

Integrated Tool Chain for Model-based Design of Cyber-Physical Systems: INTO-CPS



Coordinator: Professor **Peter Gorm Larsen**
Department of Engineering, Aarhus University



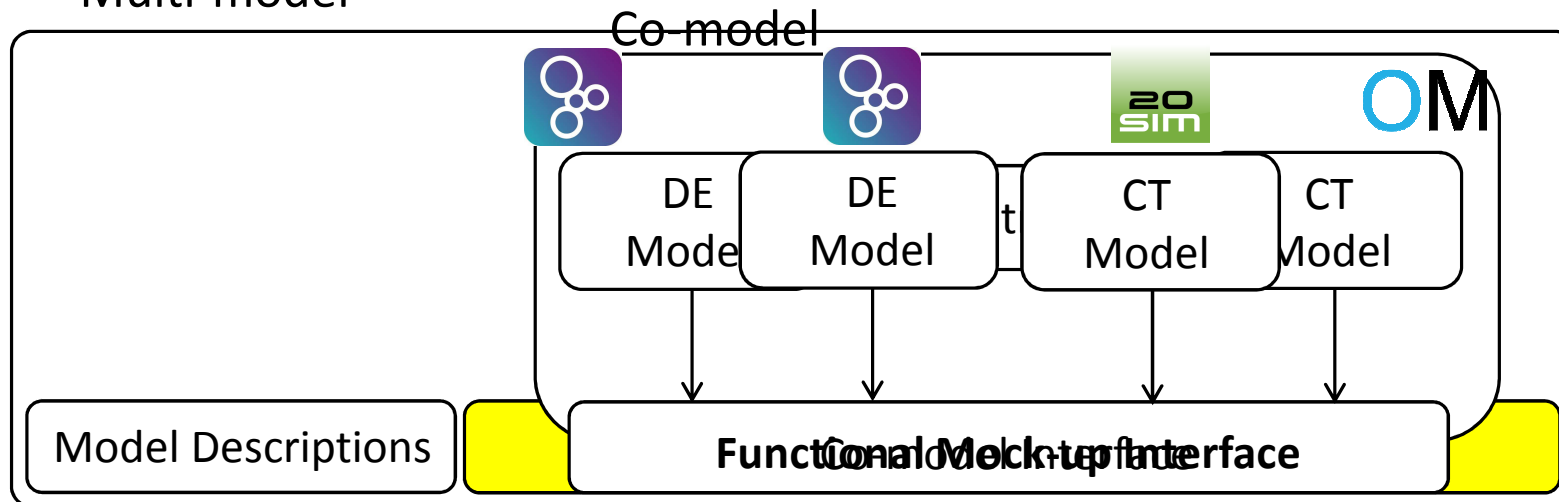
Linköping University



Co-modelling to Multi-modelling



Multi-model



Modelio

SysML
modelling



Overture

Discrete-event
modelling



20-sim

Continuous-time and physical-
systems modelling



OpenModelica



Crescendo

Co-simulation solutions



TWT

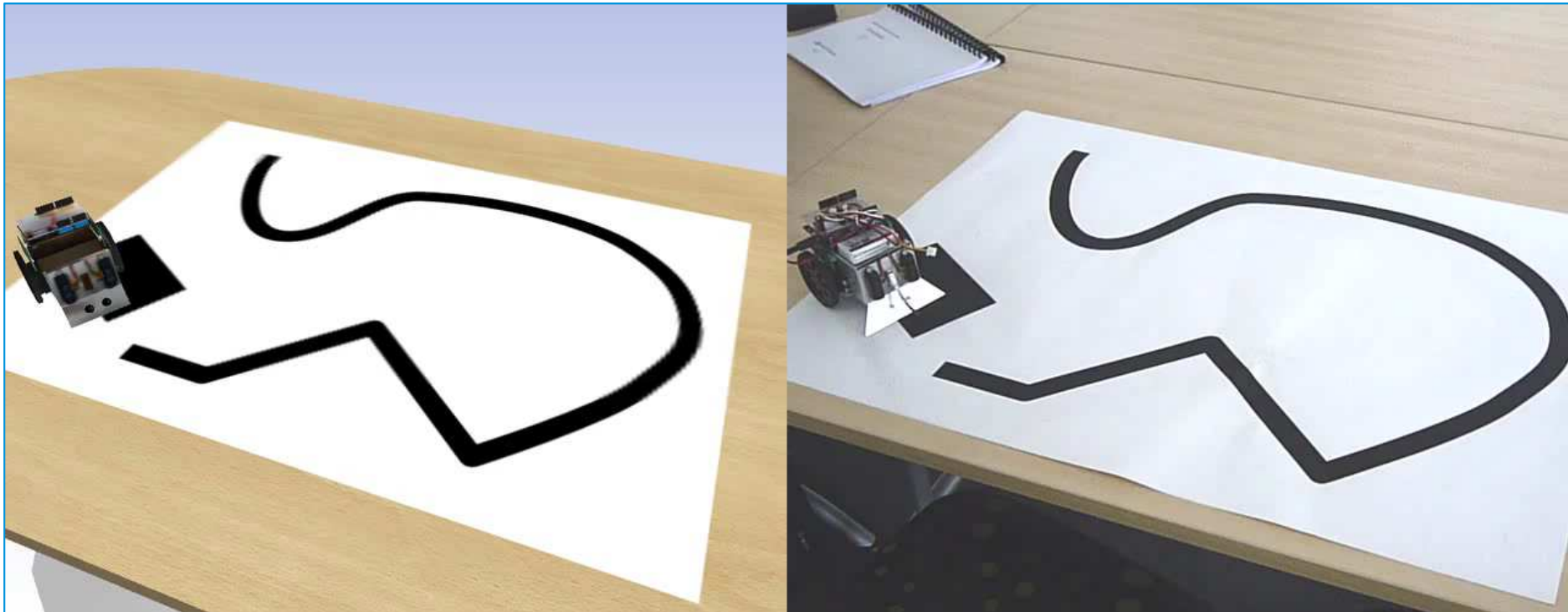
TWT Engine



RT-Tester

Test automation /
model checking

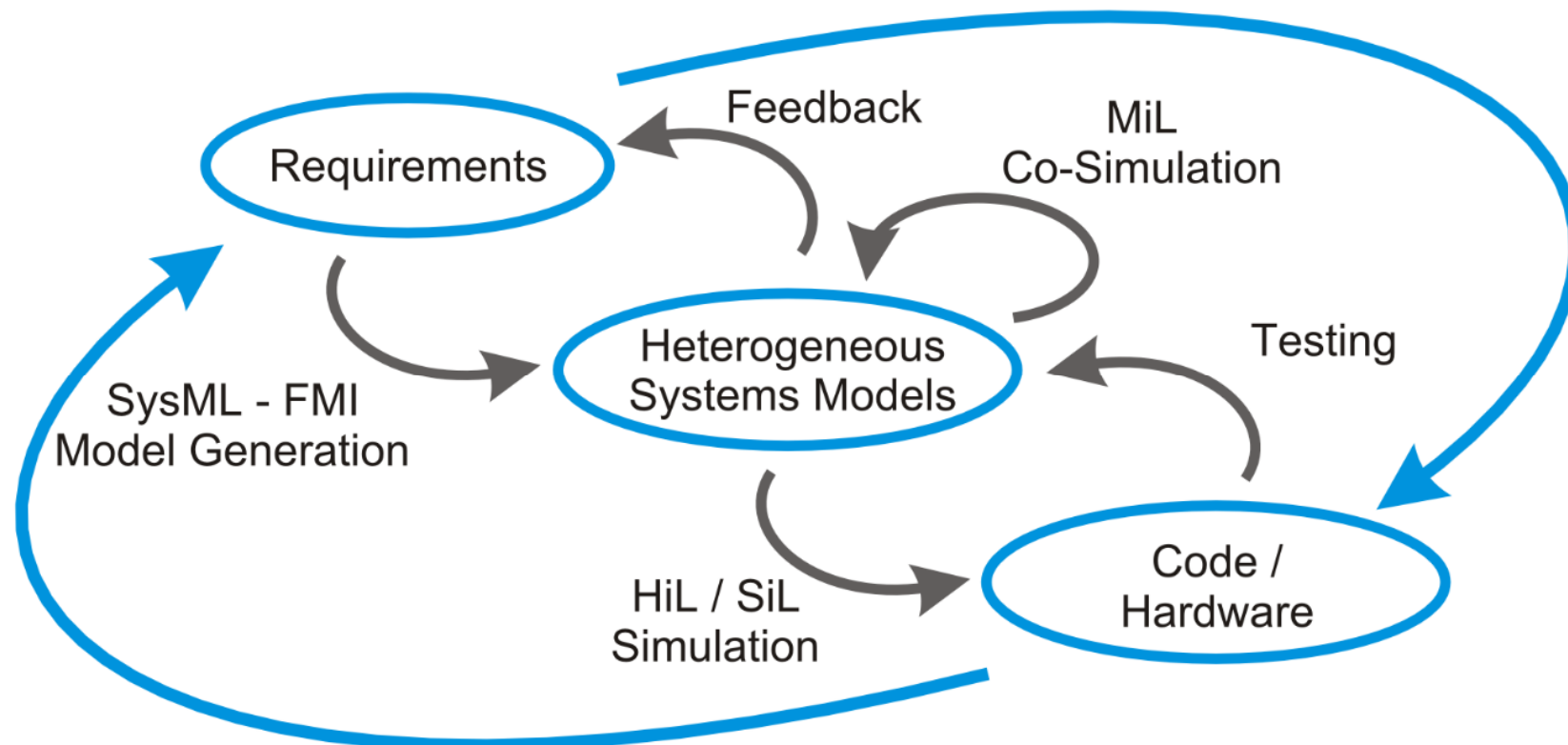
Comparing Co-model Outputs



A New Toolchain for CPS Design

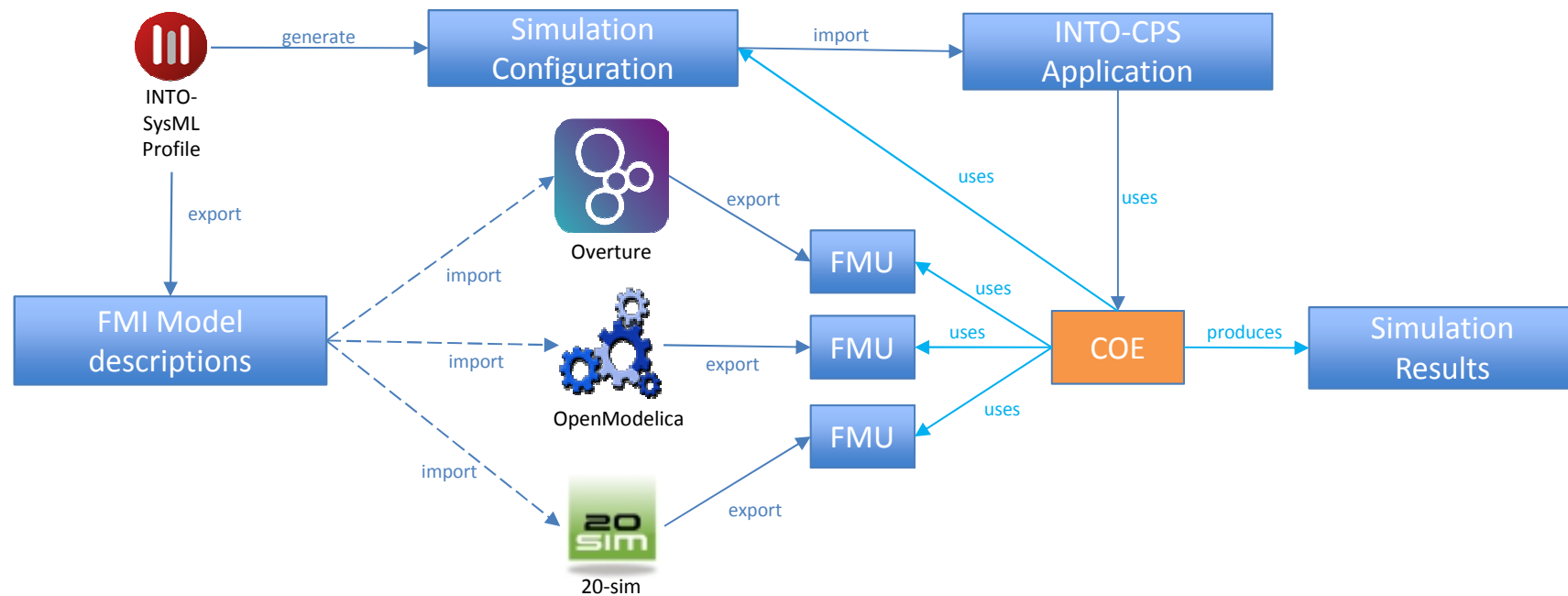


Design Space Exploration
Test Automation

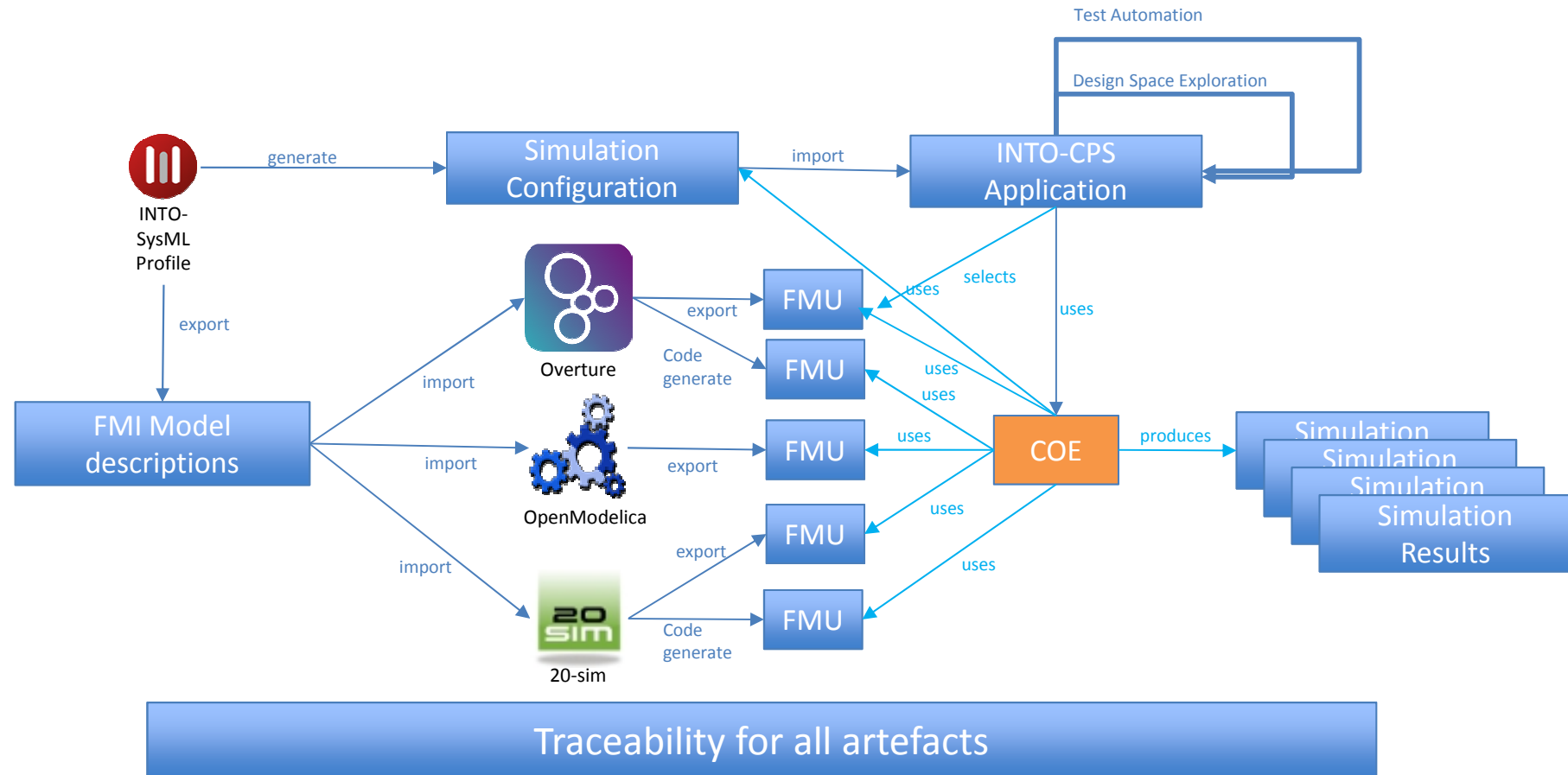


Strong Traceability
Configuration Management

Current INTO-CPS Tool Chain

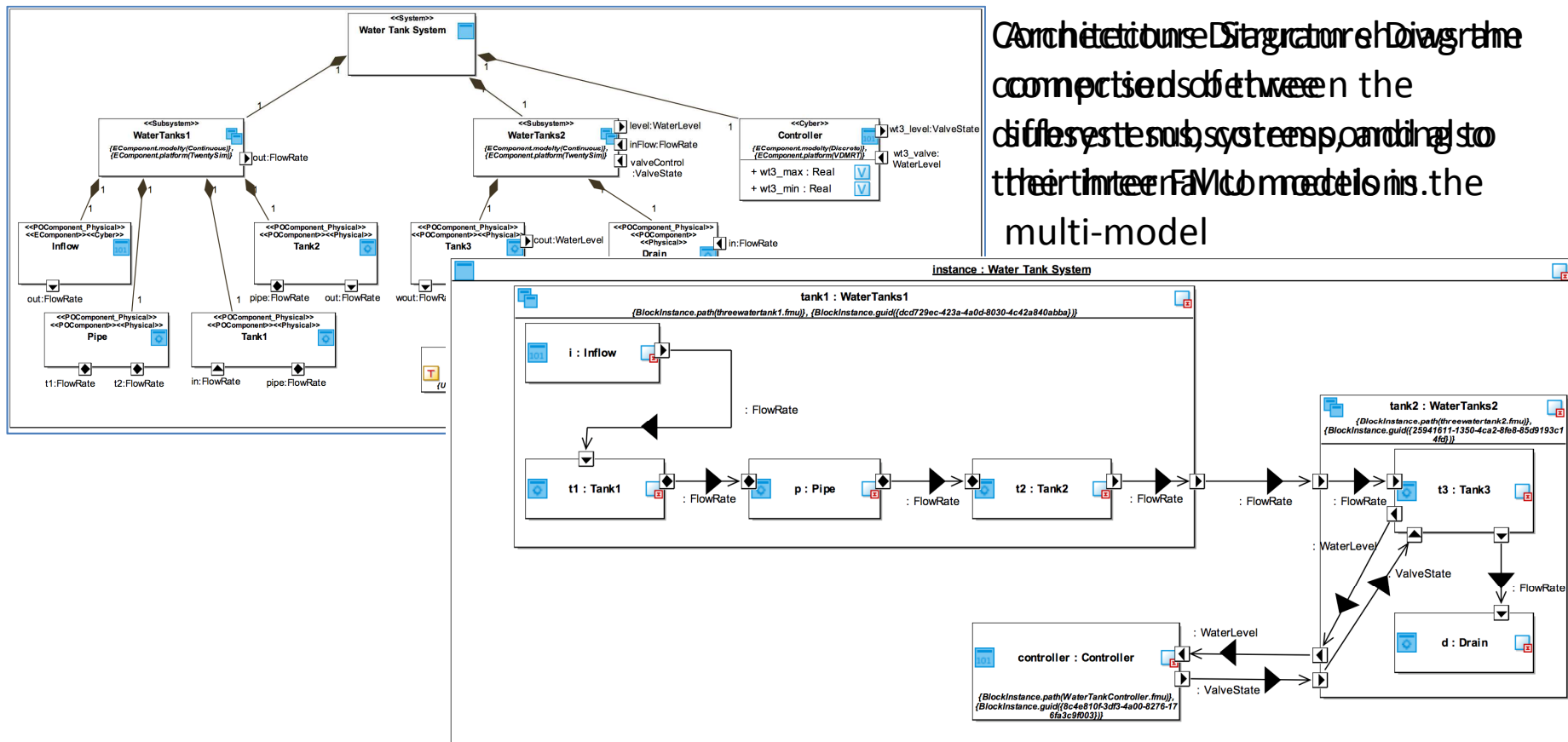


Future INTO-CPS Tool Chain

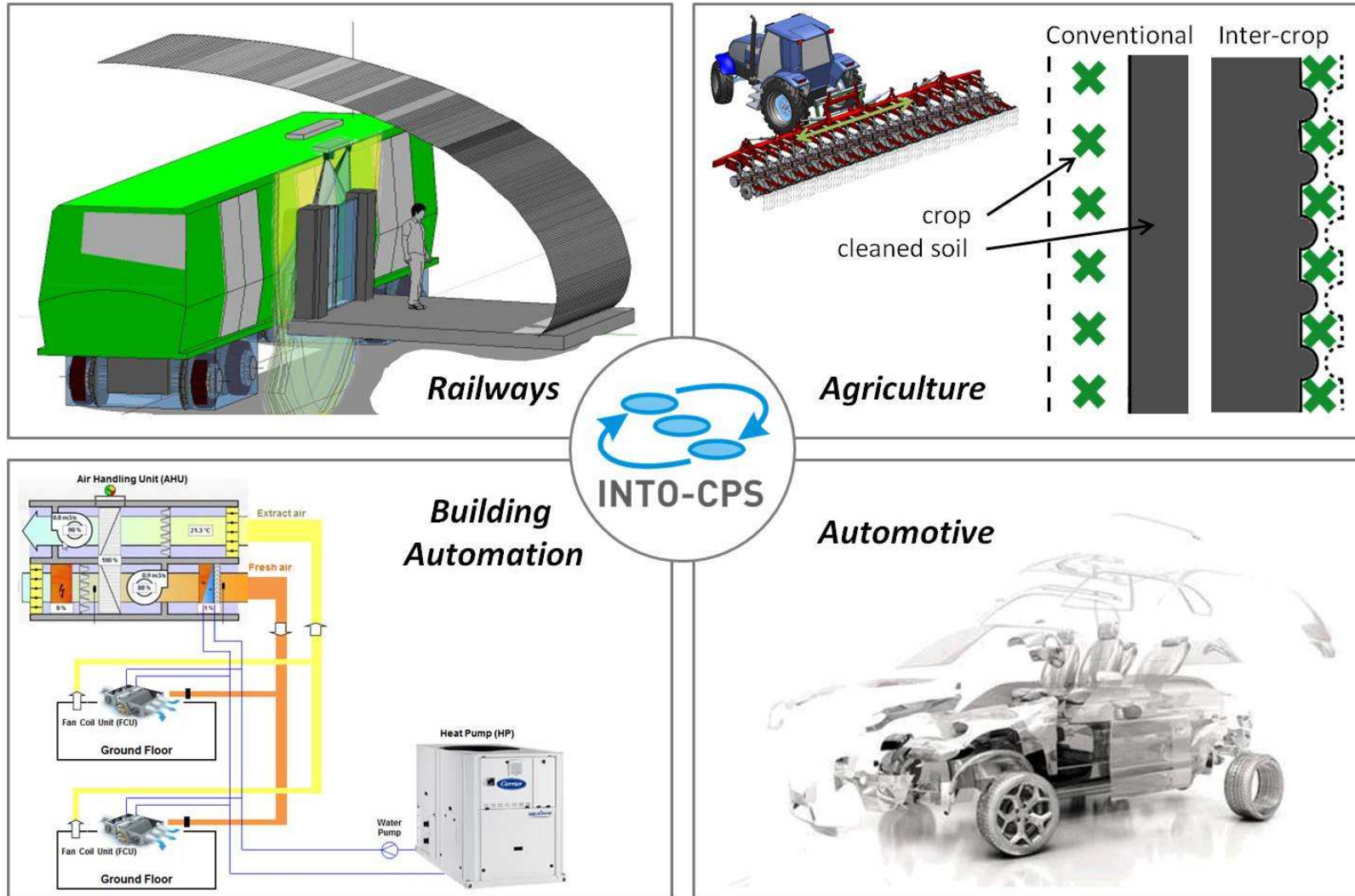


INTO-CPS SysML CPS Profile

- Three-tank Water Tank : INTO-CPS technology
 - Design architecture using INTO-CPS profile



Industrial Case Studies



Industrial Follower Group

**INTO-CPS**

AGCO, DK
Alcatel Lucent, Ireland
Almende, NL
Altran, UK
Bachmann Electronic, NL
Bakker-Sliedrecht, NL
Bang&Olufsen, DK
Bombardier, Germany
Bosch, Germany
Carrier, France
CeTIM, NL
Chemring Technology, UK
Compleks Innovation, DK
Danish Aviation, DK
Denso Corporation, Japan
Dredging International, BE

DSTL, UK
EDF, France
European Space Agency, NL
Farmertronics, NL
Goodrich, UK
Grundfos, DK
GN Resound, DK
Holonix, Italy
HMF, DK
Huisman Equipment, NL
IBM, Israel
Ikergune, Spain
Inestec, Portugal
Irmato, NL
Jaguar, UK
MAN Diesel & Turbo, DK

MFatech, UK
NII, Japan
ONERA, France
Polar Electro, CH
Rockwell-Collins, France
Rolls-Royce, UK
Santer Reply, Italy
Seluxit, DK
Siemens, Sweden
Tecnalia, Spain
Terma, DK
Thalès R&T, Germany
TTTech, Austria
UTC Aerospace, UK
West Consulting, NL

In total: 47

Kick-off Meeting Participants

