

Welcome to the Smart Cities Workshop

REAL CORP, May 20th, 2011, Essen, Germany

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Programme, aims

Programme

- || Introduction of participants
 - || Overview over Austrian Research, Smart Cities topics
 - || Presentation of Best Practice Example
 - || Discussion
- Our benefit
- || know how exchange, input for recommendations
- Your benefit
- || know how exchange, compiled Smart Cities topics overview

Background: SmartCitiesNet project

Project partners

- || ÖIR – Austrian Institute for Regional Studies and Spatial Planning
Barbara Saringer-Bory <saringer@oir.at>
- || AIT Energy – Austrian Institute of Technology, Energy Department
Olivier Pol <olivier.pol@ait.ac.at>

Project duration

- || January 2010 to April 2012

Objective

- || Recommendations for a consolidated Austrian research framework in the Smart Cities topics

Subsidy: National, BMVIT, Haus der Zukunft Plus

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Steps of work: SmartCitiesNet project

- || Definition of Smart Cities topics
- || Overview on current research activities related to the Smart Cities topics
- || Formulation and assessment of future research topics
- || Road map for Austrian research activities
- || Networking and workshops
- || Visibility of results: www.smartcities.at

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Austrian Research

Selection criteria for projects considered:

- || Scale of scope: from **small neighbourhoods to entire cities**
 - || Main topic of interest: **energy**
 - || Contribution to a **Sustainable Urban Post-fossil Society**
- Stakeholders identified:
- || Involved in one or more Smart City topics

Subsidy programmes by BMVIT:

Neue Energien, Haus der Zukunft, Ways2go, Take ÖV, Klima:aktiv mobil,
EnEff:Stadt (DE)

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Austrian Research

About **60 Austrian** (concluded) **projects** relevant

Main topics covered

- 9** Energy saving focussed projects
- 8** Demonstration projects
- 16** Conceptual projects
- 22** Mobility projects
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- 6** Tools
- 6** Regional scale

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Austrian Research

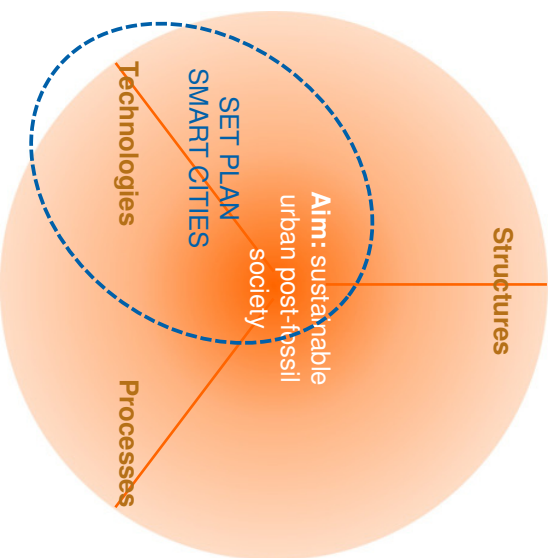
Some selected projects:

ELAS, EFES – energy calculator for settlements	calculator, settlements
ImMoReg – innovative mobility strategies	concept, region
ZEUS – Zero Emission Urban Study 2020	concept, city part
INTENSYS – sustainable forms of living	concept, city part
Urban Future – overview on various smart city topics	concept
PowerIDOWN – development scenarios	concept
CONCERTO projects – demonstration projects	implemented, city parts
gando – Passenger mobility management	implemented, city & region
Autofreie Mustersiedlung, Wien 21	implemented, city pa

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Smart Cities Topics



Structures

- || Integrated spatial, urban, transport and energy planning
- || Tools for assessment, modelling and planning

Technologies

- || Building, energy, transportation and communication technologies
- || Research on components and systems

Processes

- || Stakeholder process (politics, economy, decision-making)
- || Analysis and optimisation of processes, development of business models
- || Consideration of consumer behaviour, lifestyle, social skills, aging society

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Identification of smart approaches

- || Focus on interfaces and integration
- || Integration and coordination between topics and research fields
- || Significantly higher increase in efficiency compared to separate approaches
- || Lowest possible use of resources with highest possible benefit

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Fact sheets for research topics

- || Research topics can treat:
 - fundamentals (i.e. knowledge improvement)
 - methodological issues (i.e. development of tools facilitating the handling of complex phenomena)
 - implementation issues (i.e. application of the knowledge gained)
- || Research topics are structured according to:
 - their relevance in the Smart Cities context
 - the type of research activity
 - the implications on the development of smart cities

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Strategic planning I

- || Urban morphology – density and compactness
e.g. multi-criteria optimisation of urban morphology Fundamentals
- || Mixed use planning and the Compact City concept
e.g. optimisation of functional mix in neighbourhoods Fundamentals
- || Micro-climate modelling of public and green urban spaces
e.g. understanding the implications of green spaces on urban climate Fundamentals
- || Strategic local energy planning
e.g. development of tools supporting an integrated urban and energy planning considering economic aspects Methodology, Fundamentals

Strategic planning II

- || Long-term “smart city” vision
e.g. description of best practice examples, study on smart city stereotypes, moderation techniques Methodology
- || Urban energy databases
e.g. urban energy mapping techniques, municipal energy statistics, monitoring Methodology
- || Urban energy performance assessment
e.g. key performance indicators, sustainability indicators sets Methodology

Technology development and implementation I

- || Building integrated renewable energy technologies
e.g. component development based on material research
Fundamentals
- || Introduction of building integrated renewable energy technologies in the building design process
e.g. supporting schemes development
Implementation
- || Intelligent energy distribution networks
e.g. smart grids (electricity, gas, DHC)
Fundamentals

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Technology development and implementation II

- || Development of intelligent energy distribution networks
e.g. supporting schemes development
Implementation
- || Industrial symbiosis
e.g. use of waste low temperature heat, urban mining
Fundamentals
- || Development of storage technologies
e.g. hydraulic technology to store electricity
Fundamentals, Implementation
- || User behaviour
e.g. usage of smart meters, living in passive houses
Fundamentals, Implementation

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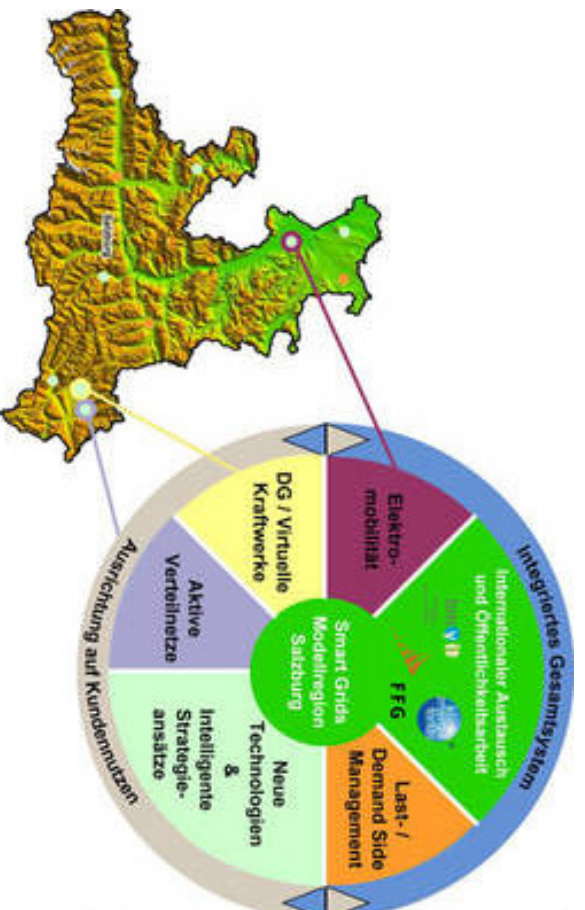
Technology development and implementation III

- || Integrated multi-modal transport systems
e.g. development of concepts Fundamentals
- || Demand-driven mobility services
e.g. implementation of concepts (services) Implementation
- || Alternative drive systems Fundamentals
e.g. technology development for electro-mobility
- || Market introduction of alternative drive systems Implementation
e.g. development of integrated and coherent supporting schemes for alternative drive
- || Passenger awareness and mobility Implementation
management
e.g. methods to influence user behaviour

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Smart Grids Modellregion Salzburg



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Discussion I - plenary

- || Questions
- || Feedback
- || Your experience
- || Best Practice examples

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Discussion II – in groups

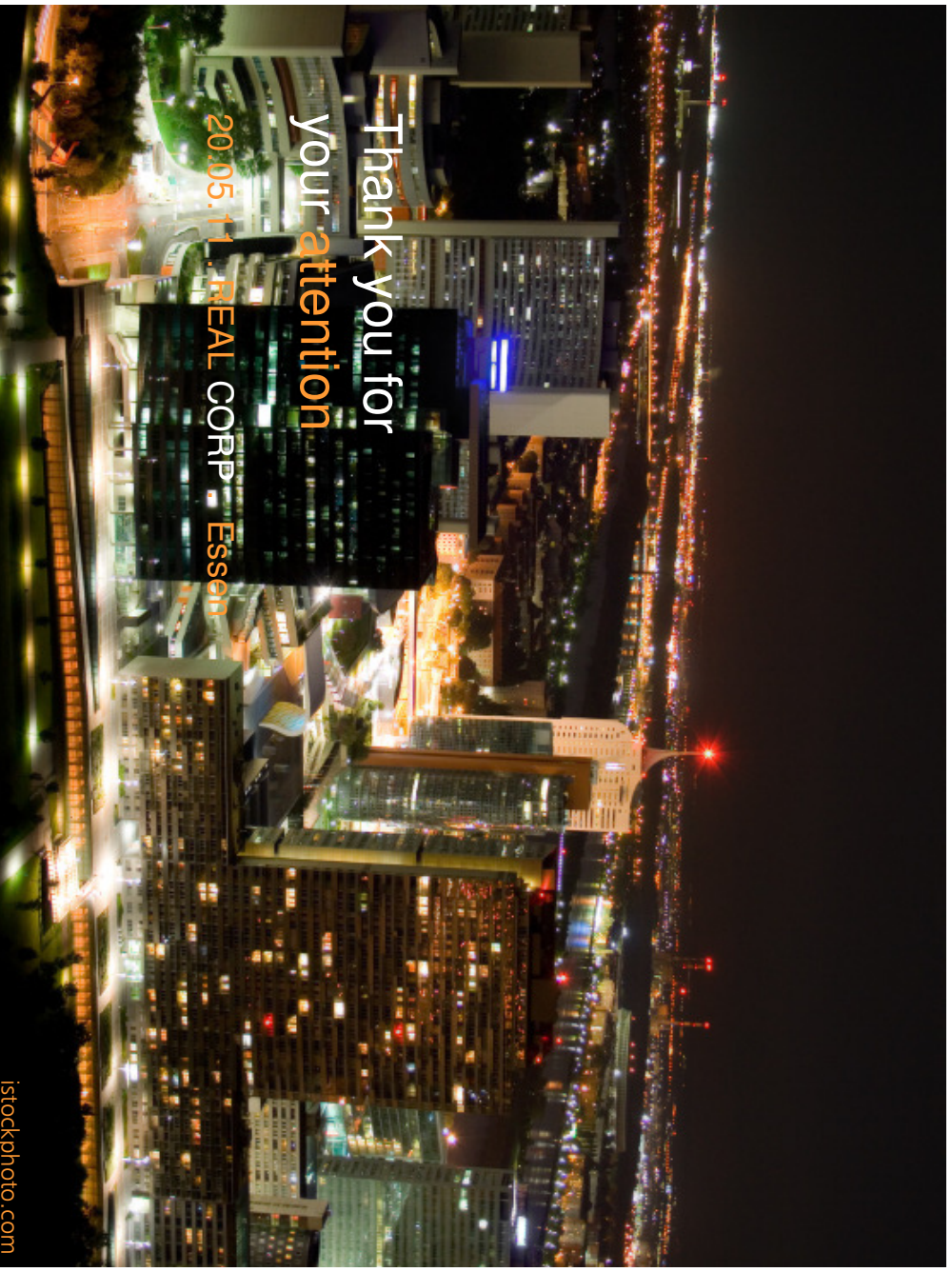
Group 1: Technology development and implementation

Group 2: Strategic planning

Questions:

- || Your feedback to the topic compilation ...
- || Is any **important topic missing**?
- || Which topics should be **highly prioritised**, because they might significantly impact the development of smart cities?

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Thank you for
your attention

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