IBM Webcast

Show me the Way to ASPICE Compliance

Michael Halder, March 19th 2019

IBM

Agenda

ASPICE

- **Why is ASPICE relevance increasing?**
- How to achieve ASPICE compliance?

ASPICE and IBM Engineering Lifecycle Management

- What is IBM Engineering Lifecycle Management?
- What is IBM’s vision to support ASPICE?

ASPICE in a nutshell

A**utomotive **S**oftware **P**rocess **I**mprovement and **C**apability D**e**termination **(ASPICE)

Governance

Maintained by Automotive Companies & required by Automotive OEMs

Assessment

Projects shall follow state of the art system & software engineering practices

Key technology drivers for the automotive industry

Electrification

Electric motors, power electronics, advanced batteries

IoT Hardware

Advanced Sensors, Corner Modules

Industrial Design

Advanced User Interfaces, Modular Bodies

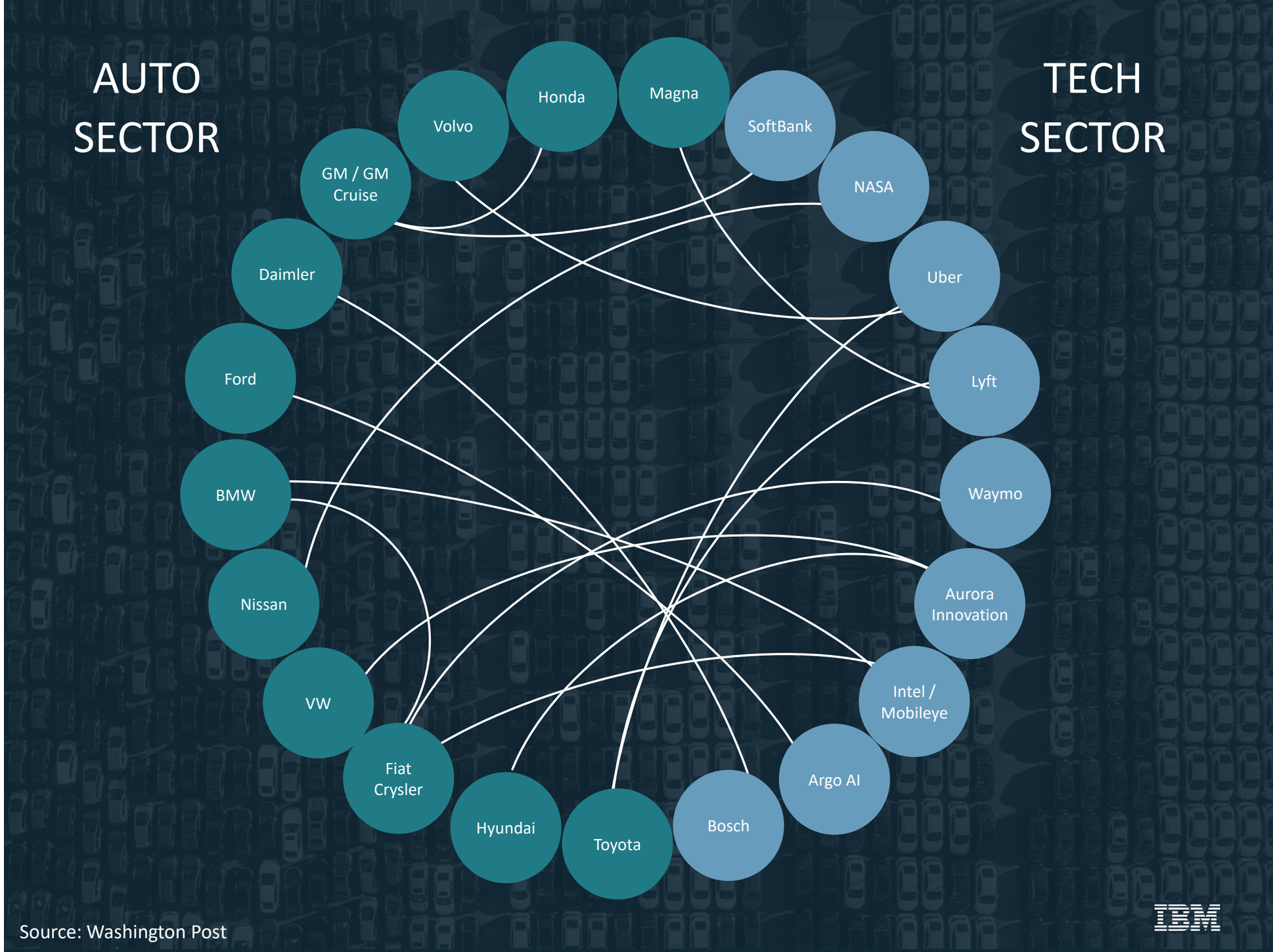
Autonomous Driving

Advanced central operating system with self-driving capability

Changes in technology lead to a new ecosystem of suppliers

Source: McKinsey&Company, Roland Berger

Automotive & tech companies collaborate to develop Autonomous driving



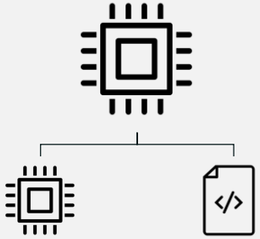
Source: Washington Post

Factors that accelerate relevance of ASPICE

Past

Software only part of the control unit

ASPICE primarily common among German OEMs

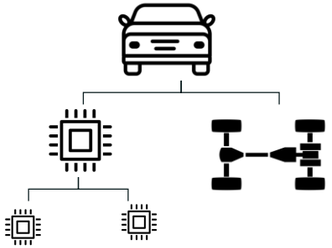


ASPICE burden for suppliers of single components

Today

Software share in car development increasing

Accepted standard by Automotive OEMs worldwide



OEM‘s strive for ASPICE on vehicle level (System of Systems)

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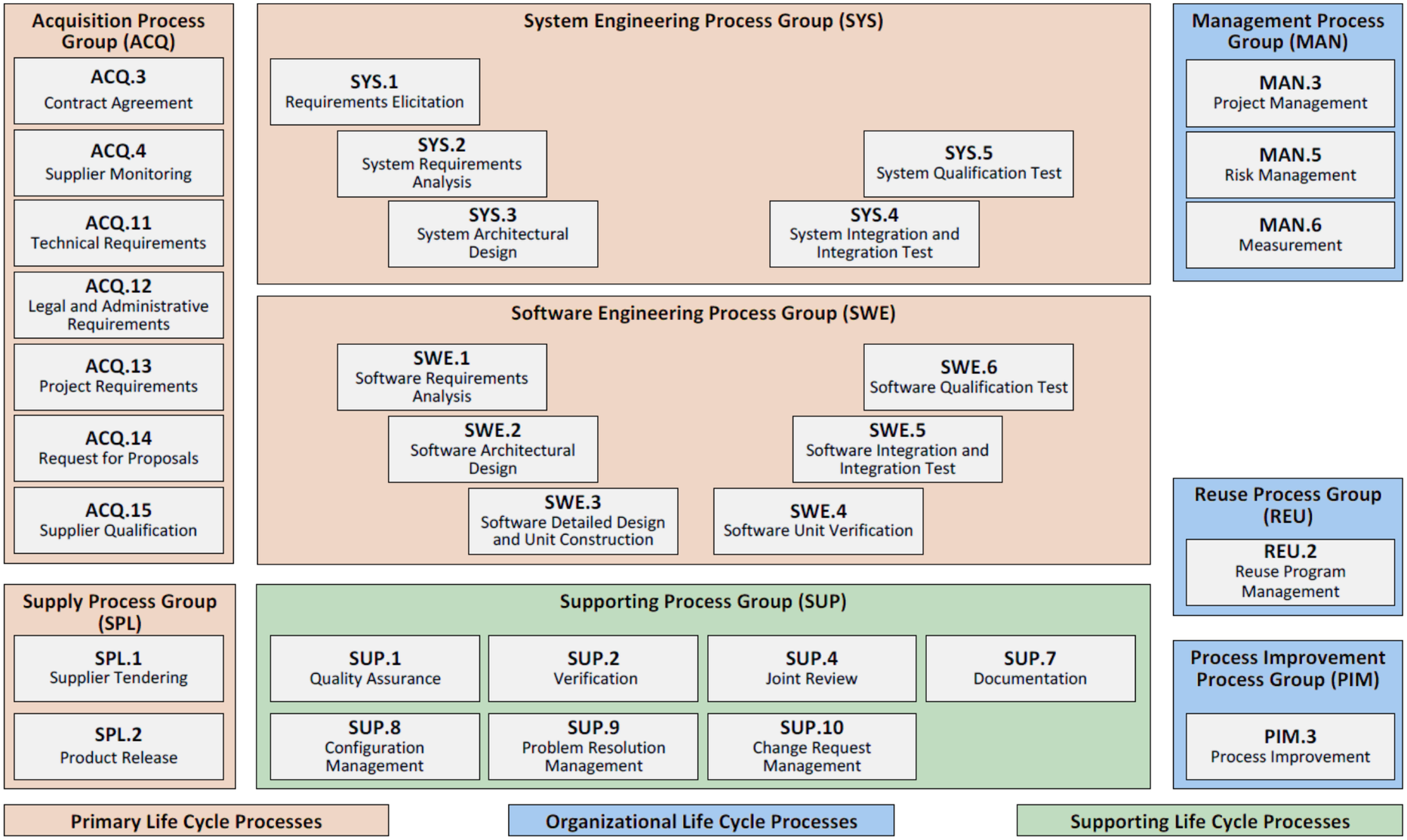
ASPICE covers various Process Groups



Source: ASPICE PAM (http://www.automotivespice.com/fileadmin/software-download/Automotive_SPICE_PAM_30.pdf)

ASPICE defines a Plug-in concept for different domains

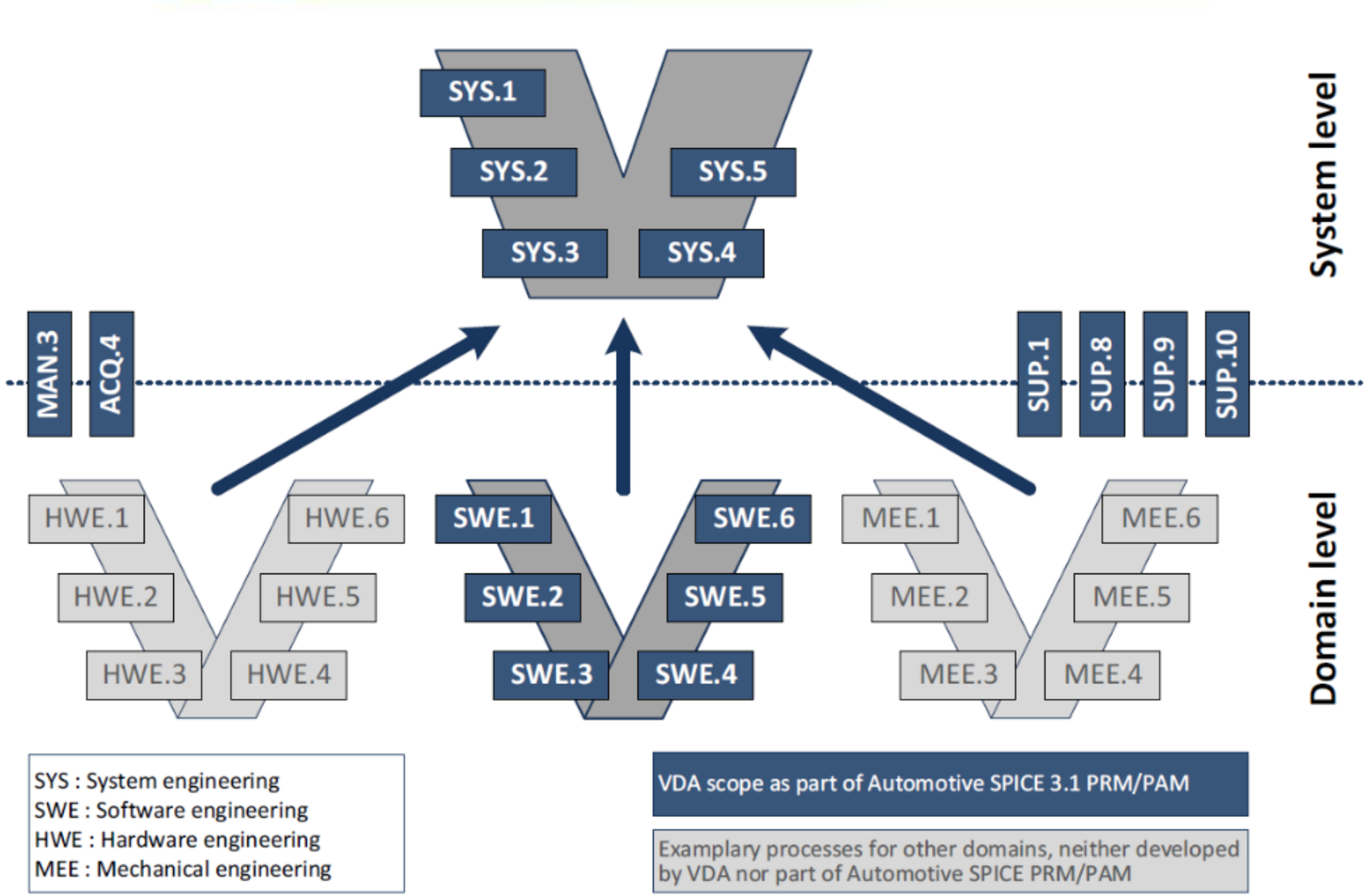
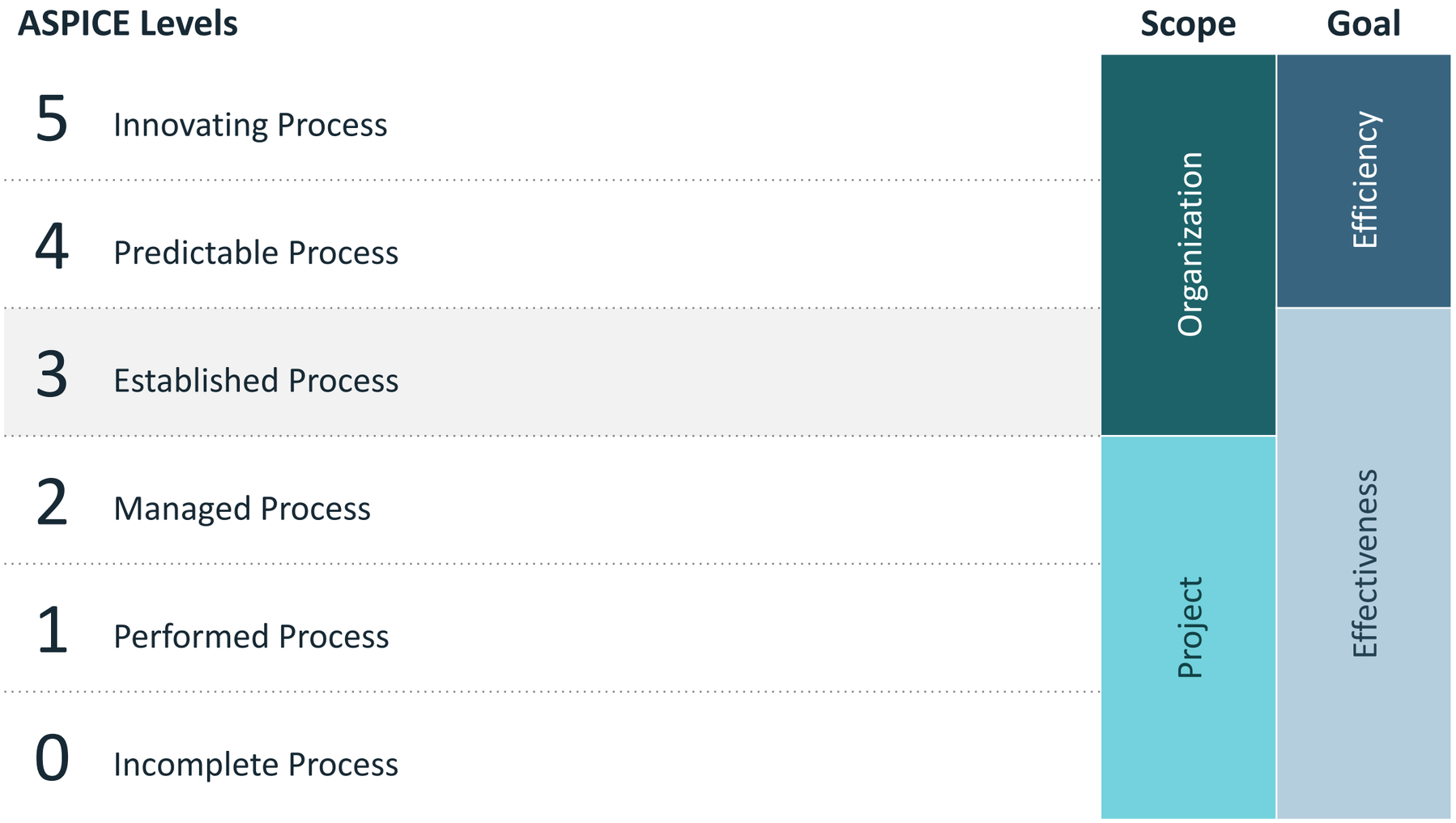


Figure 1: The plug-in concept in ASPICE 3.1

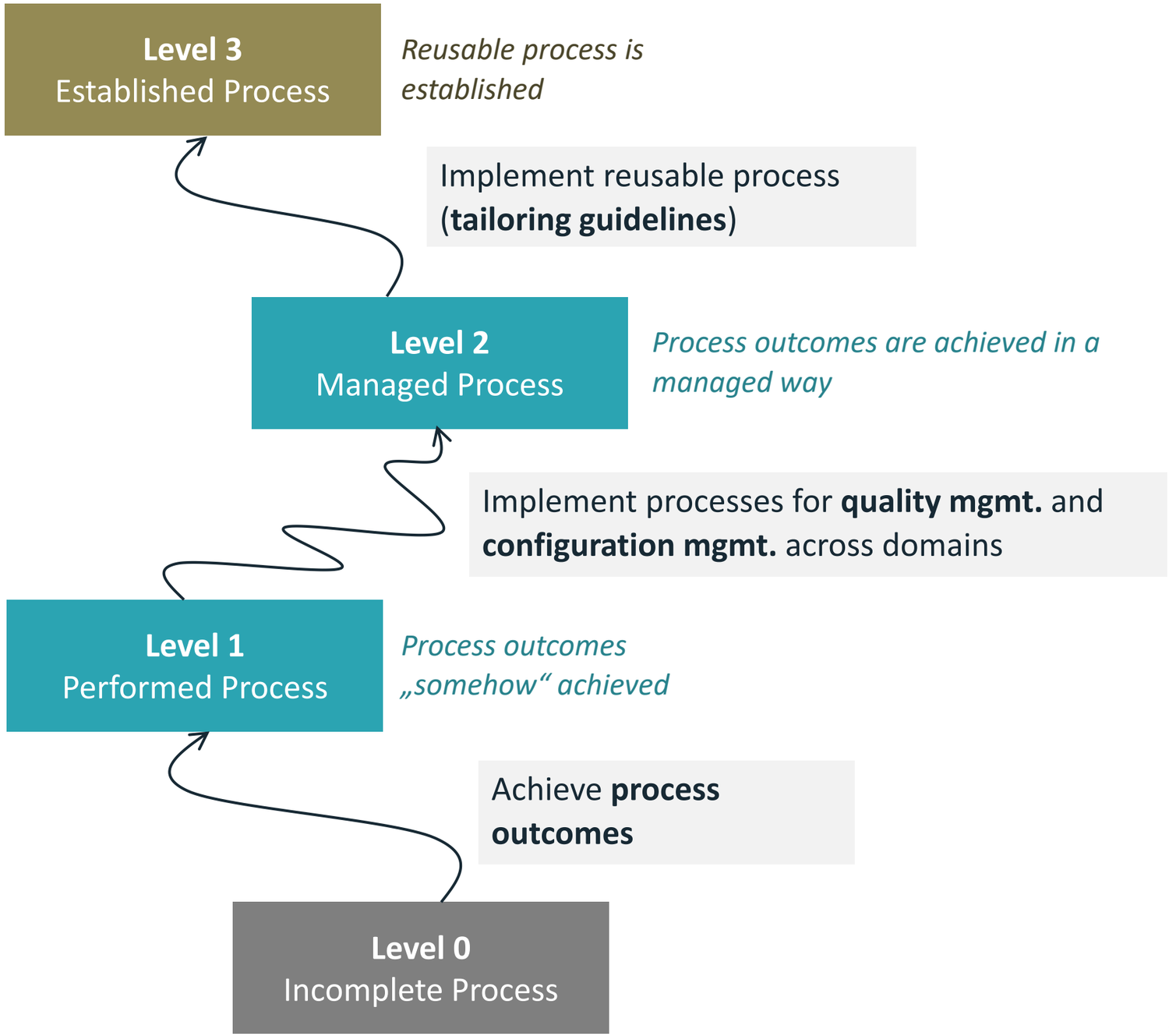
Source: intacsTMnewsletter –edition 2017-12

ASPICE defines Levels

OEMs commonly require and aim for Level 3

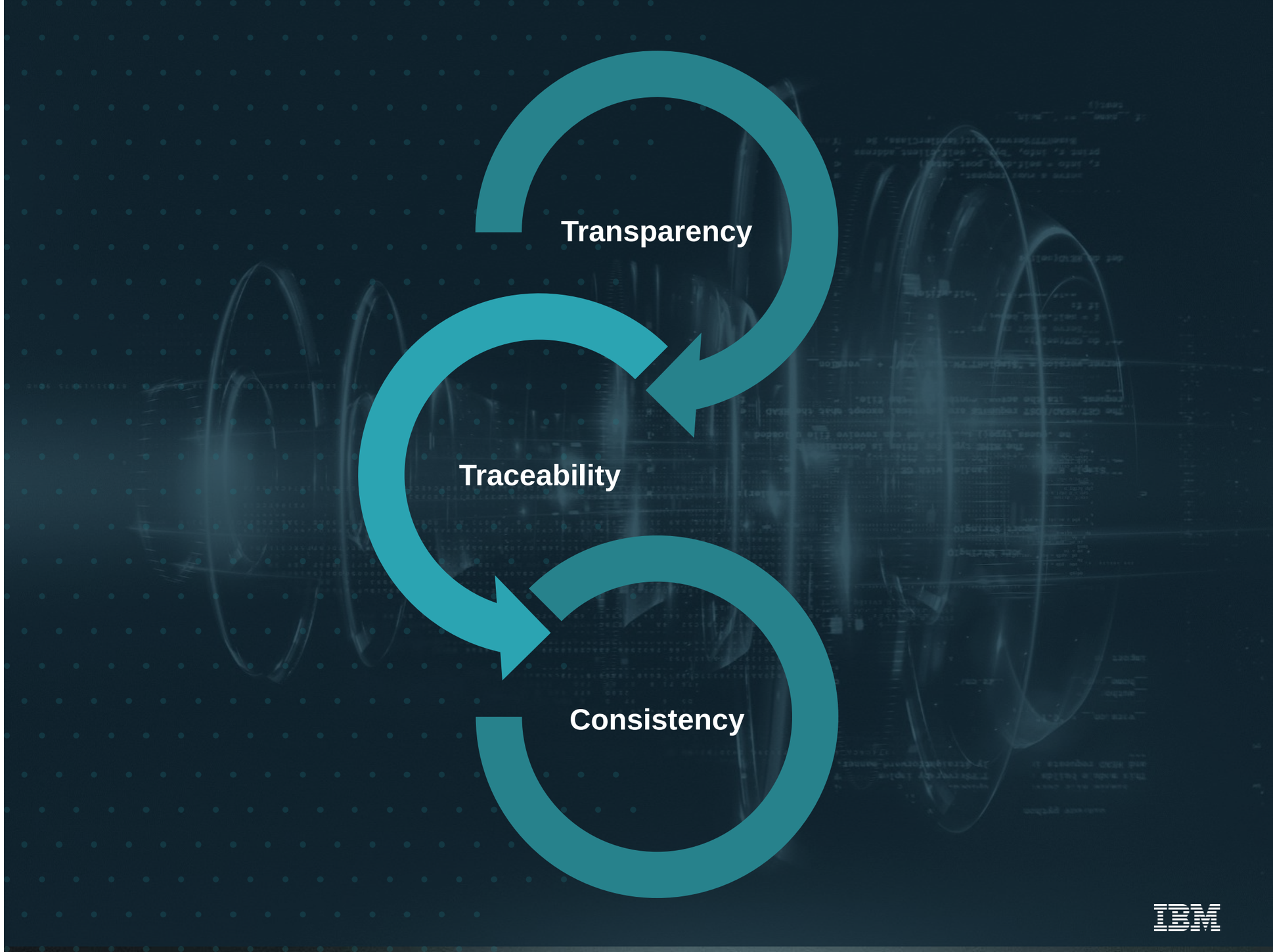


The Way to ASPICE Compliance

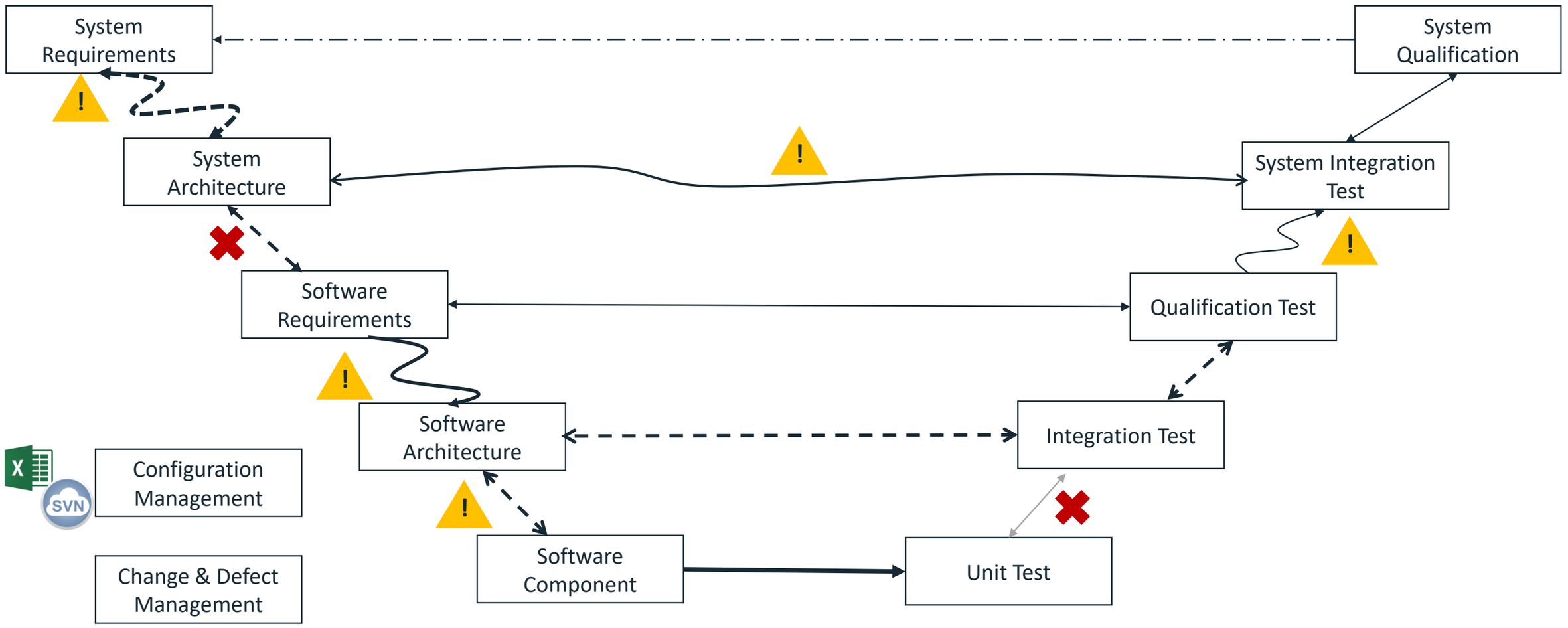


ASPICE key challenge

Handle dependencies of work products and processes



Traceability is a common issue in tool landscapes



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ASPICE and IBM Engineering Lifecycle Management

- **What is IBM Engineering Lifecycle Management?**
- What is IBM’s vision to support ASPICE?

IBM ELM offers an end-to-end tool landscape suitable for ASPICE

Legend
Main Application
Support Application
3rd Party Application

SYS.1
Requirements Elicitation
DNG
RELM, EXCHANGE

SYS.2
System Requirements Analysis
DNG
RTC, RQM, JRS
Medini Analyze

SYS.3
System Architectural Design
Rhapsody
RMM, RTC
INCHRON

SWE.1
Software Requirements Analysis
DNG
RTC, RQM, JRS

SWE.2
Software Architectural Design
Rhapsody
RMM, RTC
INCHRON

SWE.3
Software Detailed Design and Unit Construction
Rhapsody
RMM, RTC
Jenkins

SWE.4
Software Unit Verification
RQM
RTC, RMC
Code Analysis Applications

SWE.5
Software Integration and Integration Test
RQM
RTC, RMC
SiL Applications

SWE.6
Software Qualification Test
RQM
RTC, RMC
SiL Applications

SYS.4
System Integration and Integration Test
RQM
RTC, RMC
HiL Applications

SYS.5
System Qualification Test
RQM
RTC, RMC
HiL Applications

ACQ.4
Supplier Monitoring
RTC
RLIA, RMC

MAN.3
Project Management
RTC
RMC

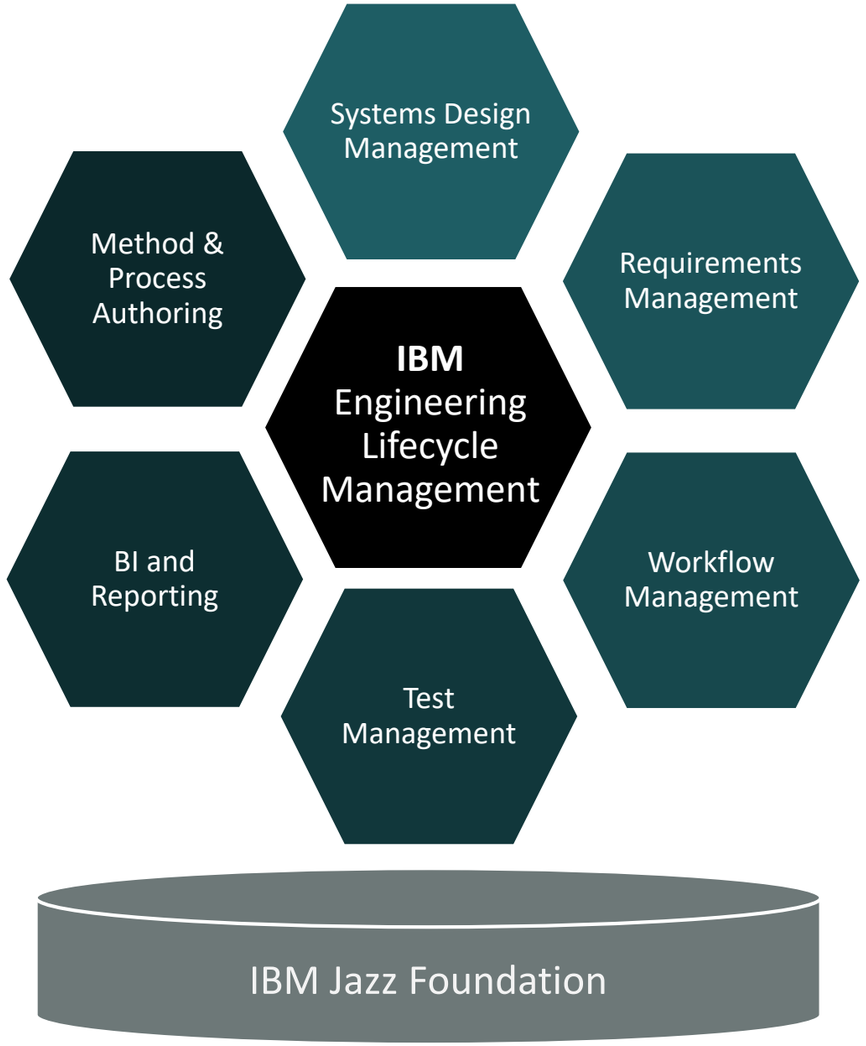
SUP.1
Quality Assurance
RTC
RMC

SUP.8
Configuration Management
GCM
RMC, RTC, RMM, DNG, RQM

SUP.9
Problem Resolution Management
RTC
RLIA

SUP.10
Change Request Management
RTC
RLIA

IBM ELM capabilities work with every methodology



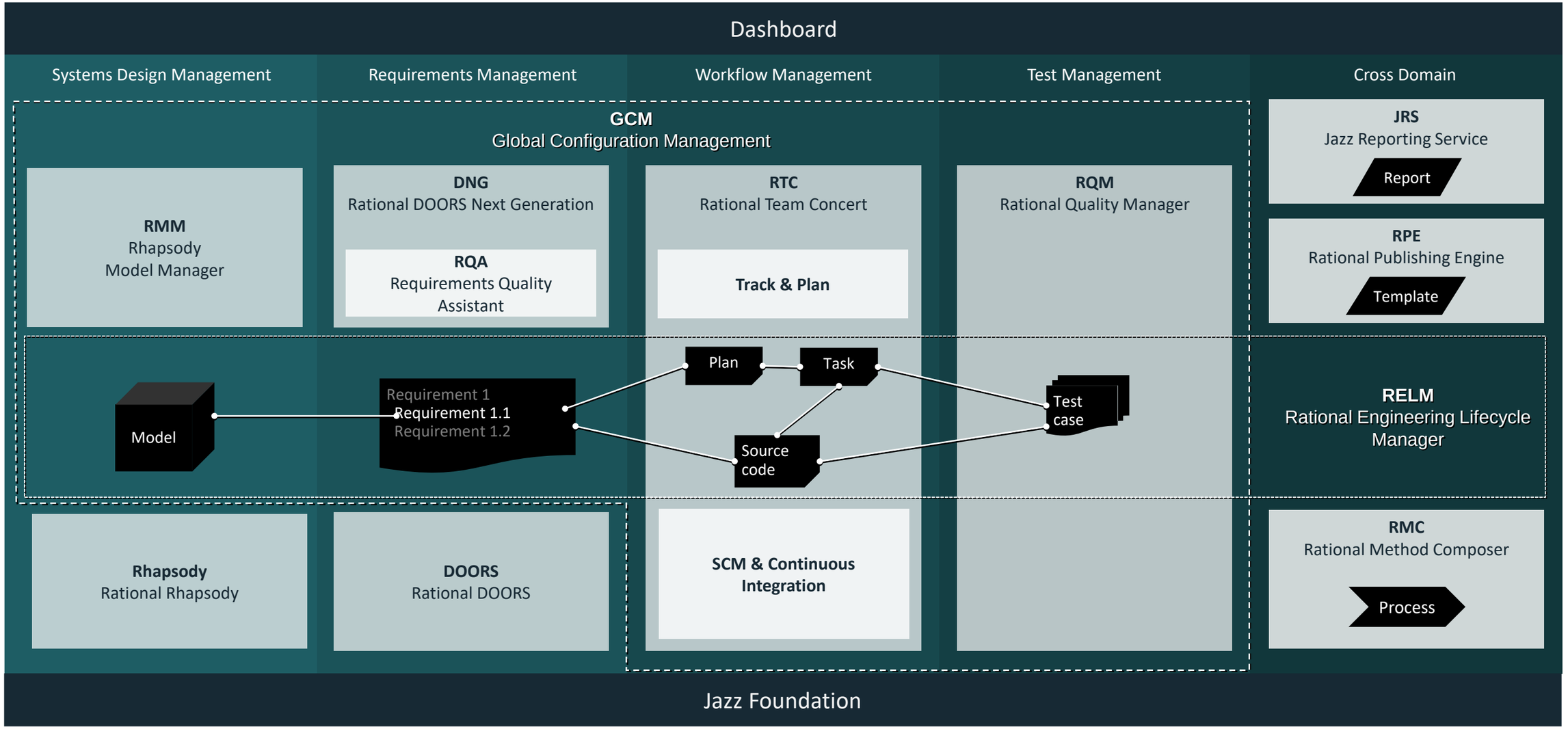
V Model ✓

Waterfall ✓

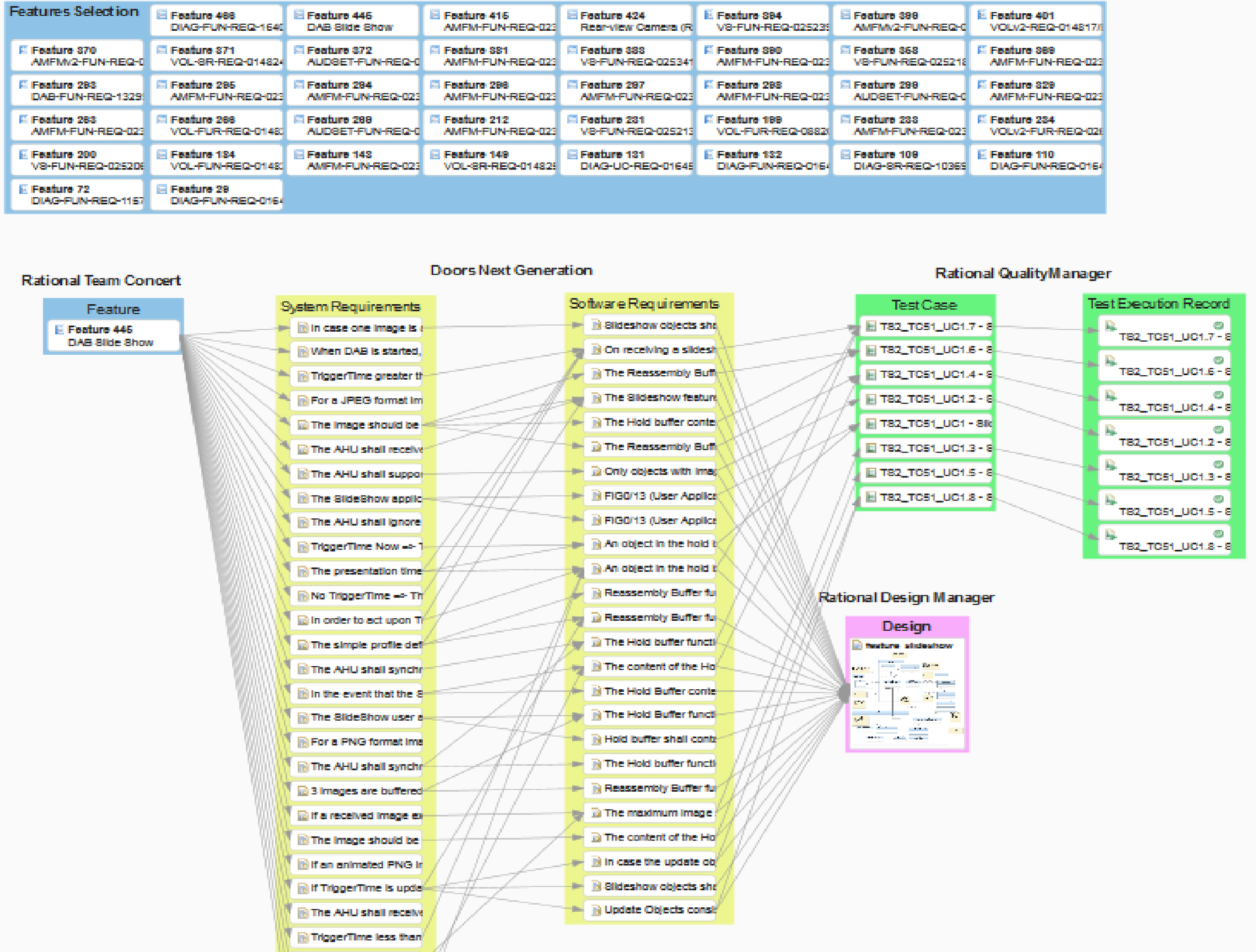
Scrum ✓

SAFe ✓

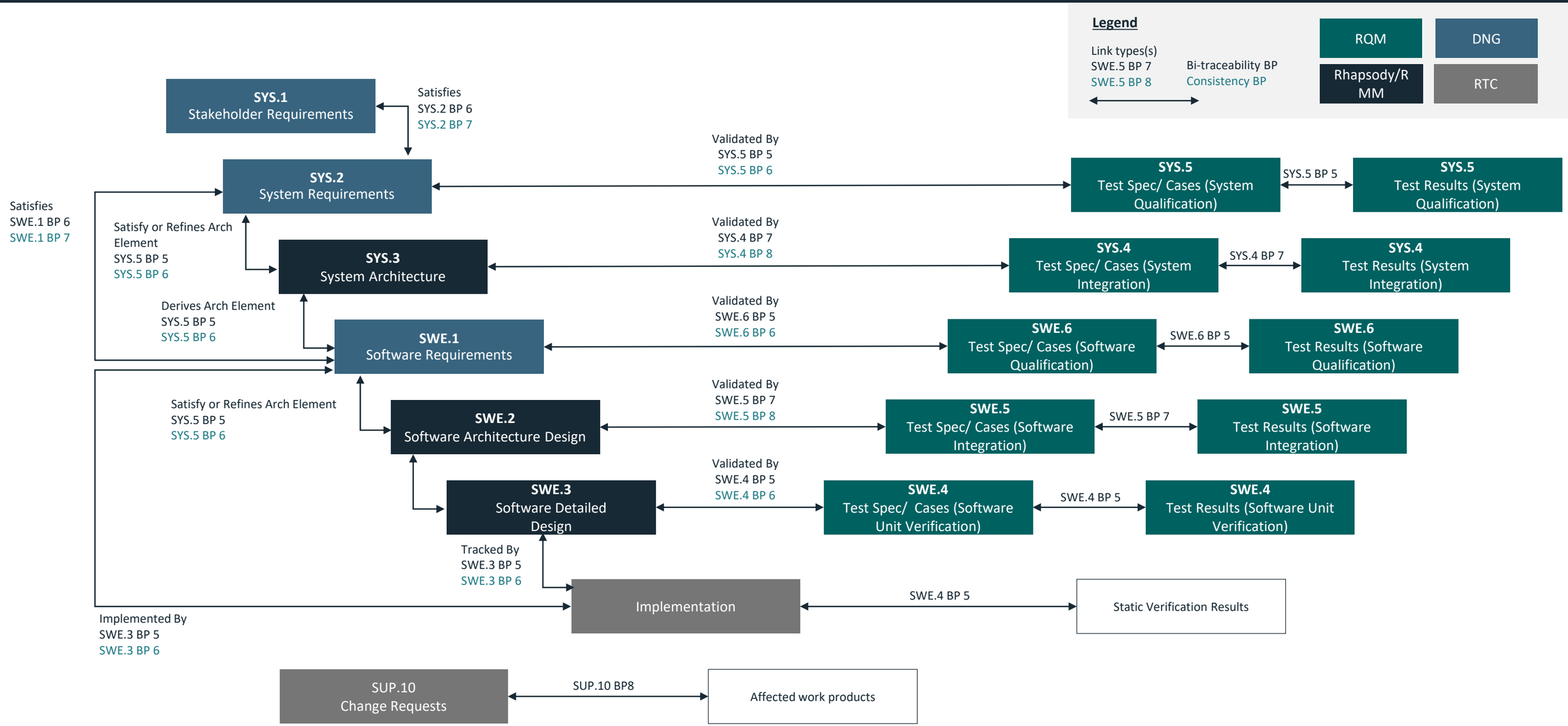
IBM ELM allows for integrated work product management



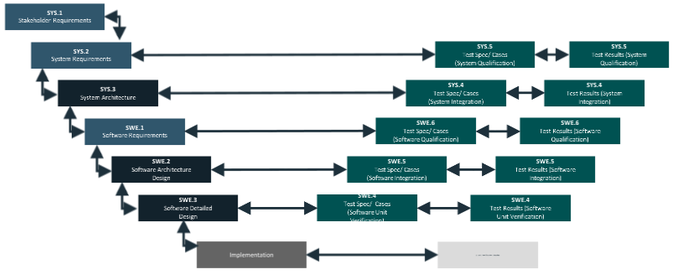
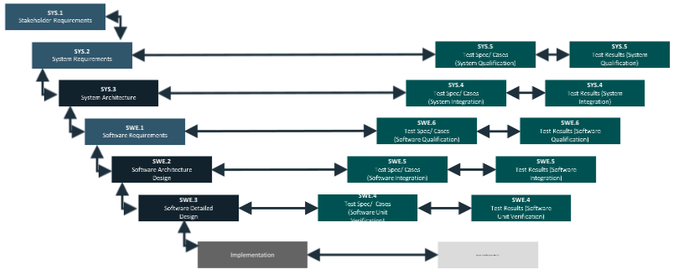
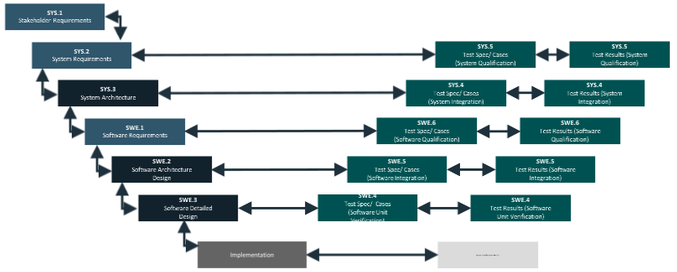
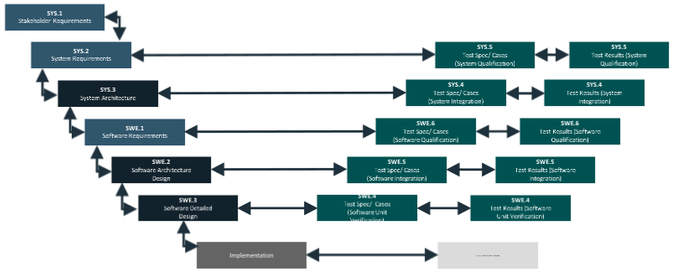
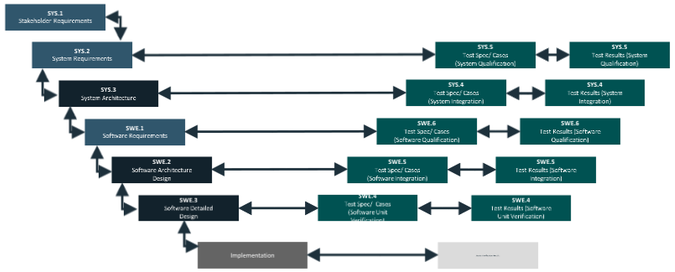
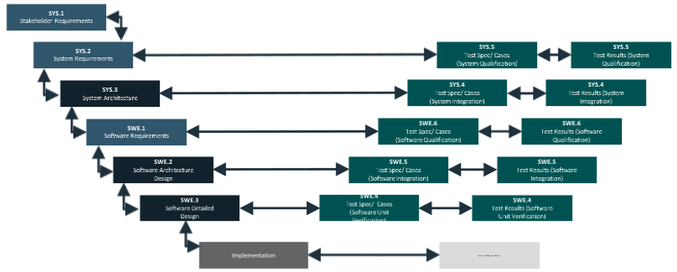
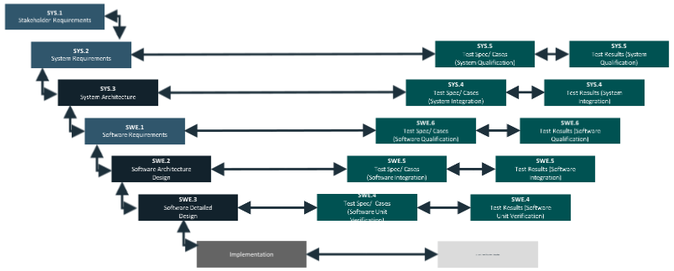
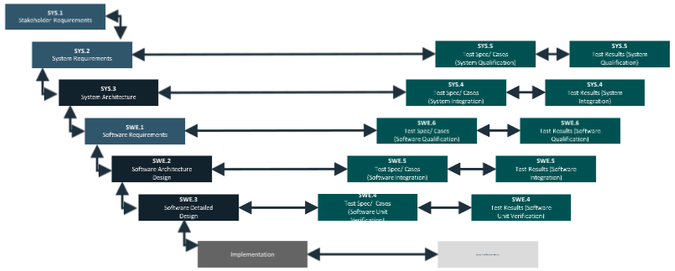
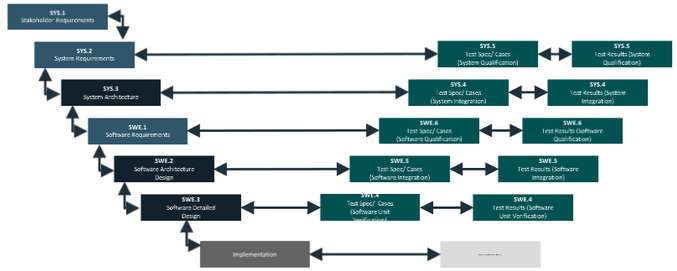
IBM Rational Engineering Lifecycle Manager (RELM) View



ASPICE Essential IBM Engineering Domain Model

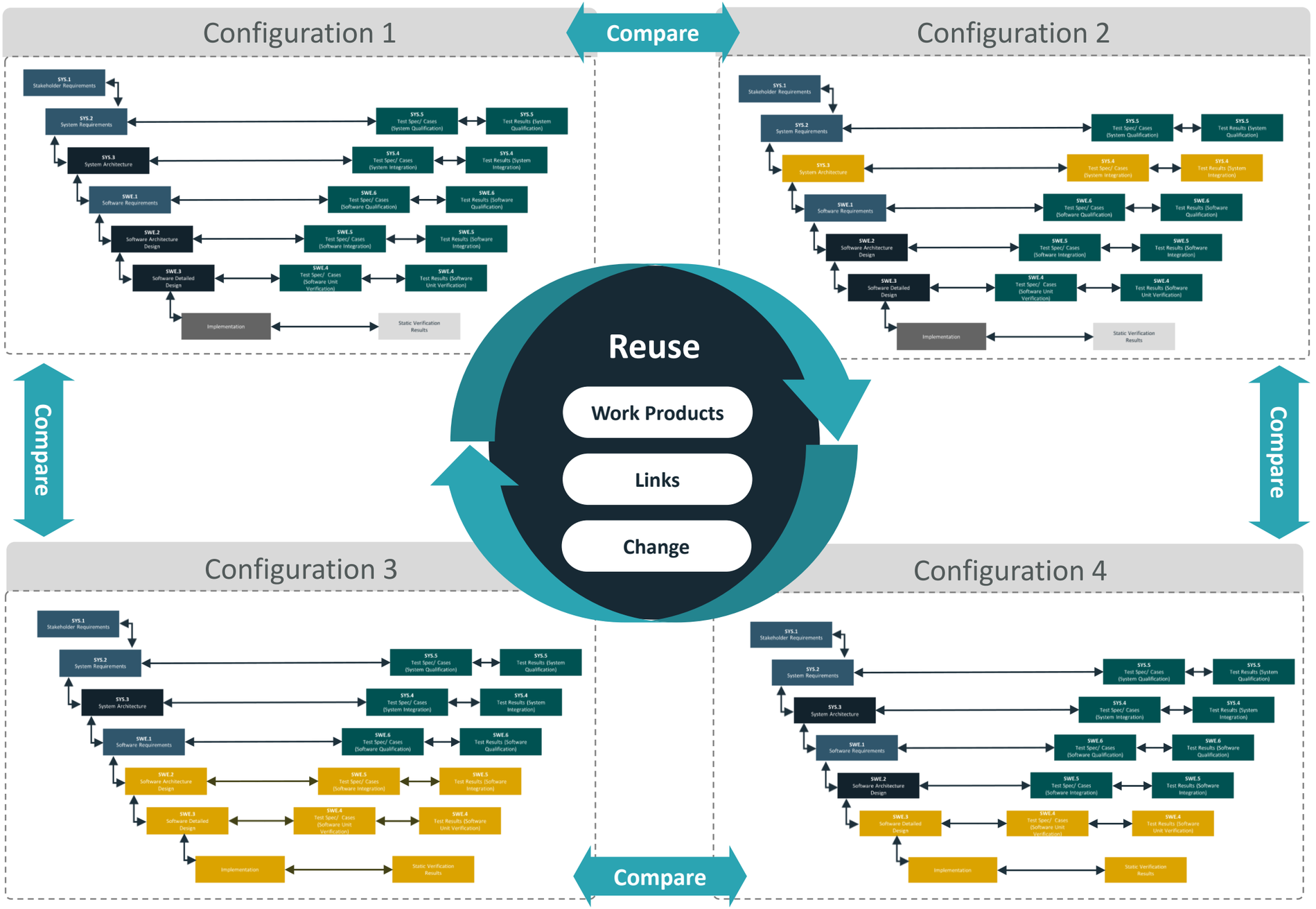


How to avoid cost explosion when dealing with multiple variants?

	Milestone Release 1	Milestone Release 2	Milestone Release 3
Variant A			
Variant B			
Variant C			

Global Configuration Management

provides sophisticated reuse capabilities



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IBM ELM accelerates ASPICE Compliance with five pillars

ELM Base Solution

1) Create sample content for usage patterns

2) Close gaps that hinder compliance / certification

3) Identify core features related to compliance

Accelerators

Simplify compliance with industry standards by providing repeatable patterns as templates and SaaS

IBM Services

Harmonize customer processes with industry standards and support them in leveraging accelerators

Partner Ecosystem

Integrate with compliance tools and connect IBM customers with industry experts

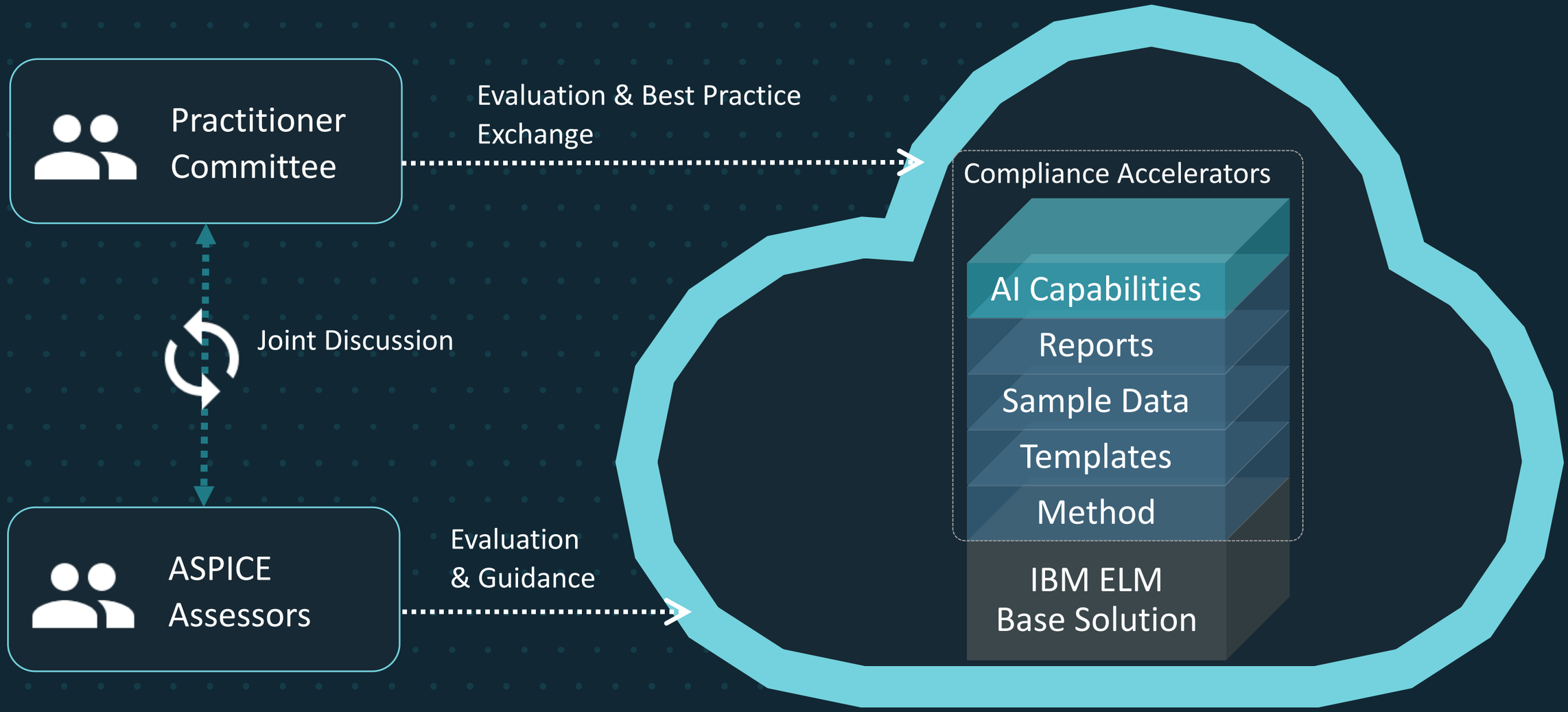
Practitioner Board

Collaborate with mature practitioners to align compliance support with market demand

Thought Leadership

Publish insights about industry challenges and best practices

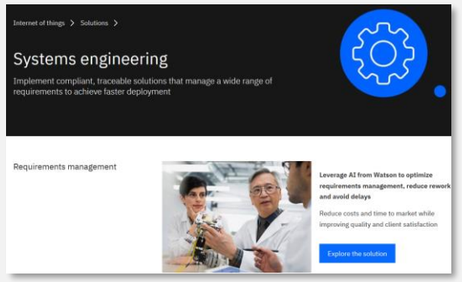
IBM ELM collaborates with industry experts to create a reference solution



Where to go next?

Learn more

6-Part ASPICE Webcast Series with Amit Talwar (IBM) by 321Gang
https://www.youtube.com/watch?v=CwbKPP4tmvg



IBM Website
for Systems Engineering
https://www.ibm.com/internet-of-things/solutions/systems-engineering

Jazz Community
IBM ELM release updates and exploration possiblities
https://jazz.net

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