

Keeping up with the pace of opportunity

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The old game



- One customer
- One operations approach – national defence
- One project at a time
- Long development times
- Predictability: Sweden and Saab



1950



1970



1990

The new Game



2000

2020

- Multiple parallel projects
- International operations and interoperability
- Exports
- International collaboration
 - Multi-site Development & Production
- More stringent international regulations
- Speed!
 - Product development
 - Enabling systems
- Unpredictable future

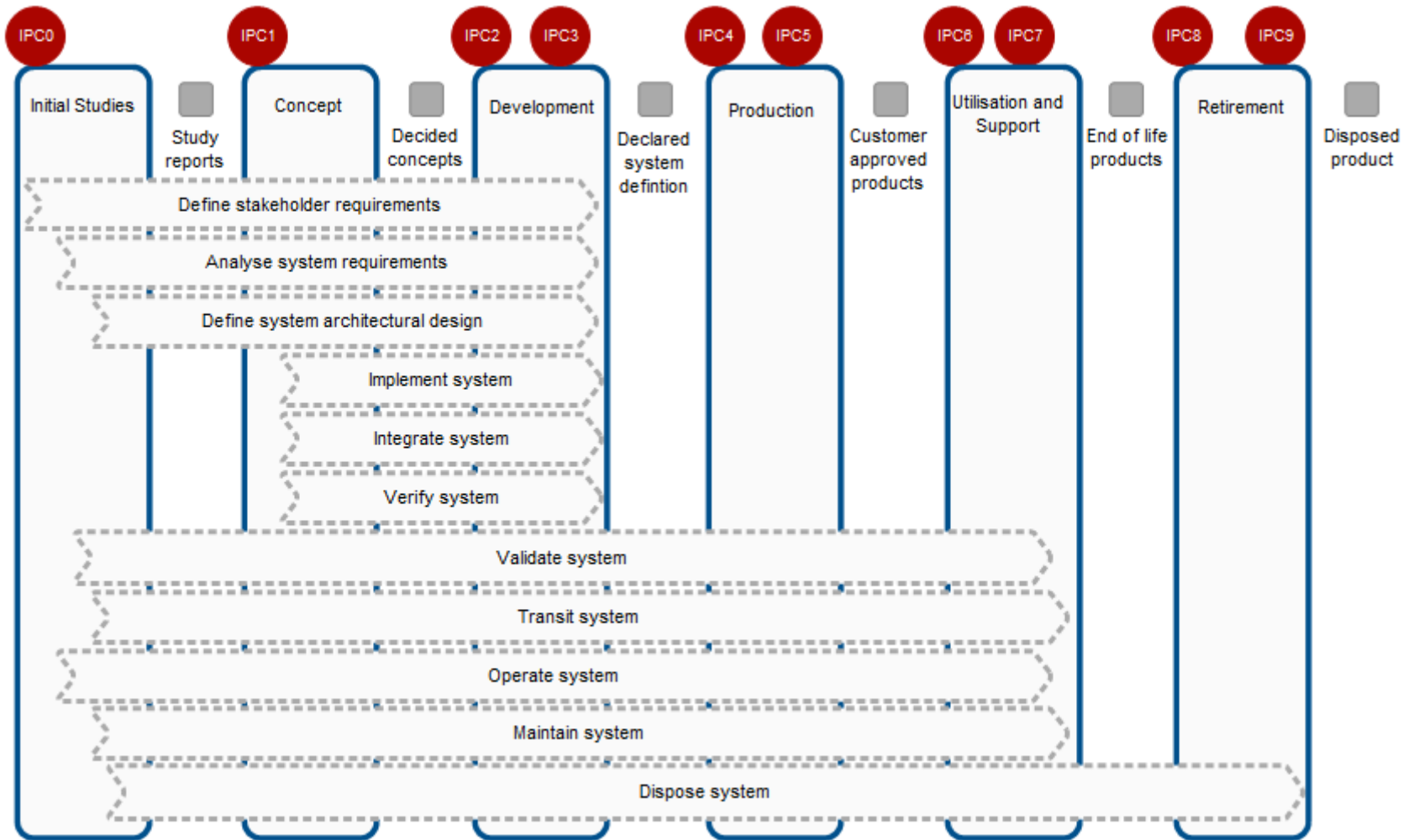
Consequences

Strategic directions

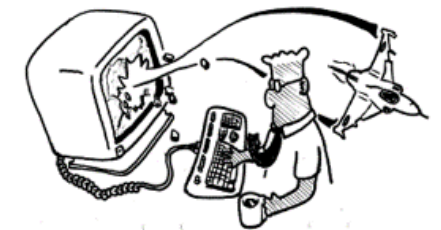
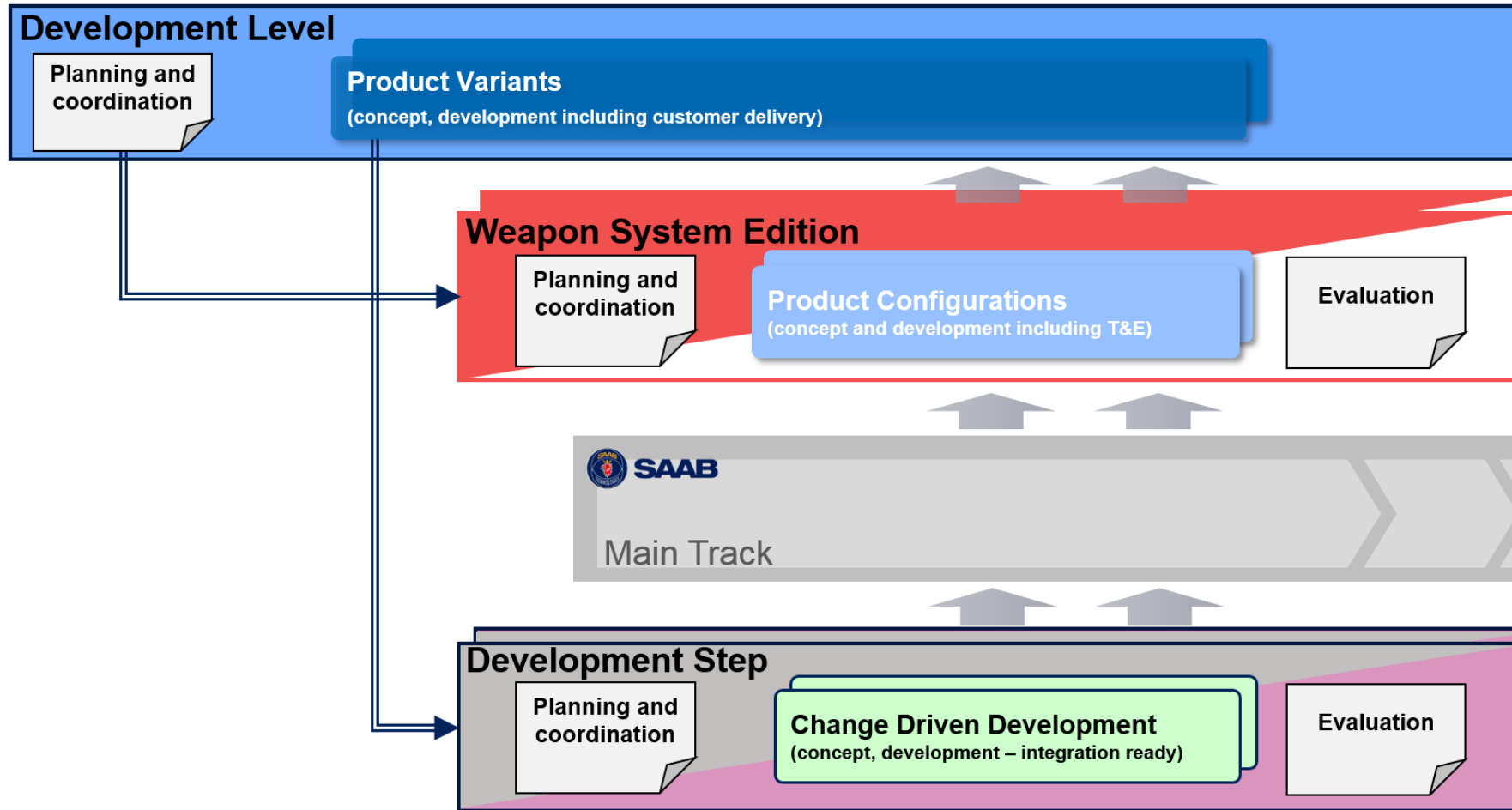
- Alignment with best international practise
- Need to architect organisation and development environment for **Flexibility**
 - Optimise overall capability
 - Ability to adapt the latest processes, methodology and tools
 - Quick adaptation to new collaboration scenarios
 - At low cost



SE process approach

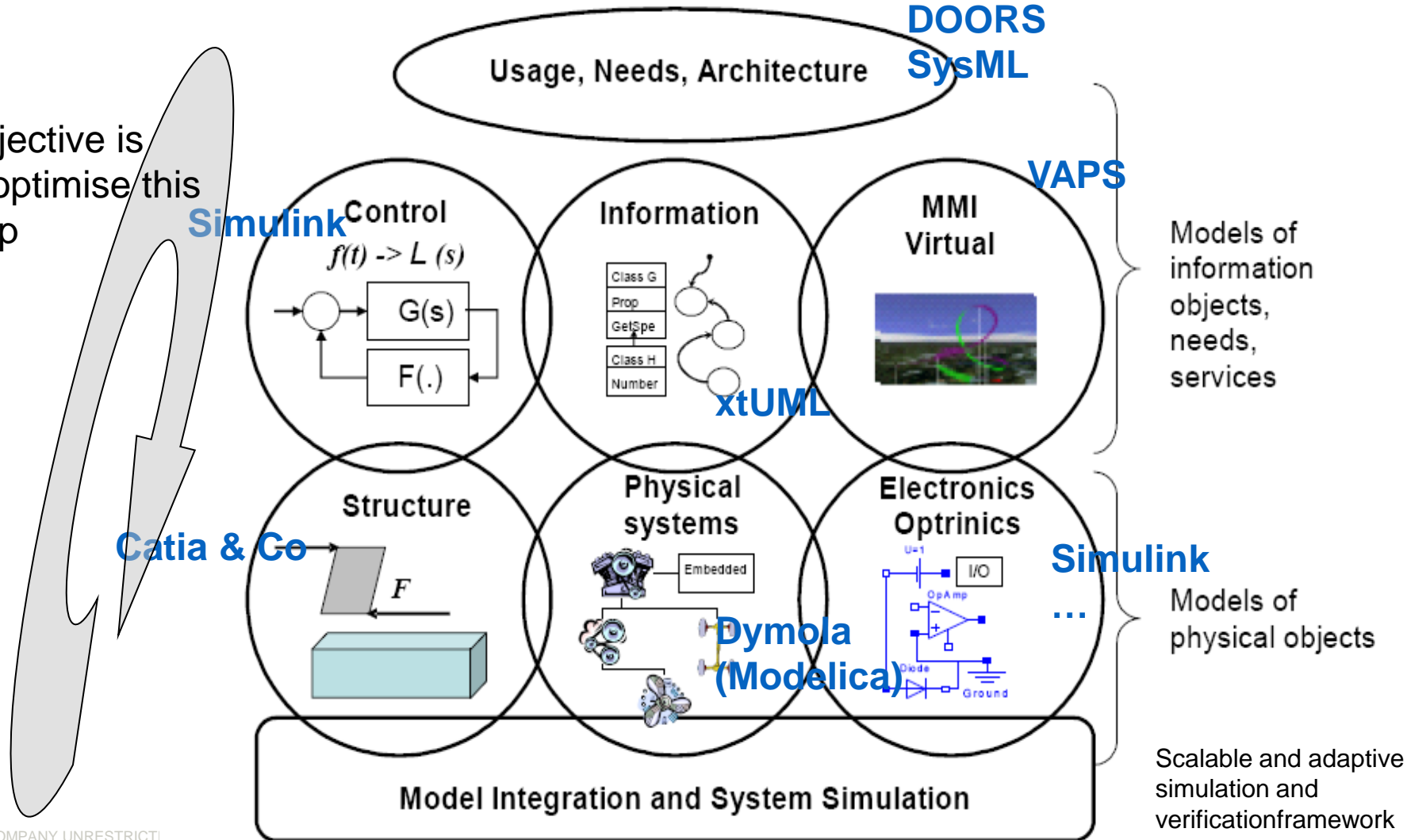


Systems Development @ Saab Aeronautics



Using models in systems design

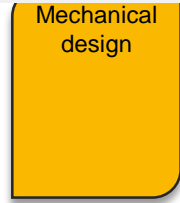
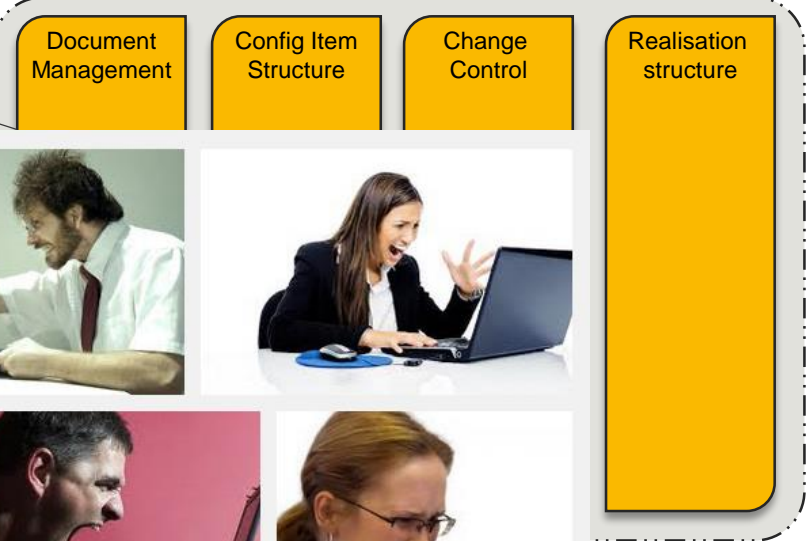
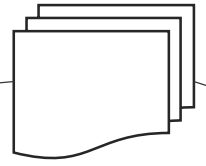
Objective is to optimise this loop



Legacy PLM setup



Requirement Management



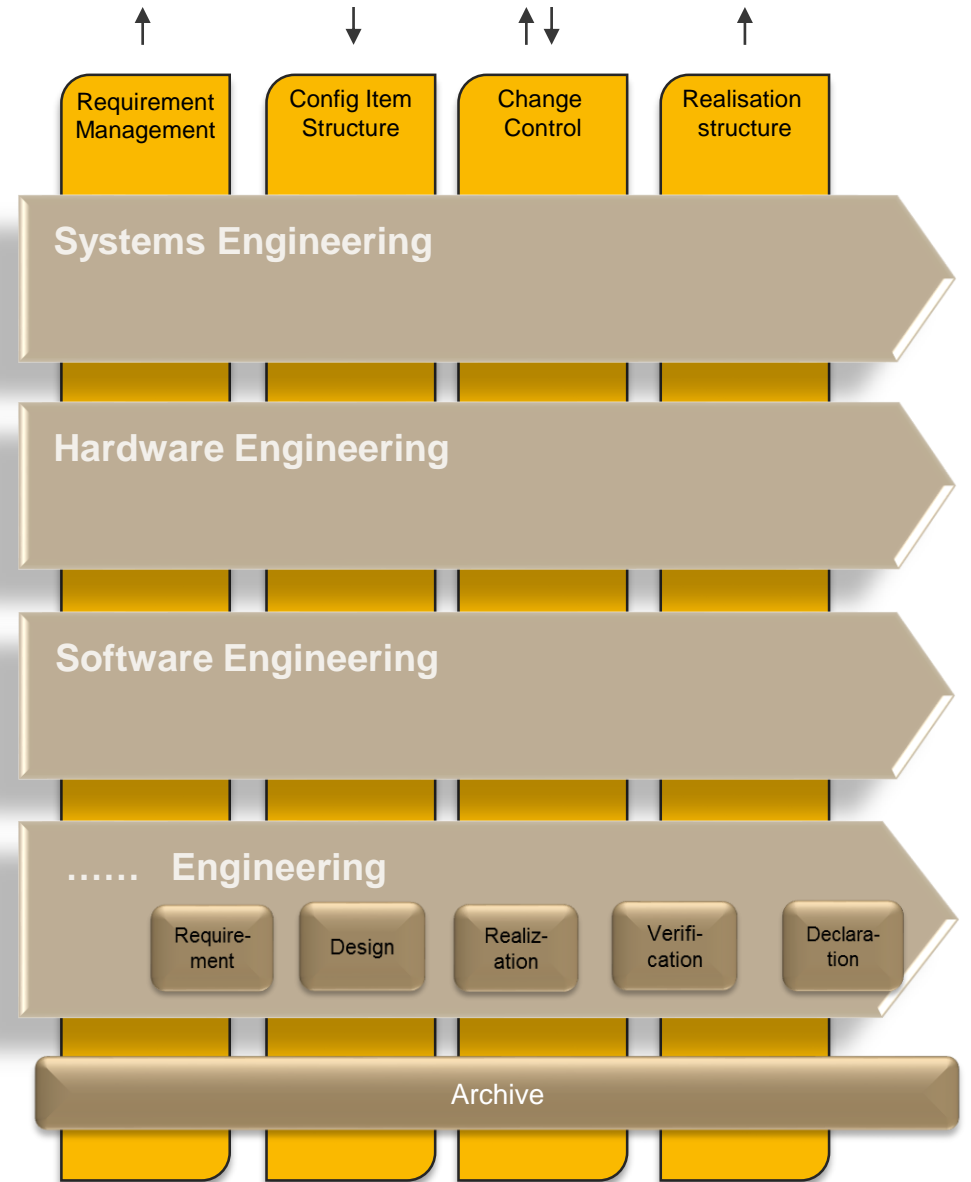
Next generation development system

Genesis PLM Model

- Engineering Disciplines
- Engineering Deliverables

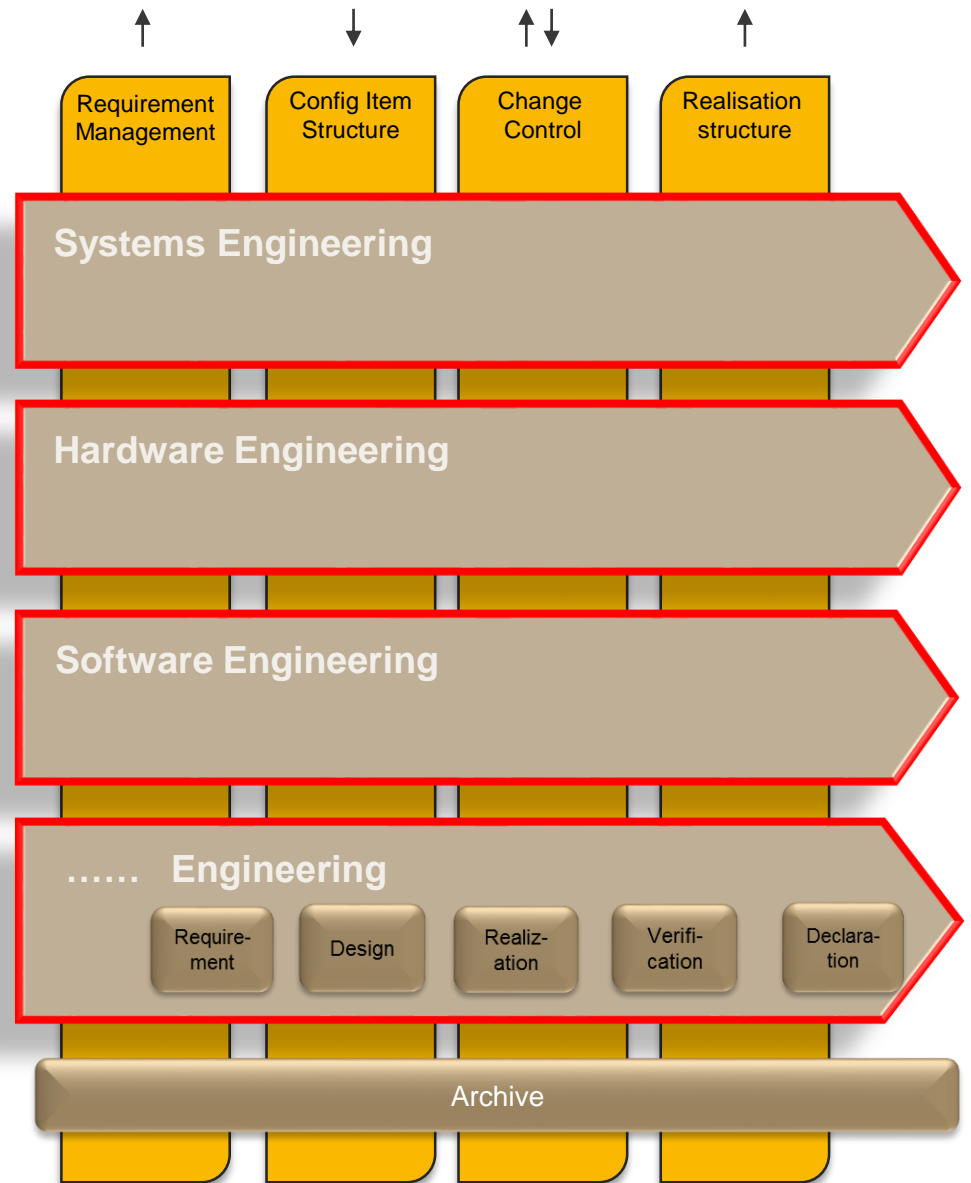


- Design Traceability Dimensions
 - We believe there are four of them only
- Archiving



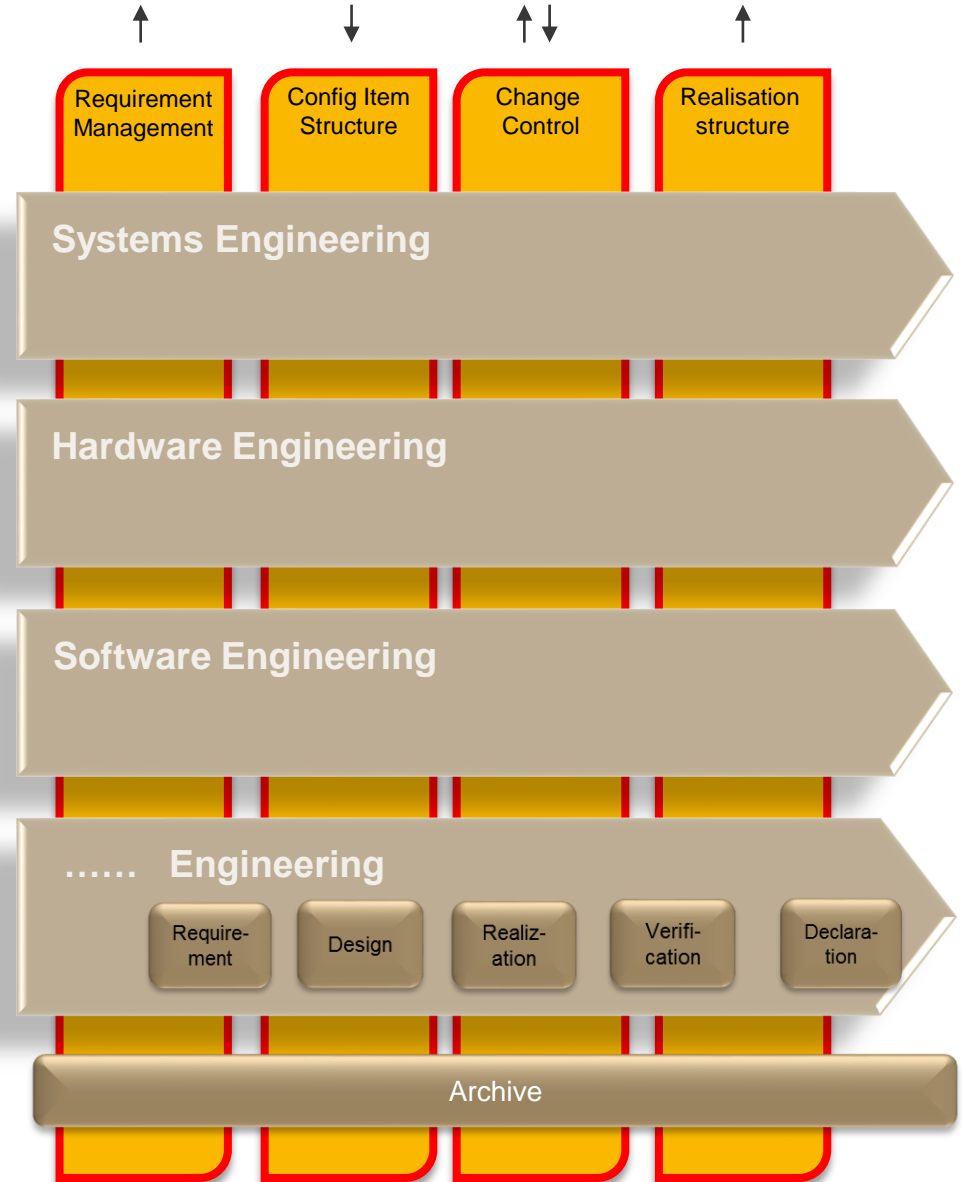
Modularity

- Optimise support for each engineering discipline
 - Maximise automation, as provided by the supplier
 - Minimise application family switching
- Bring together management and engineers in a single environment
 - E.g., Change management and Status reporting
- Ability to upgrade individual capabilities independent of others
- Redundant capabilities accepted
- Ability to replace environment without upsetting the complete PLM landscape

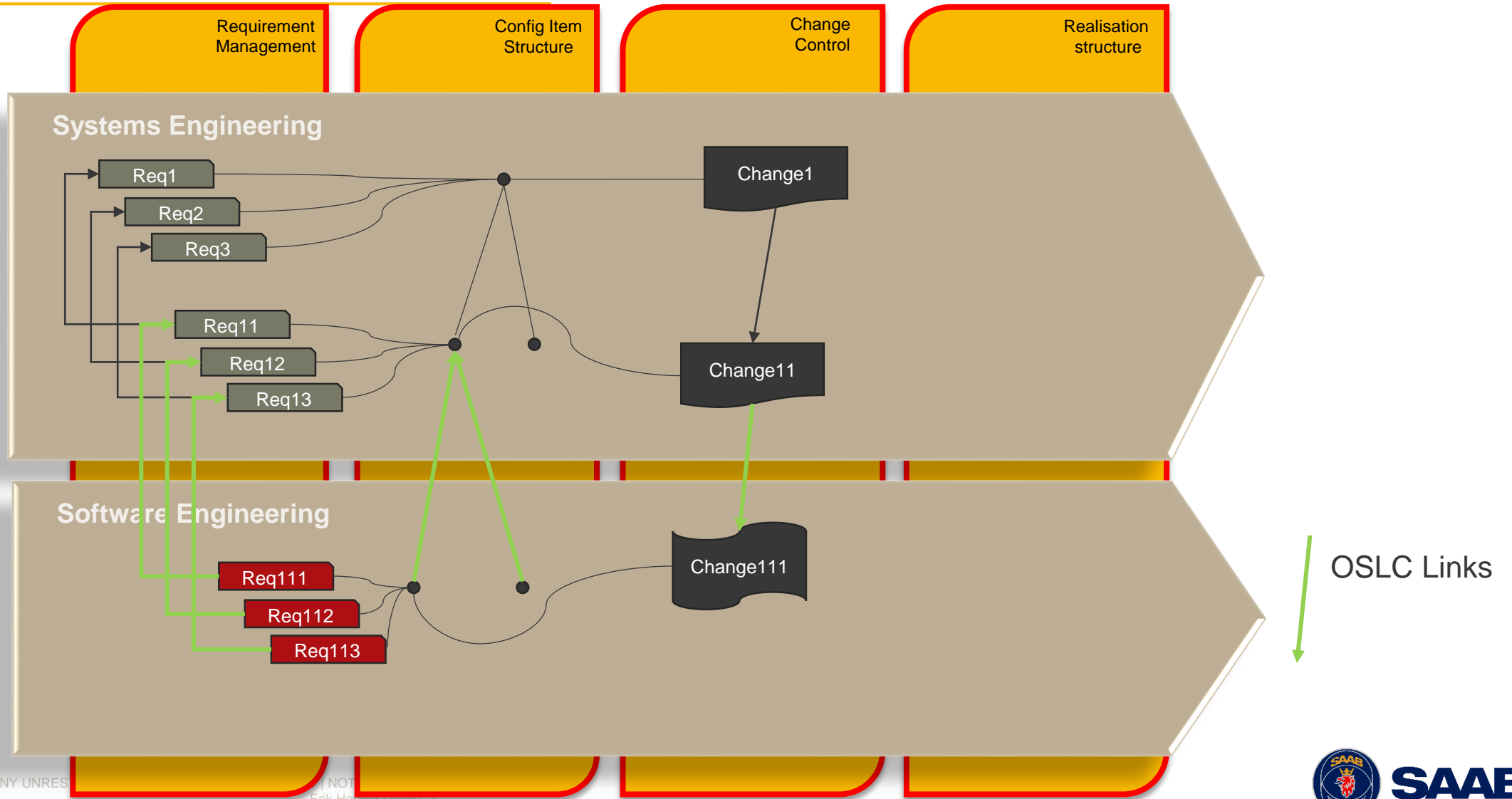


Traceability

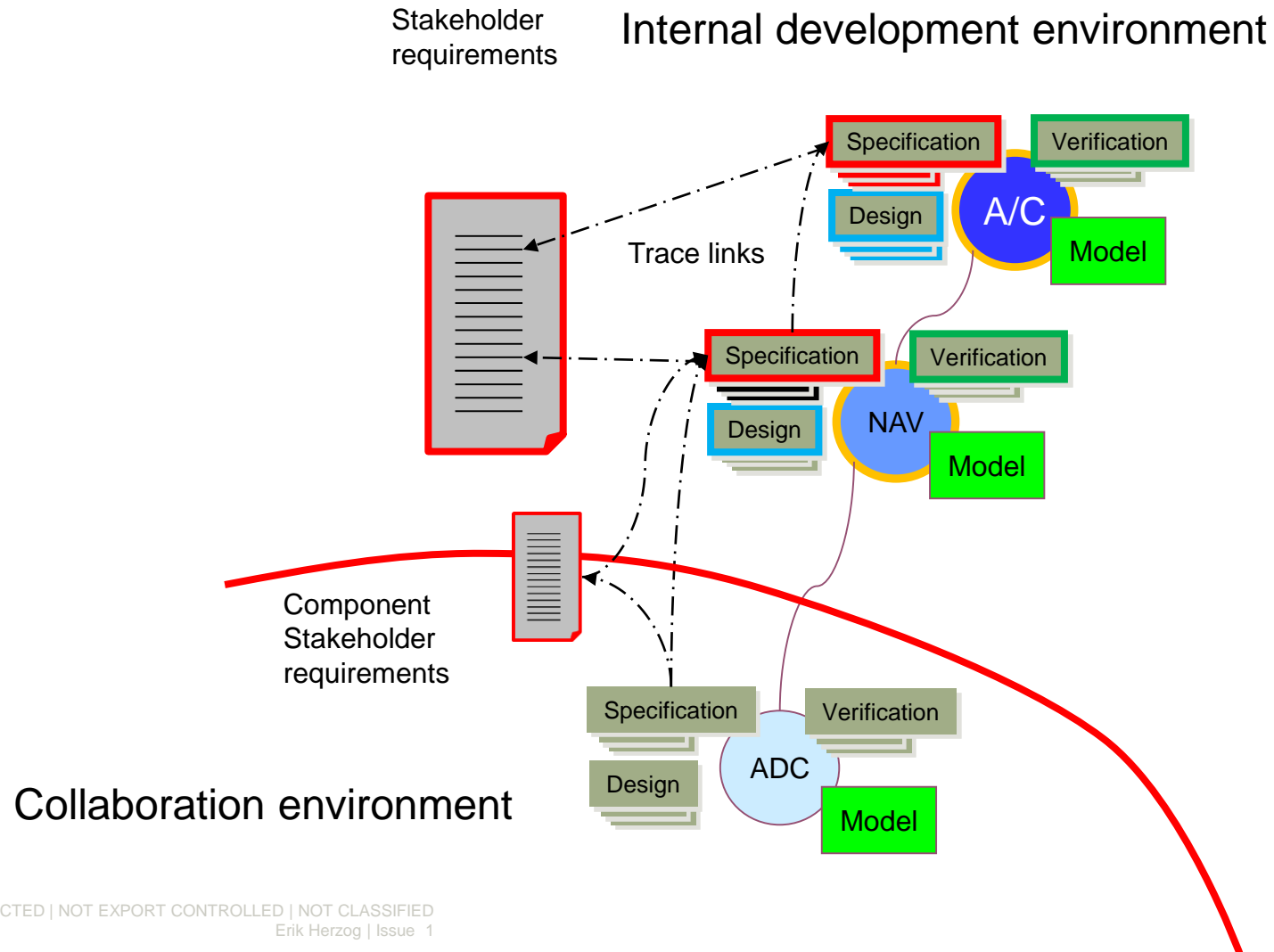
- Need capability to ensure traceability and integrity of product data
- Traceability dimensions between engineering discipline environments
 - Requirements
 - Configuration item structure
 - Change management
 - Realization
- Configuration Management capability required for Requirements Traceability, Configuration item structure and Realization structure
 - Versions and baseline capability
- The OSLC standard offers the desired capabilities
 - Exploit for low cost and high quality integrations



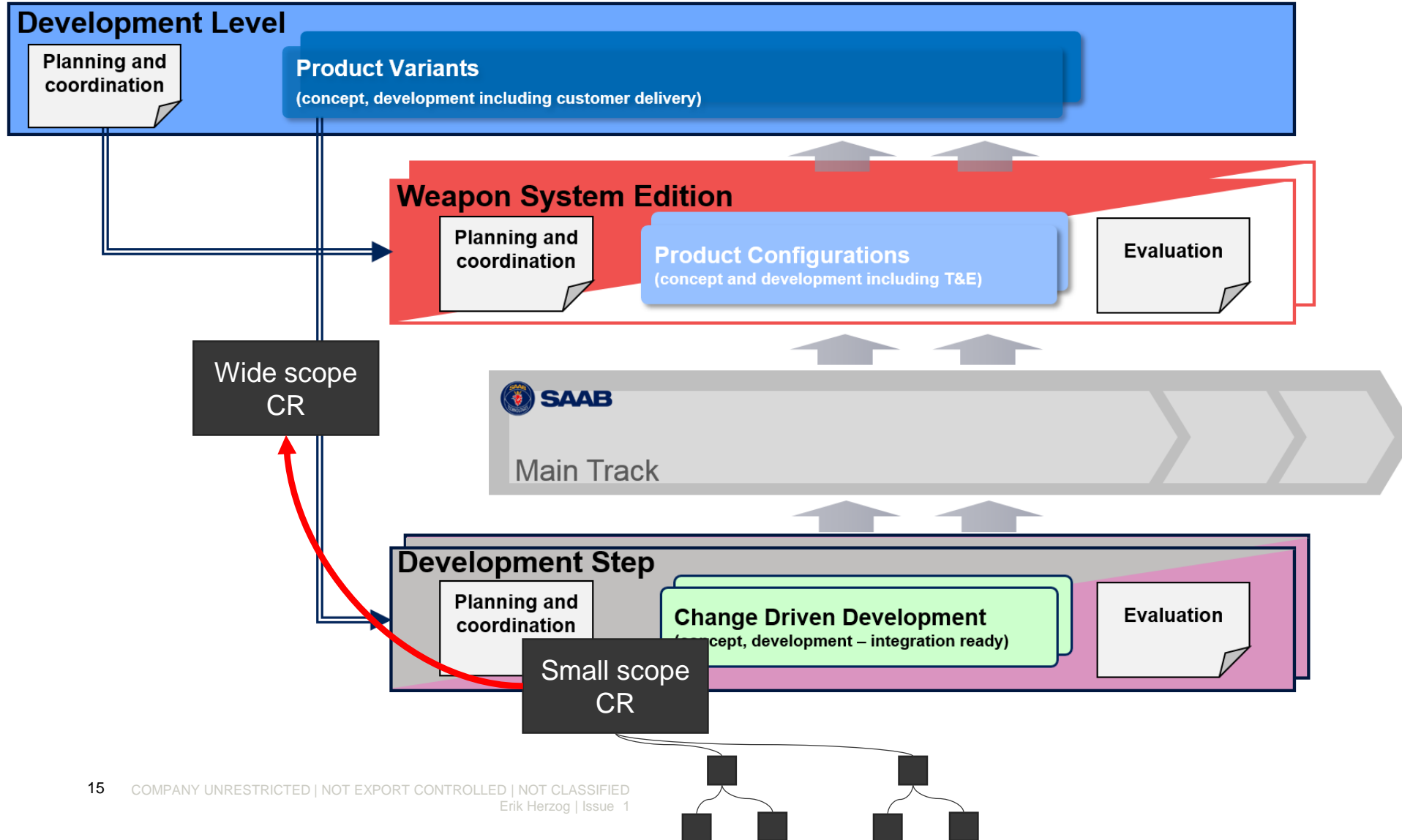
Example System – Software interface



Supplier – acquirer interface

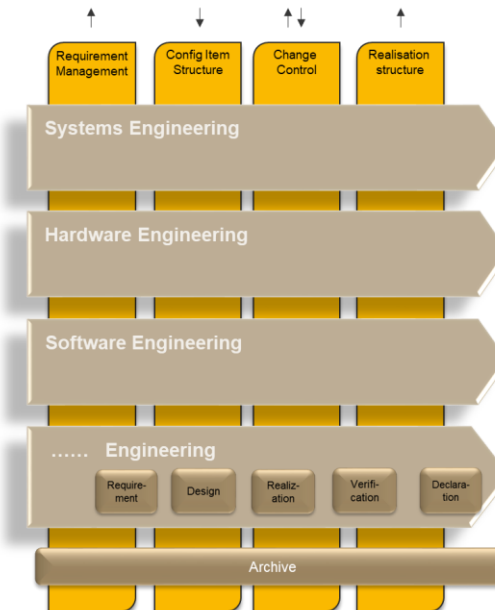


Top – down development planning



The Heliple project

- Swedish research project to promote the use OSLC – 18 months
- Participants
 - Eurostep
 - KTH
 - Saab
- Scope
 - Promote the Genesis architecture pattern
 - Get experience in OSLC interface creation
 - Improve OSLC interface generation tools
 - Demonstrate the power of OSLC



Conclusions

- Need to prepare for an uncertain future
 - An opportunity, not a threat
- Optimise towards flexibility
- Genesis architecture pattern for federated PLM
 - Optimise process performance
 - Embrace heterogeneity
 - Minimise the number of integration points
- OSLC is key for enabling plug and play integration
- Heliple – our project for promoting OSLC



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