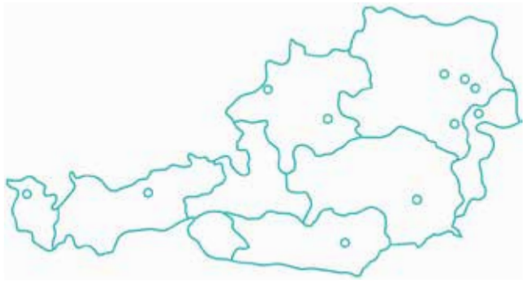
AIT AUSTRIAN INSTITUTE OF TECHNOLOGY



1,400 EMPLOYEES

11 LOCATIONS

7 CENTERS

AUSTRIA'S LARGEST RESEARCH AND TECHNOLOGY ORGANISATION

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Center for Energy
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MORE ABOUT INTEGRATED MOBILITY

www.ait.ac.at/integrated-mobility

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AIT AUSTRIAN INSTITUTE OF TECHNOLOGY

INTEGRATED MOBILITY SOLUTIONS

INNOVATIONS FOR A SUSTAINABLE MOBILITY SYSTEM

At the AIT Center for Energy, leading experts are working on the mobility system of the future. Particular focus is on a holistic, integrated view of mobility at the interface with the energy sector.

In addition to the development of new, innovative solutions, the AIT Center for Energy offers a wide range of already proven services. These range from energy-optimised railway operations management and intermodal transport optimisation, both in freight and public passenger transport, via integrating new propulsion technologies such as battery-electric or fuel cell-based systems, all the way to digital, supra-regional as well as urban transport network planning.
Using sophisticated simulation technology and traffic modelling, we create the foundations for mobility-optimised urban and regional planning.

INNOVATIVE MOBILITY SOLUTIONS FOR THE DECARBONISATION OF THE TRANSPORT SECTOR

A major driver of innovation in the energy and transport sector is advancing digitisation. Digital innovations are changing our mobility and help reduce CO_2 emissions and create the desired transformation of transport. As Austria's largest non-university research institute, we offer integrated solutions at the interface of the three key challenges: Energy transition, mobility transition, and digital transformation.
A comprehensive decarbonisation of the transport sector is a major challenge for policy-makers, transport infrastructure operators, and mobility providers.
Both technological and systemic innovations are crucial for a sustainable design of our mobility system. New and alternative forms of mobility, electrification of road traffic, optimised use of transport infrastructure, and environmentally friendly traffic shifting are important elements for an intelligent and intermodal overall transport system.

At the AIT Center for Energy, the leading innovation partner in the energy, mobility and transport sector, we focus on the integrated examination of the interfaces between energy and mobility, but also on the interaction between people, constructed surroundings, the transport system and the environment.

OUR SOLUTIONS AND SERVICES IN THE FIELD OF MOBILITY

The AIT Center for Energy offers research and consulting services in five relevant fields of mobility at the interface to the energy sector.

ALTERNATIVE FUEL INFRASTRUCTURE

- Predictive energy demand modelling for transport
- Location planning of charging infrastructure taking into account charging needs and grid integration
- Traffic simulation and effect of measures (e.g. charging stations, parking space, rollout)
- Technological developments and component tests for charging infrastructures (power electronics)
- Load management for coordinated charging of e-vehicles
- Evaluation of production sites for green hydrogen, taking into account renewable power generation and necessary distribution logistics (location planning)
- Economic efficiency calculation for the use of H_2 in the multimodal transport network vs. use in other areas (e.g. industry)
- Technical and economic feasibility of H2 in inland waterway transport, rail transport and road-based public transportation

URBAN AND REGIONAL MOBILITY

- Simulation & co-creation of multimodal mobility (digital twin, accessibilities, ...)
- Demand modelling (MyTrips, Choice Models)
- Development and evaluation of alternative mobility concepts
- Integrated mobility and City planning
- Interdisciplinary impact analyses (mobility, urban planning, climate, energy)
- Quick Assessment
- Creation of SUMPs - Sustainable Urban Mobility Plans
- Monitoring and KPI systems for impact measurement

CHANGE OF MOBILITY BEHAVIOUR

- Analysis of mobility behaviour and demand potentials
- Creation of behaviour models and typologies
- Factors influencing mobility behaviour
- Steering measures for behavioural change
- Development of behaviour-influencing action plans
- Concepts for the impact-oriented establishment of framework conditions
- Behavioural target group segmentation
- Target group-specific communication strategies

INTELLIGENT SYSTEMS AND AUTOMATED MOBILITY

- Integration of real-time information into tour / route planning
- Development of new services based on ITS
- Integration of automated mobility
- Traffic flow management
- Simulation model and impact assessment for different assistance/automation levels

COMMERCIAL TRANSPORT AND LOGISTICS

- Fleet management
- Tour / route planning (incl. energy restrictions)
- Logistics concept development incl. assessment and optimisation (e.g. locations, hub and spoke vs. distribution tours, etc.)
- Optimisation of the mobility offer, e.g. timetable optimisation of feeder traffic
- Integration of e-mobility and automated driving
- Optimisation in railway operations management and innovations in rail transport
- Urban logistics concepts incl. optimisation and evaluation

- We create essential contributions for the energy and mobility transition, using digital technologies.
- We decarbonise transport systems by taking a holistic view of the basic need for mobility as the basis of our social prosperity.
- We focus our research activities on the three basic principles of transport optimisation: Avoid – Shift – Improve
- Intermodality is a premise of our approach to mobility research.