

Christian Doppler Laboratory

Software Engineering Integration
For Flexible Automation Systems

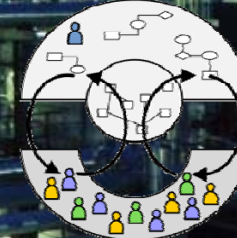
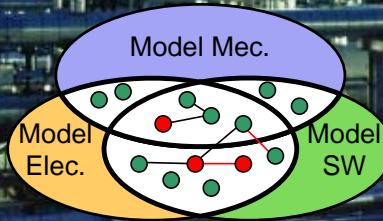
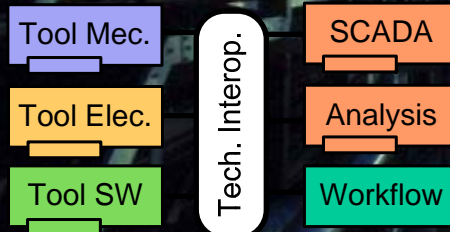
“Engineering Data Management with the AML Hub ”

Stefan Biffl

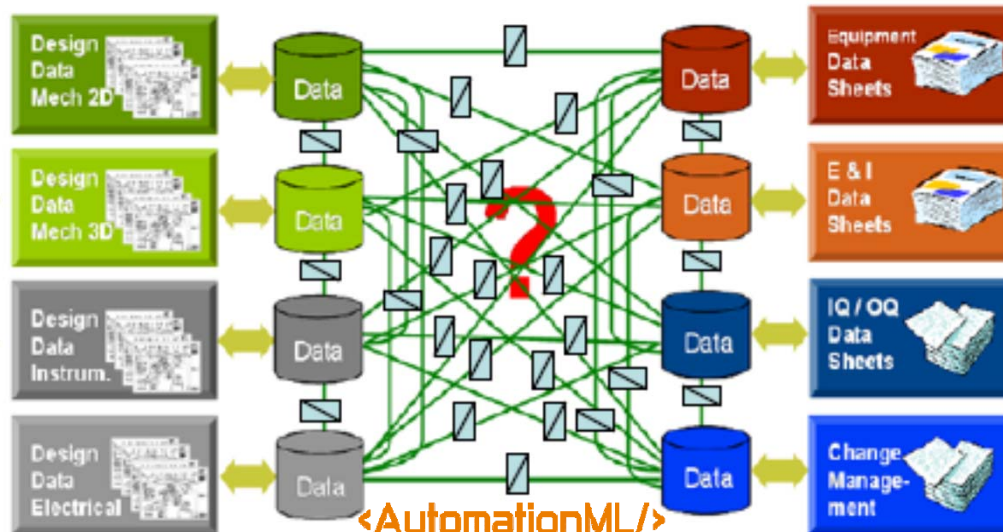
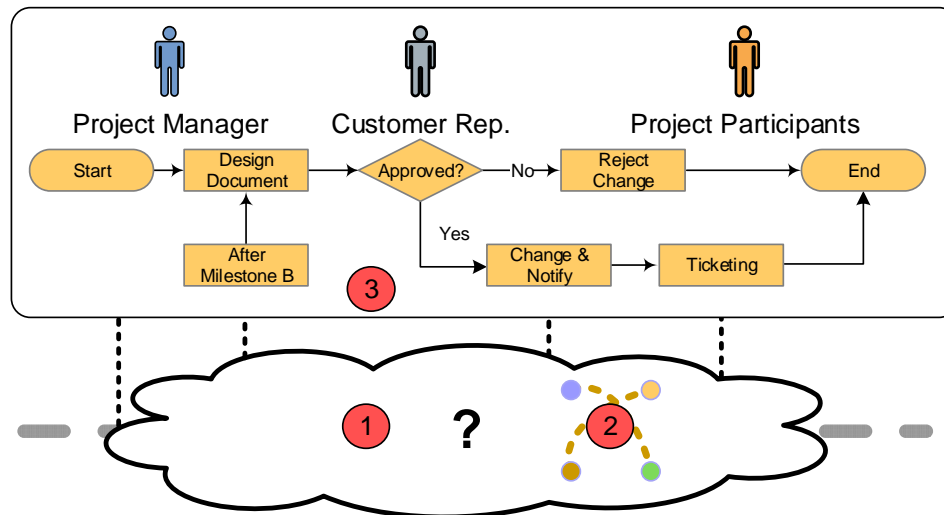
Institute of Software Technology
and Interactive Systems
Vienna University of Technology
<http://cdl.ifs.tuwien.ac.at>

Heinrich Steininger

logi.cals GmbH
www.logicals.com

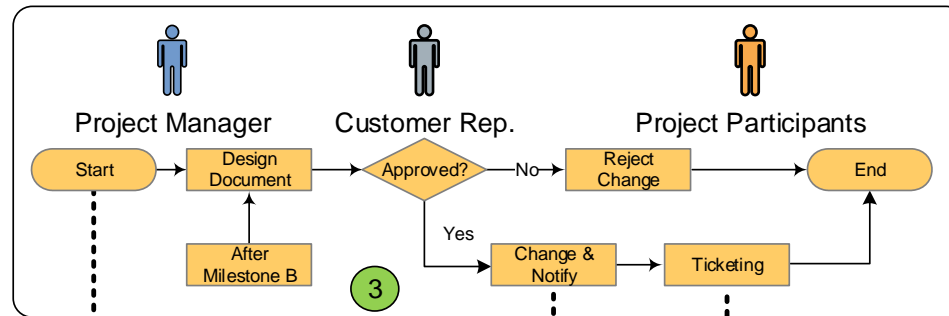


Challenges in AutomationML-Tool Networks

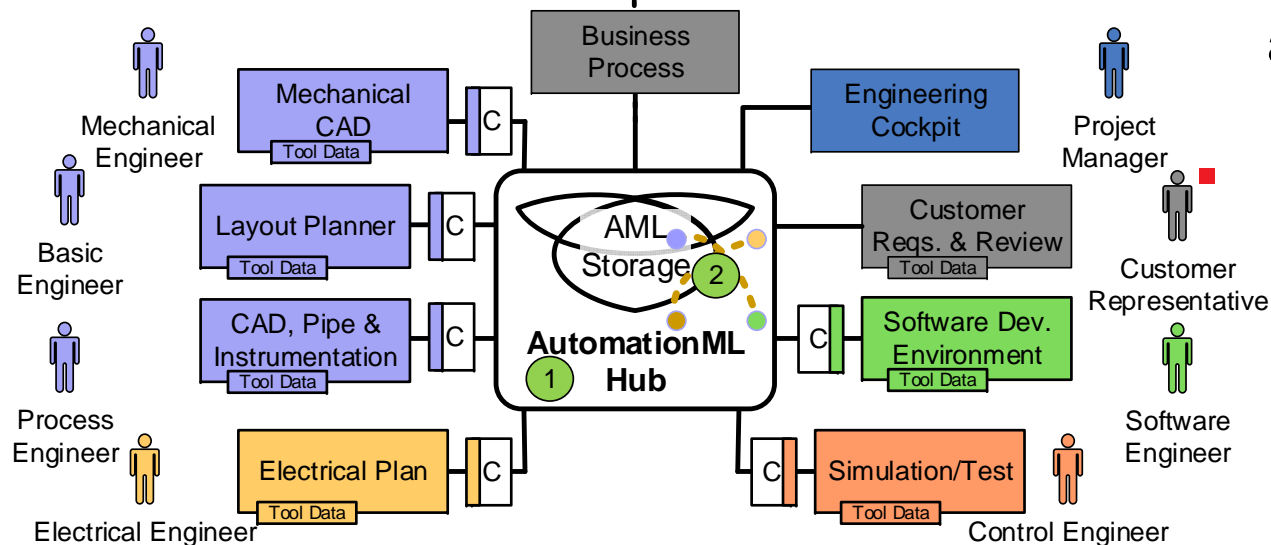


1. Tool networks do not ensure sufficient **data consistency**.
2. Data cannot be queried using an **uniform interface**.
3. Tool networks do not make data easily and efficiently **accessible on project level**, e.g., for risk management, test automation or observation of project progress.

AML Hub - Data Management in AutomationML Projects



<AutomationML/>



- Engineering processes can access information from **file/model-element** versions combined with **AutomationML plant function tree** structure and content.

Elements

1. AML.hub enables **consistency management**.
2. Data can be queried using an **uniform interface**.
3. **Access on project level**.



Working with AutomationML Models in 3 Interactive Lectures

A key advantage of the *AutomationML Hub* concept is to provide AutomationML models that can be represented both

- as *AutomationML files*, and also
- as *AutomationML models* to enable engineering process improvements.

Interactive Lectures on AutomationML Plugfest Day 2, Thu Oct 15

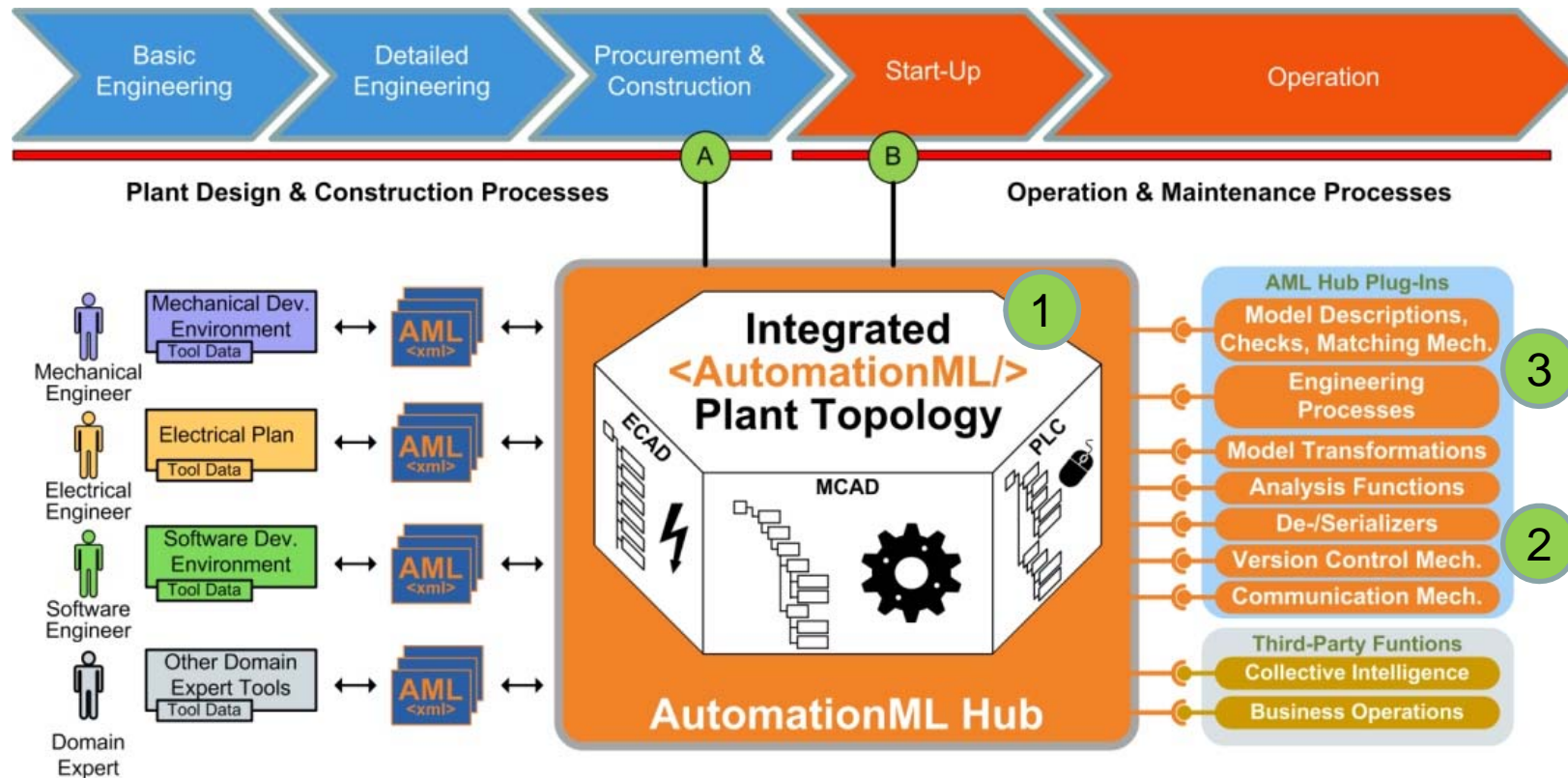
- **13:00 AutomationML Hub**
Round-Trip Engineering in AutomationML Projects
- **13:40 AutomationML Models** (in EMF and EA)
for Modelers & Software Developers
- **14:20 AutomationML Analyzer**
Flexible Navigation and Querying over
AutomationML Data and External Data

AutomationML Hub

Start: 13:00



Round-Trip Engineering in AutomationML Projects



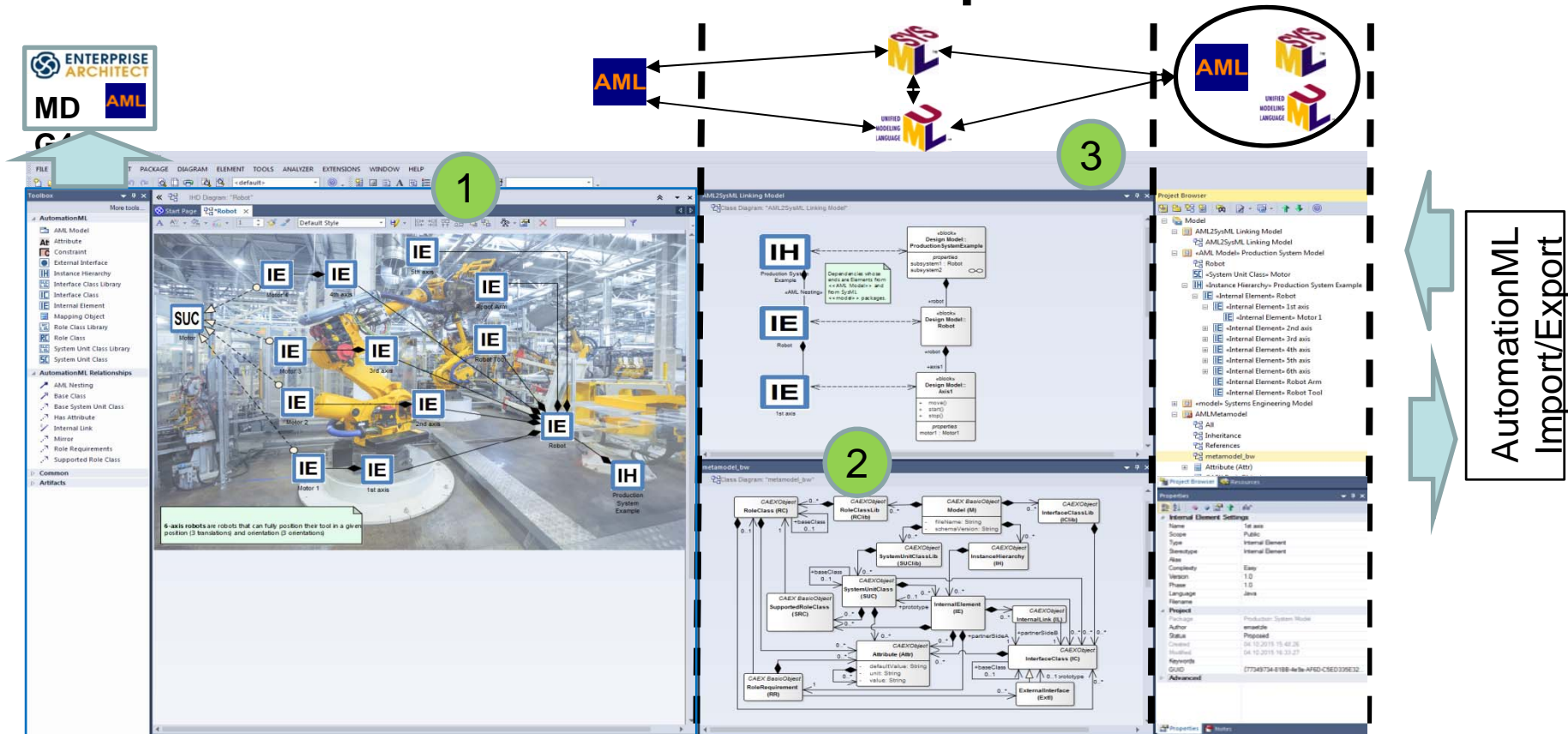
Versioned storage for AML models, AML files and other engineering project files.

1. Versioning of AutomationML models and files
2. Management of Integrated Plant Model
3. Matches engineering views and propagates changes via engineering process

Presenters: Dr. Richard Mordinyi, DI Stefan Scheiber

AutomationML Models (in EMF and EA) for Modelers and Software Developers

Start: 13:40



Efficient engineering tool development based on AML models.

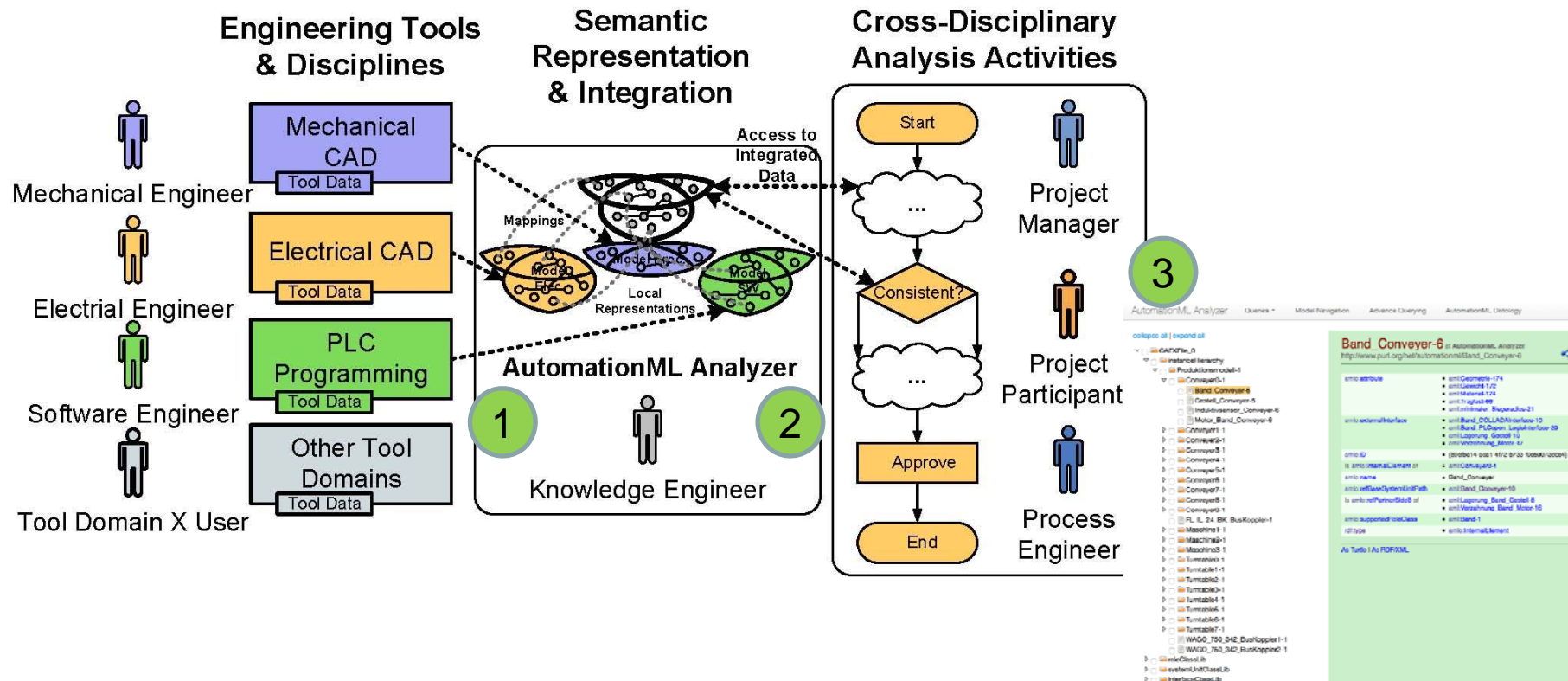
1. AML model capabilities beyond data exchange: model checking, traceability, ...
2. Interactive overview about different modeling techniques
3. Cross-disciplinary engineering in Enterprise Architect (AML, UML and SysML).

AutomationML Analyzer

Start: 14:20



Flexible Navigation and Querying over AutomationML Data



AutomationML Analyzer enables combining project data with external (Web) data

1. Automated transformation of AutomationML data into Linked Data.
2. Makes implicit links across engineering disciplines explicit.
3. Enables data analysis across disciplines in an engineering project.

Presenters: DI. Olga Kovalenko, DI Fajar J. Ekaputra



Working with AutomationML Models in 3 Interactive Lectures

A key advantage of the *AML Hub* concept is to provide AutomationML models that can be represented both

- as *AutomationML files*, and also
- as *AutomationML models* to enable engineering process improvements.

Interactive Lectures on AutomationML Plugfest Day 2, Thu Oct 15

- **13:00 AutomationML Hub**
Round-Trip Engineering in AutomationML Projects
- **13:40 AutomationML Models** (in EMF and EA)
for Modelers & Software Developers
- **14:20 AutomationML Analyzer**
Flexible Navigation and Querying over
AutomationML Data and External Data

We are looking forward to ...

- ... work with you on AutomationML-related engineering project data in the *AML Hub* context.
- ... discuss with you AutomationML-based engineering processes to identify gaps and improvement opportunities with the *AML Hub*.