

COMET MODULE

[IACAI – INTERFACES OF AGENT-CENTRIC AI]

Main location: Graz (Steiermark)

Other locations: N/A

Thematic area: Digitalisation / ICT



Thematic focuses

- Agent-centric AI
- Data infrastructure for AI
- Data security & privacy-preserving technologies
- Fairness, accountability, and transparency through AI
- Human-machine collaborative AI
- Explainable AI models
- Shaping digital transformation

Planned realisation and outcomes

IACAI advances research on agent-centric Artificial Intelligence (AI) by systematically investigating how increasingly autonomous AI agents interact with humans, other AI systems, and technological infrastructures such as IoT devices and knowledge bases. IACAI will address (i) algorithmic and computing, (ii) human-computer interaction, as well as (iii) social and ethical considerations regarding a future, agent-centric AI. To overcome major algorithmic, computational and implementation impediments for (generative) AI in collaborative agent scenarios our research will include work on foundations of efficient data transfer and management across actors, improving the computational efficiency of AI models, and boosting the reasoning capabilities of AI models. To overcome issues of productivity when humans use AI in complex tasks, partially due to the unresolved question of how humans can understand decisions in multi-stakeholder networks, we will investigate how to improve human-AI synergetic task performance via interaction designs that use explicit domain knowledge and will develop algorithms and interfaces for traceability of AI decisions in multi-agent environments. To inform socially responsible and ethical technology design, we will model actors, interaction and agency to analyse, on theoretical and empirical levels, how interactions and interfaces in agent-centric AI shape the notions of responsibility and trust, and will develop algorithms to ensure fairness and diversity in resource distribution and decision-making in the future agent-centric AI that we are envisioning. Research conducted in this module will therefore draw from and make contributions to research on large-scale data management, machine learning, natural language processing, knowledge modelling, human-computer interaction, information visualisation, explainability, science and technology studies, and bias and fairness in AI. We will contribute to make agent-centric AI more correct, more reliable, more resource-efficient, and more efficient in supporting humans conduct complex tasks. Research within IACAI will be executed guided by a code of conduct, which will be one of the initial outcomes of the module. Environmental and societal impact will be continuously assessed and documented. The outcomes of IACAI will be a series of prototypes and guidelines on how to implement agent-centric AI. IACAI will establish agent-centric AI that fulfils technical requirements, as well as conforms to ethical standards as imposed by society and achieves trustworthiness expected by its users. Overall, the project seeks to realise agent-centric AI that is technically robust, resource-efficient, transparent, ethically aligned, and genuinely supportive of humans in complex tasks.

COMET FACTSHEET

Selected company partners (max. 10):

- 1.
- 2.
- 3.
- 4.
- 5.

Selected scientific partners (max. 5):

1. FH OÖ Forschungs & Entwicklungs GmbH
2. Universität Graz - Institut für Ethik und Gesellschaftslehre
3. Technische Universität Graz - Institute of Human-Centred Computing (HCC)
4. Technische Universität Graz - Institute of Software Engineering and Artificial Intelligence (SAI)
5. Technische Universität Graz – Institute of Visual Computing (IVC)

Selected international¹ partners (max. 5):

1. Technische Universität Berlin - Berlin Institute for the Foundations of Learning and Data (BIFOLD), Big Data Engineering Group (DAMS Lab)

Duration: 01.01.2026 – 31.12.2029 (4 years)

Staff employment: 7 FTE, thereof 7 scientists

Management: Dr. Tony Ross-Hellauer, Group Leader & Senior Researcher
mailto:IACAI-Office@know-center.at

Contact: Know Center Research GmbH
Sandgasse 34, 2nd floor, 8010 Graz, Austria
+43 316 873 30801
office@know-center.at
www.know-center.at

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¹ Partners with headquarters outside Austria