

COMET CENTRE (K1)

HYCENTA RESEARCH GMBH

RESEARCH PROGRAMME: HYCENTA – HYDROGEN RESEARCH CENTRE AUSTRIA

Main location: Graz (Styria)

Other locations: none

Thematic area: Energy & Environment



Thematic focuses

- Production of renewable hydrogen by means of electrolysis and power-to-X
- Innovative storage technologies and fuel cells for the energy and industrial sectors
- Sustainable powertrain solutions for mobility with new fuel cell and storage systems
- Circular economy of hydrogen technologies and system optimisation for the use of renewable hydrogen

Planned realisation and outcomes

The aim of the HyCentA research programme is to take the sustainable hydrogen society several steps forward. Therefore, the hydrogen technologies for a holistic transformation from fossil energy to green hydrogen and green electricity in mobility, industry, households and energy services are to be researched and further developed in detail. Research on electrochemical technologies for hydrogen production and use, such as electrolysis and fuel cells, but also new storage technologies, will enable seasonal storage of renewable energies, increase efficiency and conserve resources. In addition, cross-cutting research areas are considered, such as simulation and systemic analysis of the application of hydrogen technologies, improved test methods and the circular economy including production, industrialisation and recycling of components and materials. The research programme contributes to lowering the costs of the technologies, reducing the degradation of electrochemical cells and increasing efficiency, while improving the functionalities of electrochemical and storage technologies. Furthermore, optimisation potentials based on sector coupling of energy, industry and mobility as well as the ideal combination of key technologies are to be identified.

History of establishment

HyCentA Research GmbH, located at the Graz University of Technology, is the only extra-university research institution in Austria exclusively dedicated to research and development on hydrogen technologies. Since its founding in 2005, HyCentA has been conducting joint projects with leading companies and scientific partners on the production, distribution, storage and application of renewable hydrogen - thus covering the entire value chain. HyCentA has a large number of successfully implemented projects from the FFG programmes and programmes of the Climate Fund, and in 2023 HyCentA will become a funded K1 centre.

COMET FACTSHEET

Selected company partners (max. 10):

1. Andritz AG
2. AVL List GmbH
3. Energie Steiermark Technik GmbH
4. MAGNA STEYR Fahrzeugtechnik AG & Co KG
5. MIBA Sinter Austria GmbH
6. OMV Downstream GmbH
7. TÜV SÜD Landesgesellschaft Österreich GmbH
8. VERBUND AG
9. voestalpine Tubulars GmbH & Co KG
10. Wien Energie GmbH

Selected scientific partners (max. 5):

1. Austrian Institute of Technology GmbH
2. Graz University of Technology
3. Montanuniversitaet Leoben
4. Polymer Competence Center Leoben GmbH
5. Profactor GmbH

Selected international¹ partners (max. 5):

1. Forschungszentrum Jülich GmbH
2. Heraeus Deutschland GmbH & Co. KG
3. Laufenberg GmbH
4. Simon Fraser University - Fuel Cell Research Laboratory
5. Volvo Technology Corporation

Duration: 01.01.2023 bis 31.12.2026 (4 Jahre)

Staff employed at the Centre: 51 FTE, thereof 40 scientists

Management: Ass.Prof. Dipl.-Ing. Dr.techn. Alexander Trattner, CEO and CSO
Ing. Martin Trummer, CFO

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

¹ Partners with headquarters outside Austria