intacs™ newsletter – edition 2017-12

Dear intacs members, SPICE assessors and friends of intacs,

We would like to start by calling your attention to some changes in intacs.info. For several years our colleague Timo Karasch was responsible for the intacs newsletter and we would like to use this opportunity to express our thanks to him for his work. Now he has chosen to return this responsibility to me.

Meanwhile my partner and I have merged our consulting and training companies to 'Knüvener Mackert GmbH' and I can reassume responsibility for the intacs newsletter, an old and trusted task with new challenges.

Kind regards

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intacs info management

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Working Group 'Assessor Support'

In April 2016 the leadership of the working group 'Assessor Support' was handed over from Dr. Joachim Fleckner to his successor, Mr. André Zeh.

Since the hand-over a total of eleven Gate4SPICE Events have already been organized and have been very well received within the assessor community. This form of information exchange between SPICE-assessors is hardly limited to Germany or even Europe: three of these events took place outside of Germany.

Special thanks are due to the hosts and speakers, it is their initiative that makes such events possible!

Registered users can log in to the intacs web site where detailed information is available under http://www.intacs.info/index.php/gate-for-spice. This includes both results from past events and the planning for future events.

To ensure that future G4S events can continue to be successful and beneficial for the assessor community, your support with suggestions for interesting future themes, as a speaker or as a host would be welcomed. Mr. André Zeh would be happy to support you with organisational questions or to discuss your ideas.

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Working Group 'Standard Course Materials' and Working Group 'Syllabi'

The change in structure of the course of instruction as an 'intacs™ certified Provisional Assessor' has been established and well-proven. Now the time has come to adapt the training to 'intacs™ certified Competent Assessor' to fit with this new structure. This opportunity will be used to rework the entire course to do justice to the demands made on the training as a Competent Assessor. The experience of the last years will be reflected in the rework of both the syllabus and the script for the course. The new material is expected to be ready for final review by the end of the year. The new material can be used for training already in the first quarter of 2018.

The publication of the new blue-gold-booklet containing the Automotive SPICE® Guidelines of the VDA has resulted in the need to provide training for the application and use of these rules. The VDA has requested that intacs™ develop a two-day training for this. Starting in 2018 the VDA will make this course mandatory for all Competent and Principal Assessors. The current concept is to include this two-day course as a standard part of the Competent Assessor training. Of course, it is also possible to hold this course separately. The final strategy which is chosen is in the purview of the training providers.

The creation of the blue-gold-booklet also resulted in an update of Automotive SPICE® PAM to version 3.1. Therefore, the training for 'intacs™ certified Provisional Assessor' will also need to be reviewed and, when necessary, adapted. A detailed planning for this effort is not yet available, but the initial decisions are expected in the course of the first quarter of 2018. This update will have no impact on the validity of the existing course with respect to certification.

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SPICE for Mechanical Engineering

The development of SPICE for Mechanical Engineering has matured from its start as an idea in December 2013, through a series of Gate4Spice Workshops and working groups into the full assessment model that now exists. The proposals went through an open evaluation and review by the assessor community, as one would expect from an orderly development process for standards. More than 30 assessor provided helpful feedback and improvements which were valuable input in the ongoing work.

The official presentation of the first version of the process assessment model SPICE for Mechanical Engineering took place in July 2017. This release was accompanied by a Gate4Spice workshop in which the assessment model and tips for interpretation were discussed and defined. The four assessments which have been performed since then have provided valuable feedback for the working group concerning the practicability of the assessment model.

However, the work of perfectionists is never done and 2018 shall be devoted to consolidation. A standard training together with all necessary supporting documents shall be developed. This will allow the training organizations to offer a simple and standardized training to a wider audience. Furthermore, the assessment model itself shall be developed further and improved. This will be done in a step-by-step process and shall be driven by the feedback from the assessor community and the professional experts.

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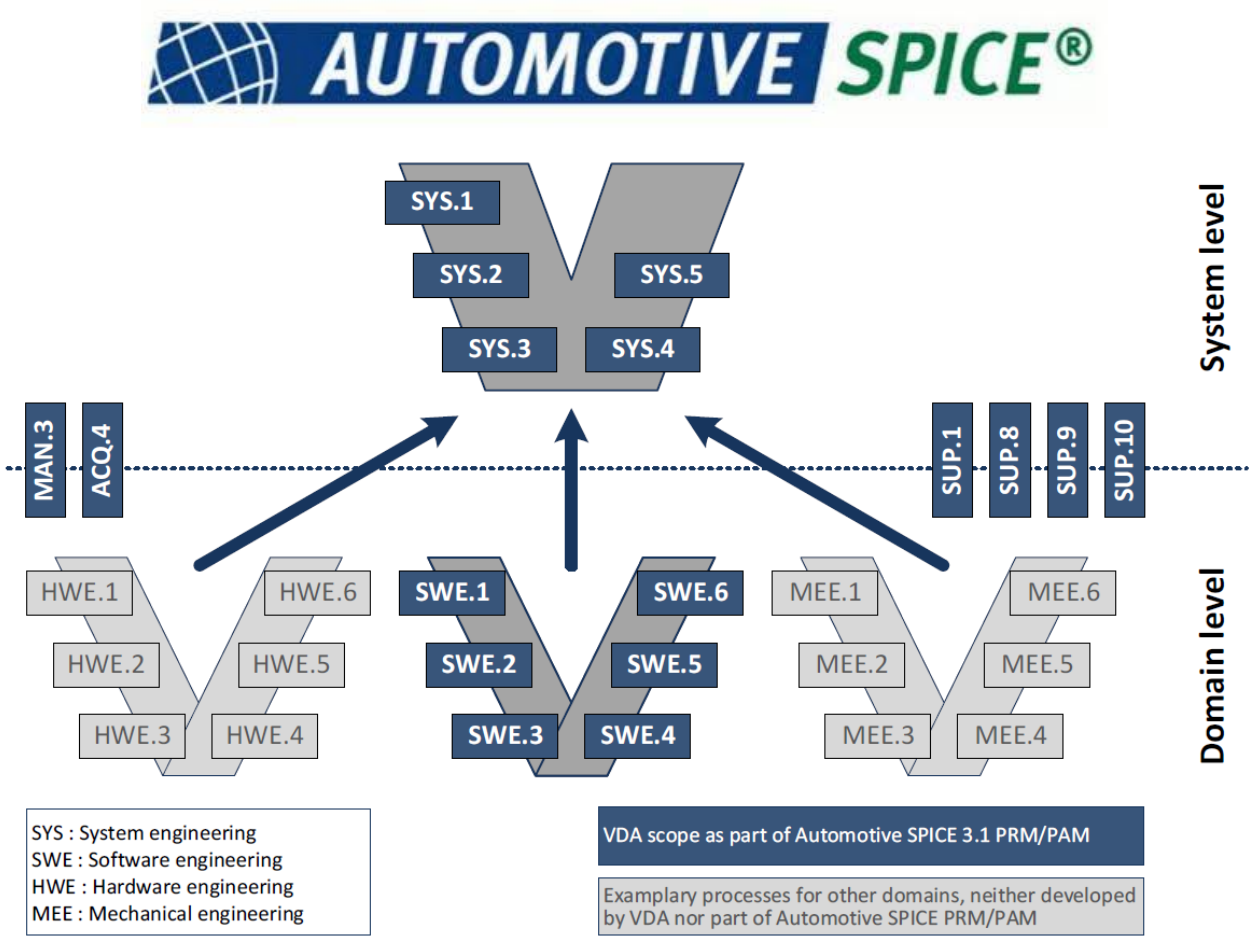

Figure 1: The plug-in concept in ASPICE 3.1

Automotive SPICE PAM 3.1 released

Since November 2017 the version 3.1 of the Automotive SPICE reference and assessment model is available:

http://www.automotivespice.com/download/

Besides minor editorial and spelling corrections some content changes have been made to processes purposes and practices. Here the most significant changes are introduced:

- System Qualification Test (SYS.5) shall ensure that the system is ready for delivery. Therefore, the process purpose has been expanded.

- Redundancy should be avoided by establishing traceability. A combination of several approaches can cover both the project and the organizational needs. A note to this effect has been added in Software Requirements Analysis (SWE.1), base practice 6.

- The verification of the unit interactions within the component has been added to the Software Unit Verification (SWE.4) in base practice 2. The integrated component shall be verified against the software detailed design. In my opinion the software component should be qualified against the assigned software requirements as well (see figure 3 below).

- Criteria shall be introduced to the configuration management strategy (in SUP.8). Criteria shall steer the decision for configuration items and baselines. Criteria shall be defined in base practice 1.

- In the diagram of the plug-in concept (see figure 2) the number of subsystem engineering processes has been adapted to 6 processes each for software development, hardware development and mechanical development. By this the levels of detail have been established: the system level, the domain level, the component level and – at least in case of software – the unit level (see figure 3).

Engineering Processes in Automotive SPICE 3.x

Experience has shown that the following overview supports the overall understanding of the similarities and the differences of the engineering processes as well as the dependencies between them (here with focus on system and software development).

Some engineering processes in ASPICE have similar purposes (and base practices), but differ in their level of detail. The figure below provides an overview of the two different process types on the left side of the development 'V' (i.e. requirement specification and design process types) and the two test process types of on the right side.

Requirements at all levels add detail to the specification of the problem to be solved. It is possible to identify related base practices on system, software, software component or software unit level.

Designs describe the planned solutions, their elements, interfaces and dynamic behavior. Related base practices are defined on system, software and software component level. These needs can exist on the software unit level, as well.

Tests verify the test object versus either the related specification (qualification tests) or the related design (integration tests with focus on interfaces and dynamic behavior). Related base practices are defined at each level (with some definition weakness on software component level).

The result of a qualification test case is: the requirement is or is not fulfilled.

The result of an integration test case is: the interface or dynamic behavior is or is not implemented as defined in the design.

Finally, it is important to understand that within each iteration each engineering process is based on the results of the previous one. Therefore, to achieve consistency the work products should be released in each iteration for each hand-over to the next team (process).

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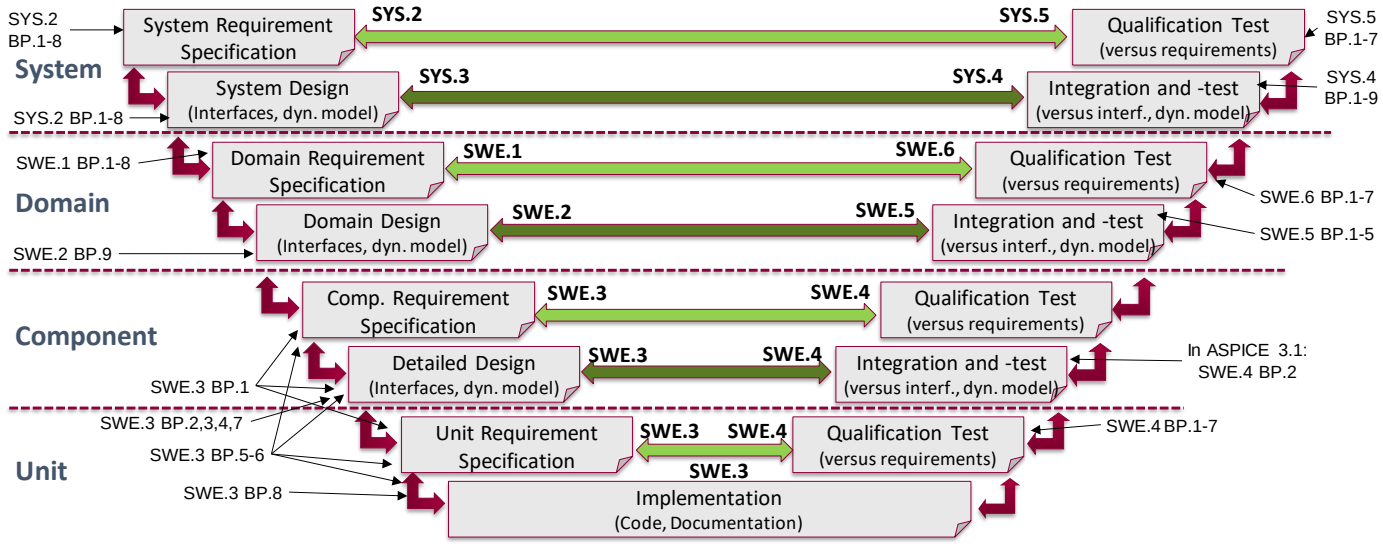

Figure 2: Engineering Processes in Automotive SPICE 3.x

New Working Group 'SPICE Hardware Processes'

The 'Plug-In' concept which was introduced in version 3.0 of the Automotive SPICE® Process Assessment Model (PAM) facilitates the assessment of system wide relationships in mechatronic systems by enabling the inclusion of mechanical and hardware development processes. However, VDA/QMA AK 13 currently has no plans to initiate the development of such PAM extensions.

The intacs working group 'SPICE for Mechanical Engineering' has generated such proposals for mechanical engineering. The version 1.4 of these proposals has been made available for comment and discussion on the intacs web site www.intacs.info. Change requests and feedback from any trial experience is requested via the intacs ticket system.

On a related note, a new intacs working group 'SPICE for Hardware Engineering' has been founded with the goal of developing similar proposals for the electrical and electronic engineering domains.

Currently the following companies have agreed to contribute to this working group:

- Brose Fahrzeugteile
- Bosch
- KuglerMaag
- Dräxlmaier
- ITK
- Schaeffler
- ZF

The working group will start its work in 2018.

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Organizational Maturity

The idea of Organizational Maturity (OM), which was the basis of CMM™ at the beginning and later of CMMI™, was introduced into the SPICE world with the publication of ISO TR 15504-7 in 2008. The standard, recently revised by ISO/IEC 33002 and ISO 33004, defines a framework for determining organizational maturity, based upon profiles of process capability.

A single project process assessment is a good approach for a customer to identify whether a project is developing with the 'right' level of quality but typically does not address organizational processes. However, an organization will benefit more from an organizational approach. An OM assessment will cover several projects and ensure that the organization will benefit more broadly from the process improvement.

In the last years the Working Group Trustworthy Assessment has defined an approach to OM assessments, which has been validated in pilot projects based on ISO 15504-5 and Automotive SPICE. Several OM assessments have been performed successfully - among others, the largest SPICE Assessment so far, which investigated an organization with several thousand employees. During this assessment three experienced assessment teams evaluated organizational processes in addition to 16 projects in parallel in three and a half weeks.

Companies that have performed OM assessments in the past or are considering applying such assessments soon appreciate the holistic, systematic approach to process improvement and assessment.

Due to the recent changes of the underlying Automotive SPICE® Process Assessment Model, the working group is now facing an update of the OM Model (OMM) for the automotive field. The assessment procedures are being updated as well. We are defining a generic approach to process improvement based on OM. If you are interested in the topic or considering the idea to prepare for an OM assessment, please do not hesitate to contact us.

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EuroAsiaSPI

EuroAsiaSPI 2017 – This event, from Sept 6 to 8, 2017, was very successful and offered many workshop and conference streams

The participants of EuroAsiaSPI represented a global community. Nearly all EU countries were represented as were as India, Japan, Turkey, and Mexico. Both the automotive industry and universities were represented with major players.

A total of 8 workshops took place, 6 of which had more than 20 participants and 2 workshops had around 12 respective 15 participants. The conference sessions had roughly 120 attendees in total. We will continue to develop the topics in focus and for 2018 we will offer 10 workshops instead of the 8 from 2017 in addition to the research sessions.

Many of the workshops were based on ECQA job roles and were led by certified ECQA representatives. With these certifications the workshop leaders were qualified as Automotive Quality Engineer, Functional Safety manager, Innovation Manager, Terminology Manager, etc.

In 2018 the conference will be hosted by Tecnalia in Bilbao, Spain (close to the airport in Bilbao, in the technology park of Bizkaia) and is planned for Sept 5 to 7, 2018. Please remember to book tickets to Bilbao, we are anticipating that it will be a great conference again.

Figure 3: Photos of the EuroSPI 2017 in Ostrava

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Imprint

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