety Plan
    - Safety Life Cycle Management
- Risk Based Safety Requirements Engineering (ISO 26262 - Part 3)
- Item Definition
- Hazard Analysis & Risk Assessment
    - Safety Goal Definition with ASIL with examples and exercises
- Functional Safety Concept
    - Warning and degradation concept
    - System Development
- Technical Safety Concept (ISO 26262 - Part 4)
    - Safety Architecture and Architectural Elements
    - Safety Functions and Safety Integrity Function
    - Exemplification: typical solutions detailed in a technical safety concept, requirements allocation to system and ASIL Decomposition example
    - Verification: System Safety FMEA and FTA
- Hardware-Software-Interface Specification: The ISO solution for an old problem
- Item integration and testing
- Validation
- Release for Production
- Optional:
    - Dependant failure analysis (DFA)

Section 2: Hardware Development acc. ISO 26262 and Quantitative Evaluation

Agenda

- ISO 26262 lifecycle approach: Product Lifecycle and process requirements
- Where is hardware development in the process model?
  - What are inputs to hardware development?
- Hardware Development (ISO 26262 - Part 5)
  - HW Safety Requirements
  - HW Architecture and Design with examples
  - HW Architecture Evaluation
    - Introduction into Fault Tree Analysis with exercise
    - Requirements for the Evaluation: Metrics for Safety Goal Violation
    - Fault models, failure rates and target values
    - Presentation of the probabilistic approach
    - qualitative approach with a semi probabilistic argumentation
- How to evaluate the metric for "Safety Goal Violation"
  - exemplification: calculation via FTA based on the results of the quantitative FMEDA
- How to evaluate the metrics SPFM and LFM
  - exemplification: exida FMEDA approach for metric calculation
- HSI - Cooperation with the software team
  - Hardware-Software-Interface Specification HSI
- Qualification of HW components (ISO26262 - Part 8 § 13)
- Optional:
  - ASICs in the scope of the ISO 26262
  - Communication channels and their evaluation
  - Dependant failure analysis (DFA)

Section 3: Development of safety related Software, Verification & Testing acc. to ISO 26262

Agenda

- Software Development Process (ISO 26262 - Part 6)
  - Content of the Software Safety Process, how to do initiation and tailoring
- Software Safety Requirements Specification:
  - Sources of Software Safety Requirements and interfaces to System Level
  - Interpretation of properties and attributes required by ISO26262
  - Practical methods how to derive and detail requirements for the software
  - Methods for the verification of Software Safety Requirements
- Software Architecture:
  - How to develop a Software Architecture acc. to ISO26262
  - Semi-formal architecture development - interpretation of ISO26262
  - Measures to be considered
  - ASIL Decomposition at the software level
  - How to implement Freedom from Interference
  - Safety requirements allocation to software architectural components
  - Methods for the verification of the Software Architecture.
- Software Unit Design
  - Content of a semi-formal Software Unit Design Specification
  - Interpretation of design requirements recommended by ISO26262
  - How to deal with OO programming languages (C++)?
  - Methods for the verification of the software unit design
- Software Safety Verification
  - Software Analysis Techniques
    - Software Criticality Analysis
    - Software Dependent Failure Analysis
  - Software Testing Techniques (Unit and Integration Testing)
    - Requirements based (Equivalence Classes, Boundary Values, etc.)
    - Structure based (Statement Coverage, MCDC, Call Coverage, etc.)
- Tool classification and qualification
- Software qualification: How to deal with existing components?