

COMET CENTRE (K2)

LINZ CENTER OF MECHATRONICS GMBH

RESEARCH PROGRAMME: SYMBIOTIC MECHATRONICS

Main location: Linz (Upper Austria)

Other locations: none

Thematic area: Material & Production



Thematic focuses

In the field of drive technology:

- Drives and their digital twins
- Next generation drive and actuator systems
- Efficient design, modeling, simulation and optimization

In the area of modeling and simulation:

- Process simulation and material modeling
- Robotics and autonomous systems
- Multiphysical modeling and simulation

In the area of sensors and communication:

- Integrated and embedded sensors
- Wireless sensor and localization networks
- Intelligent data analysis and predictive systems.

In strategic research:

- IoX and intelligent system design.
- Digital twin and reliability of simulation
- Hybrid approaches - AI and domain knowledge.
- Sustainability and next generation components

Planned realisation and outcomes

Future mechatronic systems will increasingly interact with each other, with human agents, and with diverse and changing environments. This strong interaction of equal entities will be based on and driven by virtual models, interconnection of distributed systems, higher levels of integration, and strong human support. Symbiosis is defined as a connection that provides mutual benefits to the actors involved. Our central hypothesis is that it is precisely this mutual benefit that can be created for mechatronic systems and for the entities with which they interact. The paradigm of "Symbiotic Mechatronics" is intended to enable our scientific and industrial partners to engage in the realization of such interactive solutions. In this context, this type of symbiosis goes far beyond classical mechatronics, which represents the synergetic interaction of electrical and mechanical engineering.

History of establishment

Linz Center of Mechatronics GmbH was established in the year 2001 by „Verein der wissenschaftlichen und industriellen Partner des Linz Center of Competence in Mechatronics“ and UAR GmbH. In the year 2013 LCM was merged with her subsidiary ACCM GmbH and took over the K2 Center of ACCM.

COMET FACTSHEET

Selected company partners (max. 10):

1. AISEMO GmbH
2. AVL List GmbH
3. ENGEL AUSTRIA GmbH
4. FerRobotics Compliant Robot Technology GmbH
5. HANNING ELEKTRO-WERKE GmbH & Co. KG
6. Infineon Technologies Linz GmbH & Co KG
7. Primetals Technologies Austria GmbH
8. Salvagnini Maschinenbau GmbH
9. Siemens Energy Austria GmbH
10. voestalpine Stahl GmbH

Selected scientific partners (max. 5):

1. Deutsches Zentrum für Luft- und Raumfahrt
2. Fraunhofer LBF/IGD
3. Johannes Kepler University Linz
4. TU Graz
5. University of Applied Sciences (FH OÖ F&E GmbH)

Selected international¹ partners (max. 5):

1. ETH Zurich
2. Dr. Fritz Faulhaber
3. Flanders Make v.z.w
4. FLOW-TRONIC S.A/N.V.
5. RIETER CZ s.r.o.

Duration: 01.01.2018 – 31.12.2026 (9 years)

Staff employed at the Centre: 98 FTE, thereof 85 scientists

Management: DI Gerald Schatz, CEO
Dr. Johann Hoffelner, CSO

Contact: Linz Center of Mechatronics GmbH
Altenberger Straße 69, 4040 Linz
+43 732 2468 6003
office@lcm.at
www.lcm.at

Status 05.09.2021

The COMET Centre is funded within COMET – Competence Centers for Excellent Technologies – by BMK, BMAW as well as the co-financing federal provinces of Upper Austria. The COMET programme is managed by FFG.
www.ffg.at/comet

¹ Partners with headquarters outside Austria