

ITEA3 Project: ACOSAR

Advanced Co-Simulation Open System Architecture

FMI User Meeting 2017

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ITEA3



FFG

Austrian
Research Promotion Agency



Federal Ministry
of Education
and Research

Rationale of the project ...

Requirements
(Word, DOORS, ...)

Simulation Model Interface is addressed by FMI

System modeling

Co-simulation configuration
(ICOS, SystemDesk, XML, ...)

Hardware-in-the-loop (HiL)

Hardware validation

Software-in-the-loop (SiL)

Software validation

Model-in-the-loop (MiL)

System simulation

Problem:

Efficient integration of RT-Systems?

- **Standardized**
- **Methodology**
- **Distributed**

Rationale of the project ...

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System modeling

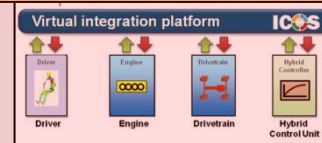
Hardware-in-the-loop (HiL)

Differentiation to FMI and added value:

- **Distributed Co-Simulation** by integrating tools
- **Interactive Co-Simulation** without model export
- **Integration of (multiple) testbeds and simulations**



System simulation



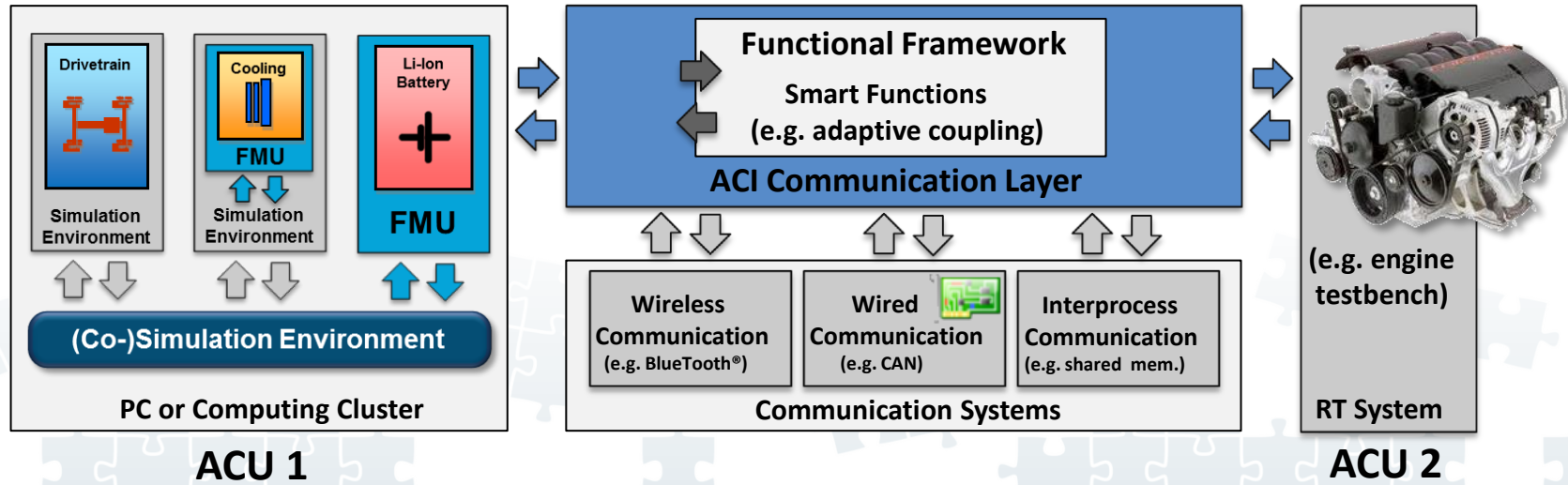
Efficient integration of RT-Systems?

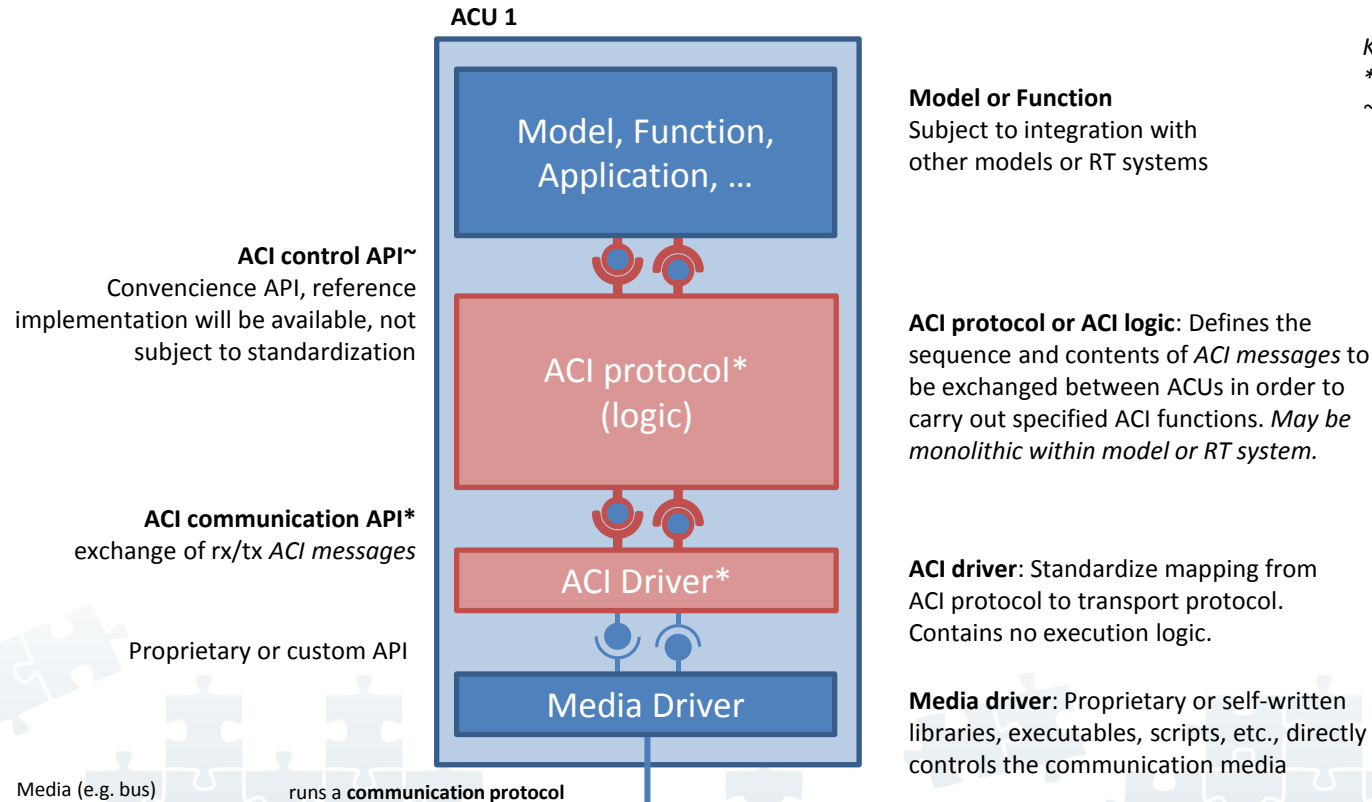
- **Standardized**
- **Methodology**
- **Distributed**

ACI integrates real-time systems and simulation environments

ACI ... Advanced Co-Simulation Interface

ACU ... Advanced Co-Simulation Unit





Key

* *Subject to standardization*

~ *Specification but no standardization*

ACU 2



... a follow-up initiative called ACOSAR

✚ ITEA3 Project ACOSAR

- **Advanced Co-simulation Open System ARchitecture**
- Setting a global standard for integration of RT systems

✚ Motivation

- Fast integration of RT Systems
- Tool neutral standard for distributed co-simulation

✚ 9 Automotive Use-Cases

- Test system integration
- Distributed development

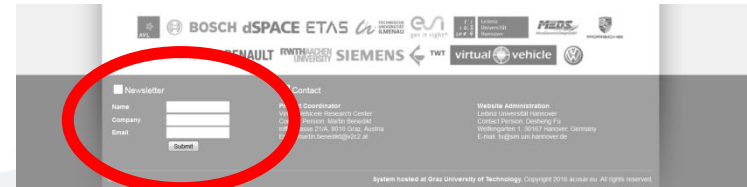
Facts

Framework: ITEA3 (Call1)
Duration: 09/2015 – 08/2018
Overall Budget: 7.9 M€
Countries: AT, DE, FR; 15 Partners
Coordinator: VIRTUAL VEHICLE (AT)
www.acosar.eu



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the ACOSAR initiative!



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Open Questions?

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