Challenges for Know-how building of Developers and Assessors in Cybersecurity

Bernhard Sechser
March 23rd, 2023

ASQF Safety & Security Day

Bernhard Sechser

intacs®

- Principal Assessor & Instructor
- Member of the Advisory Board
- Head of the Regional Representatives

More than 26 years practical experience in Automotive domain as

- Software & System Developer
- Quality Manager
- Processes & Tools Responsible
- Trainer, Coach & Consultant

VW Software Quality Improvement Leader (SQIL)
Functional Safety Expert on ISO 26262
Cybersecurity "Rookie"
Managing Director of Process Fellows GmbH

Agenda

- New challenges in Automotive industry – Cybersecurity and more

- Current situation – SPICE Assessments and their effects

- intacs® – Goals and Achievements

- Future intacs® Training Architecture

- Outlook

Agenda

- **New challenges in Automotive industry – Cybersecurity and more**

- Current situation – SPICE Assessments and their effects

- intacs® – Goals and Achievements

- Future intacs® Training Architecture

- Outlook

Many different opinions, but one goal: Cybersecurity

CANADA'S VEHICLE CYBER SECURITY GUIDANCE

NHTSA NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

The "National Highway Traffic Safety Administration" is responsible for keeping people safe on America's roadways

PROCESS FELLOWS

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

Cybersecurity Law of the People's Republic of China
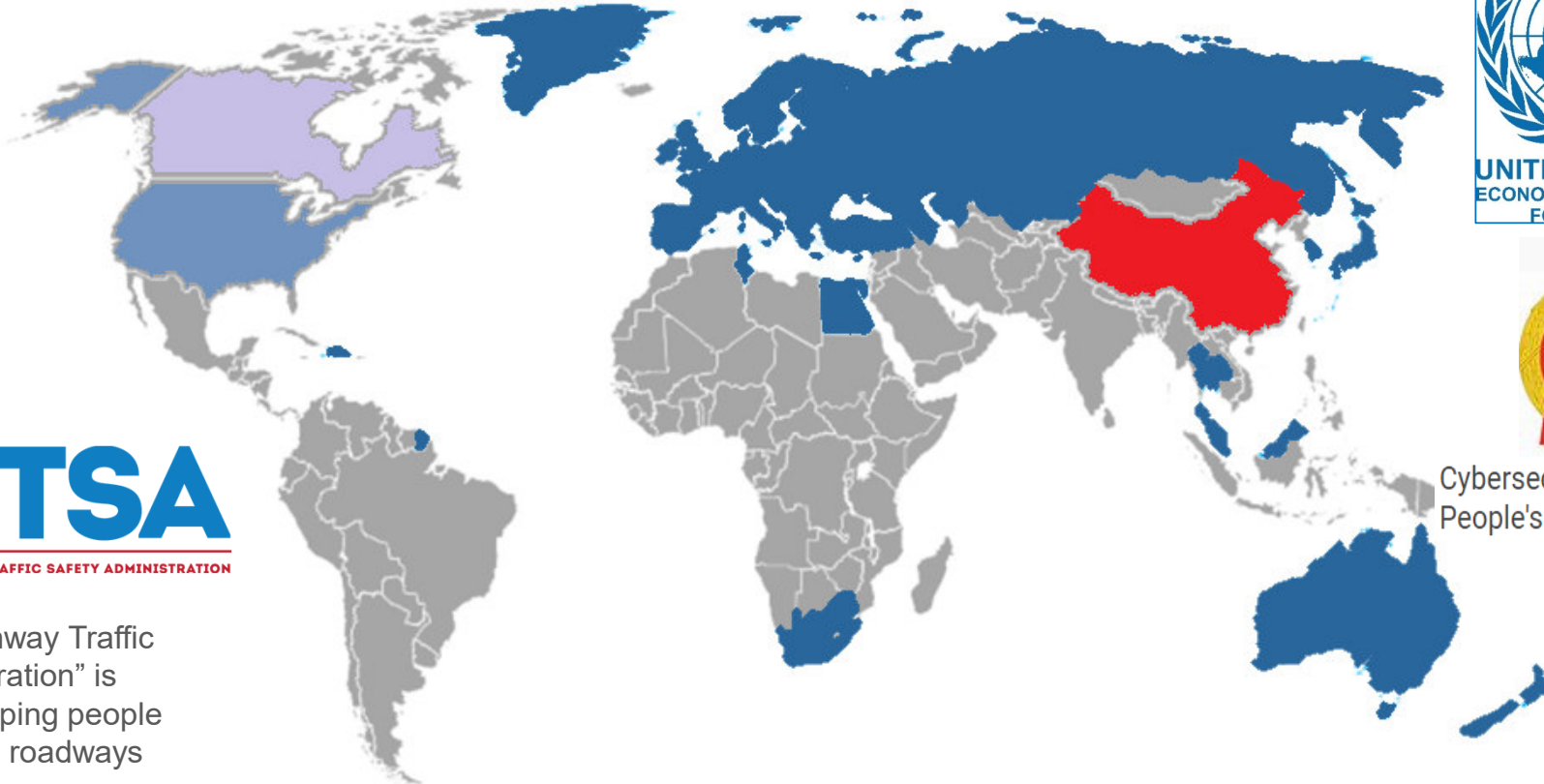
Important Norms and Standards

UN ECE R155

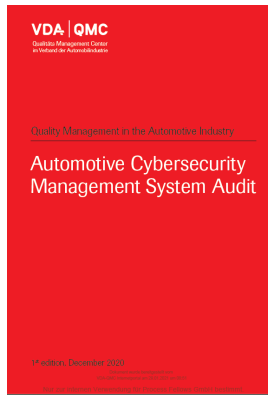**UN ECE R156**

Basic Check (mandatory)

ACSMS Certificate

Domains of cybersecurity activities described in clauses of the **ISO/SAE 21434:2021**

Organizational **Cybersecurity Management**

Project Dependent **Cybersecurity Management**

Distributed **Cybersecurity Activities**

Continual **Cybersecurity Activities**

Concept Phase	Product Develop-ment	Post-Development: Production, Operations/ maintenance, End of Support and Decommissioning
CS Validation		

Threat Analysis and Risk Assessment Methods
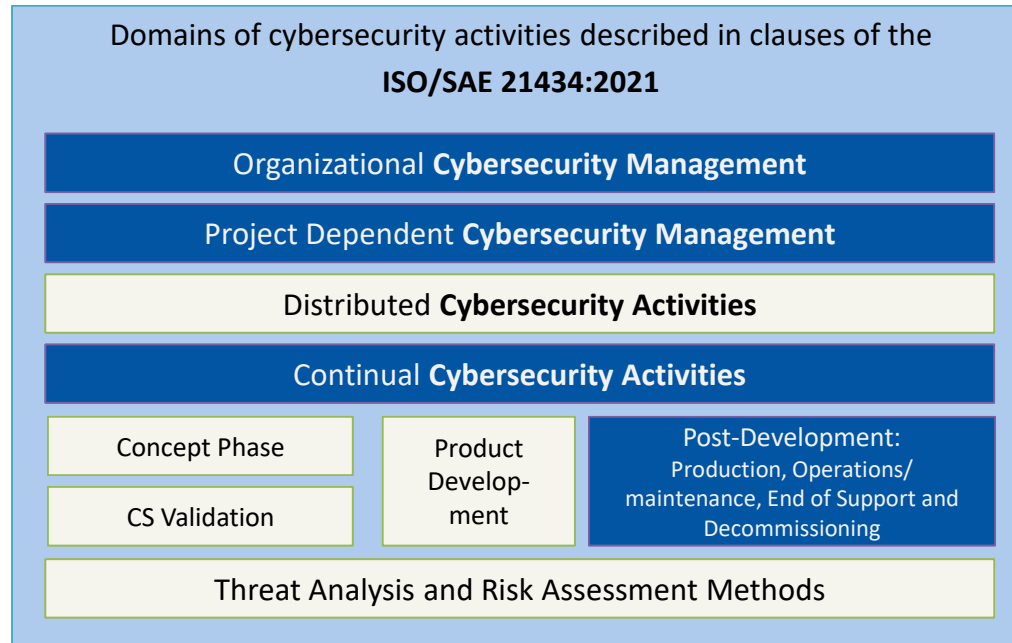
Examples

Project Implementation

VDA|QMC
Qualitäts-Management Center
im Verband der Automobilindustrie

Quality Management in the Automotive Industry

Automotive Cybersecurity Management System Audit

1st edition, December 2020
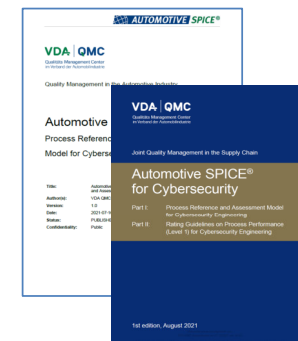
ISO 21434:
Cybersecurity Audit
Cybersecurity Assessment

Automotive SPICE® for Cybersecurity

Challenges for Know-how building of Developers and Assessors in Cybersecurity - ASQF Safety & Security Day - March 23, 2023

6

1   Introduction

The United Nations Economic Commission for Europe (UNECE) has formulated requirements for cybersecurity management systems of OEMs[1]. The European Union will transpose the requirements defined by the UNECE (UN Regulation No. 155) into EU law. According to the current status, this law will be applied as of July 2022, within the approval of new vehicles types.
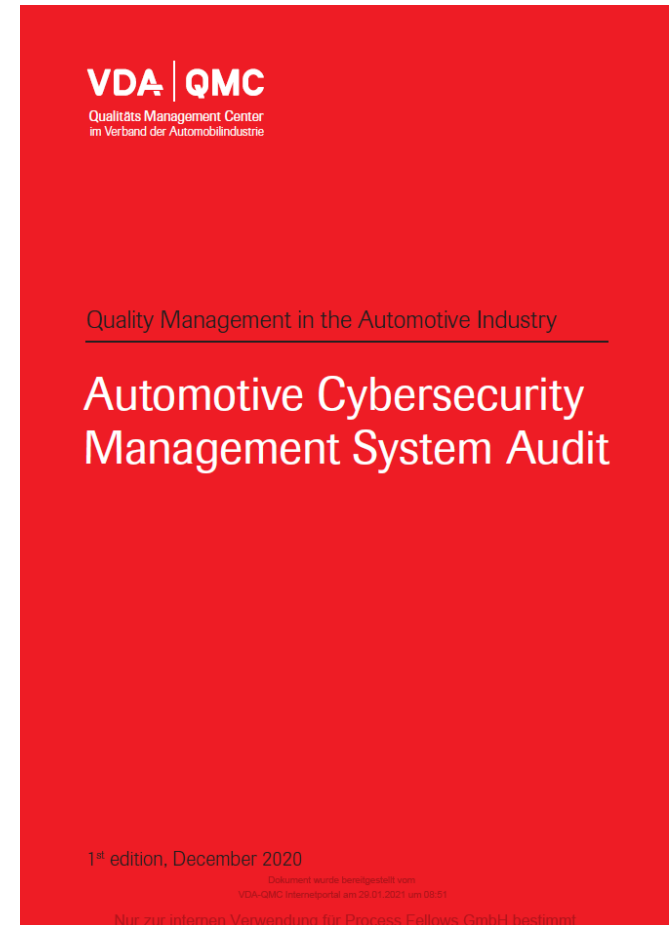
The UN regulation No. 155 formulates requirements but does not define rating criteria or a rating scheme for CSMS audit. Such criteria and rating scheme are proposed in this *VDA Automotive Cybersecurity Management System Audit* volume.

Source: VDA QMC Automotive Cybersecurity Management System Audit

VDA | QMC
Qualitäts Management Center
im Verband der Automobilindustrie

Quality Management in the Automotive Industry

Automotive Cybersecurity Management System Audit

1st edition, December 2020

Automotive Scope

OEM

Supplier

UN Regulation no. [155]

Described in detail by

UN Interpretation Document to R no. [155]

Refers on reference implementation

ISO/SAE 21434 Cybersecurity Engineering

Safeguarding the value chain short term

VDA QMC ACSMS Audit

Safeguarding the value chain mid term

ISO PAS 5112 Guidelines for auditing CS engineering
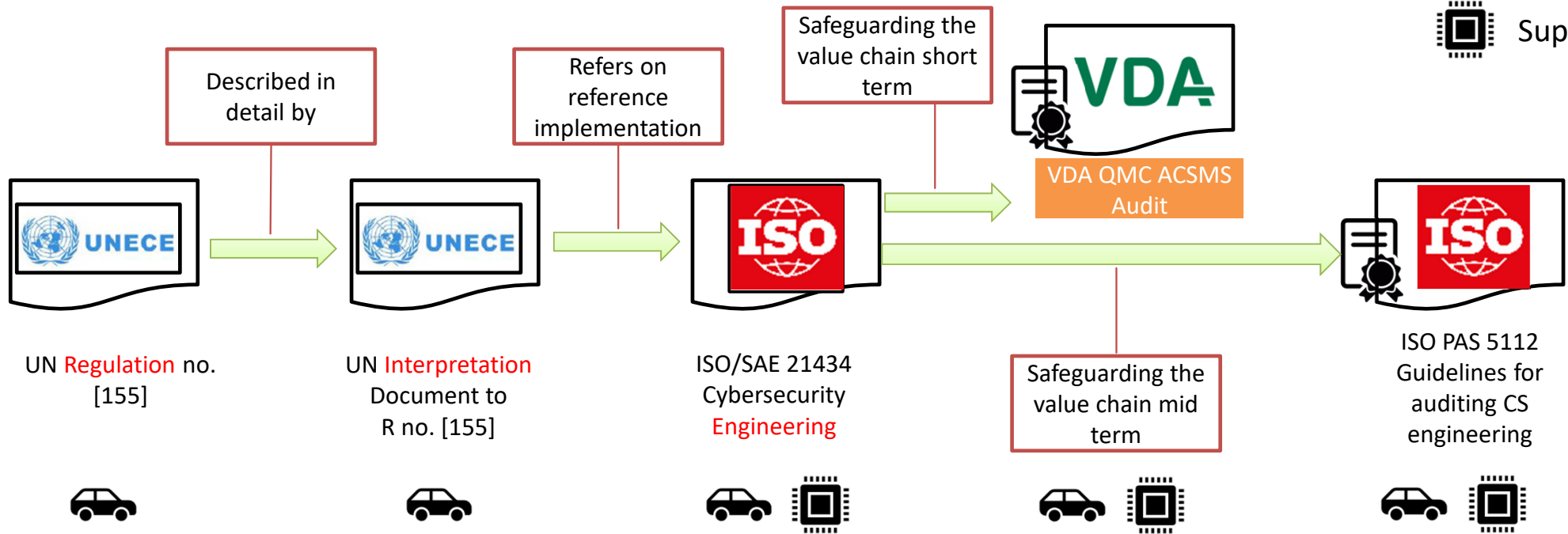
VDA QMC Answer – Part 2

Scope

The UNECE regulation R155 requires, among others, that the vehicle manufacturer identify and manage cybersecurity risks in the supply chain. Automotive SPICE is a process assessment model, when used with an appropriate assessment method, which helps to identify process-related product risks. To incorporate cybersecurity-related processes into the proven scope of Automotive SPICE, additional processes have been defined in a Process Reference and Assessment Model for Cybersecurity Engineering (Cybersecurity PAM).

Source: VDA QMC Automotive SPICE® for Cybersecurity

AUTOMOTIVE SPICE®

VDA | QMC
Qualitäts Management Center
im Verband der Automobilindustrie

Quality Management in the Automotive Industry

Automotive SPICE®
Process Reference and Assessm...
Model for Cybersecurity Enginee...

Title:	Automotive SPICE® for Cybersecurity Pr... and Assessment Model
Author(s):	VDA QMC Project Group 13
Version:	1.0
Date:	2021-07-16
Status:	PUBLISHED
Confidentiality:	Public

VDA | QMC
Qualitäts Management Center
im Verband der Automobilindustrie

Joint Quality Management in the Supply Chain
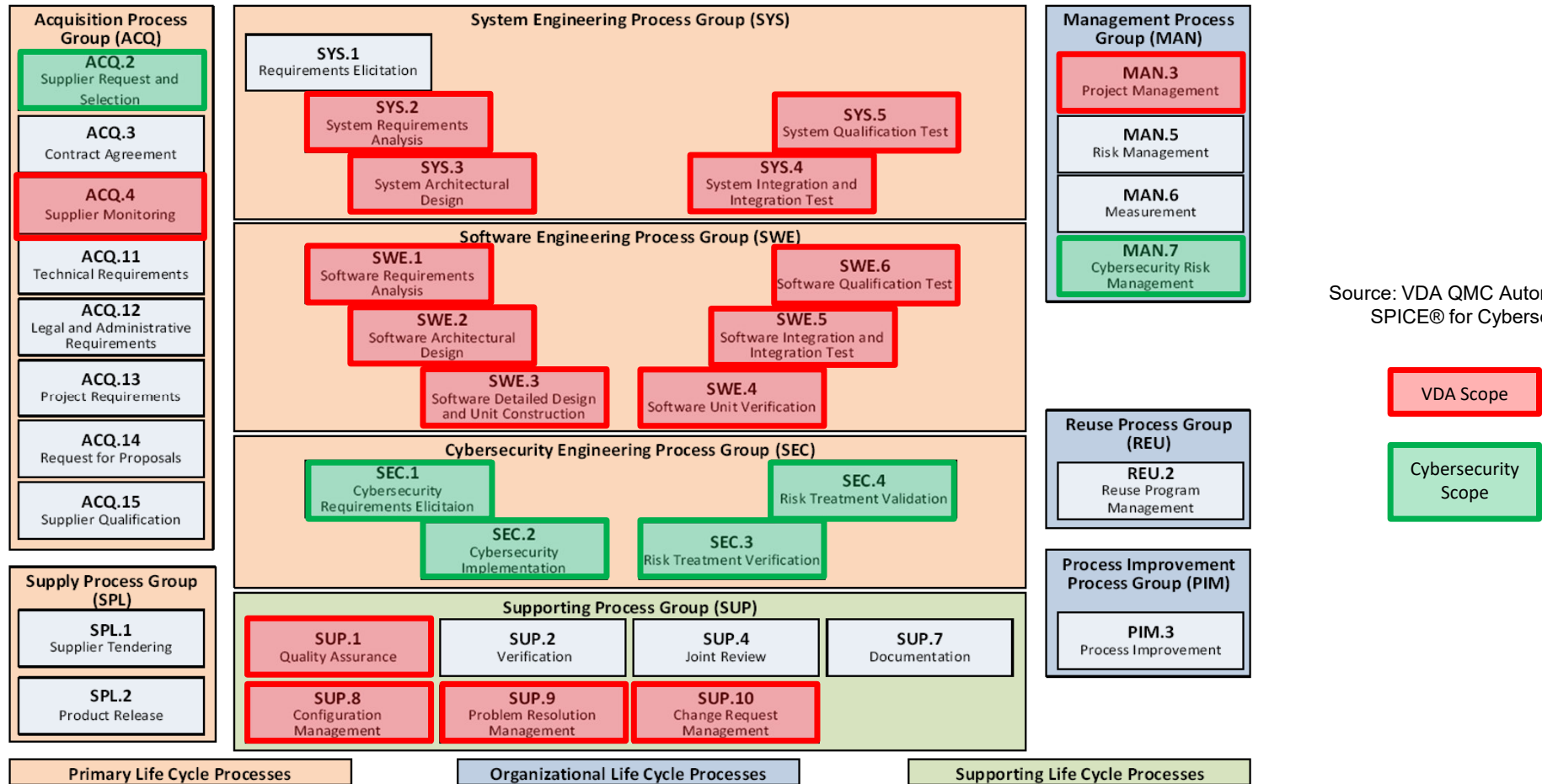
Automotive SPICE®
for Cybersecurity

Part I: Process Reference and Assessment Model
           for Cybersecurity Engineering

Part II: Rating Guidelines on Process Performance
           (Level 1) for Cybersecurity Engineering

1st edition, August 2021

Integrated Automotive SPICE® 3.1 and Automotive SPICE® for Cybersecurity Process Reference Model

Acquisition Process Group (ACQ)
- ACQ.2 — Supplier Request and Selection
- ACQ.3 — Contract Agreement
- ACQ.4 — Supplier Monitoring
- ACQ.11 — Technical Requirements
- ACQ.12 — Legal and Administrative Requirements
- ACQ.13 — Project Requirements
- ACQ.14 — Request for Proposals
- ACQ.15 — Supplier Qualification

Supply Process Group (SPL)
- SPL.1 — Supplier Tendering
- SPL.2 — Product Release

System Engineering Process Group (SYS)
- SYS.1 — Requirements Elicitation
- SYS.2 — System Requirements Analysis
- SYS.3 — System Architectural Design
- SYS.4 — System Integration and Integration Test
- SYS.5 — System Qualification Test

Software Engineering Process Group (SWE)
- SWE.1 — Software Requirements Analysis
- SWE.2 — Software Architectural Design
- SWE.3 — Software Detailed Design and Unit Construction
- SWE.4 — Software Unit Verification
- SWE.5 — Software Integration and Integration Test
- SWE.6 — Software Qualification Test

Cybersecurity Engineering Process Group (SEC)
- SEC.1 — Cybersecurity Requirements Elicitaion
- SEC.2 — Cybersecurity Implementation
- SEC.3 — Risk Treatment Verification
- SEC.4 — Risk Treatment Validation

Supporting Process Group (SUP)
- SUP.1 — Quality Assurance
- SUP.2 — Verification
- SUP.4 — Joint Review
- SUP.7 — Documentation
- SUP.8 — Configuration Management
- SUP.9 — Problem Resolution Management
- SUP.10 — Change Request Management

Management Process Group (MAN)
- MAN.3 — Project Management
- MAN.5 — Risk Management
- MAN.6 — Measurement
- MAN.7 — Cybersecurity Risk Management

Reuse Process Group (REU)
- REU.2 — Reuse Program Management

Process Improvement Process Group (PIM)
- PIM.3 — Process Improvement

Source: VDA QMC Automotive SPICE® for Cybersecurity

- VDA Scope
- Cybersecurity Scope

Primary Life Cycle Processes

Organizational Life Cycle Processes

Supporting Life Cycle Processes
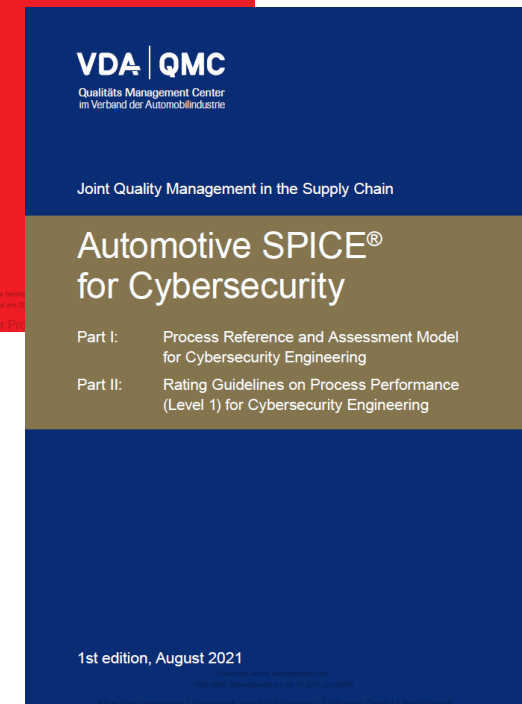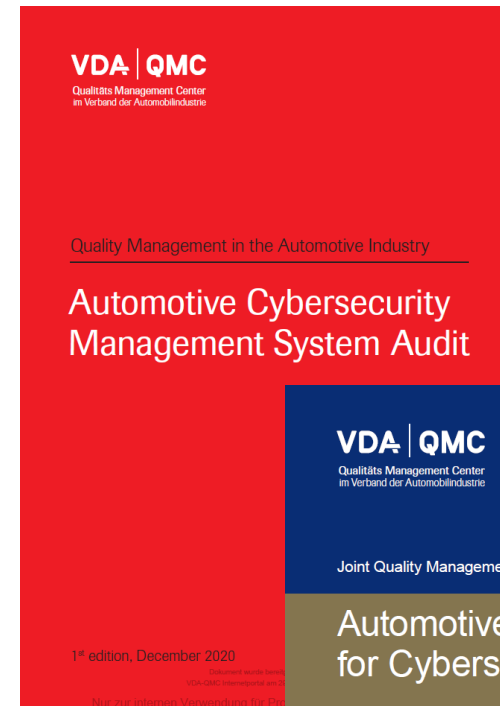
VDA QMC Answer – Part 3

The purpose of an Automotive SPICE assessment is to identify systematic weaknesses in the primary lifecycle processes, management processes, and support processes.

Automotive SPICE PAM3.1 and Automotive SPICE for Cybersecurity are covering system engineering and software engineering. Indicators for mechanical engineering and hardware engineering are not part of the current Automotive SPICE PAMs.
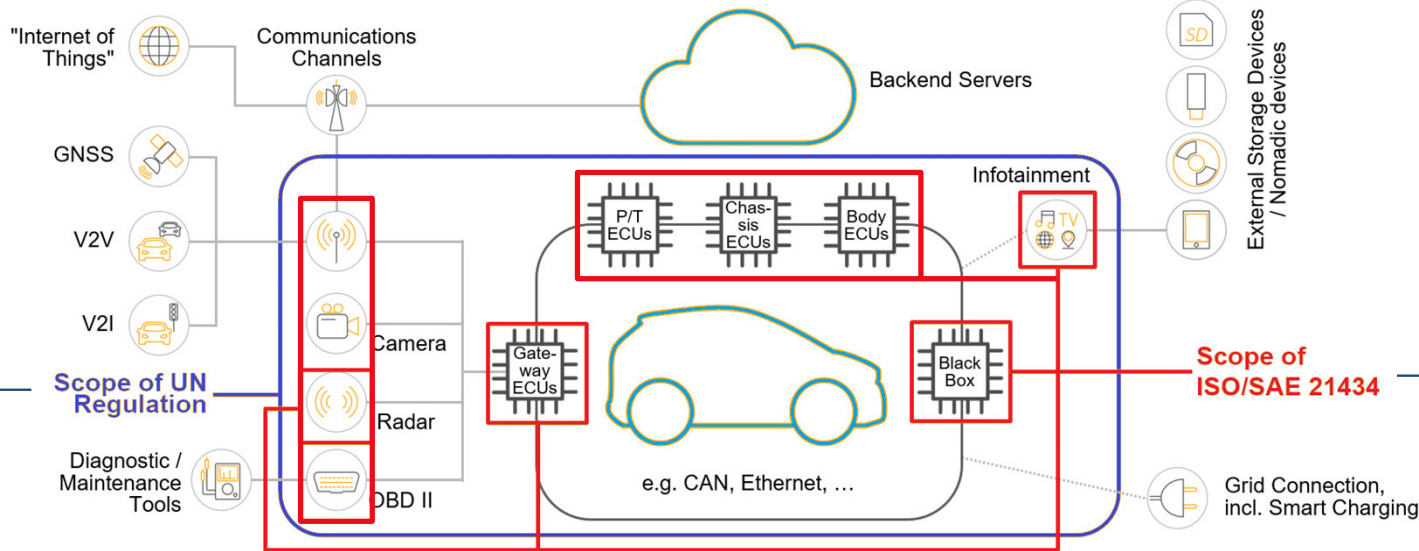
Certain aspects of the ISO/SAE 21434 are not in the scope of this document, as they are not performed in a development project context. They are addressed by the Automotive Cybersecurity Management System (ACSMS). These aspects, such as cybersecurity management, continuous cybersecurity activities, and post-development phases are subject to an audit of the cybersecurity management system.

The capability determination of processes for distributed cybersecurity activities, concept development, product development, cybersecurity validation, and threat analysis and risk assessment is supported by this document.

Source: VDA QMC Automotive SPICE® for Cybersecurity

VDA | QMC
Qualitäts Management Center
im Verband der Automobilindustrie

Quality Management in the Automotive Industry

Automotive Cybersecurity Management System Audit

1st edition, December 2020

Nur zur internen Verwendung für Pro

VDA | QMC
Qualitäts Management Center
im Verband der Automobilindustrie

Joint Quality Management in the Supply Chain

Automotive SPICE® for Cybersecurity

Part I: Process Reference and Assessment Model for Cybersecurity Engineering

Part II: Rating Guidelines on Process Performance (Level 1) for Cybersecurity Engineering

1st edition, August 2021

Implementation in Automotive

Remark:
ISO/SAE 21434 applies to series production road vehicle E/E systems. This includes their components and interfaces. It is applicable to all components whose development or modification began after the publication of the standard.

UN Regulation no.155
Approval of vehicles with regards to cybersecurity and cybersecurity management system

ISO/SAE 21434
Road Vehicles – Cybersecurity Engineering applicable to OEMs and Suppliers

VDA | QMC
Qualitäts Management Center
im Verband der Automobilindustrie

VDA ACSMS / (ISO PAS 5112)
Automotive Cybersecurity System Audit (IATF Auditor & Experts)

Scope: **Cybersecurity Management System** of OEMs and the dependencies to contractual partners (value chain).

Automotive SPICE for Cybersecurity
Process Reference and Assessment Model for **Cybersecurity Engineering**

Scope: Individual Development Project

Company Certificate

Assessment Report

Agenda

- New challenges in Automotive industry – Cybersecurity and more

- **Current situation – SPICE Assessments and their effects**

- intacs® – Goals and Achievements

- Future intacs® Training Architecture

- Outlook

Which kind of projects are assessed?

- ECU with software-based functionalities for vehicle functions
- software-controlled safety measures on a second controller
- access control mechanisms, e.g., for vehicle doors
- smartphone apps for evaluation of vehicle data and controlling functions like climatic control
- "old fashioned" managed system development with "agile" sub-teams for software and/or hardware development
- complex (sub-)systems with several architectural layers and hierarchies distributed among several ECUs and developed by different (sub-)suppliers at different locations all over the world
- a mixture of all above …
- and much more!
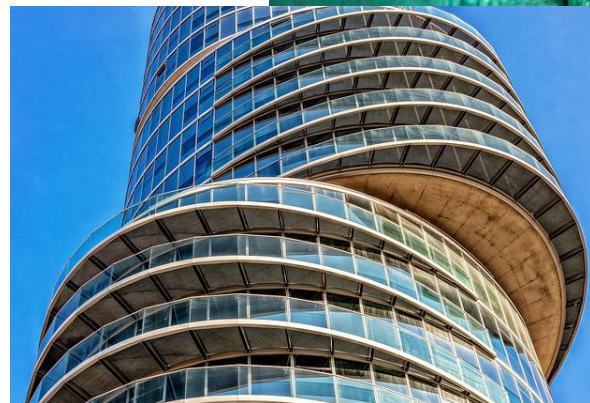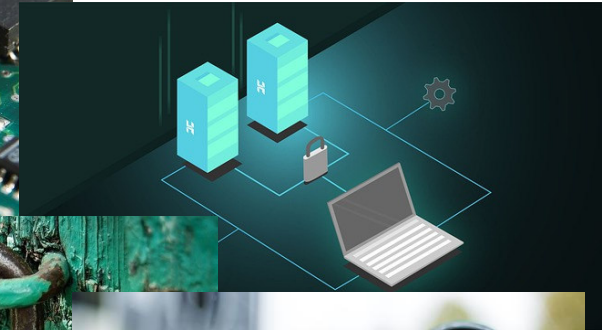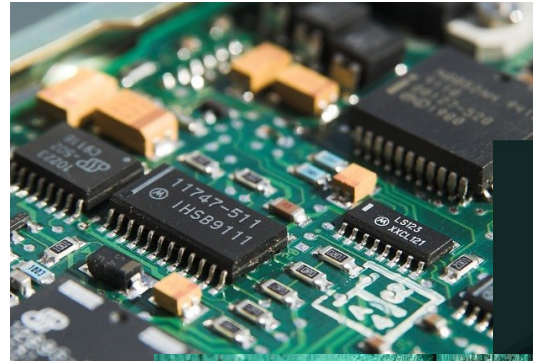
Which kind of projects are assessed?

And by whom?

By an assessor with a **basic intacs® education** according to the training scheme and **hopefully** additional skills from somewhere else that fit to the needs of the projects to be assessed !

Is this sufficient?

And does it matter?

Do assessor ratings have any effect on projects or organizations?

For becoming a supplier for the first time?
- → **Yes**, if you are one out of many suppliers offering a standard product and want to be classified as an A supplier (means "preferred")
- → **No**, if this supplier has a unique knowledge or product, just promising to work on an improvement plan

For accepting/approving a delivered product to be integrated into a vehicle?
- → **Yes**, if well performed processes are really respected (risk-based approach)
- → **No**, if the product passes all acceptance tests for expected functionality (even with higher risks)

For improving the own projects and processes?
- → **Yes**, if assessment findings are justified in an unambiguous and practical way
- → **No**, if rating is purely based on PAM and guideline rules without specific justifications

Will this be sufficient in the future?

Role of the Automotive SPICE® Assessor in Cybersecurity

- Perform Automotive SPICE® for Cybersecurity Assessments
- Participate in ACSMS Audits (recommended, but not in leading role)
- Keeping up to date with the latest Cybersecurity knowledge

- Not in scope:
  - ISO 27xxx, TISAX, (A)CSMS,
  - "Cybersecurity Certification" (e.g. product security)
  - Challenge or hack the security mechanism
  - Coach or consult how to improve the mechanism
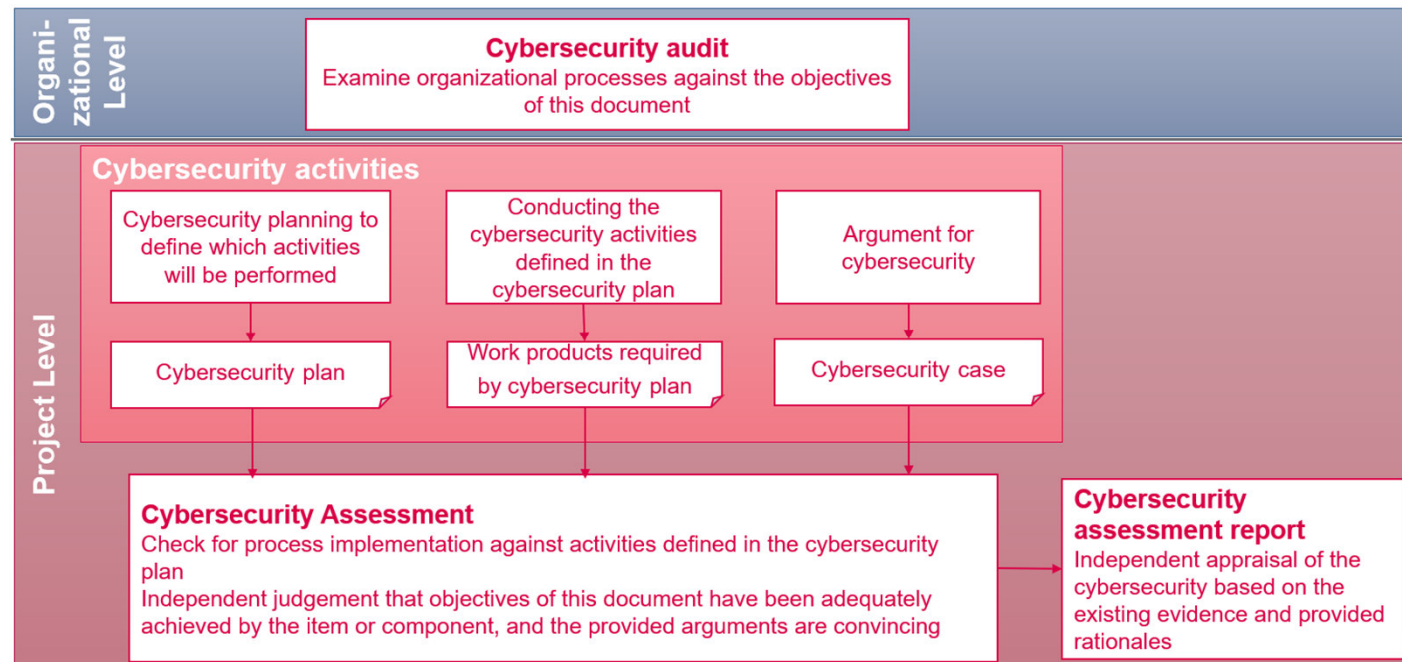
Automotive SPICE® Compliance – Now „really" important !

Recommendation from VDA QMC for Type Approval (homologation)

→ **Assessor's judgement will become more important than ever !**

Target Profile for PASSED

Automotive SPICE VDA Scope

Process	PA 1.1
ACQ.4 Supplier Monitoring	F
SYS.2 System Requirements Analysis	F
SYS.3 System Architectural Design	F
SYS.4 System Integration and Integration Test	F
SYS.5 System Qualification Test	F
SWE.1 Software Requirements Analysis	F
SWE.2 Software Architectural Design	F
SWE.3 Software Detailed Design and Unit Construction	F
SWE.4 Software Unit Verification	F
SWE.5 Software Integration and Integration Test	F
SWE.6 Software Qualification Test	F
SUP.1 Quality Assurance	L
SUP.8 Configuration Management	L
SUP.9 Problem Resolution Management	F
SUP.10 Change Request Management	F
MAN.3 Project Management	L

Automotive SPICE for Cybersecurity

Process	PA 1.1
ACQ.2 Supplier request and selection	F
ACQ.4 Supplier Monitoring*	F
SEC.1 Cybersecurity Requirements Elicitation	F
SEC.2 Cybersecurity Implementation	F
SEC.3 Risk Treatment Verification	F
SEC.4 Risk Treatment Validation	F
MAN.7 Project Management	F
SUP.1 Quality Assurance**	F
SUP.8 Configuration Management**	F

Target Profile for PASSED WITH CONDITIONS

Automotive SPICE VDA Scope

Process	PA 1.1
ACQ.4 Supplier Monitoring	L
SYS.2 System Requirements Analysis	L
SYS.3 System Architectural Design	L
SYS.4 System Integration and Integration Test	L
SYS.5 System Qualification Test	L
SWE.1 Software Requirements Analysis	L
SWE.2 Software Architectural Design	L
SWE.3 Software Detailed Design and Unit Construction	L
SWE.4 Software Unit Verification	L
SWE.5 Software Integration and Integration Test	L
SWE.6 Software Qualification Test	L
SUP.1 Quality Assurance	L
SUP.8 Configuration Management	L
SUP.9 Problem Resolution Management	L
SUP.10 Change Request Management	L
MAN.3 Project Management	L

Automotive SPICE for Cybersecurity

Process	PA 1.1
ACQ.2 Supplier Request and Selection	L
ACQ.4 Supplier Monitoring*	L
SEC.1 Cybersecurity Requirements Elicitation	L
SEC.2 Cybersecurity Implementation	L
SEC.3 Risk Treatment Verification	L
SEC.4 Risk Treatment Validation	L
MAN.7 Project Management	L
SUP.1 Quality Assurance**	L
SUP.8 Configuration Management**	L

Agenda

- New challenges in Automotive industry – Cybersecurity and more

- Current situation – SPICE Assessments and their effects

- **intacs® – Goals and Achievements**

- Future intacs® Training Architecture

- Outlook

What is intacs®?

intacs.info

International Assessor Certification Scheme

"The intacs® scheme is a valid and accepted qualification scheme
by the automotive industry and VDA QMC."

Source: VDA QMC Automotive SPICE® Guidelines, 1st edition

Main objective: Ensuring high quality assessment performance through
1. setting training and certification standards for ISO/IEC 330xx (SPICE) assessors
2. setting standards for maintaining assessor competence
3. promoting assessment models & community interactions

Most requested topic: Cybersecurity

Gate4SPICE Events

2023-02-10 Gate4SPICE Event "Multi -System Integration" - ONLINE
Online (10.02.2023 10:00)

2023-02-25 Gate4SPICE Event "Practice in ASPICE, Cybersecurity, Functional Safety" - ONLINE
Online (25.02.2023 09:00)
fully booked.

2023-05-11-Gate4SPICE Event "On the quest for the forgotten processes" - ONSITE
Vitesco Technologies GmbH, Siemensstraße 12, 93055 Regensburg, Entwicklungszentrum (11.05.2023 09:30)
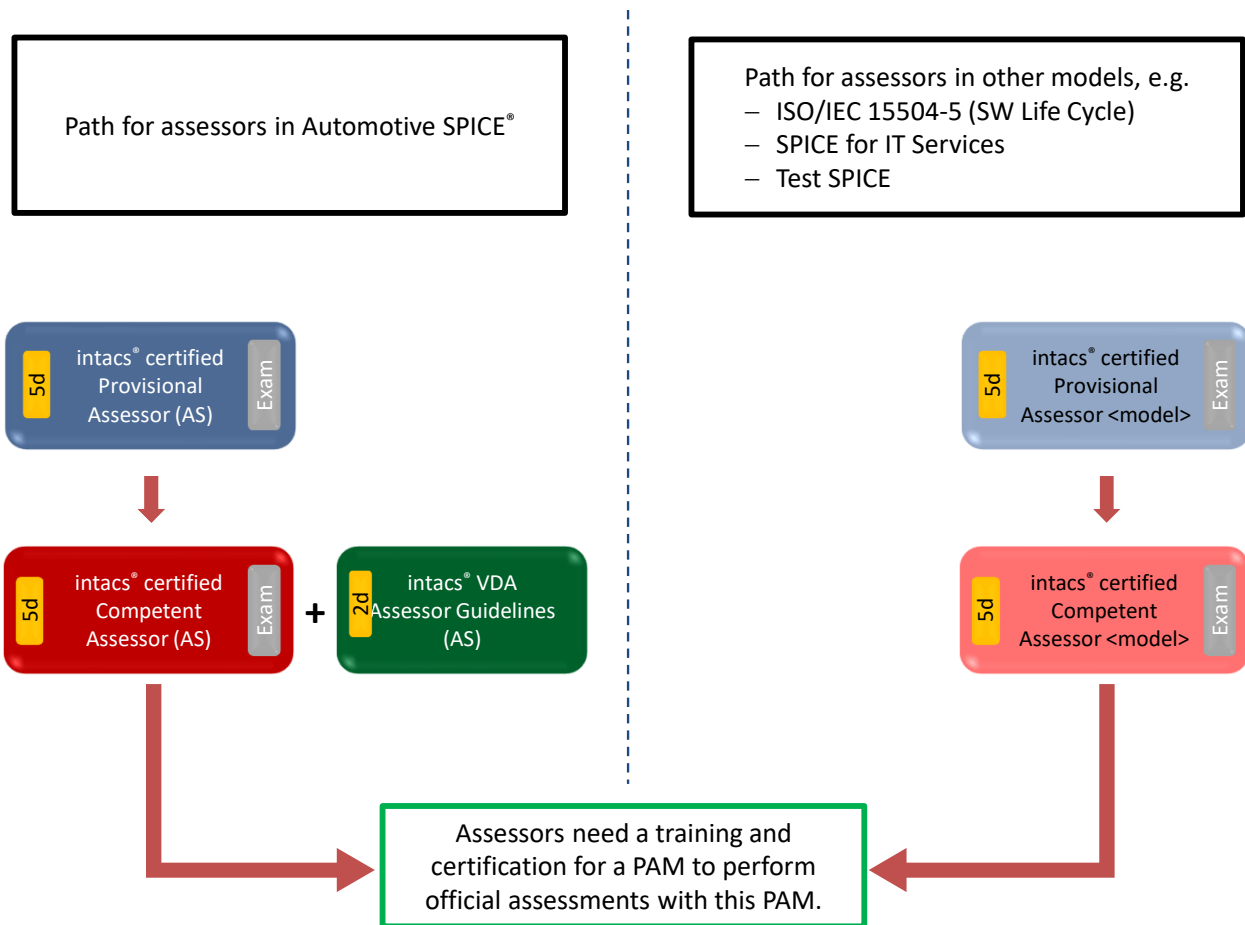**fully booked.**

Latest Results

- 2022-12-08-Gate4SPICE Event "Cyber Security and Hardware SPICE, Welche Auswirkungen gibt es?" - ONSITE 2022-12-08
- 2022-11-25-Gate4SPICE Event "Automotive SPICE® Model Compliance - Current & Future" - ONSITE 2022-11-25
- 2022-11-18-Gate4SPICE Event "Automotive SPICE in an Agile Environment" - ONLINE 2022-11-18
- 2022-11-04-Gate4SPICE Event "ASPICE and Cybersecurity" - ONSITE 2022-11-04
- 2022-10-14-01-Gate4SPICE Event "In sight of ASPICE Assessment and introduction of Cybersecurity" - ONSITE 2022-10-14
- 2022-10-13-Gate4SPICE Event "Looking into the future" - ONSITE 2022-10-13
- 2022-10-05-Gate4SPICE Event "Automotive SPICE und VDA-Bände – Widerspruch oder sinnvolle Ergänzung?" - ONSITE 2022-10-05
- 2022-09-22-Gate4SPICE Event "Rhetorik in ASPICE Assessments" - ONSITE 2022-09-22
- 2022-09-21-Gate4SPICE Event "Experience and pain points by applying the Automotive SPICE Guidelines in Spice Assessments" - ONLINE 2022-09-21
- 2022-09-20-Gate4SPICE Event "HW SPICE 2.0 and ASPICE 3.1 Configuration Management and Verification: What are the pain points?" - ONSITE 2022-09-20

Archive Gate4SPICE Results

2022
- 2022-06-24-Gate4SPICE Event "How to import ASPICE into an enterprise's R&D system compatibility" - ONLINE 2022-06-24
- 2022-06-11-Gate4SPICE Event "ASPICE in Practice and Synergy between ASPICE and Cybersecurity" - ONLINE 2022-06-11
- 2022-05-05-Gate4SPICE Event "Practice from ASPICE CL1 to CL3 level" &"ASPICE & ISO combined implementation" - ONSITE 2022-05-05
- 2022-04-28-Gate4SPICE Event "How to integrate ASPICE SEC PAM to current Quality Management System?" - ONLINE 2022-04-28
- 2022-04-22-Gate4SPICE Event "ASPICE implementation on quality assurance, synergy with Fusa and agile development" - ONLINE 2022-04-22
- 2022-02-25-Gate4SPICE Event "HW SPICE 2.0 and ASPICE 3.1 - Configuration Management and Verification: What are the pain points?" - ONLINE 2022-02-25
- 2022-01-28-Gate4SPICE Event "Assessment perspective of Automotive SPICE Capability Level 3 considering functional safety" - ONSITE 2022-01-28

2021
- 2021-12-17-02-Gate4SPICE Event "ASPICE & Functional Safety" - ONSITE 2021-12-17
- 2021-12-17-01-Gate4SPICE Event "Practices of ASPICE with functional safety, Agile" - ONSITE 2021-12-17
- 2021-11-23-Gate4SPICE Event "Mechanical System Engineering In SPICE" - ONSITE 2021-11-23
- 2021-11-02-Gate4SPICE Event "Role of ASPICE in Functional Safety, SOTIF and Cybersecurity standards" - ONLINE Event 2021-11-02
- 2021-10-30-Gate4SPICE Event "Automotive SPICE® & Its Practical Implementation" - ONLINE Event 2021-10-30
- 2021-10-29-Gate4SPICE Event "HW SPICE 2.0 and ASPICE 3.1 Configuration Management and Verification: What are the pain points?" - ONLINE Event 2021-10-29
- 2021-10-21-Gate4SPICE Event "ASPICE and Cybersecurity" - ONSITE Event 2021-10-21
- 2021-10-16-Gate4SPICE Event "Practice related to ASPICE, Cybersecurity, Safety, CNAS Software Testing etc." - ONSITE Event 2021-10-16
- 2021-10-09-Gate4SPICE Event "Cybersecurity" - ONSITE Event 2021-10-09
- 2021-09-29-Gate4SPICE Event "Capability Level 3 in Praxis" - ONLINE Event 2021-09-29
- 2021-09-25-Gate4SPICE Event "How to effectively implement ASPICE" - ONSITE Event 2021-09-25
- 2021-09-23-Gate4SPICE Event "Capability Level 3 in Praxis" - ONLINE Event 2021-09-23
- 2021-09-17-Gate4SPICE Event "Cybersecurity, Agile, and other challenges" - ONLINE Event 2021-09-17
- 2021-09-14-Gate4SPICE Event "Quality Management" - ONSITE Event 2021-09-14
- 2021-09-13-Gate4SPICE Event "How to ensure appropriate knowledge & experience in an assessment team?" - ONSITE Event 2021-09-13
- 2021-08-28-Gate4SPICE Event "ASPICE for Automatic Drive" - ONSITE Event 2021-08-28
- 2021-08-20-Gate4SPICE Event "Post-Covid ASPICE Assessments" - ONSITE Event 2021-08-20
- 2021-08-14-Gate4SPICE Event "Integration of multiple models and standards: ASPICE, Sec, Security, SOTIF, Agile etc" - ONSITE Event 2021-08-14
- 2021-07-24-Gate4SPICE Event "Automotive SPICE® supports developing Safe (Functional Safety & SOTIF) autonomous vehicle" - ONLINE Event 2021-07-24
- 2021-07-11-02-Gate4SPICE Event "Integrated implementation of Automotive SPICE, Functional Safety and Cybersecurity" 2021-07-11
- 2021-07-11-01-Gate4SPICE Event "Integrated implementation of Automotive SPICE, Functional Safety and Cybersecurity" 2021-07-11
- 2021-06-17-Gate4SPICE Event "Model Based Development and ASPICE Compliance" - ONSITE Event 2021-06-17
- 2021-06-04-Gate4SPICE Event "Current Challenges for Assessors" 2021-06-04
- 2021-05-31-Gate4SPICE Event "The Reality: Plug-in Concept and Beyond" 2021-05-31
- 2021-04-15-02-Gate4SPICE Event "ASPICE and Cybersecurity" 2021-04-15
- 2021-03-31-Gate4SPICE Event "Automotive SPICE Guideline Book understanding" 2021-03-31
- 2021-03-30-Gate4SPICE Event "Build to last - How to keep the organizational passion of ASPICE-based process improvement" 2021-03-30
- 2021-03-05-Gate4SPICE Event "Application of Automotive SPICE in context of Functional Safety" 2021-03-05
- 2021-01-19-Gate4SPICE Event "Joint review & Application of Automotive SPICE in context of Functional Safety" 2021-01-19

2020
- 2020-12-04-Gate4SPICE Event "Von CL0 auf CL3 – langfristige Prozessverbesserungprogramme systematisch planen und durchführen." 2020-12-04
- 2020-03-04-Gate4SPICE Event "ASPICE Level 3: Challenges and opportunities" 2020-03-04
- 2020-01-11-Gate4SPICE Event "Quality of Software" 2020-01-11

2019
- 2019-12-06-Gate4SPICE Event "How to assess SUP.1 process in Agile and Classic project setup" 2019-12-06
- 2019-12-04-Gate4SPICE Event "Open Source, the new challenge for ASPICE" 2019-12-04
- 2019-11-26/27-Gate4SPICE Event "Future of ASPICE in High Technology Environments" 2019-11-26
- 2019-11-13-Gate4SPICE Event "Planning of Complex Assessments" 2019-11-13
- 2019-11-11-Gate4SPICE Event "Planning of Complex Assessments" 2019-11-11
- 2019-10-23-Gate4SPICE Event "Something about Metrics" 2019-10-23
- 2019-09-18-Gate4SPICE Event "Assessing DevOps and Re-Use in large Agile Software Projects" 2019-09-18
- 2019-09-05-Gate4SPICE Event "Using M-SPICE in real life" 2019-09-05
- 2019-08-28-Gate4SPICE Event "Automotive Functional Safety (ISO26262) & Automotive SPICE" 2019-08-28
- 2019-06-09-Gate4SPICE Event "ASPICE 3.x Experience Sharing" 2019-06-09
- 2019-06-08-Gate4SPICE Event "ASPICE challenges and solutions in China" 2019-06-08
- 2019-05-23-Gate4SPICE Event "Behavioral Clues in Assessments" 2019-05-23
- 2019-05-17-Gate4SPICE Event "Risk Assessment as a practice in Automotive industry and its view across ASPICE, Functional Safety and Cyber Security" 2019-05-17
- 2019-05-16-Gate4SPICE Event "AutomotiveSPICE 3.1 Assessments and Considerations" 2019-05-16
- 2019-04-27-Gate4SPICE Event "Rating consideration on PA 3.1 and PA 3.2" 2019-04-27
- 2019-04-25-Gate4SPICE Event "Impact of work split between supplier and customer on ASPICE assessments and achieving compliance" 2019-04-25
- 2019-04-04-Gate4SPICE Event "Experiences with ASPICE PAM 3.1 and VDA Automotive Guideline" 2019-04-04
- 2019-03-22-Gate4SPICE Event "ASPICE and Cyber Security" 2019-03-22

2018
- 2018-12-22-Gate4SPICE Event "The relationship between Confirmation Measures in ISO26262 & Automotive SPICE assessment" 2018-12-22
- 2018-12-06-Gate4SPICE Event "Rating Guidelines: Key Concepts and Overall Guidelines & Capability Level 2 Guidelines" 2018-12-06
- 2018-10-30-Gate4SPICE Event "Cyber security with ASPICE" 2018-10-30
- 2018-10-25-Gate4SPICE Event "SYS.4-5, SWE.5+6-Rating Guidelines" 2018-10-25
- 2018-10-11-Gate4SPICE Event "Legacy Code in Assessments" 2018-10-11
- 2018-09-27-Gate4SPICE Event "From ASPICE PAM 2.5 to 3.1 - Understanding and Discussion of main key concepts" 2018-09-27
- 2018-09-20-Gate4SPICE Event "ACQ.4, SYS.2, SYS.3-Rating Guidelines" 2018-09-20
- 2018-08-31-Gate4SPICE Event "Impact of VDA Guideline on Automotive SPICE v3.1 assessments" 2018-08-31
- 2018-07-06-Gate4SPICE Event "Implementation challenges of ASPICE 3.0 in Agile Projects" 2018-07-06
- 2018-07-05-Gate4SPICE Event "How agile development in a regulated automotive environment with standards like ISO 26262 and Automotive SPICE works" 2018-07-05
- 2018-07-04-Gate4SPICE Event "Assessment Kompetent für Profis" 2018-07-04
- 2018-06-12-Gate4SPICE Event "Security (Volkscarmeq) UND 17 Jahre A-SPICE ohne Fortschritt? (VW)" 2018-06-12
- 2018-05-18-Gate4SPICE Event "PAM 3.1 VDA Guideline Part II" 2018-05-18
- 2018-05-08-Gate4SPICE Event "Automated Driving, Electrification, Connectivity - Quo Vadis ASPICE?" 2018-05-08
- 2018-04-19-Gate4SPICE Event "PAM 3.1 VDA Guideline Part I" 2018-04-19
- 2018-04-10-Gate4SPICE Event "ASPICE Guideline (Blue-Gold Book) Understanding and Application" 2018-04-10
- 2018-04-04-Gate4SPICE Event "Assessing Agile Projects" 2018-04-04
- 2018-02-24-Gate4SPICE Event "Automotive SPICE version 3.1 in practice" 2018-02-24

2017
- 2017-10-19-Gate4SPICE Event "How to achieve process acceptance?" 2017-10-19
- 2017-09-11-Gate4SPICE Event "SPICE for Mechanical Engineering – Introduction into PAM and first assessment experiences" 2017-06-28
- 2017-05-10-Gate4SPICE Event "Legacy code in Assessment Practice" 2017-05-10
- 2017-03-07-Gate4SPICE Event "Impact of project type, schedule and organization on assessment planning and execution" 2017-03-07
- 2017-01-12-Gate4SPICE Event "Assessment Planning and Execution in System Development Projects" 2017-01-12

2016
- 2016-12-01-Gate4SPICE Event "Measurement & Metrics" 2016-12-01
- 2016-11-10-Gate4SPICE Event "Legacy code" 2016-11-10
- 2016-07-15-Gate4SPICE Event "Challenges for New Assessors in ASPICE assessment" 2016-07-15
- 2016-07-11-Gate4SPICE Event "Best Practices for Assessors and Assessment Teams" 2016-07-11
- 2016-07-01-Gate4SPICE Event "Emerging Trends with ASPICE" 2016-07-01
- 2016-04-20-Gate4SPICE Event "Assessing Functional Safety Relevant Projects" 2016-04-20
- 2016-03-08-Gate4SPICE Event "Open Source Software and Automotive SPICE projects" 2016-03-08
- 2016-02-24-Gate4SPICE Event "Organizational Maturity Level with ASPICE" 2016-02-24
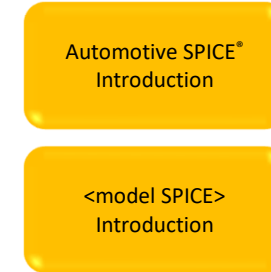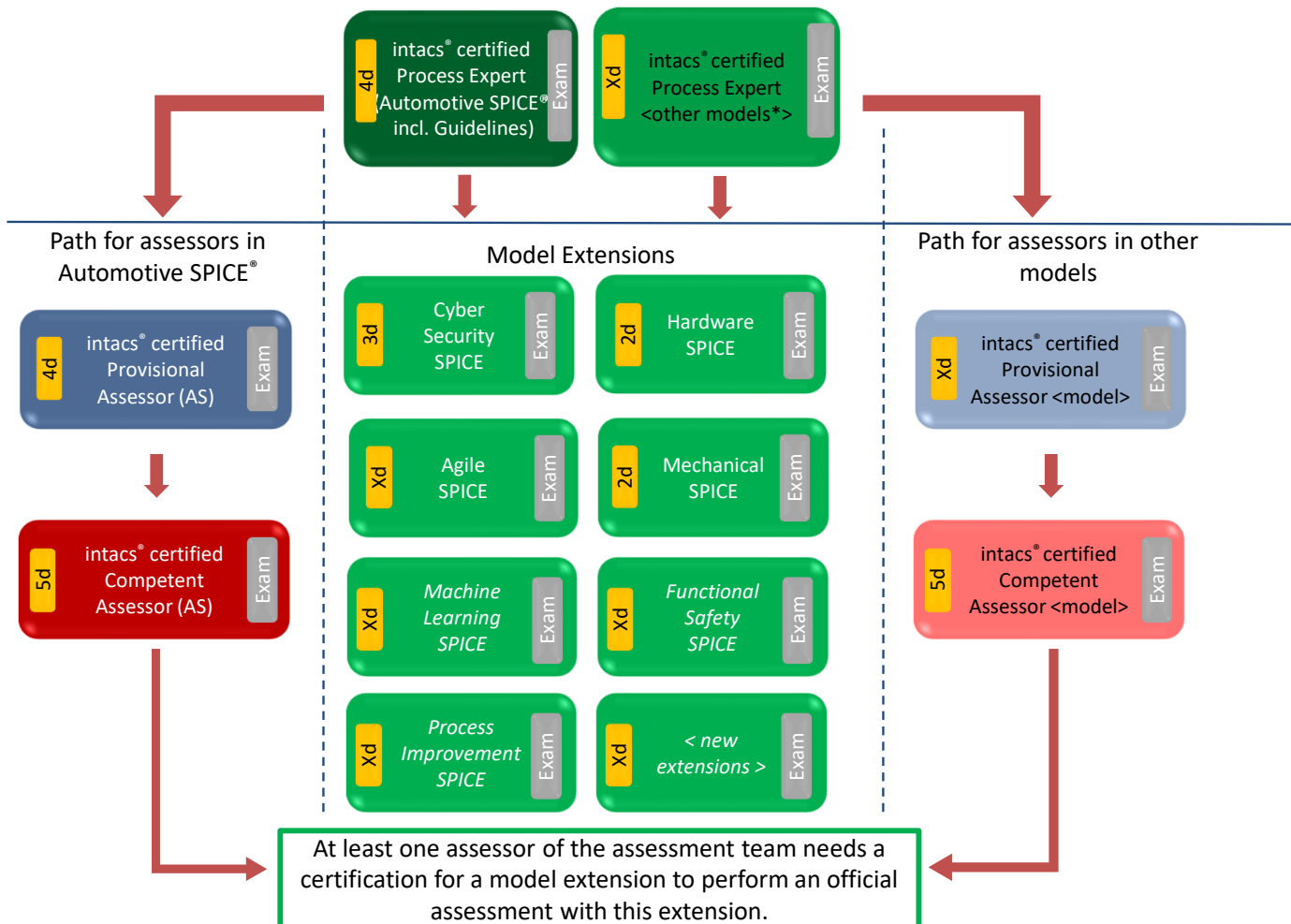
Source:
https://intacs.info/index.php/gate4spice

Agenda

- New challenges in Automotive industry – Cybersecurity and more

- Current situation – SPICE Assessments and their effects

- intacs® – Goals and Achievements

- **Future intacs® Training Architecture**

- Outlook

Current intacs® Training Architecture

Path for assessors in Automotive SPICE®

Path for assessors in other models, e.g.
- ISO/IEC 15504-5 (SW Life Cycle)
- SPICE for IT Services
- Test SPICE

5d intacs® certified Provisional Assessor (AS) **Exam**

5d intacs® certified Provisional Assessor <model> **Exam**

5d intacs® certified Competent Assessor (AS) **Exam**
+
2d intacs® VDA Assessor Guidelines (AS)

5d intacs® certified Competent Assessor <model> **Exam**

Assessors need a training and certification for a PAM to perform official assessments with this PAM.

Future intacs® Training Architecture

Path for assessors in Automotive SPICE®

- intacs® certified Process Expert (Automotive SPICE® incl. Guidelines) — 4d / Exam
- intacs® certified Provisional Assessor (AS) — 4d / Exam
- intacs® certified Competent Assessor (AS) — 5d / Exam

Model Extensions

- Cyber Security SPICE — 3d / Exam
- Hardware SPICE — 2d / Exam
- Agile SPICE — Xd / Exam
- Mechanical SPICE — 2d / Exam
- *Machine Learning SPICE* — Xd / Exam
- *Functional Safety SPICE* — Xd / Exam
- *Process Improvement SPICE* — Xd / Exam
- *< new extensions >* — Xd / Exam

Path for assessors in other models

- intacs® certified Process Expert <other models*> — Xd / Exam
- intacs® certified Provisional Assessor <model> — Xd / Exam
- intacs® certified Competent Assessor <model> — 5d / Exam

At least one assessor of the assessment team needs a certification for a model extension to perform an official assessment with this extension.

Automotive SPICE® Introduction

<model SPICE> Introduction

intacs® independent trainings are available on the market with various durations (1-day, 2-day or more). These trainings could be booked independently from intacs™ to get brief insights into the model. These trainings are NOT acknowledged for the assessor education!

* Other models, e.g.
- Medical SPICE
- SPICE for IT Services
- Organizational SPICE
- Improvement SPICE
- Test SPICE
- ISO/IEC TS 33061 (SW Life Cycle)
- ...

Agenda

- New challenges in Automotive industry – Cybersecurity and more

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- Future intacs® Training Architecture

- **Outlook**

Further Process Reference/Assessment Models

intacs.info
International Assessor Certification Scheme™

**Process Assessment Model
SPICE
for Mechanical Engineering**

AGILE SPICE™

Test·SPICE

intacs.info
International Assessor Certification Scheme™

SPICE for IT-Services

Hardware SPICE

Data Management SPICE

PRM/PAM

Organization Spice PRM/PAM

VEREIN DEUTSCHER INGENIEURE	Medizinprodukte-Software Medical SPICE Prozessassessmentmodell Medical device software Medical SPICE Process assessment model	VDI 5702 Blatt 1 / Part 1 Ausg. deutsch/englisch Issue German/English

**SVENSK STANDARD
SS 7740:2018**

Fastställd/Approved: 2018-08-15
Utgåva/Edition: 2
Språk/Language: engelska/English
ICS: 43.040.10

Vägfordon – Processutvärderingsmodell för funktionssäkerhet

Road vehicles – Functional Safety Process Assessment Model

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Thank you !

DO YOU HAVE ANY QUESTIONS ?

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