

Introduction (1/2)

- Automotive SPICE® is a domain-specific variant of ISO/IEC 15504-5 and is used by several OEMs and tier-one suppliers to assess the capability of the development process of their suppliers
- Automotive SPICE was developed by the **Auto**motive **S**pecial **I**nterest **G**roup (AUTOSIG) from 2001 (first publication in 2005)
- In the meanwhile, Automotive SPICE is a registered trademark of VDA (Verband der Deutschen Automobilindustrie), the German association of the automotive industrie
- The current version of the Automotive SPICE Process Assessment Model (PAM), version 2.5, was published in 2010
- The working group 13 (AK13) of VDA is working on a new version of the model, version 3.0, which should be published in 2015
- AK13 presented some of the expected changes at the VDA conference Automotive SYS last June in Berlin



Introduction (2/2)

Main reasons for an update of Automotive SPICE

Misalignment Automotive SPICE / ISO/IEC 15504-5

Vague terminology
Element, SW unit, item
Verification criteria

Missing "V" for hardware and mechanical engineering

In the following, we provide a summary of the announced changes...

[Source: AK13, "Automotive SPICE® 3.0 – Current Concept and Structure", VDA Automotive SYS, Berlin, 2013]

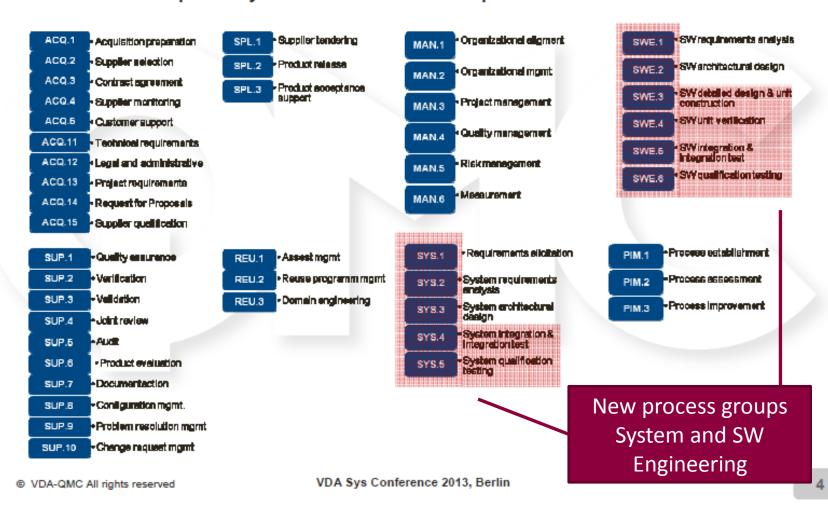






Changes in Structure for Automotive SPICE® v3.0

Backwards compatibility to v2.5's structure and process IDs maintained otherwise







Structure of ISO/IEC 15504-5:2012

System Life Cycle Processes Software Life Cycle Processes Agreement Processes (AGR) Project Processes (PRO) AGR.1 Acquisition PRO.1 Project planning AGR.1A Acquisition preparation PRO.2 Project assessment and control AGR.18 Supplier selection PRO.3 Decision management AGR.1C Agreement monitoring PRO.4 Risk management AGR.1D Acquirer acceptance PRO.5 Configuration management AGR.2 Supply PRO.6 Information management AGR.2A Supplier tendering PRO.7 Measurement AGR.28 Contract agreement AGR.2C Product/service delivery and support AGR.3 Contract change management Technical Processes (ENG) ENG. 1 Stakeholder requirements definition ENG. 2 System requirements analysis ENG. 3 System architectural design Organizational Project-Enabling Processes (ORG): ENG.4 Software implementation ORG.1 Life cycle model management ENG.5 System integration ORG.1A Process establishment ENG.6 Systems qualification testing ORG.18 Process assessment ENG.7 Software installation ORG.1C Process improvement ENG.8 Software acceptance support ORG.2 Infrastructure management ENG.9 Software operation ORG.3 Project portfolio management ENG.9A Operational use Software Reuse Processes (REU) ORG.4 Human resource management ENG.9B Customer support ORG.4A Skill development ENG. 10 Software maintenance ORG.4B Skill acquisition and provision ENG.11 Software disposal "Change Request Management" no ORG.4C Knowledge management ORG.5 Quality management ORG.6 Organizational alignment longer in SUP group, ORG.7 Organization management but moved to annex

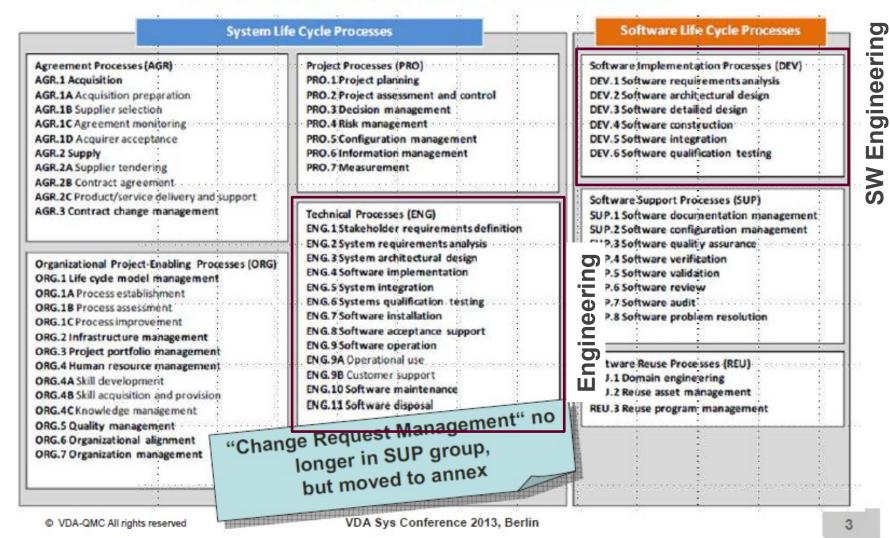
Software Implementation Processes (DEV) DEV.1 Software requirements analysis DEV. 2 Software architectural design DEV.3 Software detailed design DEV. 4 Software construction DEV.5 Software integration DEV.6 Software qualification testing

Software Support Processes (SUP) SUP.1 Software documentation management SUP.2 Software configuration management SUP.3 Software quality assurance SUP.4 Software verification SUP.5 Software validation SUP.6 Software review SUP.7 Software audit SUP.8 Software problem resolution

REU.1 Domain engineering REU. 2 Reuse asset management REU.3 Reuse program- management

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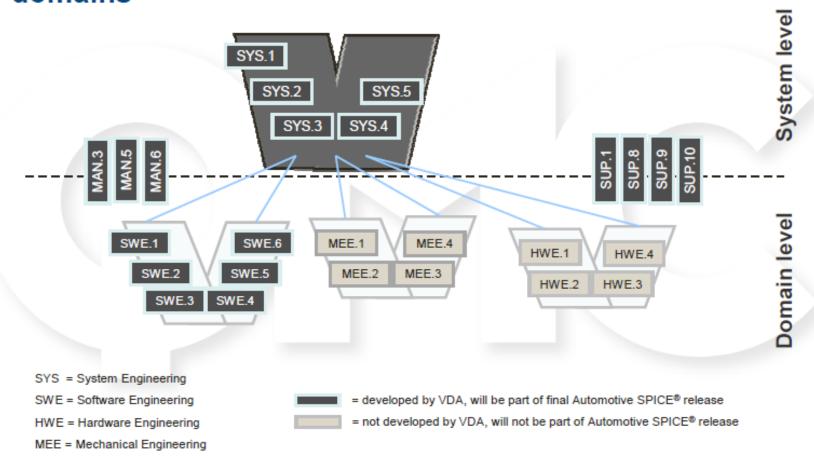
Structure of ISO/IEC 15504-5:2012







This structure reveals a "plug-in" concept for other domains

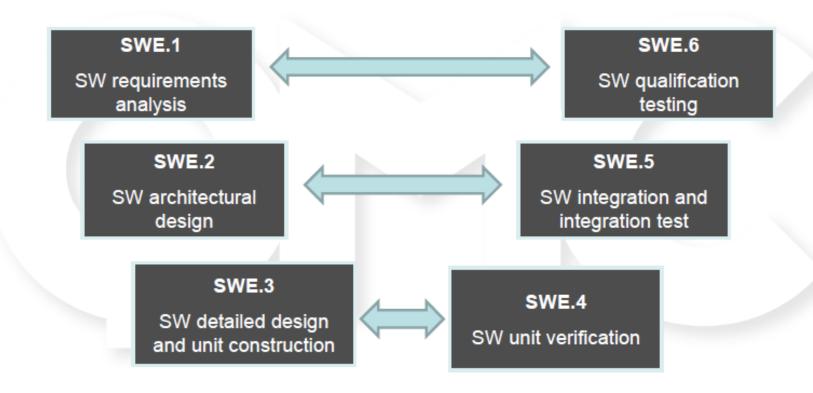


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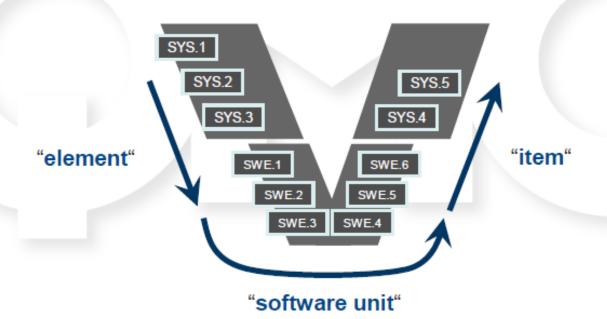
Symmetrical tip of the software V





Changes in Terminology (1/2)

- Issue:
 - how to distinguish between "component", "element", "unit", "item" etc.?
- Decision:
 - the following new terminology is used consistently



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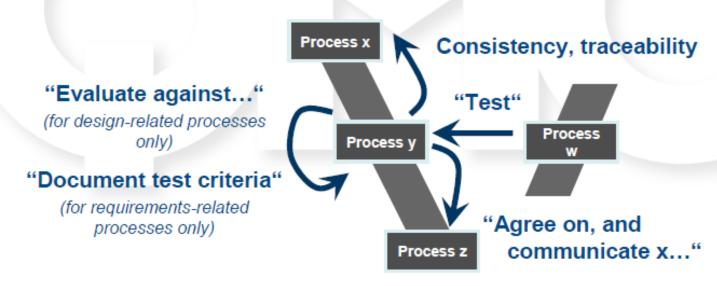
VDA Sys Conference 2013, Berlin

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Changes in Terminology (2/2)

- Issue:
 - How to interpret "verification criteria" in ENG.3 and ENG.5
 - The "communicate requirements" BPs in ENG.2/3/4 have no counterpart in ENG.5
- Decision: new terms used consistently in BPs across V-branches



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Example



SWE.2.BP6: Evaluate software architectural design.

Evaluate software architectural design against explicit architectural requirements.

NOTE 7: Architectural requirements may include compatibility to standards like Autosar or characteristics like scalability, robustness, modularity, reliability.

NOTE 8: The results of the evaluation can be used as input for software integration testing.

SWE.3.BP4: Evaluate software detailed design.

Evaluate the software detailed design in terms of interoperability, interaction, criticality, technical complexity, risks and testability.

NOTE 2: The results of the evaluation can be used as input for software unit verification.





Current Status and Roadmap

- At present, VDA AK 13 are working on the systems & software processes (about 70% finished).
- Next steps:
 - MAN.3 and SUP processes
 - Processes outside HIS scope
 - Formal mapping to ISO/IEC 12207
 - Guidelines for the interpretation of Automotive SPICE®
- The Automotive SPICE® 3.0 release is planned for 2015.
- A liaison has been established between VDA AK 13 and AK 26-02 (former sub-group of former VDA AK 16) for considering relevant and necessary activities and suggestions in the context of aligning Automotive SPICE® and ISO 26262 content & the performing of process assessments/functional safety audits in practice.



Thank you for your attention.

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Thank you for your attention.

Questions? Comments?

Automotive SPICE 3.0, Version A

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