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Intelligent Transport Systems – More than ICT in Mobility?

Karl Ernst Ambrosch
ERA Chair Holder for ITS @ University of Žilina

ICETA Conference
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ERAdiate

SEVENTH FRAMEWORK PROGRAMME

The **ERAdiate** Project

Enhancing Research and innovAtion dimension of the University of Zilina in intelligent trAnsport systems

Grant Agreement No: 621386

ŽILINSKÁ UNIVERZITA · VYSOKÁ ŠKOLA DOPRAVY A SPOJOV ŽILINA · UNIVERSITAS SOLNENSIS

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EU: One of the first ERA Chairs & first widening measure funded in SK

Project Highlights

- 11 ERA Chairs granted
  out of 111 applications in FP7
- 13 H2020-funded ERA chairs in 2015
- Strategy for Sustainability of ERA Chair
- Contribution to
  - ➤ Excellent research
  - ➤ Enhanced competitiveness
  - ➤ Growth and jobs in line with
    regional innovation strategies

What is ITS?

Standardisation by CEN, ISO, and ETSI

- Electronic Fee Collection
- Freight, Logistics and Comm. Vehicle Operations
- Public Transport
- Traffic and Travel Information
- Dedicated Short Range Communications
- Human-Machine Interfacing
- Automatic Vehicles and Equipment Identification

- Architecture and Terminology
- Traffic Control Systems
- Geographic Data Files
- Road Traffic Data
- Recovery of stolen vehicles
- eCall
- Cooperative ITS
- Urban ITS

http://www.itsstandards.eu/

ERA Chair Expertise

Experts being internationally recognized with a comprehensive experience in the field of mobility and ITS

- Integrated into University of Zilina
- Networking and cooperating with
  - top level academia throughout Europe
  - relevant stakeholders in international industries & SMEs,
  - public bodies, standardisation, institutions, and NGOs

Affiliating UNIZA to International Networks

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(Co-)funded R&D Projects

- Interreg
- H2020
- National projects
- ...

Consultancy

- National and regional industry & SMEs
- European Commission
- National & Regional Governments
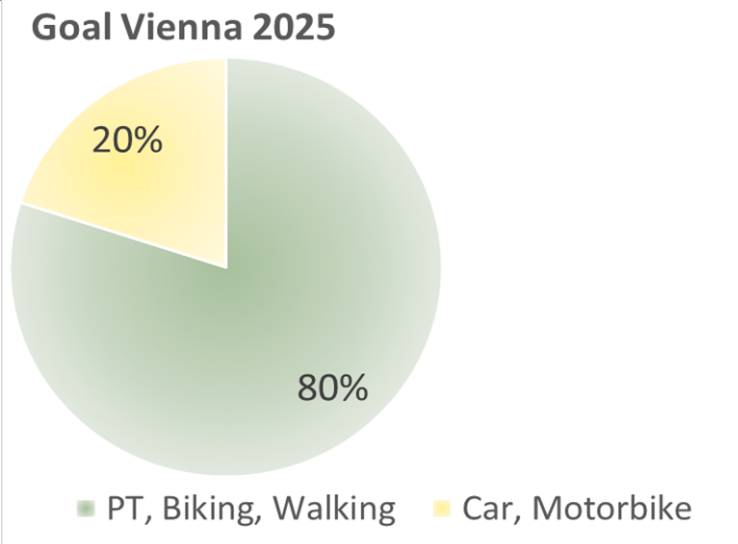- Standardisation
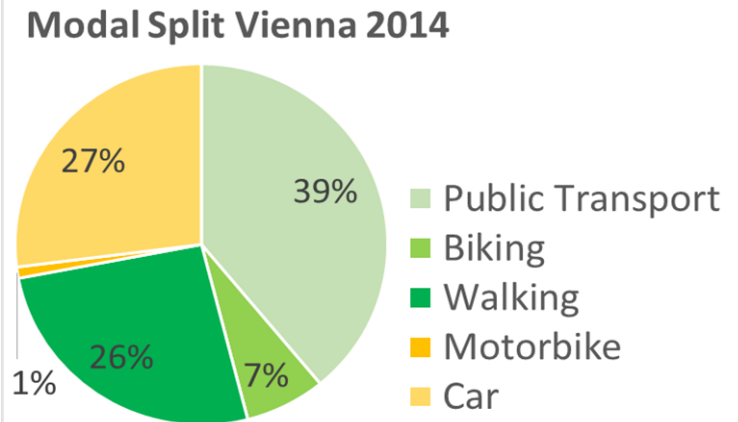- Evaluation

Expertise driven Research Fields

- Co-Operative ITS
- Decarbonisation of Mobility
- Urban Mobility / Smart City
- Intermodal ITS

Urban ITS

How does high quality urban traffic look like, which are quality targets for urban traffic?

- Shift viewpoint: Replace TRAFFIC by MOBILITY, as this expected by citizens

- Mobility is a complex topic comprising coupled and non-linear interacting systems

- Elasticity of interaction

- Modal composition of urban mobility

- Avoiding delays, congestion, emissions, …

- Goals: reliable travel, quick, convenient, cheap, clean, informed, …

Modal Split Vienna 2014

- 39% Public Transport
- 7% Biking
- 26% Walking
- 1% Motorbike
- 27% Car

Goal Vienna 2025

- 80% PT, Biking, Walking
- 20% Car, Motorbike

Source: https://www.wien.gv.at/rk/msg/2015/02/10006.html

Challenges for the 21ˢᵗ Century

- ICT and applications
  - Creating the connected world
  - Applications available for any purpose
  - Internet of Things
  - Big Data / Open Data

❖ Usability has to be improved

❖ Value of information is accepted only when aggregated, processed, refined, and validated

❖ PROVIDING INFORMATION IS A SOCIETAL TASK OF HIGH IMPACT! It contributes to an inclusive and livable world

Challenges for the 21ˢᵗ Century

- Smart citizens
  - ➤ The education of citizens how to use their city may be more effective with gamification replacing teaching in schools.
  - ➤ Improvements in quality of life and convenience are more important than technology for the sake of itself.
  - ➤ Solutions requiring activity from citizens have to care for usability.
  - ➤ Awareness for environmental effects and cost-saving will be important drivers for applications in smart cities.

Prioritize Quadruple Helix Innovation

Government, Academia, Industry and Citizens collaborating together to drive structural changes far beyond the scope of any one organization could achieve on it's own

Involve all stakeholders in quadruple helix to innovate and experiment in real world settings, in creating frictionless innovation ecosystems

Government/Public

Academic

Industry

Citizen

http://de.slideshare.net/Pivilskanius/bror-salmelin-in-the-oulu-smart-city-seminar-on-wed-6th-may-2015

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Thank you for your attention!

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