

COMET Project

Rail4Future

Railways for Future: Resilient Digital Railway Systems to enhance performance

>> **Main location:** Vienna

>> **Other locations:** Styria, Vienna

>> **Thematic focus**

Railway Infrastructure, Track & Switch, Bridge & Tunnel, Large Scale Simulation, Predictive Analytics, Hybrid modelling, Structural Health Monitoring

>> **Planned realisation and outcomes**

Simulation of time-dependent behaviour of railway infrastructure under operational and environmental conditions by means of probabilistic methods in digital twin including development of algorithms for change detection. Provision of methods for condition monitoring of track and switch components including determination of their deterioration rates using novel sensor systems. Condition assessment and damage prognosis of bridge and tunnel infrastructure with focus on "Structural Health Monitoring".

>> **Selected partners**

Company partners (max 10)

1. ÖBB Infrastruktur AG
2. Voestalpine Metal Engineering GmbH
3. FCP FRITSCH, CHIARI & PARTNER
4. Hottinger, Brüel & Kjær
5. Vermessung Schubert ZT GmbH
6. PALFINGER Structural Inspection GmbH
7. Plasser & Theurer Gesellschaft m.b.H.
8. Siemens Mobility Austria GmbH
9. Geoconsult Holding ZT GmbH
10. Wiener Linien GmbH & Co KG

Scientific partners (max 5)

1. TU Wien (div. Institute)
2. TU Graz (div. Institute)
3. JOANNEUM RESEARCH
Forschungsgesellschaft mbH
4. AIT Austrian Institute of Technology GmbH
5. Virtual Vehicle Research GmbH

International partners (max 3)

1. VRVis - Zentrum für Virtual Reality und Visualisierung
2. Lehrstuhl und Prüfamf für Verkehrswegebau Technische Universität München
3. Fraunhofer-Institut für Zerstörungsfreie Prüfverfahren

>> **Duration of the COMET Project:** 03.2021 - 08.2024 (3,5 years)

>> **Number of personnel:** 19 FTE, thereof 17 scientists

>> **Leader of consortium**

Dr. Thomas Petraschek, Forschung & Entwicklung – Leiter

>> **ÖBB Infrastruktur AG**

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