Experience with the Combined use of ASPICE 3.1 and ISO 26262 assessments

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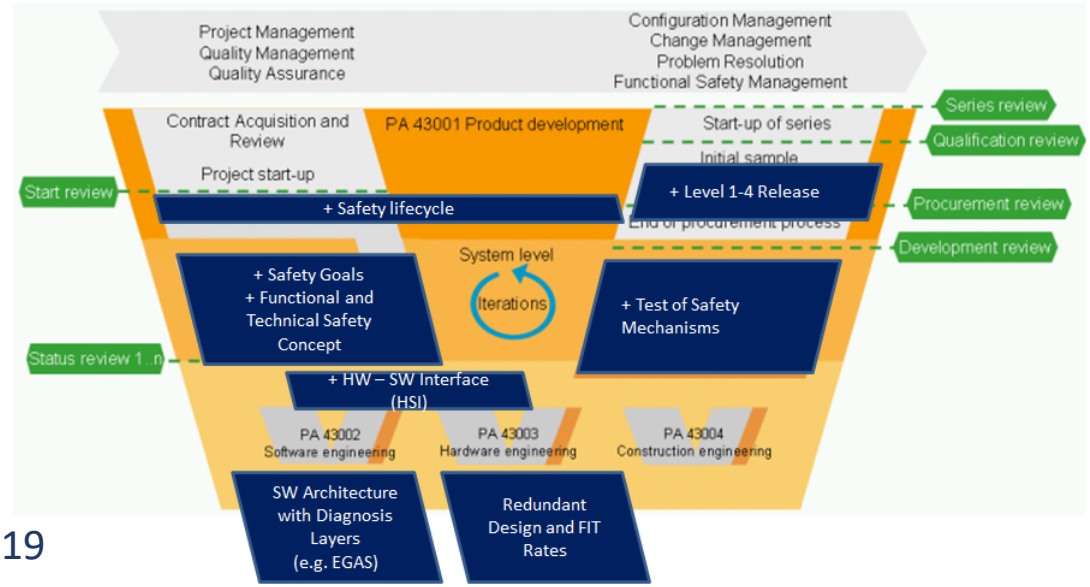
https://soqrates.eurospi.net

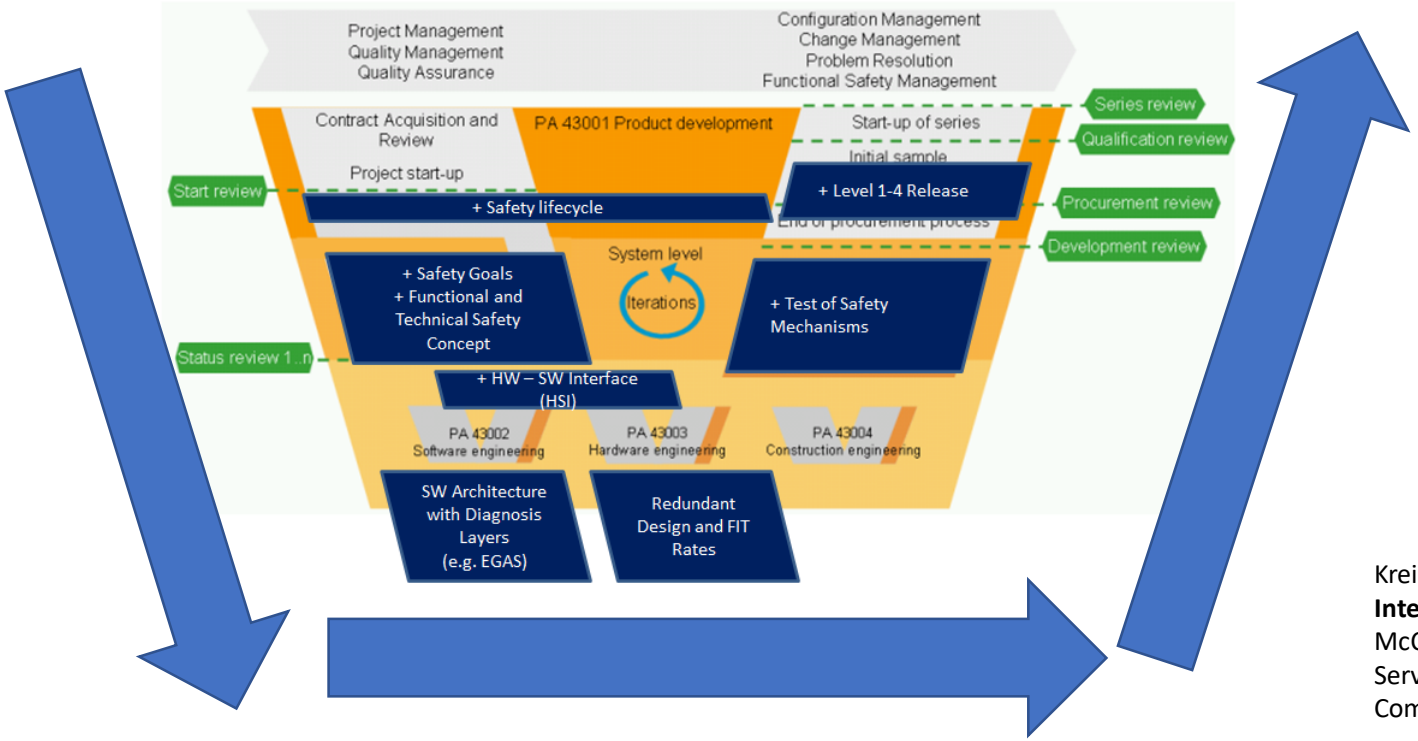
Motivation

- ASPICE 3.1 extension
  - Assignment of ISO 26262 clauses to BPs and GPs
  - Design of so called extended sub-questions per BP/GP
  - Parts 4,5,6,7 of ISO 26262 mapped in detail and integrated to the portal, other parts mapped on a general level
- **One integrated V**



- SOQRATES Baseline Dec 2019

Approach

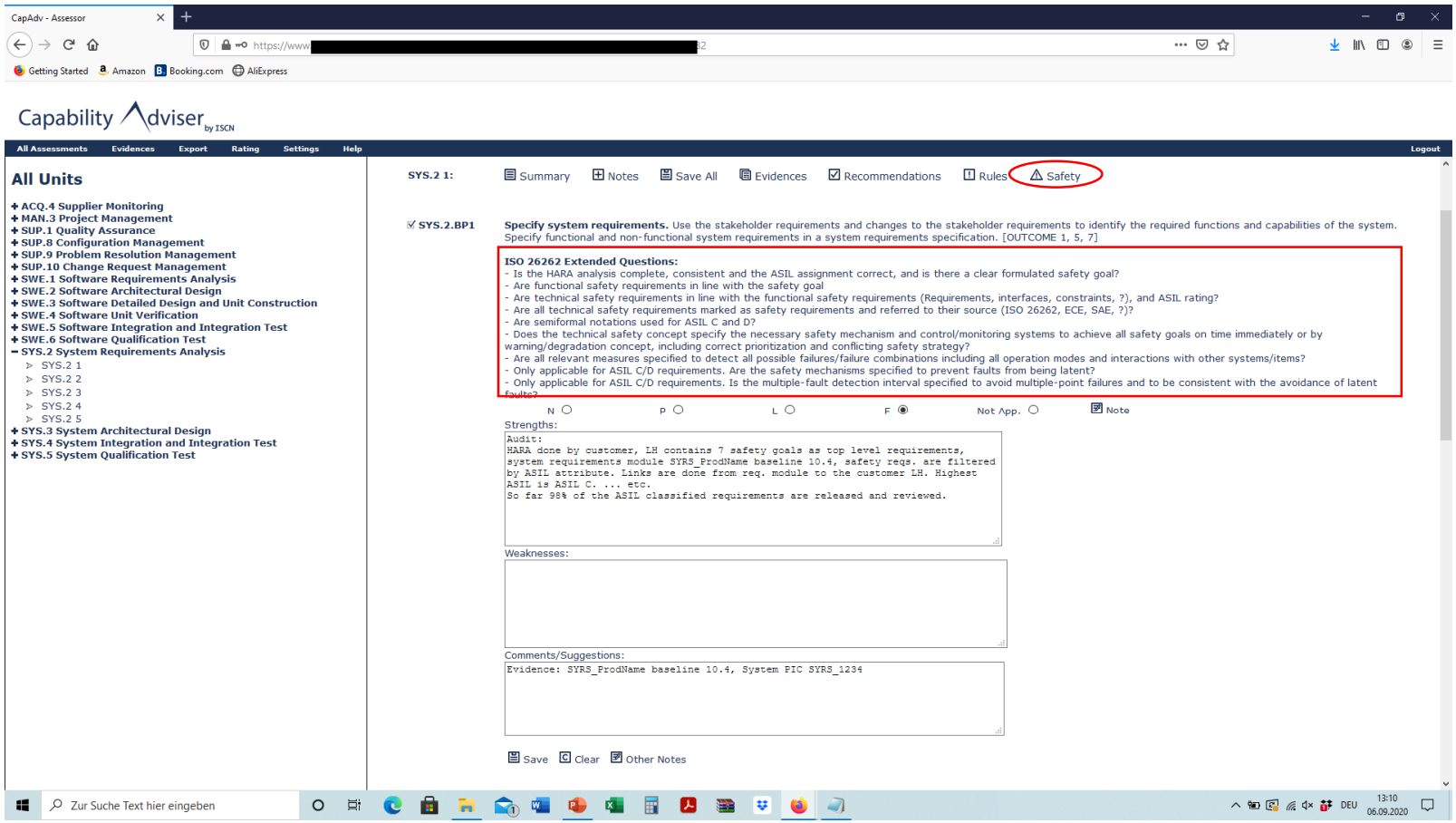


- ✓ Safety Audit
  - ✓ Check per process using extension
  - ✓ Rating BPs/GPs up to L2
  - ✓ Traceability of the safety case
  - ✓ Process rating done based on ASPICE
- ✓ Safety Assessment:
  - ✓ Check per Safety Goal
  - ✓ Technical Review along V Model
  - ✓ Traceability of the safety case
  - ✓ Work Products related will be checked

Kreiner C. et al. (2013) **Automotive Knowledge Alliance AQUA – Integrating Automotive SPICE, Six Sigma, and Functional Safety**. In: McCaffery F., O'Connor R.V., Messnarz R. (eds) Systems, Software and Services Process Improvement. EuroSPI 2013. Communications in Computer and Information Science, vol 364. Springer, Berlin, Heidelberg

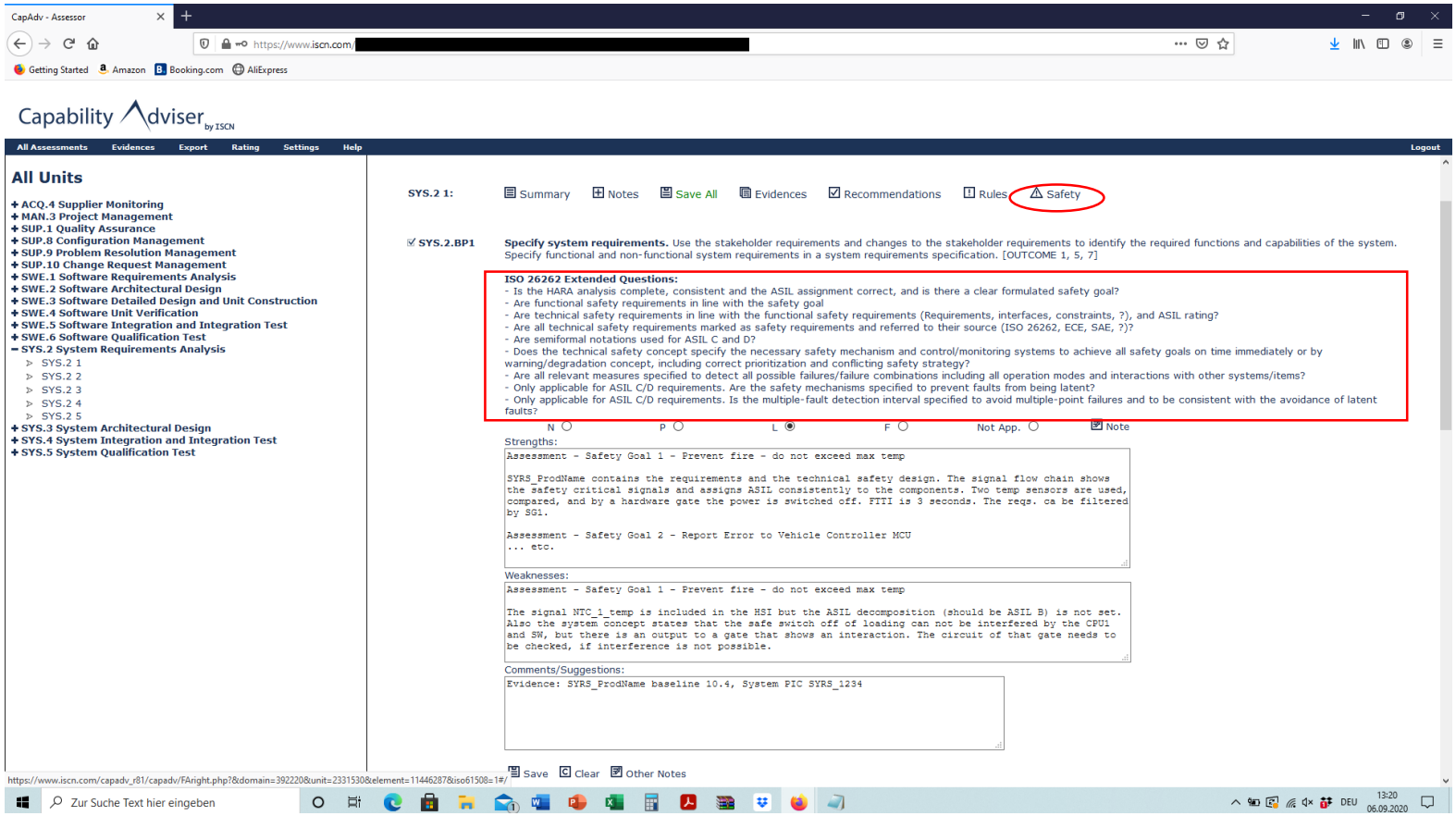
Safety Audit

- ✓ Safety Audit
  - ✓ Process Related comments
  - ✓ ASPICE Report with levels
  - ✓ Usually level 2 is the target (level 1 gaps are critical)
  - ✓ Deviations written to a ISO 26262 assessment sheet



Safety Assessment

- ✓ Safety Assessment
  - ✓ **Per Safety Goal** Findings per BP/GP
  - ✓ Technical Details checked by **Safety Expert** (more detail than in ASPICE)
  - ✓ Even if the ASPICE is a process checklist we follow the V and open product details
  - ✓ Deviations written to a ISO 26262 assessment sheet



Approach – 2 reports

- ✓ Process based Audit Report – ASPICE with extension

UNITS	1	2.1
MAN.3 Project Management	L	L
SUP.1 Quality Assurance	F	L
SUP.8 Configuration Management	F	L
SUP.10 Change Request Management	F	L
SWE.1 Software Requirements Analysis	L	L
SWE.2 Software Architectural Design	F	L
SWE.6 Software Qualification Test	F	F

- ✓ ISO 26262 assessment sheet – Using ASPICE extension as an input, apply safety expert know how, add product findings to portal, fill in the ISO 26262 assessment sheet

ID	ISO26262 reference					in scope of assessment		<company>		Action Plan
								Evidences Referenced from the Orgamisation	Rating	Improvement Recommendation
	Part	Clau	Req	Workproduct	Sub-Workproduct		Priority			
25	3		5,2	Safety goals		Yes		Safety Case V1.9, chapter 4.8: Main FSC requirements related to Safety goals are described, ASIL B rating is highest level (is state of the art for HCM systems).	F	Note: Turning indicators incorrectly on is not covered? This is where the market seems to have ASIL-B?
26	3		5,3	Verification report on H&R and SGs		Yes		This is done by the customer.	-	
27	3	8	5,1	Functional safety concept		Yes		Safety Case V1.9, chapter 4.8: Main FSC requirements related to Safety goals are described, ASIL B rating is highest level (is state of the art for HCM systems).	F	Note: Turning indicators incorrectly on is not covered? This is where the market seems to have ASIL-B?
28	3		5,2	Verification report on functional safety concept		Yes		Informal review of functional safety concept is visible in the change log of the safety case v1.9.	L	A formal review with a person independent from the author and using a checklist is missing.

- ✓ Assessments, consulting and training in the field of System, Services and Software Process Improvement and Innovation

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