

COMET CENTRE (K1)

BEST – BIOENERGY AND SUSTAINABLE TECHNOLOGIES GMBH

RESEARCH PROGRAMME: BEST 4.0 - SHAPING THE TRANSITION TO A SUSTAINABLE AND CLIMATE FRIENDLY BIOECONOMY



Main location: Graz (Styria)

Other locations: Vienna (Vienna), Wieselburg (Lower Austria)

Thematic area: digitization / ICT, energy & environment

<https://www.ffg.at/comet/netzwerk>

Thematic focuses

- Conversion technologies and process chains for the supply of green gas, green fuels, green carbon and green platform chemicals; residues and waste based biorefineries
- Process analysis and process simulation
- Automation and control of individual processes, plants and systems (incl. superordinate control)
- Planning, optimization and operation of microgrids and regional energy communities
- LCA and LCC of residues- and waste-based value cycles

Planned realisation and outcomes

Development of decentral biorefineries; green gas for high temperature applications; green carbon for use in steel industry (reducing agent, foaming, carburization); pigments from algae; bioconversion of production residues; demonstration of residues- and waste-based production of syngas (Syngas Platform Vienna); syngas fermentation; H₂ and kerosene from residues and waste; development of substantially faster simulation tools; digital twins for the optimization and continuous servicing of the operation of thermochemical conversion plants; advanced superordinate control of thermal and thermochemical energy supply plants; development of a holistic, technology neutral platform for planning, optimization and operation of microgrids and regional energy communities.

History of establishment

BEST is a merger of the preceding *Kplus* centre of competence, Austrian Bioenergy Centre (ABC) founded in 2003, and the *Knet* network of competence RENET Austria (founded in 2000). Since 2008 BEST has been being operated continuously as **COMET K1 Centre**.

COMET FACTSHEET

Selected company partners (max. 10):

1. AGRANA Stärke GmbH
2. Bertsch Energy GmbH & Co KG
3. Christof Systems GmbH
4. FRONIUS INTERNATIONAL GmbH
5. KWB – Kraft und Wärme aus Biomasse GmbH
6. OMV Downstream GmbH
7. Primetals Technologies Austria GmbH
8. UBOS GmbH
9. voestalpine Stahl Donawitz GmbH
10. Wien Energie GmbH

Selected scientific partners (max. 5):

1. Vienna University of Technology
2. Graz University of Technology
3. University of Natural Resources and Life Sciences, Vienna
4. University Applied Sciences Wiener Neustadt
5. HyCentA ResearchPartner B

Selected international¹ partners (max. 5):

1. Hansen & Rosenthal GmbH & Co.KG (Germany)
2. Holcim AG (Switzerland)
3. Luleå University of Technology (Sweden)
4. Synthec Fuels GmbH (Germany)
5. XENDEE Corporation (USA)

Duration:	April 2023 – March 2027 (4 years)
Staff employed at the Centre:	70 FTE, thereof 60 scientists and technicians
Management:	DI Dr. Walter Haslinger, CEO / CSO Ing. Mag. Dr. Roman Schmid, CEO / CFO
Contact:	BEST – Bioenergy and Sustainable Technologies GmbH Inffeldgasse 21b, 8010 Graz +43 (0)50 2378 9201 office@best-research.eu www.best-research.eu

Status 08.08.2022

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

¹ Partners with headquarters outside Austria