# New Approaches to ALM-PLM Cross-Discipline Systems Development

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**CIMdata PLM Road Map™ 2015 for the Global Automotive Industry**

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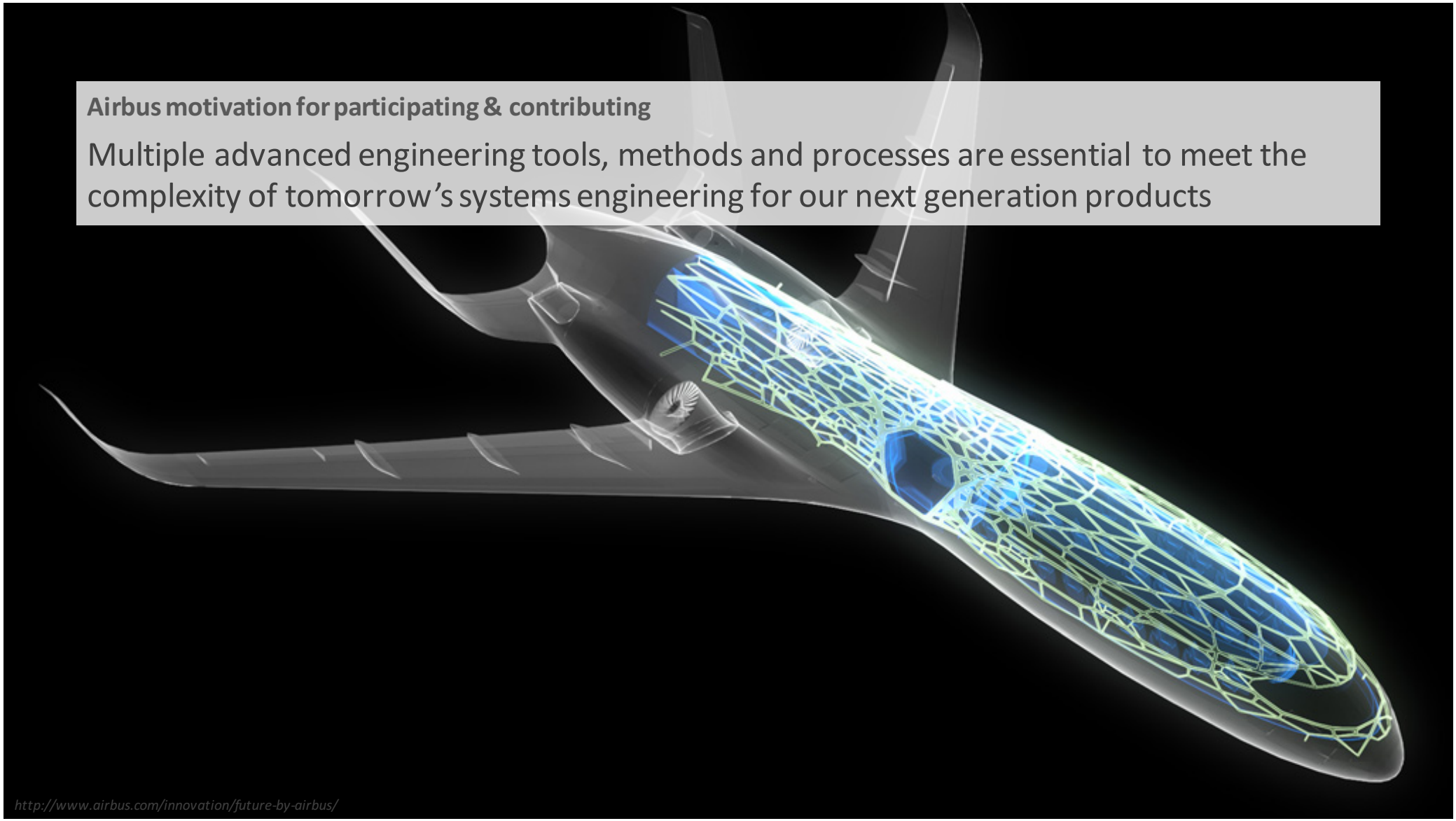
http://open-services.net/workgroups/alm-plm-interoperability-2nd-edition/
ALM-PLM Interoperability User Group


Airbus motivation for participating & contributing
Multiple advanced engineering tools, methods and processes are essential to meet the complexity of tomorrow's systems engineering for our next generation products
http://www.airbus.com/innovation/future-by-airbus/

# Helping our engineers fly by breaking through the integration barrier

Improving tool interoperability helps us

- Respond effectively to change
- Deliver on time
- Assure safety

Approach must provide

- Real world use cases
- Powerful capabilities for the future
- Minimal disruption & replacement

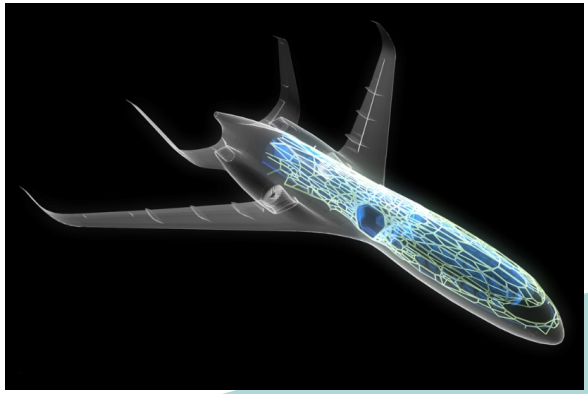
http://www.airbus.com/innovation/future-by-airbus/

# Chief Engineer's Dilemma

If I must make a change, how do I know what we're changing?

My system definition is in models, my software is in ALM, and my physical product is in PLM…

**Design**



as designed

**Manufacture**

as built

**Operate**

as maintained

**NECESSITY FOR CONTROLLED CHANGE**

How am I supposed to do impact analysis?!?

ALM-PLM Open Reference Architecture Implementation Partnership

# Joining forces for the development of the products of the future

**Meeting the Challenges**

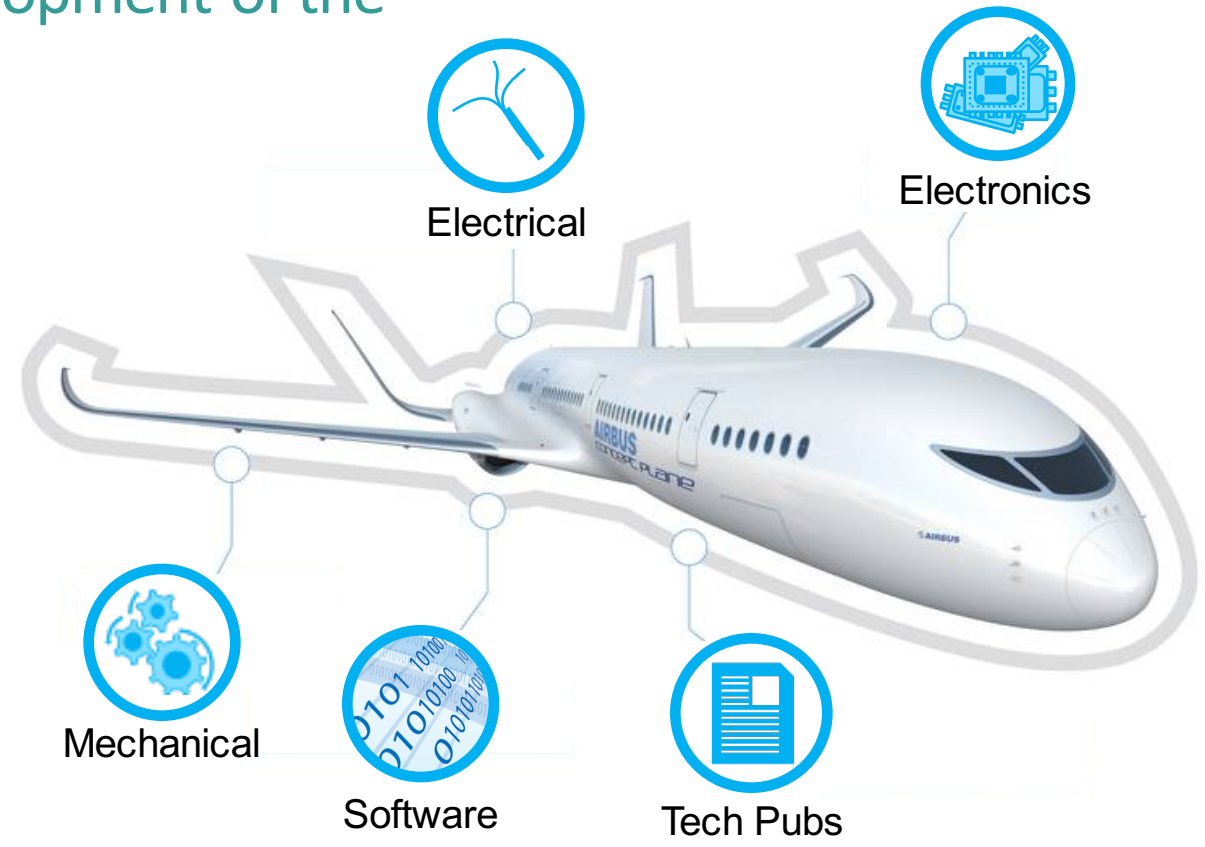
- Product / system configuration complexity
- System-centric development
- Connected / Intelligent systems

**IBM-Aras approach**

- ALM-PLM Across the Disciplines
- Open industry architecture
- Standards-based (OSLC)
- Building on CRYSTAL dissemination

**Helping clients with**

- Minimum tool disruption
- Regulatory compliance
- Liability
- Traceability into the Future

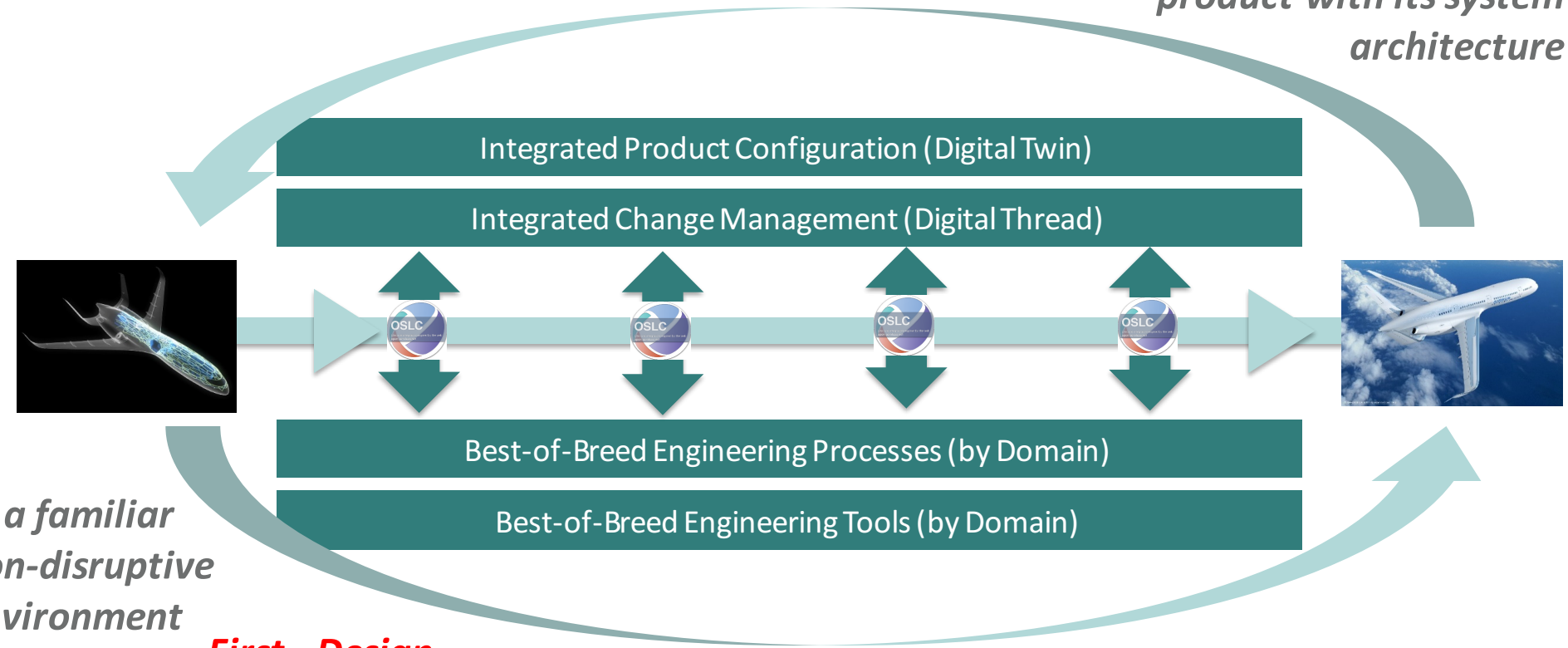


# ALM-PLM Open Reference Architecture

*Change theory to practice with a proof of concept implementation*

***Then - Evolve***

***Connecting physical product with its system architecture***

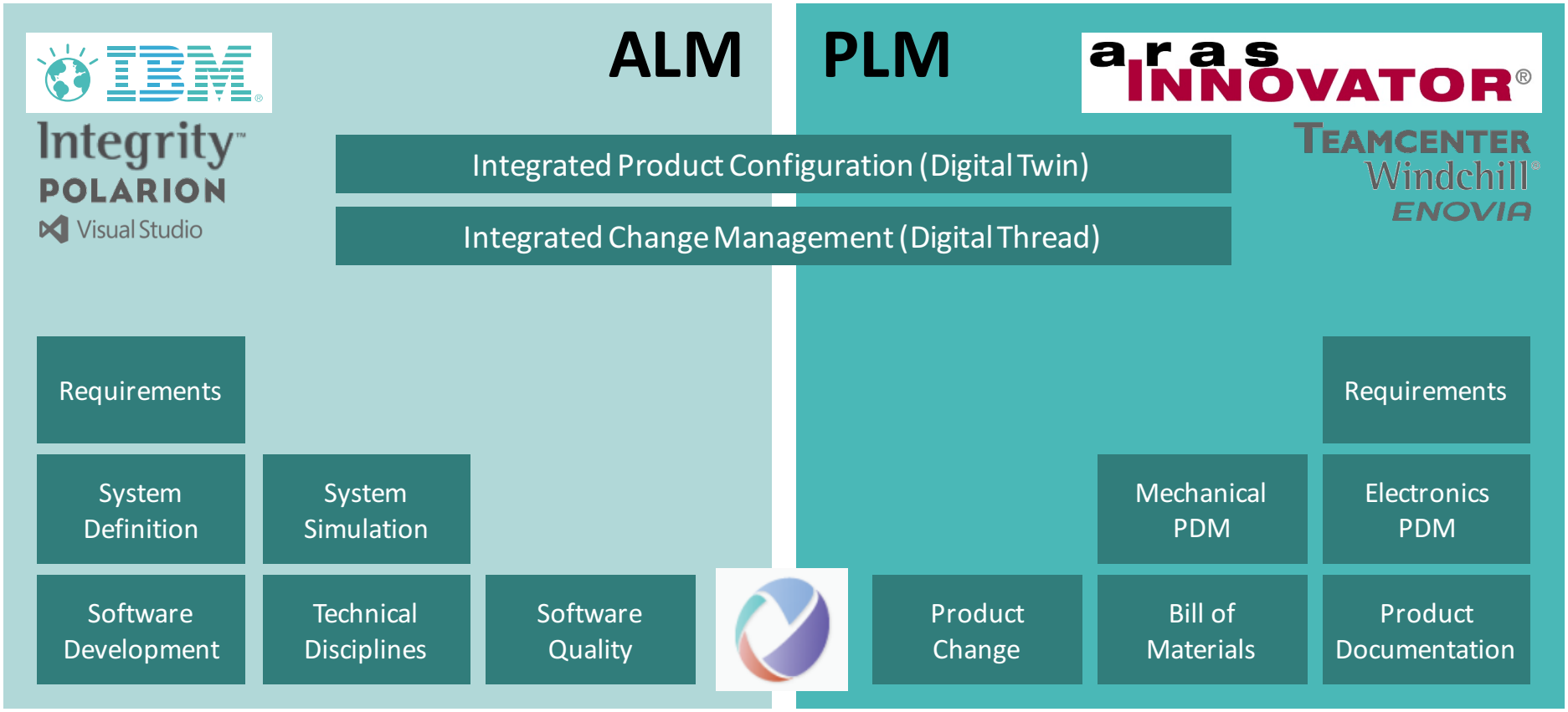



***In a familiar non-disruptive environment***

***First - Design***

# ALM-PLM Open Reference Architecture

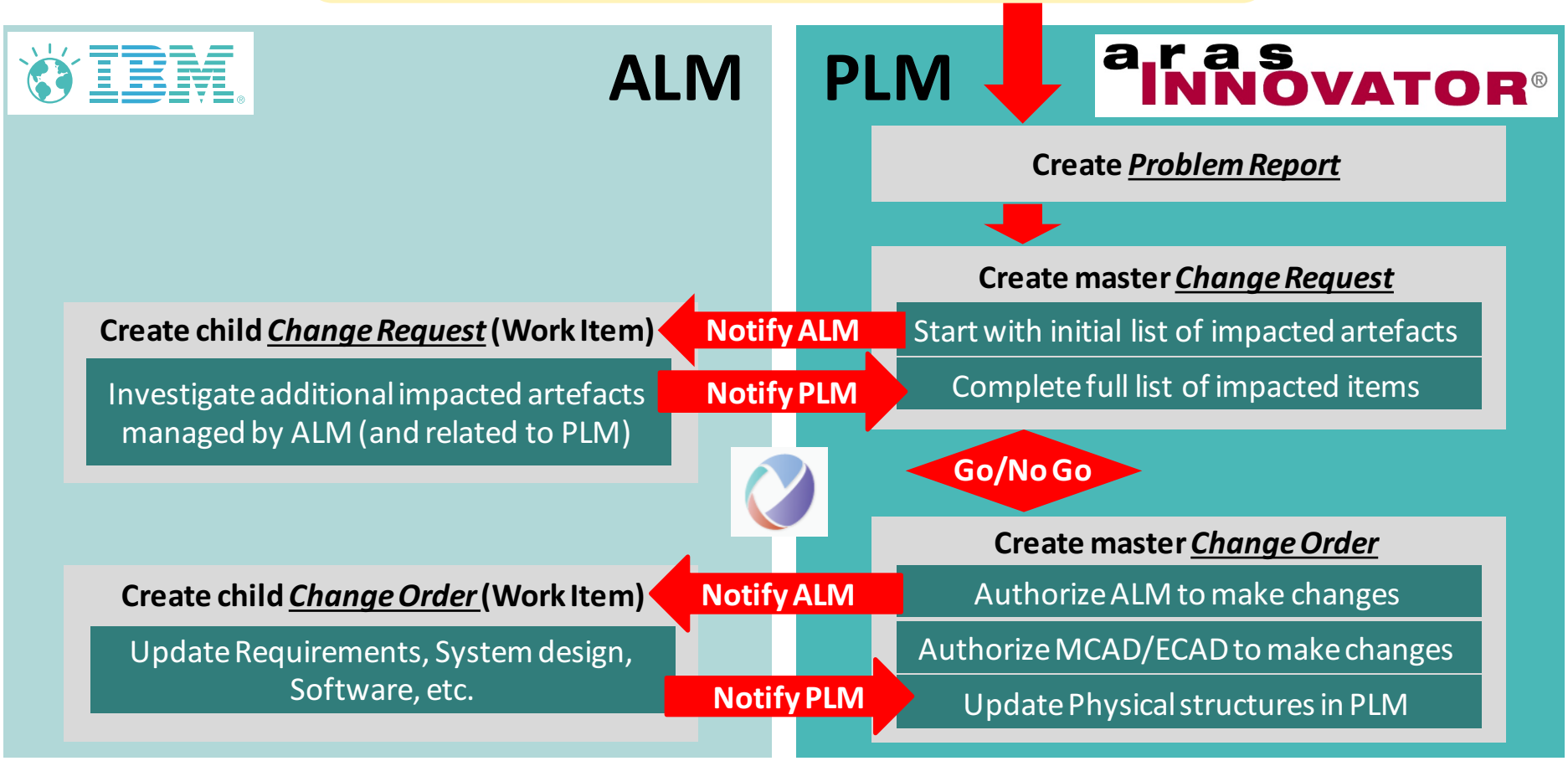
*Integrates System-Level Definition, Physical Product Configuration and Change Control with Best-of-Breed Tools & Processes*



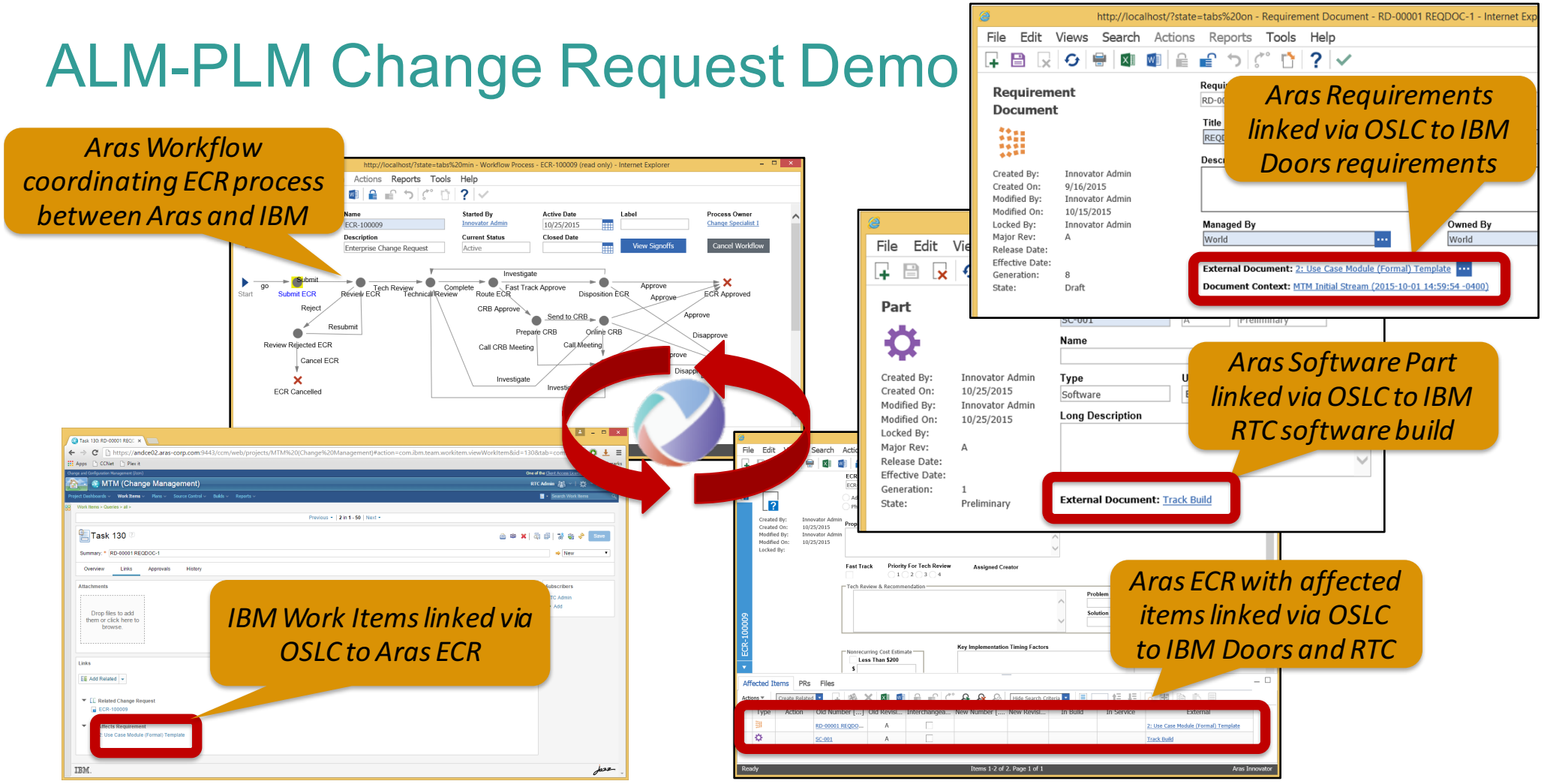
**Certification Authorities:**

***"Change That Overpressure Relief Valve!:***

- ***It Shall open already at 19 psi (instead of 21 psi)"***



# ALM-PLM Change Request Demo



# Target Benefits

**Better approach to managing whole product configuration & changes over lifecycle**

- Greater visibility and coordination across disciplines using multi-vendor linked data
- Open connectivity between ALM and PLM systems from many different vendors
- Ability to use best of breed tools & processes in each domain
  (software, electronics, mechanical, etc)
- Reduce risk, cost and disruption / replacement
- Sustainable over time

# Next Steps

## Further development of ALM-PLM Open Reference Architecture

Build out scenarios across industries to advance best practices
Aero, Auto, High Tech, Healthcare/Medical, Rail, etc

- ALM-PLM for MBSE
- Product, system and software quality
- Joint product and software lifecycle management

## ALM-PLM Interoperability User Group

(http://open-services.net/workgroups/alm-plm-interoperability-2nd-edition/)

User Group open to all interested parties!

MAGNA

TECHNISCHE UNIVERSITÄT KAISERSLAUTERN

AIRBUS GROUP

**CALL TO ACTION:** Contribute and/or provide feedback to scenarios

**NEWS** **AleniaAermacchi**, **KTH** (Sweden), **Mentor Graphics** and others have expressed interest