

COMET CENTRE

VIRTUAL VEHICLE RESEARCH GMBH

RESEARCH PROGRAMME: COMET SDM – COMET SOFTWARE-DEFINED MOBILITY



Main location: Graz (Styria)

Thematic area: Mobility and Digitalization / ICT

Thematic focuses

The center's research supports the efficient and safe development of complex systems for integrated mobility. These systems are increasingly software-defined and must provide reliable and predictable functionality that can be systematically verified and validated. The mobility focus is complemented by knowledge transfer in applications in other domains such as Health Tech, Maritime, Energy, and Defense. These research focuses address:

- Virtual Assurance for trustworthy software-defined mobility systems
- Trustworthy simulation and digital twins for development, validation and operation
- AI-enabled autonomous systems with safe perception, decision-making and control
- Efficient, adaptive and context-aware software and E/E architectures
- Data-efficient learning, uncertainty quantification and continuous lifecycle assurance
- Demonstration, validation and technology transfer through the Living Innovation Lab

Planned realisation and outcomes

- Virtual Assurance Framework (VAF) for scalable and trustworthy virtual assurance
- Adaptive and self-learning components with quantified uncertainty to reduce the sim-to-real gap
- Dynamic digital twins and AI-assisted development and validation workflows
- Open reference toolchains, demonstrators and validation platforms up to TRL 7

History of establishment

2002 - Founded as a Kplus Centre

2008 - Start as a COMET K2 Centre (*Sustainable Vehicle Technologies*)

2018 - Launch of the COMET K2 Digital Mobility research programme

Aug 2024 - Successful spin-off of Context64.ai GmbH

Jan 2027 - Launch of the COMET Centre *COMET Software-Defined Mobility*

COMET FACTSHEET

Selected company partners:

1. AVL List GmbH
2. MAGNA STEYR Fahrzeugtechnik GmbH & Co KG
3. Siemens Mobility Austria GmbH
4. voestalpine Railway Systems GmbH
5. Infineon Technologies Austria AG
6. ÖBB-Infrastruktur AG
7. Wien Energie GmbH
8. NXP Semiconductors Austria GmbH & Co KG
9. TTTech Computertechnik AG
10. ALP.Lab GmbH

Selected scientific partners:

1. Joanneum Research Forschungsgesellschaft mbH
2. Graz University of Technology
3. Silicon Austria Labs GmbH
4. University of Graz
5. University of Klagenfurt

Selected international¹ partners:

1. Damen Research Development & Innovation B.V.
2. Siemens Healthineers AG
3. Dr. Ing. hc. Porsche AG
4. Stanford University - Aeronautics & Astronautics
5. University of California at Berkeley - Institute of Transportation Studies

Duration: 01.01.2027 until 31.12.2034 (8 years)

Staff employed at the Centre: 58 FTE, thereof 48 researchers
(VIRTUAL VEHICLE: appr. 230 FTE)

Management: Dr. Jost Bernasch, Managing Director
Univ.-Prof. Dr. Daniel Watzenig, Scientific Director

Contact: Virtual Vehicle Research GmbH
Inffeldgasse 21a, 8010 Graz
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www.ffg.at/comet

¹ Partners with headquarters outside Austria