



Organisation Maturity with SPICE – Practical Experiences

Markus Mueller, Fabio Bella
KUGLER MAAG CIE GmbH
Leibnizstr. 11, 70806 Kornwestheim / Stuttgart, Germany
Office Phone +49 7154 1796-213
www.kuglermaag.com

Introduction

- ISO / IEC 15504 (SPICE) is well-established
- It is widely used especially in project assessments to identify project risks and potential improvements
- Critics say that this approach has clear disadvantages, especially insufficient support of sustainability of improvements (learn from project to the next project) and learning at organisational level
- ISO / IEC 15504 TR Part 7 now provides a framework for organisational maturity

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- Summary

ISO/IEC TR 15504-7 at a glance (1)

- Title: ISO/IEC TR 15504-7: Assessment of organizational maturity
- Purpose: Laying the foundation for assessment processes to provide levels of organizational maturity (comparable to CMMI)
0 Immature, 1 Basic, 2 Managed, 3 Established , 4 Predictable, 5 Innovating
- Key concepts:
 - An Organizational Maturity Model is used which
 - is based on existing Process Assessment Models and
 - specifies sets of processes associated to the maturity levels (comparable to CMMI but with some more flexibility)

ISO/IEC TR 15504-7 at a glance (2)

- Key concepts (cont.)
 - Three classes of assessments (1/2/3) resulting in different levels of confidence (having some similarities to SCAMPI A/B/C). These classes establish different requirements regarding
 - amount and type of objective evidence needed,
 - the rating procedure, and
 - team requirements
 - Part 7 defines two new processes needed for maturity levels four and five:
 - QNT.1 Quantitative Performance Management
 - QNT.2 Quantitative Process Improvement
 - Part 7 specifies as a guidance four types of assessments A/B/C/D which differ in the independence of the body performing the assessment, the assessment team leader and the team members from the organization assessed.

ISO/IEC TR 15504-7 at a glance (3)

- Requirements for achieving maturity levels:

Level	Basic Process Set	Extended Process Set ML2	Extended Process Set ML3	Extended Process Set ML4	Extended Process Set ML5
0 Immature	At least one CL0	-	-	-	-
1 Basic	All \geq CL1	-	-	-	-
2 Managed	All \geq CL2	All \geq CL2	-	-	-
3 Established	All \geq CL3	-	All \geq CL3	-	-
4 Predictable	At least one CL4	-	-	All \geq CL3	-
5 Innovating	At least one CL5	-	-	-	All \geq CL3

Organisational maturity versus project capability

Organizational Maturity

- Pros
 - Results' reliability
 - Results' comparability
 - Statement relates to the whole organization
 - Provides sound improvement path
 - Strong focus on process institutionalization and improvement
- Cons
 - High effort and duration
 - Not established yet

Project Capability

- Pros
 - Small effort and duration
 - Well-established
 - Results' comparability
 - Valuable instrument for identifying process-related risks in individual projects
- Cons
 - Lack of results' reliability (CL3 and higher)
 - Lack of focus on systematic, organization-wide process improvement, often only focus on HIS scope
 - Does not provide a clear improvement path

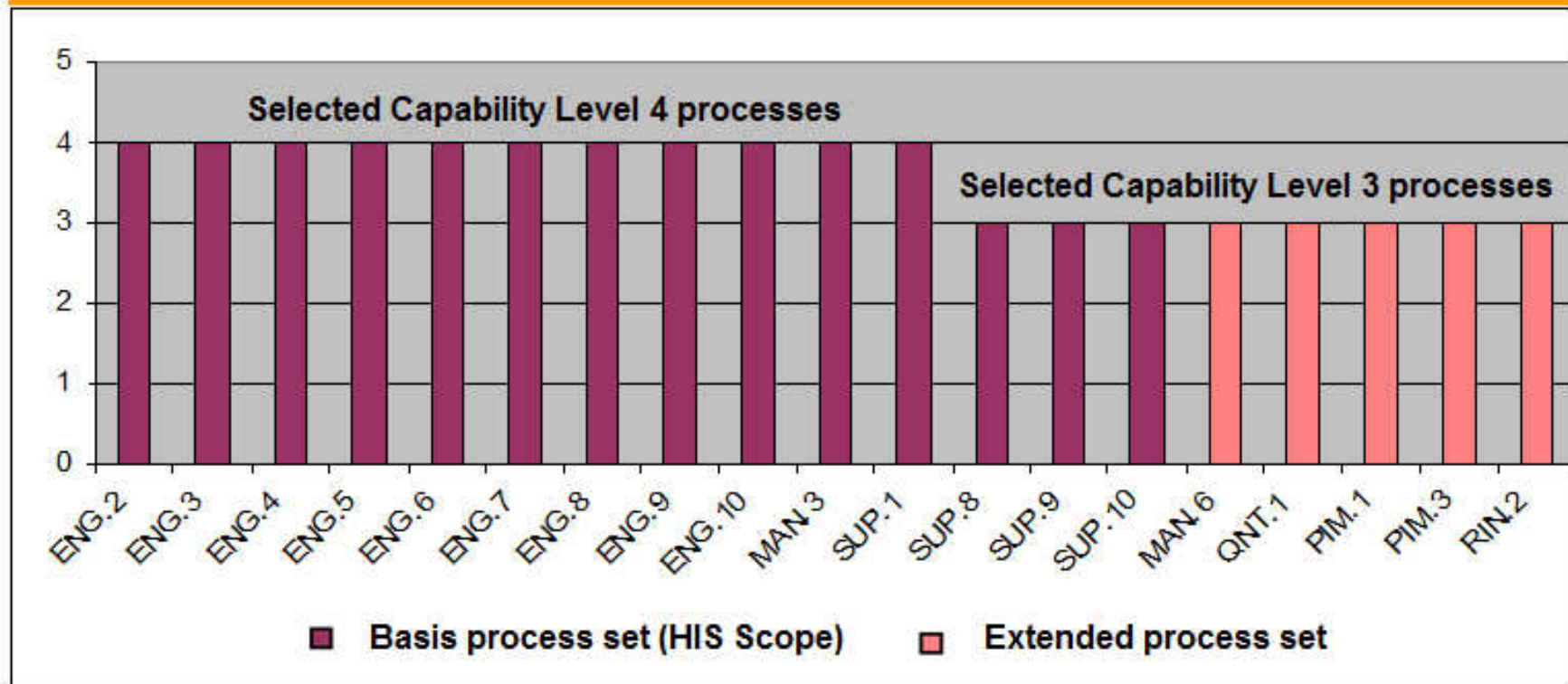
Status of discussion in automotive: OEM orientation with respect to organizational maturity

- The HIS Group (Audi, BMW, Daimler, Porsche, Volkswagen) doesn't accept organisational maturity certificates yet
- OEM's still reserve the rights to verify assessment results or even to do their own project assessments in specific development projects
- However
 - In general, pros and cons (see previous slides) are accepted
 - Currently, the topic is still under discussion (HIS, VDA AK13)

Effective and efficient assessment approach – practical experiences

- Experiences based on an ISO 15504 organisational maturity assessment of Continental Singapore (June 2008)
 - Automotive Development Center with approx. 400 developers
 - Developing instrumentation & displays, interior modules, multimedia
 - Process Improvement experiences more than 10 years (CMM Level 2 in 2000, CMMI Level 4 in 2007, Automotive SPICE in addition since 2006)
- Some information regarding assessment approach
 - 7 days pre-assessment and intensive document reviews with 2 assessors
 - 2 weeks formal assessment with 4 assessors
 - Definition of an Organisational Maturity Model based on Part 7 upfront, discussed with and agreed in general by HIS assessors

Automotive SPICE™ Assessment of Continental SGP



- Automotive SPICE™ HIS Scope plus 5 additional processes on organisational level
- Expand assessment team to 4 members
- Assessed 6 projects (3 focus and 3 non focus projects)
- Measurement framework used defined in ISO/IEC 15504 Part 7

Continental SGP

Assessment Scope

- ▶ Organisational Maturity Level 4 (according to ISO/IEC 15504-7)
 - ▶ Selected processes: Capability Level 4
 - ▶ Selected processes: Capability Level 3
- ▶ Selected Projects: 6
 - ▶ Focus projects: 2 customer application projects, 1 Platform project
 - ▶ Non-focus projects: 3 application projects (1 of them small development)
- ▶ Assessment Team: 4 Assessors
 - ▶ Kugler Maag Cie: Markus Mueller, Clemens Saur
 - ▶ Continental SGP: Chen Tat Sze, Francis Tan
- ▶ Some Data
 - ▶ Approx. 80 process instances assessed
 - ▶ Approx. 60 people interviewed
 - ▶ More than 400 documents analyzed

Continental SGP Assessment Scope

	Focus projects			Non Focus projects			
							Organisational Level
ENG.2	X	X	X	X			
ENG.3	X	X	X	X			
ENG.4	X	X	X		X		
ENG.5	X	X	X		X		
ENG.6	X	X	X		X	X	
ENG.7	X	X	X		X		
ENG.8	X	X	X		X		
ENG.9	X	X	X	X			
ENG.10	X	X	X	X			
MAN.3	X	X	X			X	
SUP.1	X	X	X			X	
SUP.8	X	X	X		X		
SUP.9	X	X	X	X	X		
SUP.10	X	X	X	X	X		
MAN.6	(X)	(X)	(X)	X			X
QNT.1	(X)	(X)	(X)	X	X		X
PIM.1	(X)	(X)	(X)	(X)			X
PIM.3	(X)	(X)	(X)		(X)		X
RIN.2	(X)	(X)	(X)			(X)	X

Effective and efficient interview approach

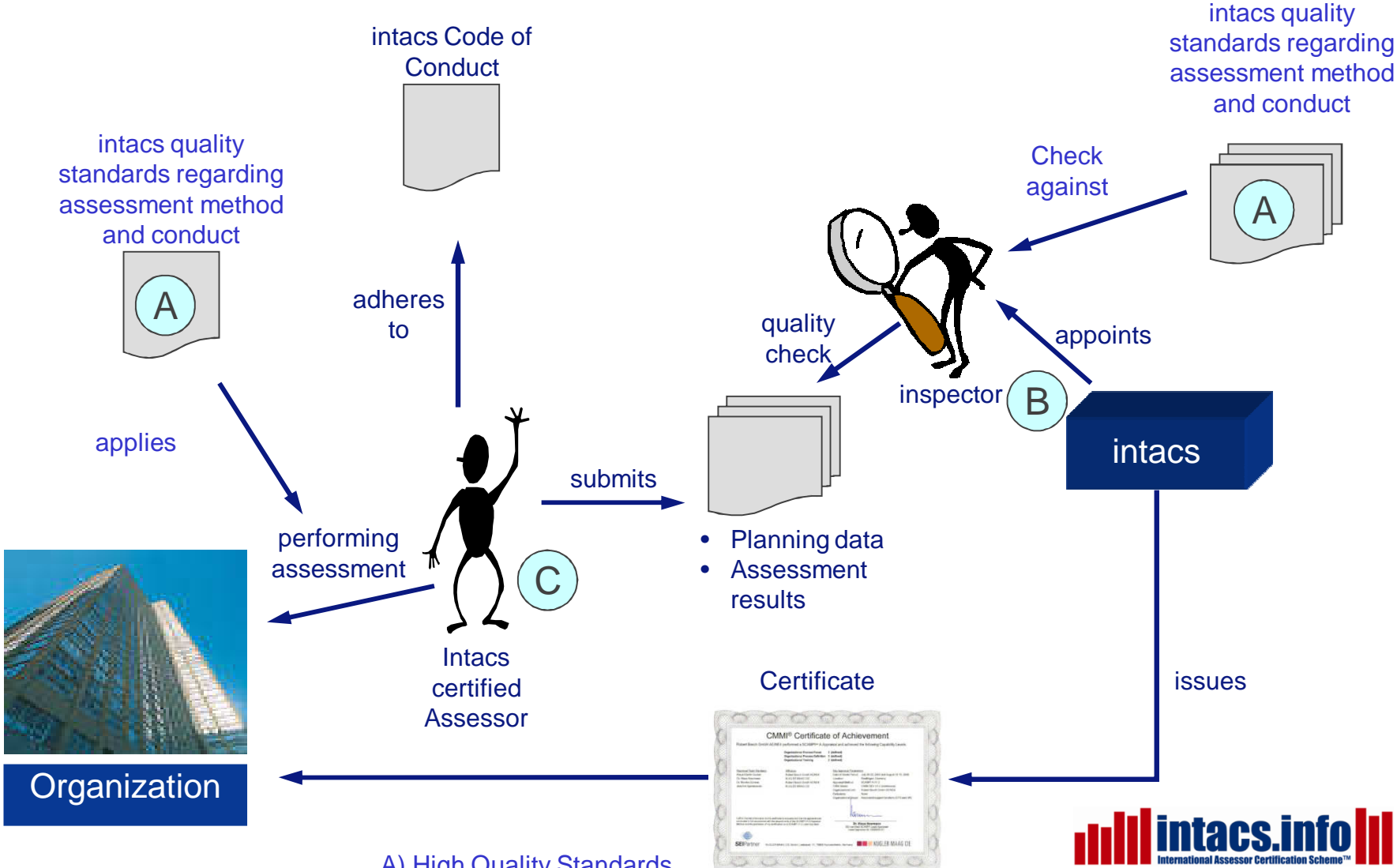
- Document reviews upfront in pre-assessment
- First interviews with project QA responsible and Process Specialists
 - Focus on Level 3 and 4 questions
- Then group interviews with project members
- Agenda example

Thursday 5th of June :		
MAN.3 Project Management (5 hours)	PMs / PLs	QA and Process specialists from 9 am-12 am Project managers of all projects 1 pm- 4pm

Intacs requirements towards trustworthy assessment results - Objectives and Scope (1)

- The situation: It is hard to judge whether or not SPICE assessments performed by third parties are trustworthy. This is especially true for Organizational Maturity Assessments and for some regions in the world.
- → Objectives: setting up a scheme which provides certified assessment results which provide a decent level of trustworthiness
- Scope: SPICE assessments for organizational maturity but also possible for projects
- Results: assessment certificates assuring that the assessment was performed according to high quality standards by certified professionals and that the assessment results were quality checked by an independent authority

Intacs requirements towards trustworthy assessment results - Objectives and Scope (2)



- A) High Quality Standards
- B) Independent assessment result validation
- C) Qualified Assessors

Summary

- ISO/IEC TR 15504-7 provides a framework which works well in practice
- A specific OMM for automotive needs to be defined and accepted by the community
- Intacs wants to establish a framework for trustworthy certificates

We are looking for pilots – we were happy if you would join us!