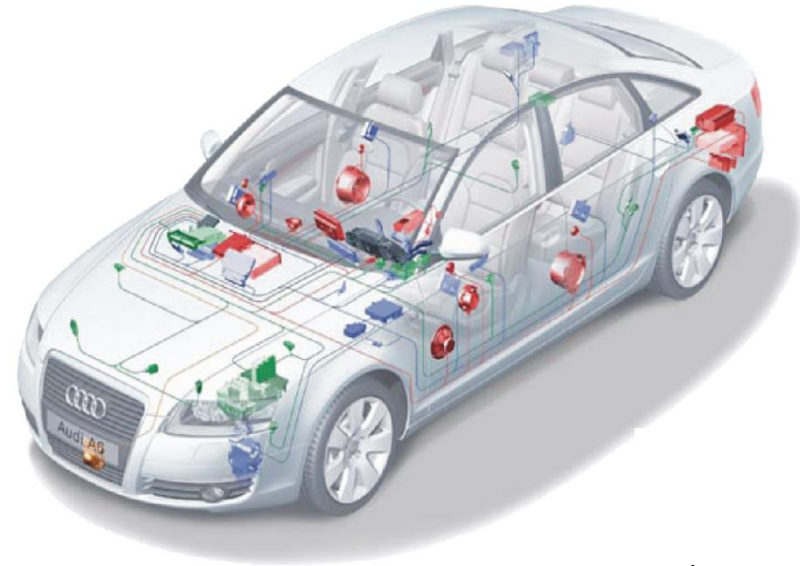


FMI & Co-simulation

Bert Van Acker, Cláudio Gomes and
Joachim Denil

The Modern Car

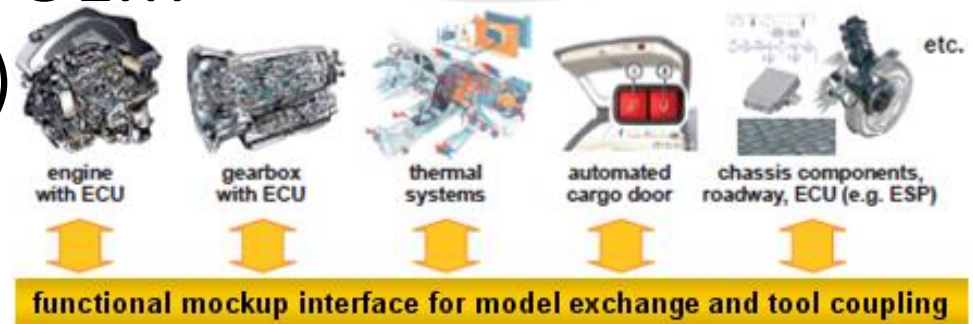
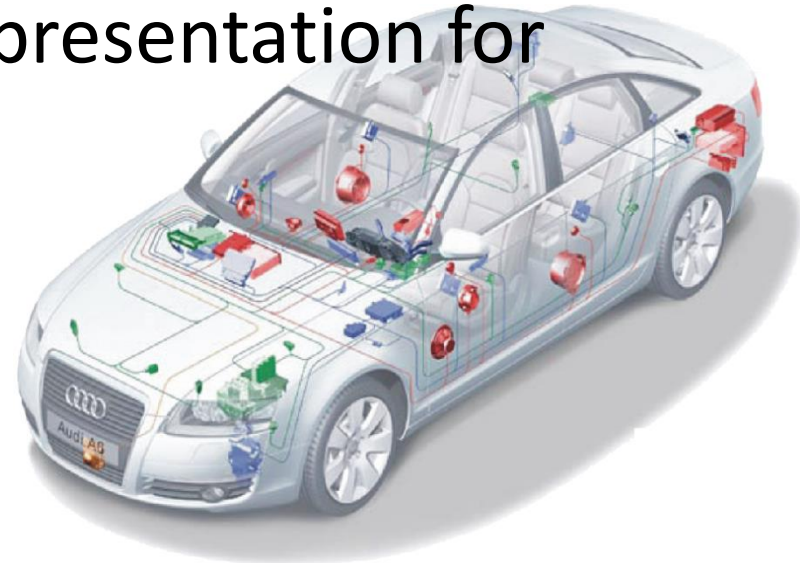
- Complexity
 - 40+ subsystems
- Competitive Market
- Concurrent Development
 - Late Integration Nightmare
- Distributed Development
 - Specialized suppliers
 - Late Integration (due to IP)



* www.imes.uni-hannover.de/

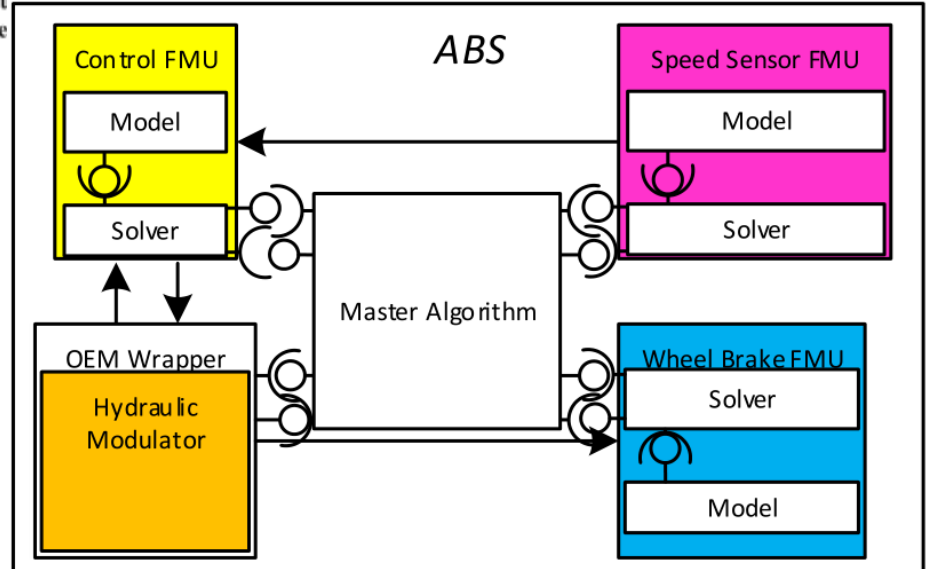
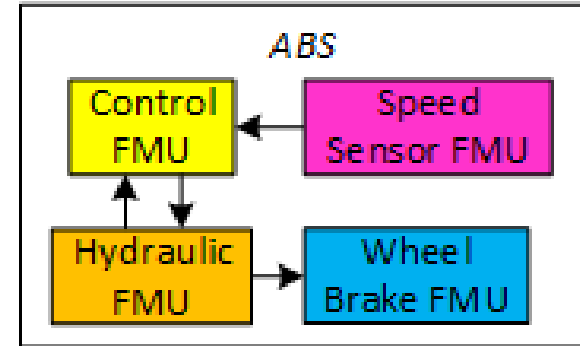
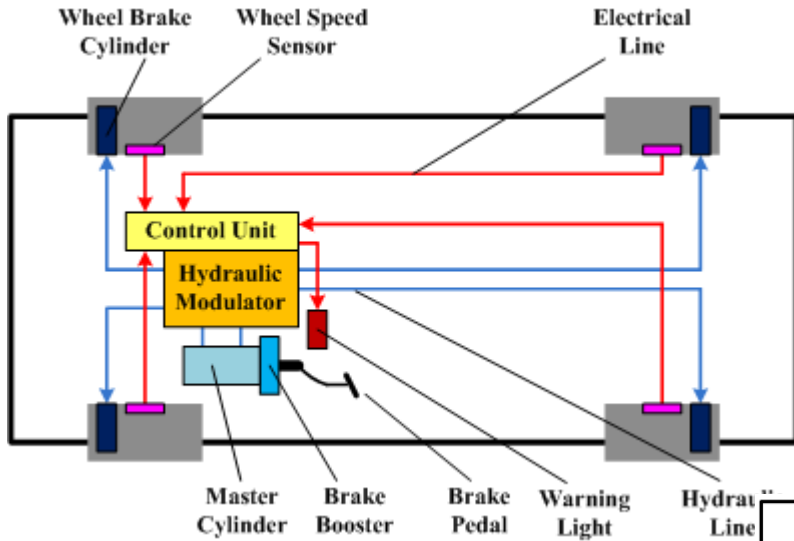
Functional Mock-up Interface (FMI)

- Xml + binary (and/or C) Representation for Models
 - Standard
 - Tool Independent
 - Black box +-
- Earlier integration of OEM
 - IP Protection (binary)
 - Reduced cost & TTM
- (Co-)Simulation



[1] www.fmi-standard.org

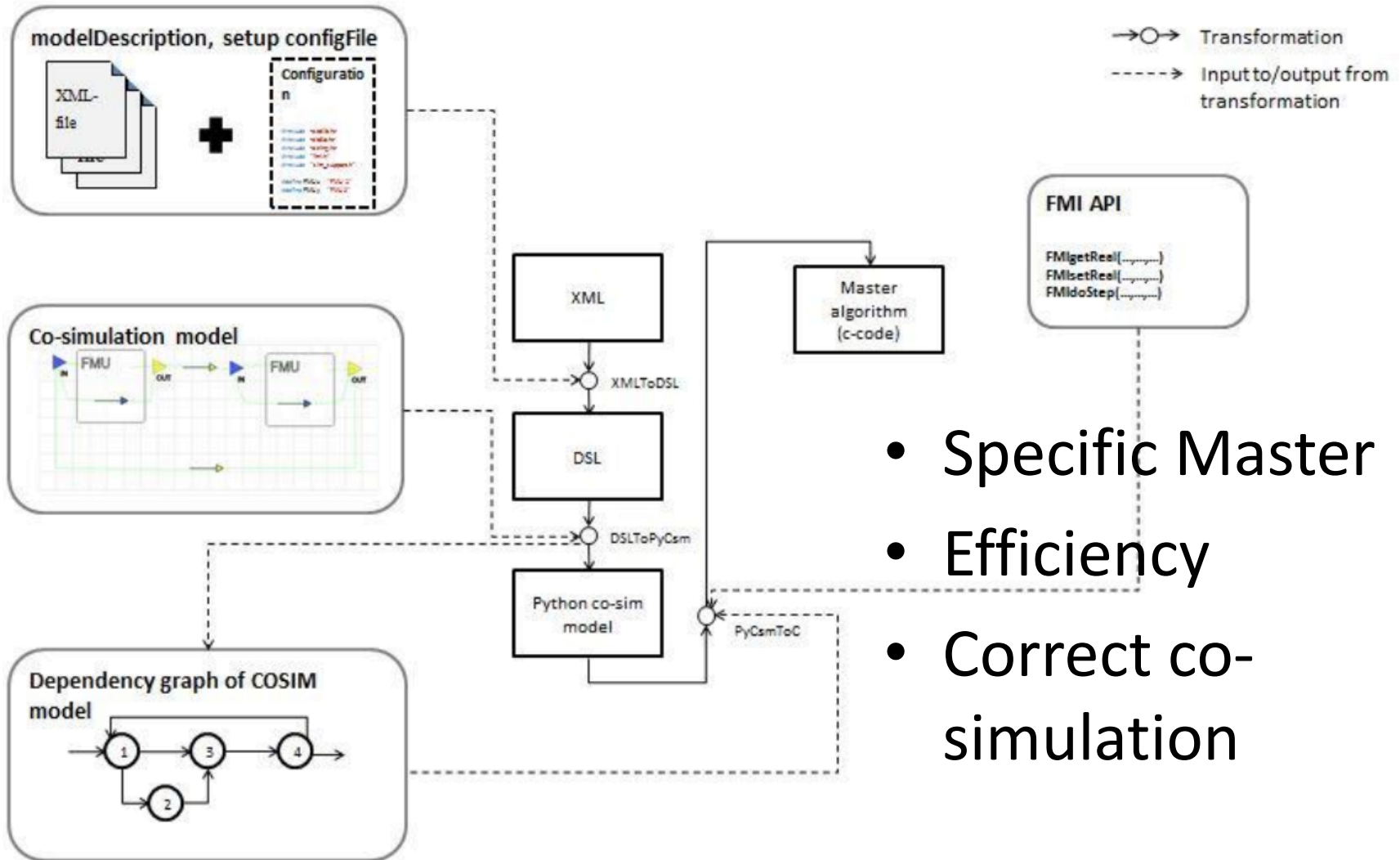
Co-Simulation



* www.cvel.clemson.edu/

- Coordination
- Hybrid Simulation
 - Semantic Adaptation
- HiL Simulation

Specific Master Generation



- Specific Master
- Efficiency
- Correct co-simulation

References

- Van Acker, B., Denil, J., Vangheluwe, H., De Meulenaere, P., Generation of an Optimised Master Algorithm for FMI Co-Simulation in Proceedings of the Symposium on Theory of Modeling & Simulation-DEVS Integrative, Society for Computer Simulation International (2015), p946-953