



Introducing AutomationML in a heterogeneous software tool landscape – a success story

Joachim Burlein, Matthias Rassl, Dr.-Ing. Nicole Schmidt

Mercedes-Benz
The best or nothing.



Agenda

Motivation

Method

Common model

Development cycle

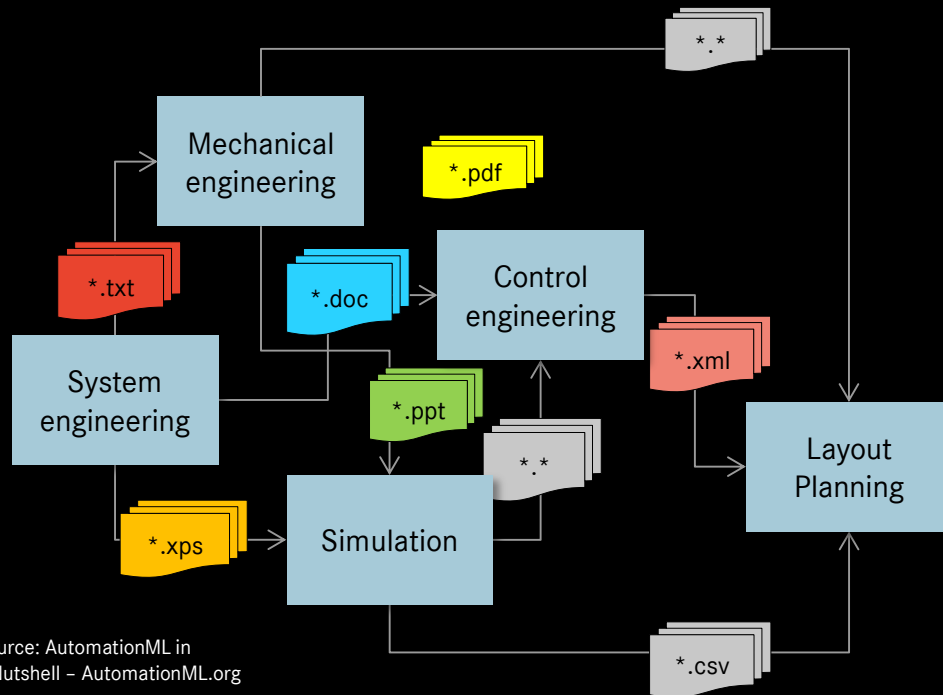
Benefits

Tool chain

Who we are



Challenges of data exchange in a heterogeneous software tool landscape



Source: AutomationML in
a Nutshell – AutomationML.org

Different disciplines

Different software tools

Different granularity

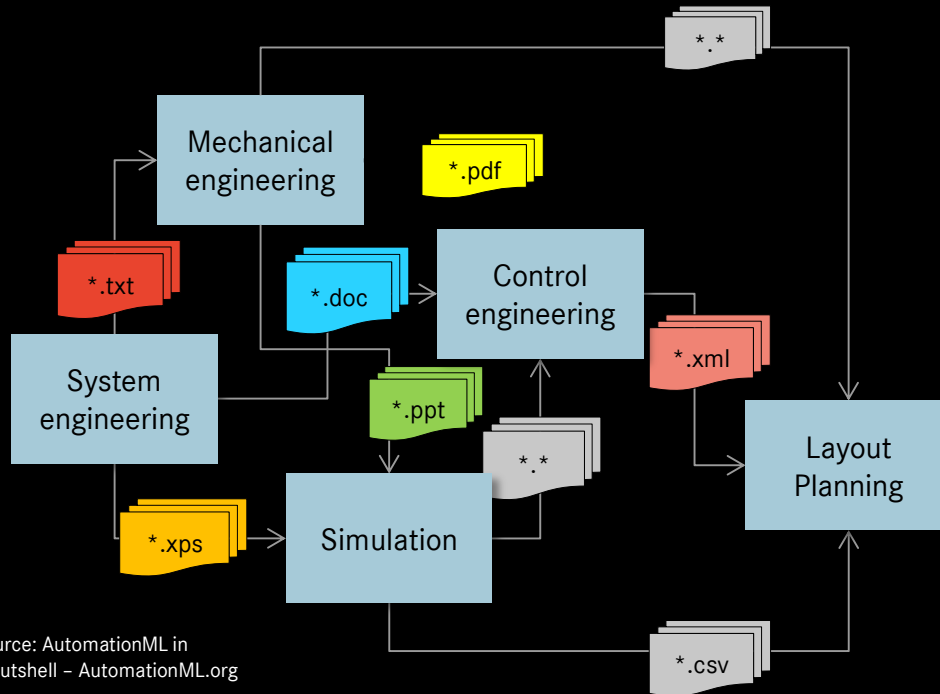
Different information

Different interfaces

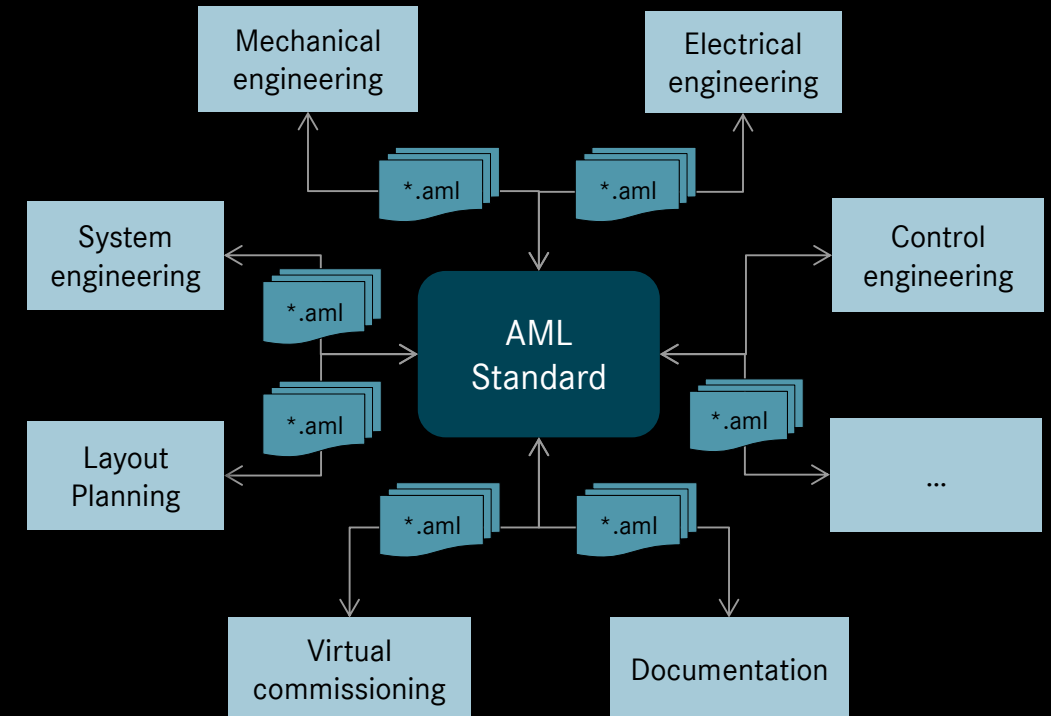
Common language is base for consistent data exchange

Communication needs a common language

AML



Source: AutomationML in a Nutshell – AutomationML.org



From a common language to a common and managed model

Communication needs a common language



Common semantics

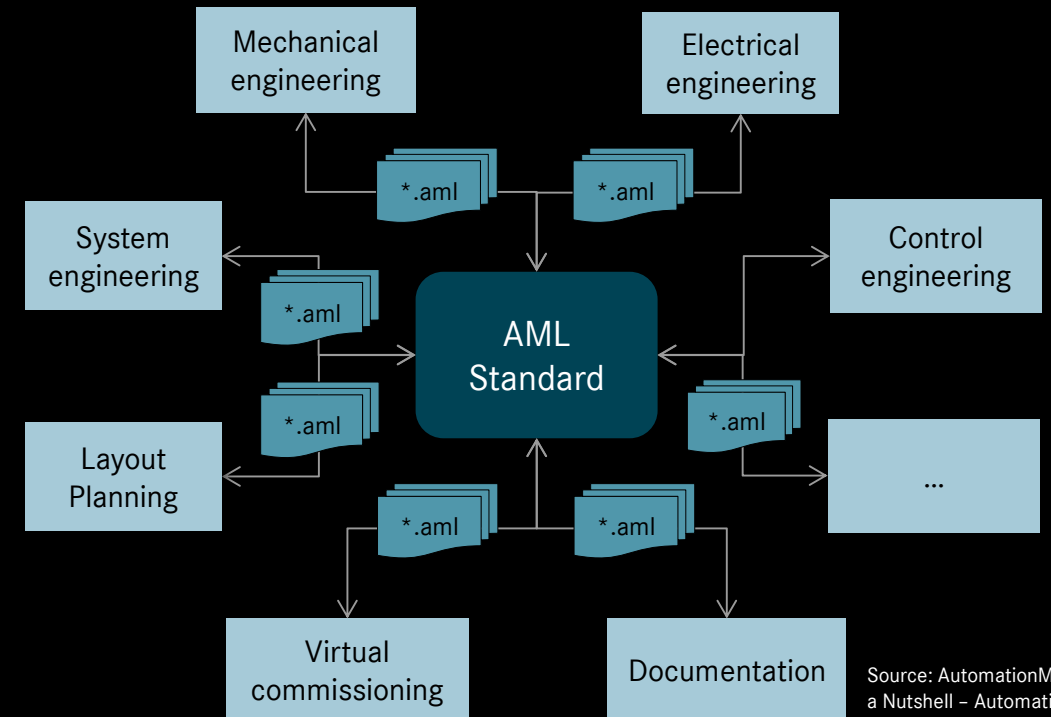
Option to extend

Option to specialize

Neutral view

Enable standardization

Governance required

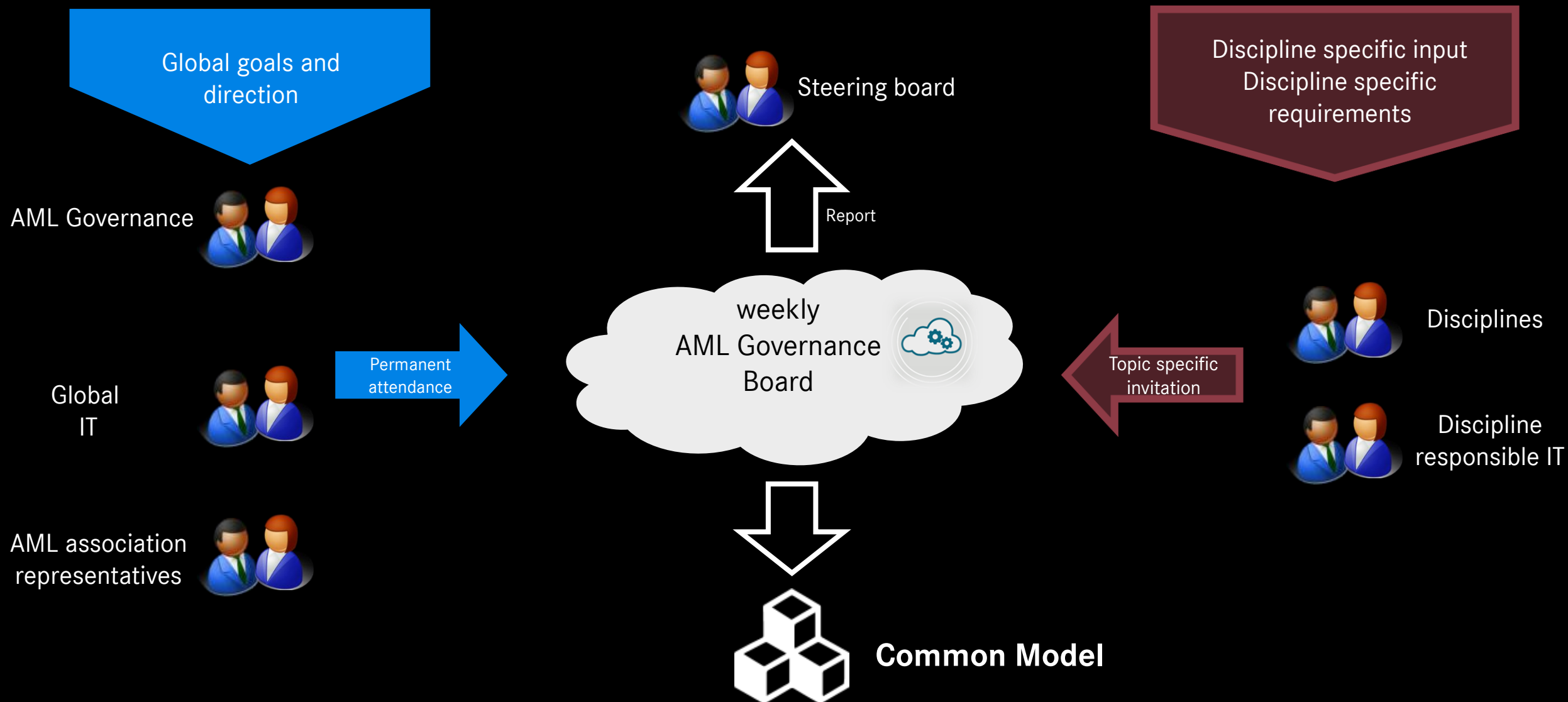


Source: AutomationML in a Nutshell – AutomationML.org

AutomationML needs a common and managed model, too



How to develop a common, company wide model?



How to develop a common, company wide model?

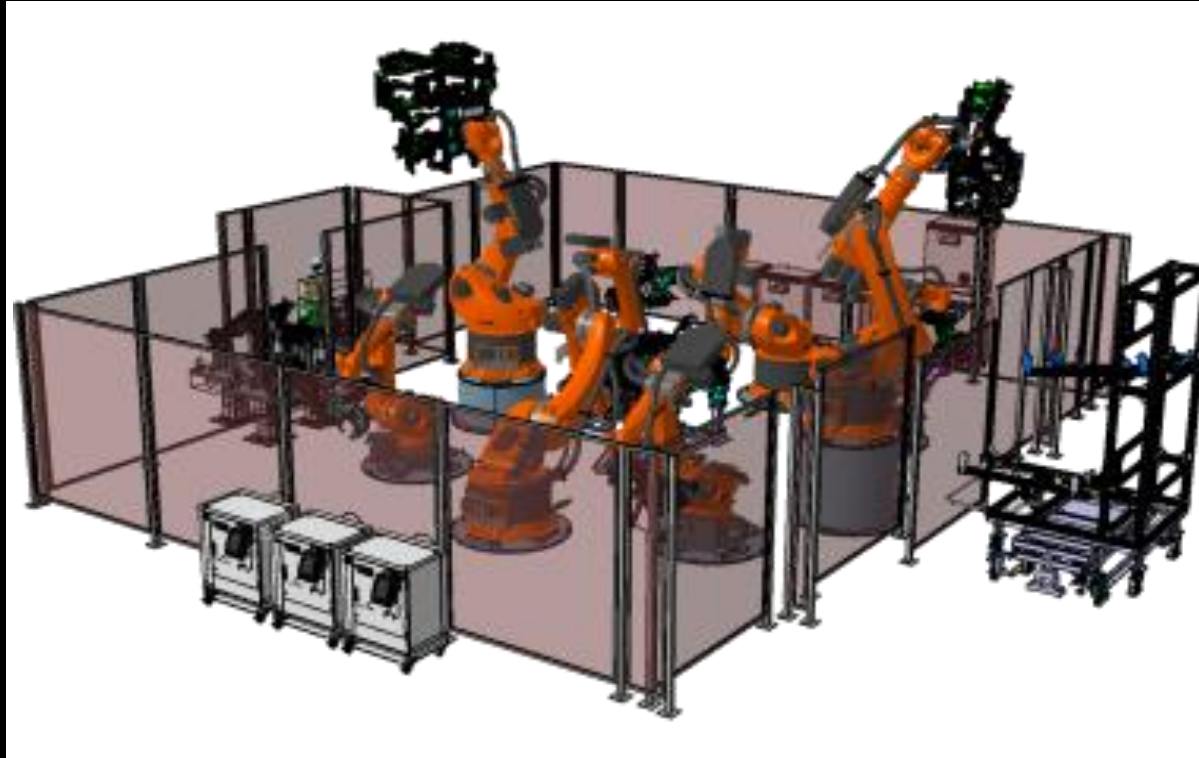
Analysis	<ul style="list-style-type: none">▪ Analysis of software tools▪ Identification of data needed to be exchanged
Proposal	<ul style="list-style-type: none">▪ Development of proposals for mapping data in a tool neutral and standardized manner
Discussion and integration	<ul style="list-style-type: none">▪ Discussion and validation of proposals▪ Assessment of suitability and conformity to the common, company wide model▪ Integration into the model▪ Assessment of impact on software tools
Verification	<ul style="list-style-type: none">▪ Verification of the model by building up examples



Common Model

All aspects of a production line needs to be covered by the model

Resource structure and
functionality

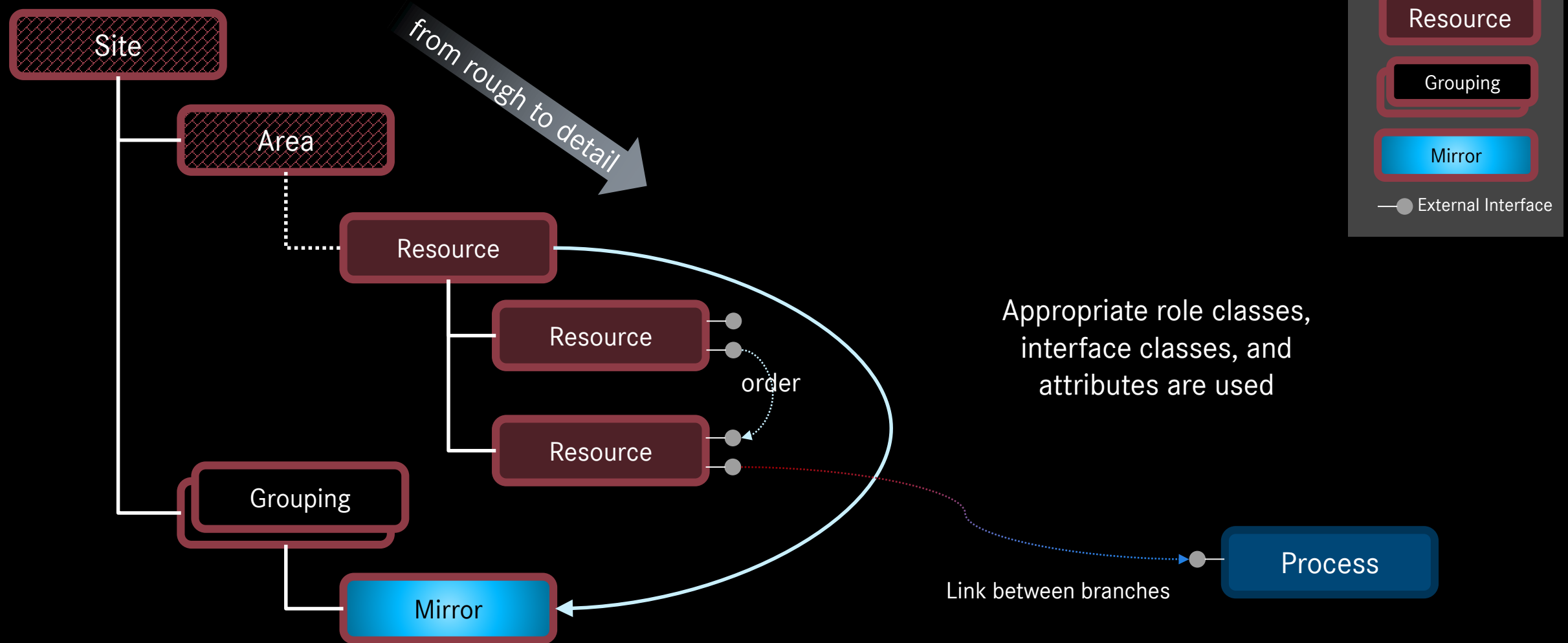


Object oriented and
mechatronic description

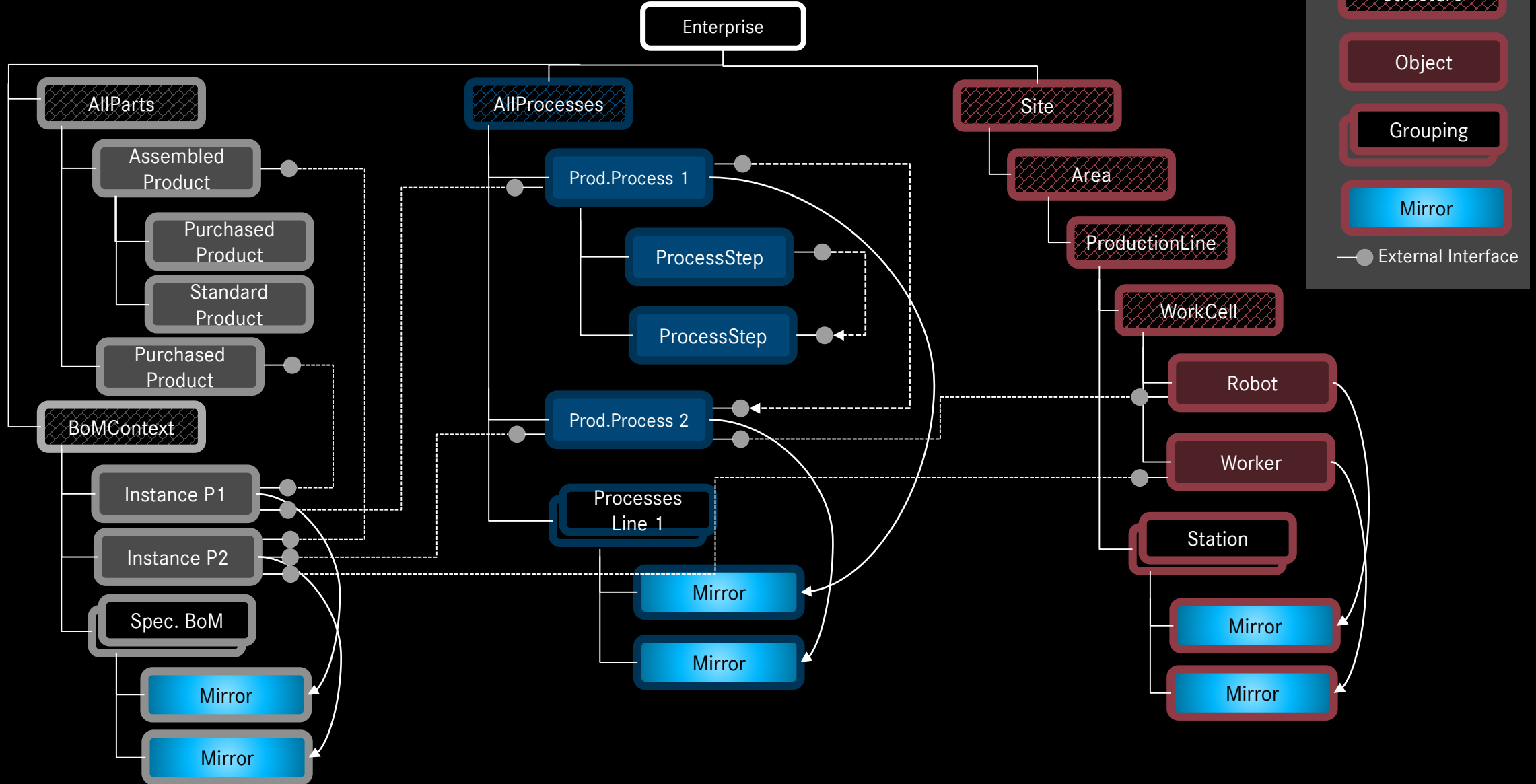
Material flow

Technology process data
and manufacturing
processes

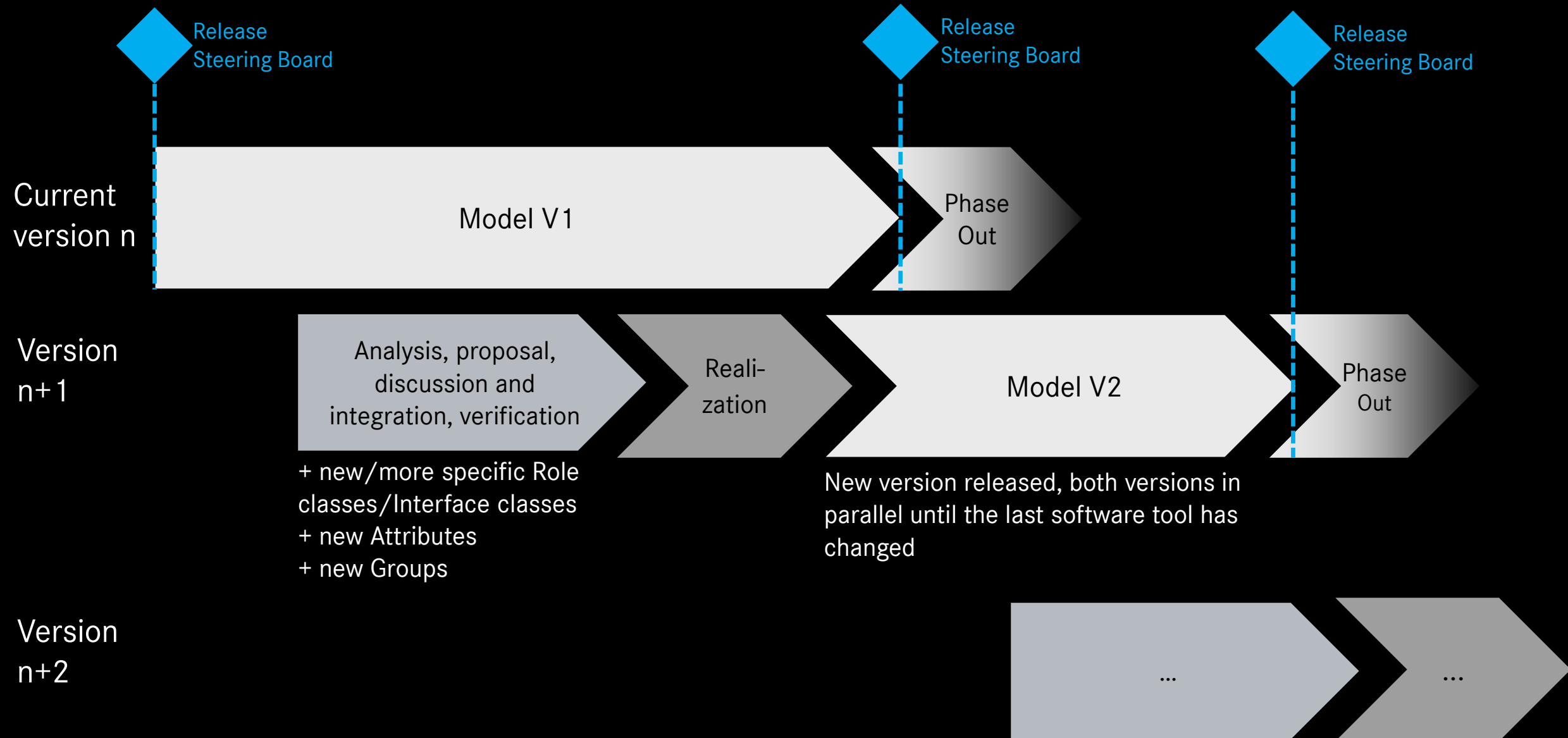
How to structure the data?



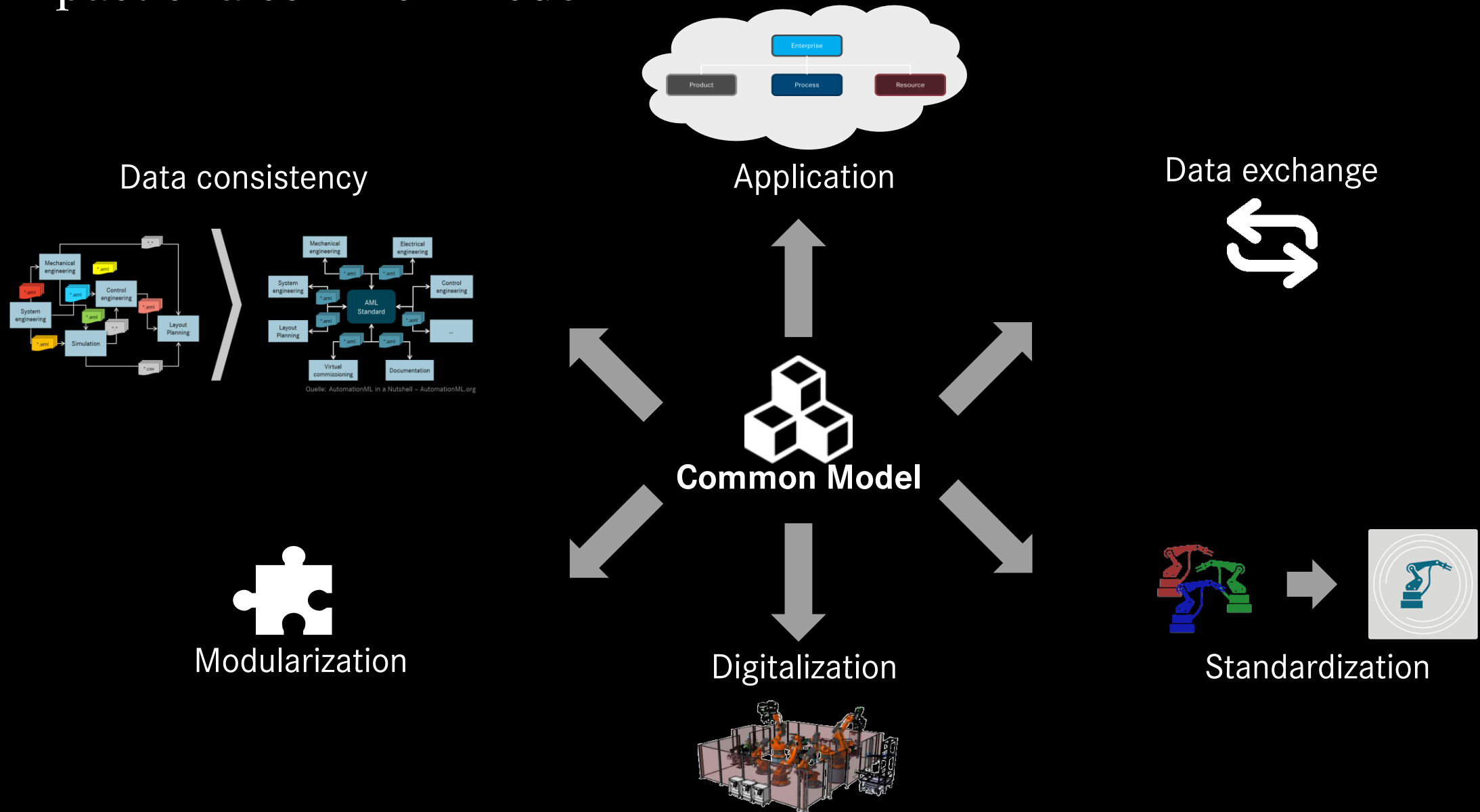
How to build up a common model in AutomationML



How to evolve the model?

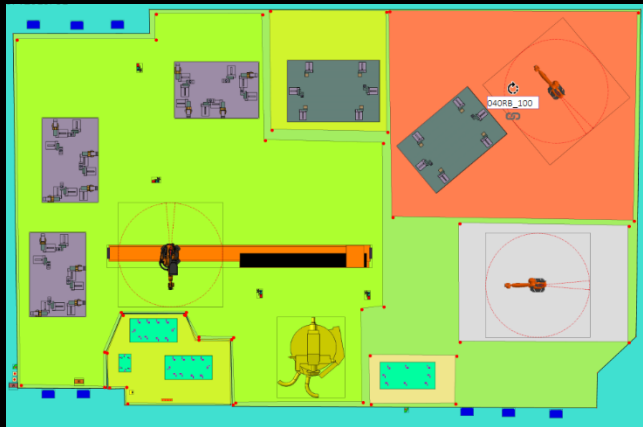


Impact of a common model

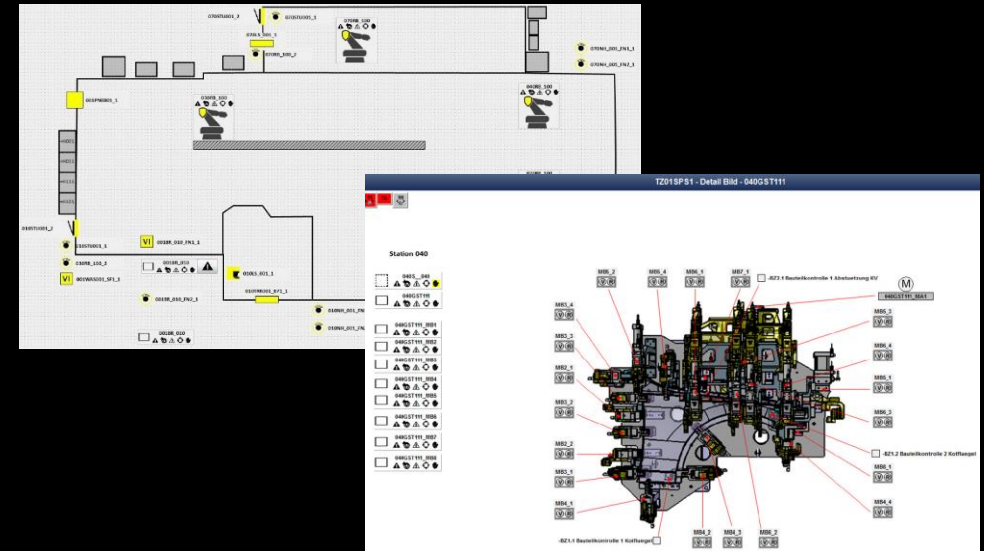


Application support for commissioning / documentation

Adding safety elements to a layout

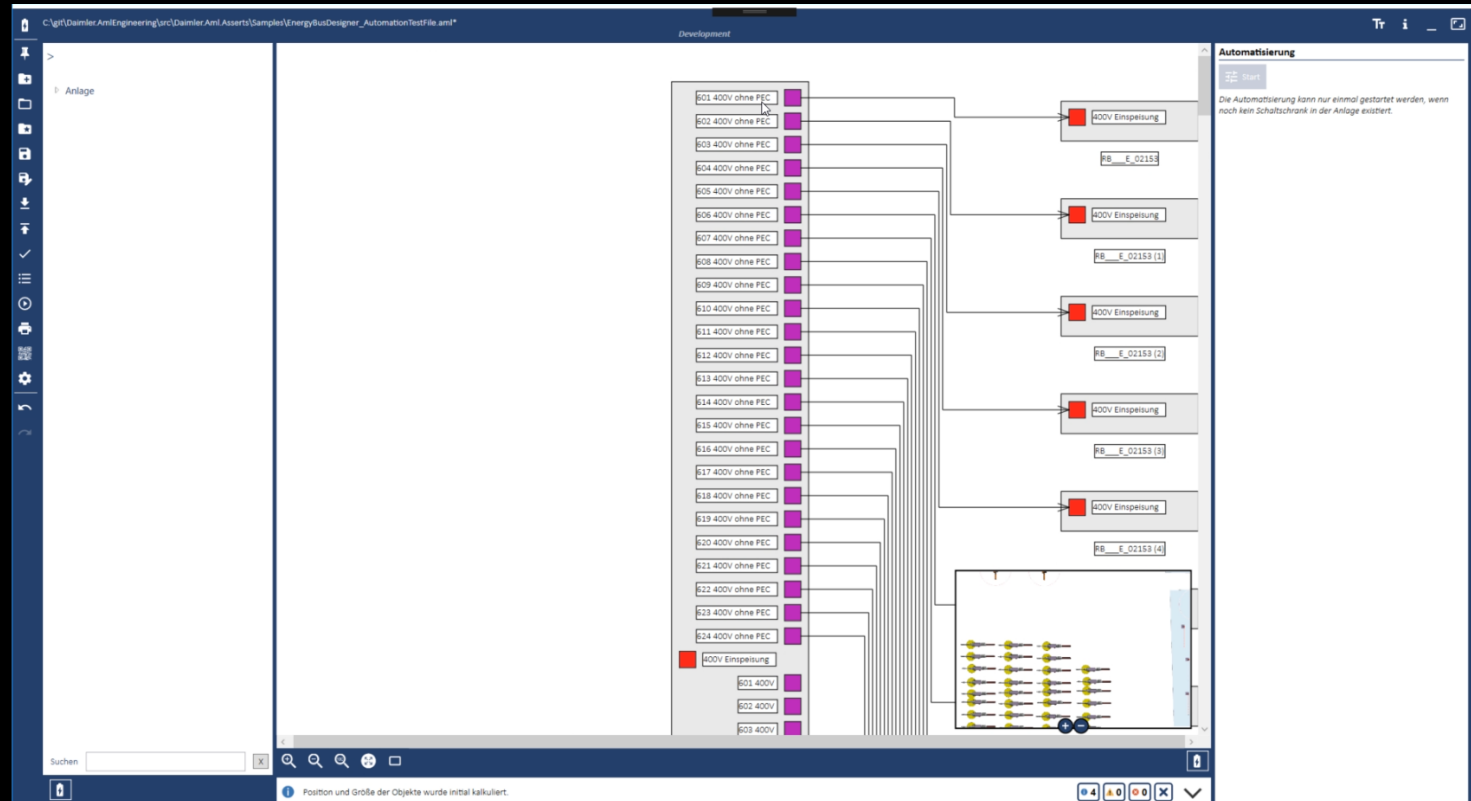


generate PLC HMI



Application support for planning / engineering

Automatic electrical dimensioning



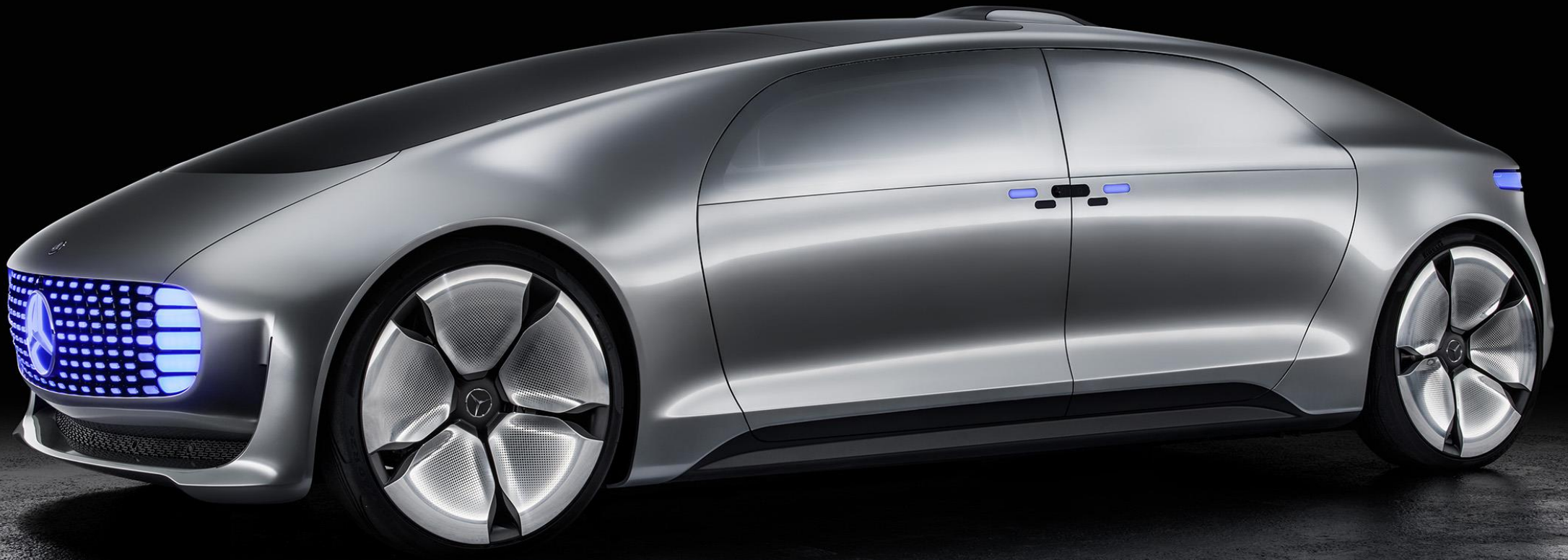
TOOL CHAIN

Live Demo



integra Engineering Studio

Thank you



Who we are

Daimler AG

- Joachim Burlein (TF/VAS)



Daimler Protics

- Matthias Rassel (IT/PRO)
- Dr.-Ing. Nicole Schmidt (IT/PRO)

