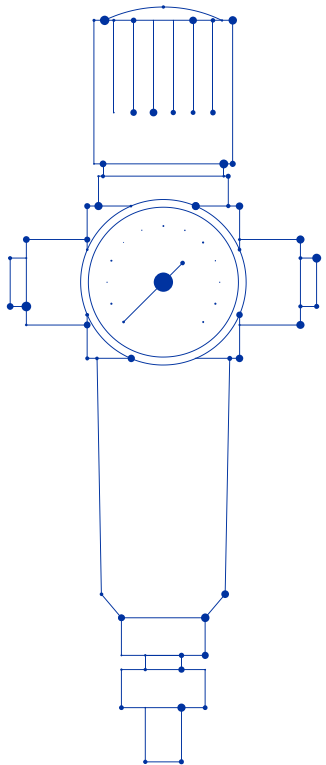
fortiss

Esslingen, 18.10.2016

Model-based Engineering: From Components to Production Plants using AutomationML

4th AutomationML user conference



OPAK-Project

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OPAK

AUTONOMIK FÜR INDUSTRIE 4.0

Gefördert durch:

Bundesministerium für Wirtschaft und Energie

aufgrund eines Beschlusses des Deutschen Bundestages

Goals:

- Modularization of automation systems at component level
- Skill-based, functional architecture
- Simple and intuitive engineering with (generic) autonomous components
  - Reduction of engineering time
  - Lower costs
  - Increased quality
- Engineering-tool supporting function-based approach
- Standardization of
  - Categorization & symbols of automation functions
  - Component description using a model-based approach

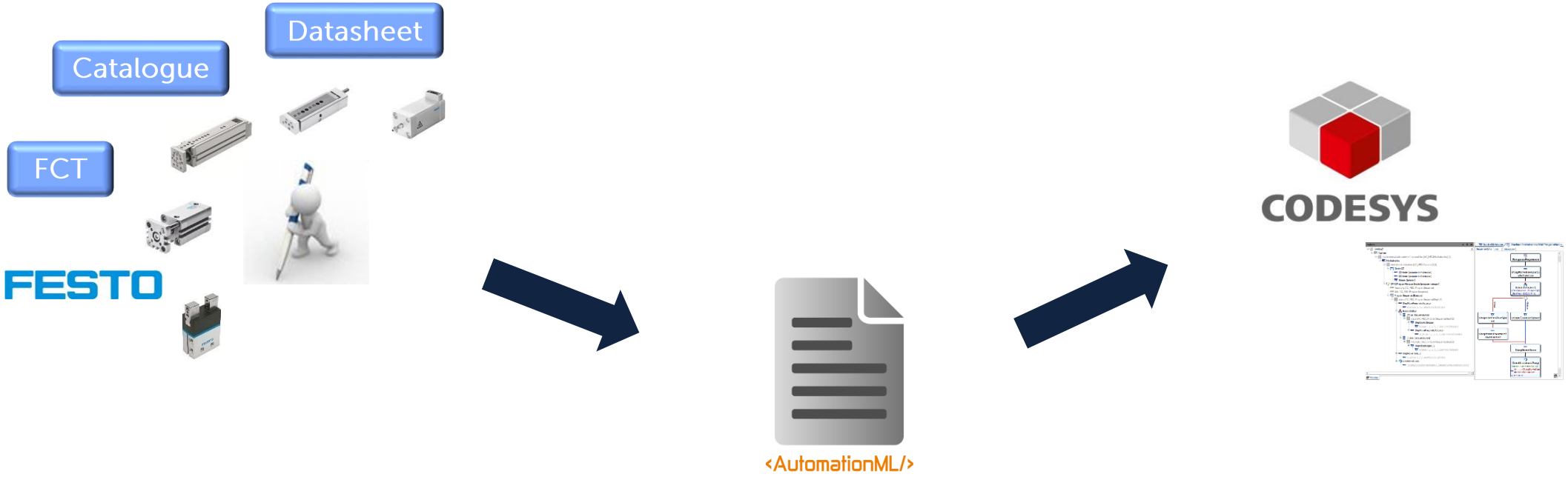
http://www.opak-projekt.de

Partners:

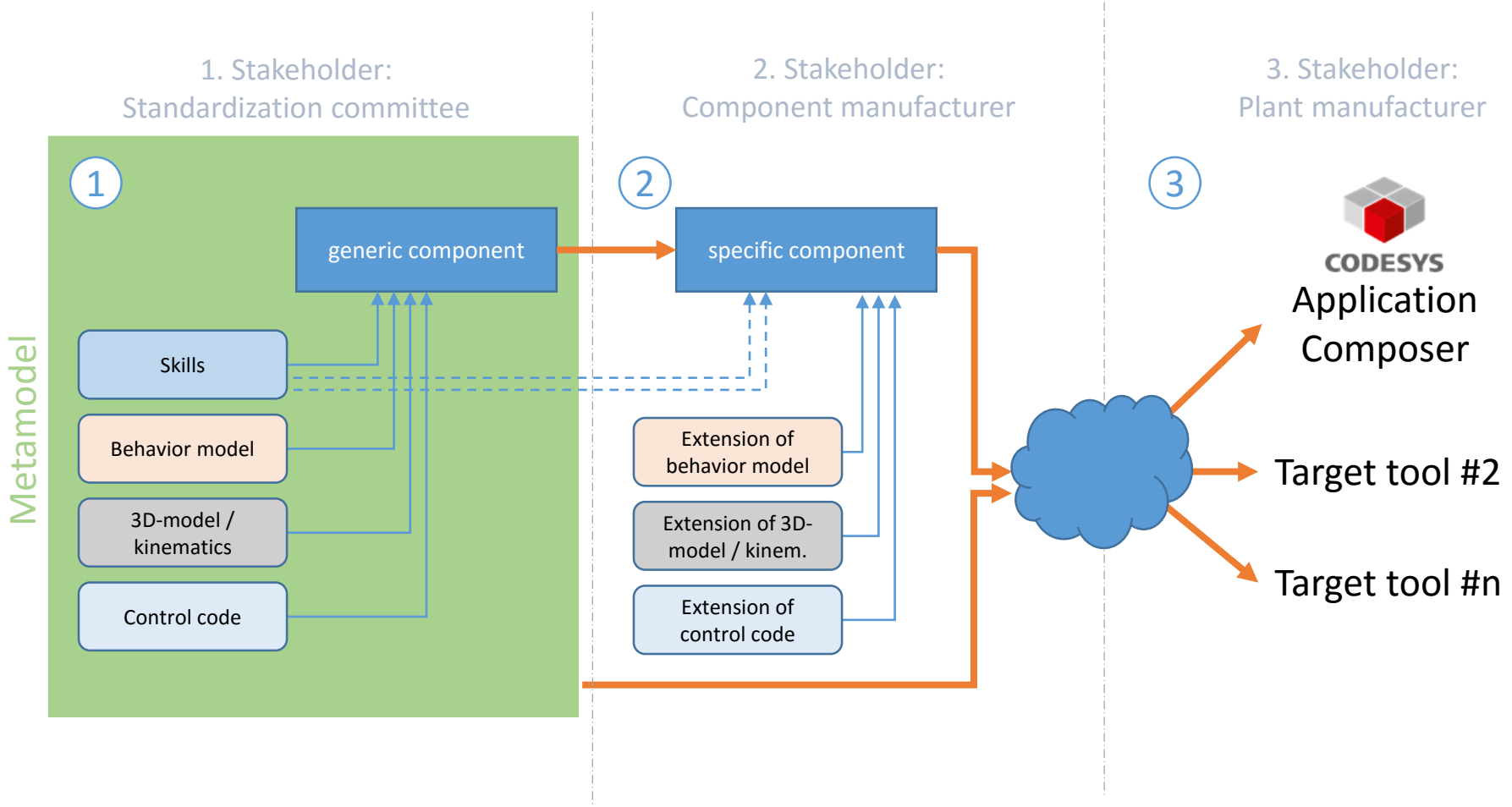
3S CODESYS ASYS GROUP elrest FESTO inIT InTraCoM Group

Standardization

- Model of component in AutomationML
- Whole plant model with architecture modelled in AutomationML
- Linking with engineering tools such as CODESYS Application Composer



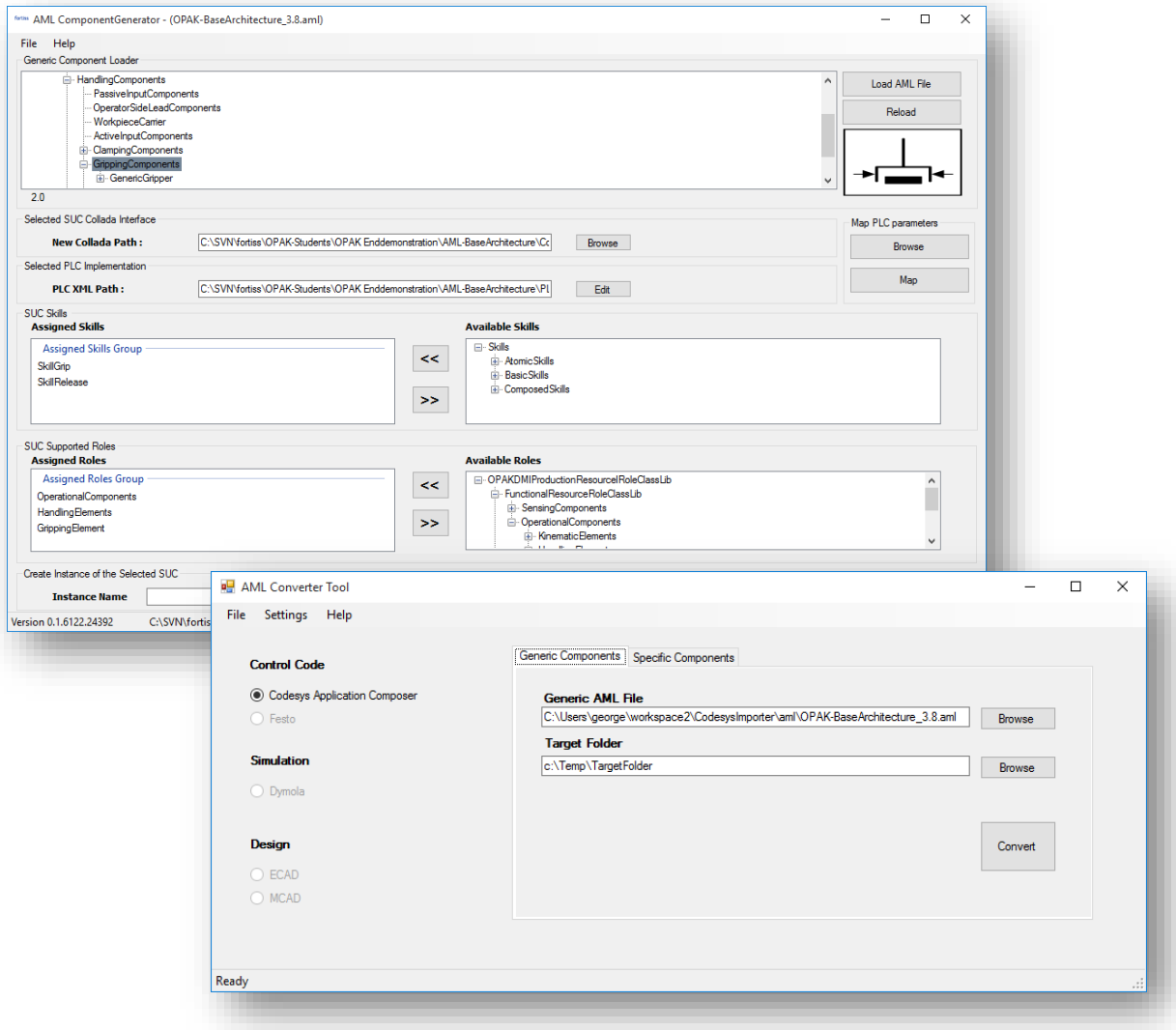
Envisioned tripartite engineering approach



Tool support

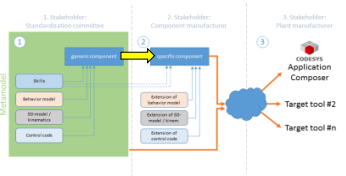
- Development of tools supporting modeling process:
  - AML-ComponentGenerator
  - AML-Importer

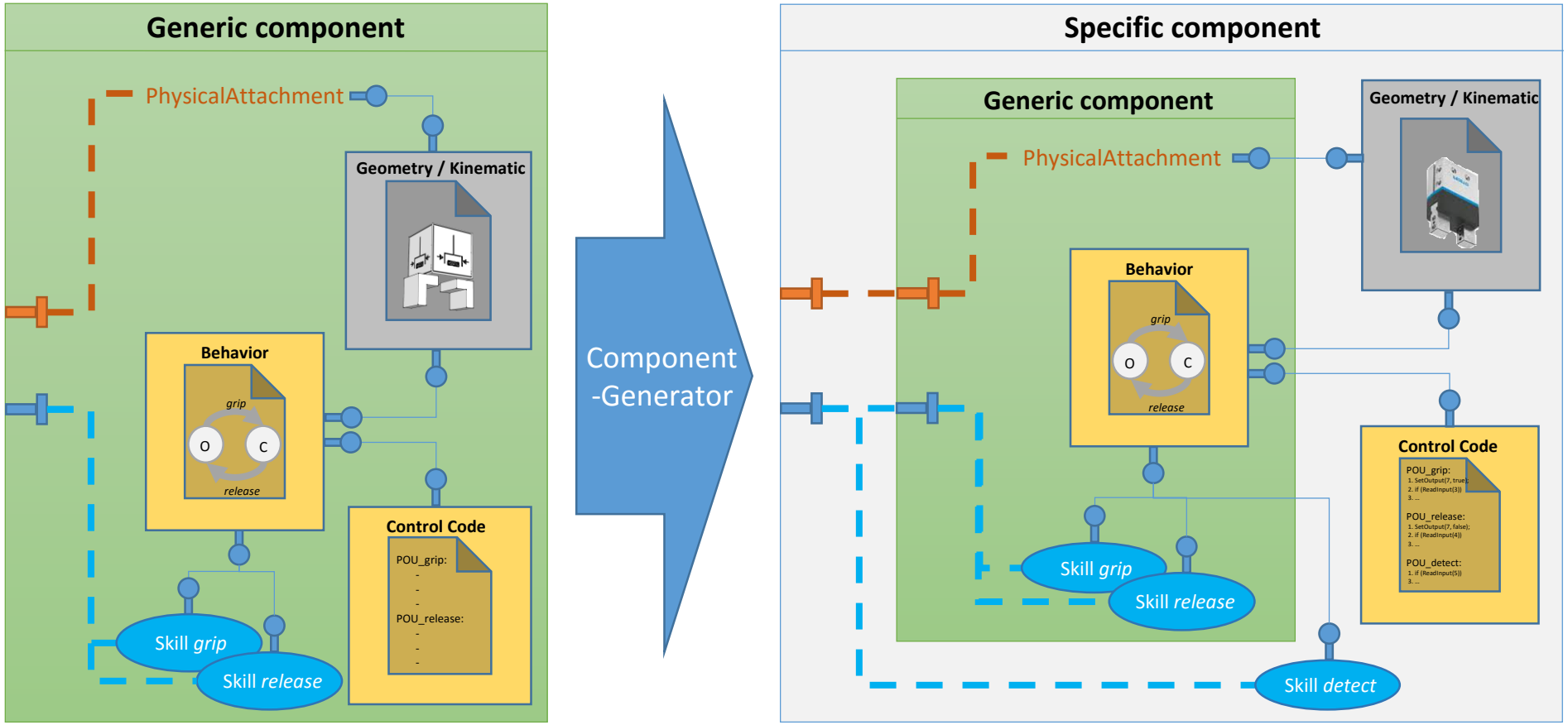
- Advantages
  - Tools close the gap between the stakeholders involved in the value chain
  - Clear structure leads user through modeling steps
  - Less error-prone
  - Using AutomationML-Engine



Tool OPAK AML-ComponentGenerator

Concept





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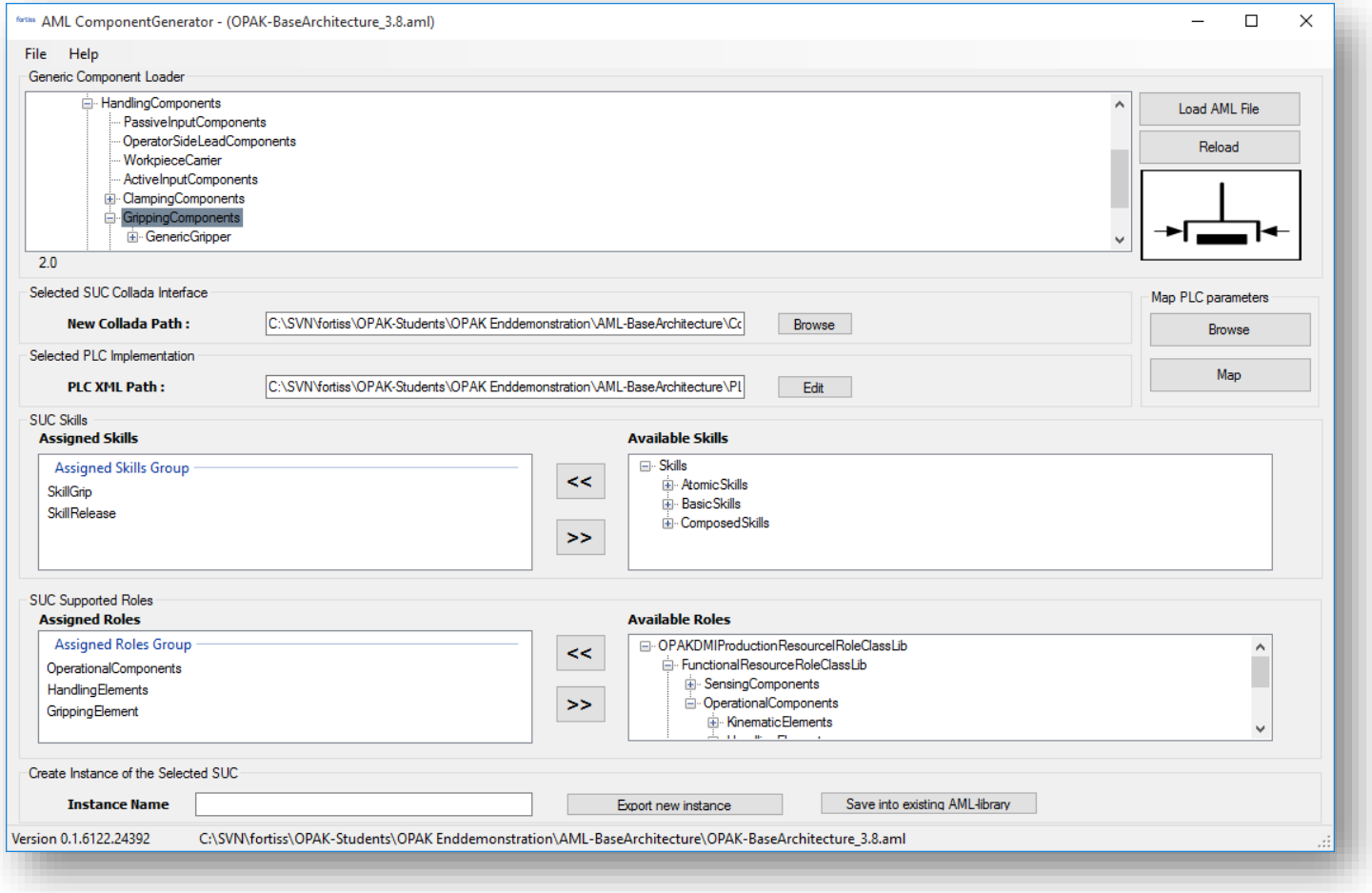
AML-ComponentGenerator

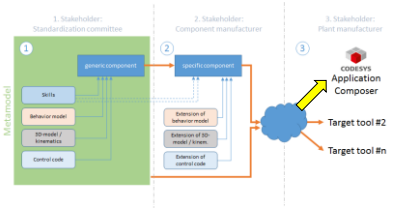
GUI

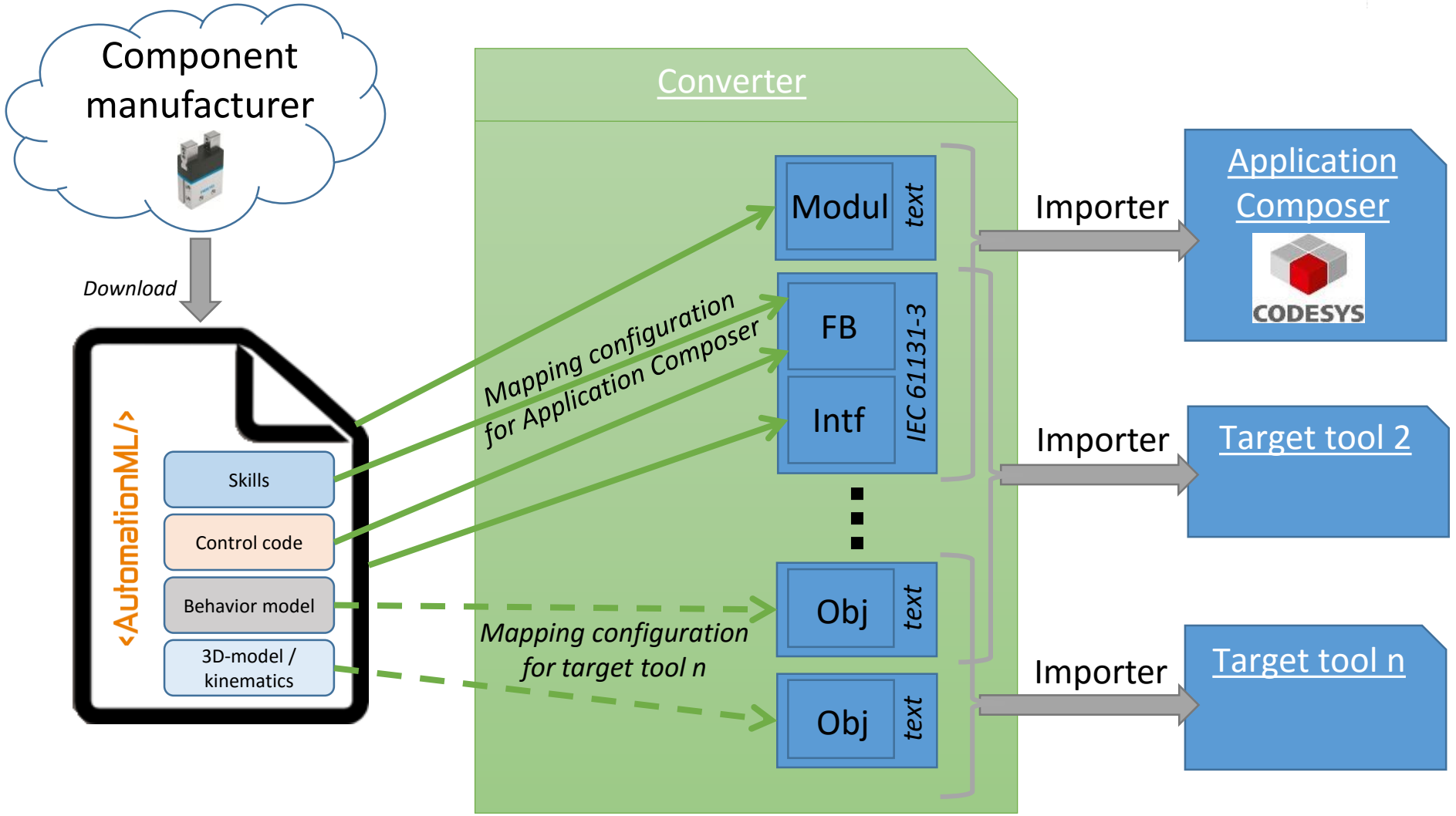


Output: complete description of a manufacturer-specific component

AML-ConverterImporter

Concept





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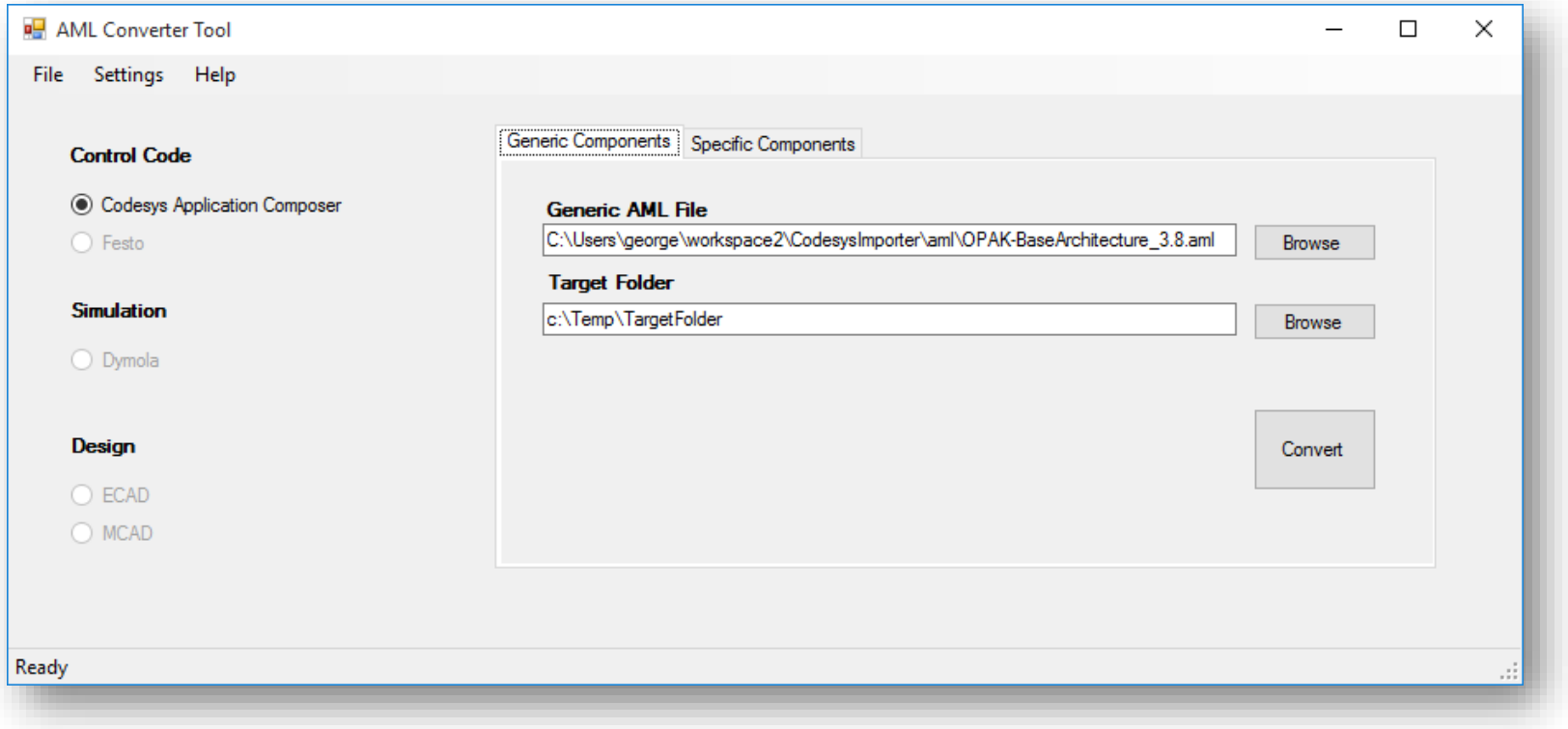
AML-ConverterImporter

GUI



Output: set of tool-specific files containing component information

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