Smart City Graz - Lessons Learned since 2010

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Presentation Content

1. City of Graz - Local Conditions and Challenges - Approach for establishing a Smart City Strategy

2. First Smart City Demo Project - Lessons Learned so far

3. Needs / perception as a SC Follower City
Graz – Austria’s second largest City

**Graz: 320,500 Inhabitants**
(Primary and secondary residence; 01/2017)

- **Non-self-employed workers:** 171,600 (01/2017)
- **Overnight stays:** 1,080,000 (Year 2016)
- **Number of companies:** 17,400 (01/2017)

**60,000 Students**
(01/2017)

- 8 Universities
- 2 Universities of Applied Sciences
- 2 Colleges
- 14 Scientific Centres of Excellence

**Statistical Key Figures:**
www5.graz.at/dashboard
Graz – Local Conditions and Challenges

- **Primary residents**: 286,686 (01/2017)  
  +50,000 since 2003 ➔ strong demand for housing space  
  whole functional urban region Graz: 0.5 m continually increasing

- **Superficial area of 127 km²**  
  thereof 50% zoned as green belt area  
  ➔ limited building land reserves

- **Local climate challenges because of adverse topographic basin situation**

  ➔ Particulate Matter,  
  Oxides of Nitrogen/NOx  
  from motorised traffic, industrial emissions and domestic heating (threat of legal action by EU)
Vision for Graz in 2050 – General Objectives:

Graz is a dynamic city with compact building structures, an ideal urban mix of usage, attractive public spaces and a high quality of living.

Consistent implementation of Smart City Strategy result in an energy-efficient, resource-conserving and low-emission city.

This environmental friendly approach should be achieved by implementing sustainable concepts for energy consumption, traffic, waste treatment and others.
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2013: "Smart City Graz" was set as the most important Development Principle to achieve within the Urban Development Concept 4.0 (most important legal binding instrument for the local development planning)

07/2012 – 06/2017: Smart City Pilot Project – Graz Waagner-Biro
First implementation of a „Smart City District“ using innovative energy and building technologies following an integrated strategic approach

- First Austrian SC pilot project, which received EUR 4.2m of national funding (total investment in district development until 2024: EUR 330m)

- Interdisciplinary project strategy – strong inclusion of local actors (property owners, investors, stakeholders of the general public via a specific district management team)

- Implementing the Smart City Graz objectives by conclusion of civil PPP Urban Development Contracts with investors/land owners (private side co-finances innovative measures of energy, mobility, qualities of buildings and public space)

REASONS: Municipality is not the land owner. No obligations for private investments in public infrastructure by national law.
Smart City Graz – Implementation

• 2015-2019: Follower City of H2020-SCC-Project
  • integrated approach to roll out of 12 ‘smart solutions’ - to create business cases to initiate market roll out in the Follower Cities and the rest of Europe
  • replication status in Graz: currently no concrete replication projects
  • Information needs from LHCs and industry partners: information on feasible business cases and cost-benefit evaluations to propose measures to local decision makers

• 02/2017: unsuccessful application in the “Horizon 2020 Smart Cities and Communities SCC Call 1 2016” together with Amsterdam and Berlin – Project Title “ValUse” (Focus: User centric demand; Interlinkages of Smart Homes, Smart Energy, ICT-systems and E-Mobility/Charging Infrastructure)
  Positive side effects:
  • Constitution of a strategy group for establishing a Digital Agenda / Data Guidelines for municipal projects (until autumn 2017)
  • Transition of our local climate strategy into a SEAP - Sustainable Energy Action Plan
• World’s 1st energy glass tower
• First building worldwide to incorporate panes of transparent energy glass for energy harvesting into the façade (Grätzel cells = organic photovoltaics)
• Energy-Plus-Building (positive energy balance)
• Roof terrace for urban gardening research initiatives
• Location for innovation, research and development
First Austrian Smart City Demo Project
Graz Waagner-Biro

Selected Key Figures for the Smart City district:

- New inhabitants (up to 2024): **3,860**
- Persons employed on site: **1,690**
- New Housing units: **1,430**
- Total investment costs (private and public): **330 Mio. EUR**
- Pupils in new schools: **600**
Time schedule for building construction until 2023

- New Secondary School: 2023
- Elementary School: 2019
- Science Tower: 2017
- Cool City: 2018
- Public Park: 2017
- Construction Site North: 2020
- Construction Site Middle: 2017
- Construction Site Park: 2018
- Smart Center: 2017
- Helmut List Halle: 2016

3D-Model: https://www.uwalkin.com/sc
Key Results of the work of the PPP-consortium

• Establishment of civil PPP-urban development contracts (basic agreements, implementation agreements) - novelty for Graz!

• Development of calculation method of the economic effects of urban development (Alfen Calculation Model)

• District Management VorOrt instituted since project start
  Results: wide acceptance of district development, no objections to the official legally binding development plan!

• Positive national and international feedback an the Smart City Graz project approach: Focus on people and quality of life - not only technology driven approach

• Establishment of „Municipal Steering Group Digitalisation“:
  Digital Agenda for the City of Graz
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Needs / perception as a SC Follower City 1/2

• Integrated / interdisciplinary urban development approach is still not a standard in local public administrations (structural obstacles, limiting effect of the silo mentality)

• Funding projects: important motor/lever for innovative urban development projects – funding tips the scales towards a non-standard approach in administrational system (more experimental funding schemes would be appreciated)

• Strained financial situation in (medium sized) European Cities. How to finance public infrastructure/maintenance at all – innovative & standard ones?
• Municipal cautiousness towards technological providers (many open questions regarding standards, data ownership … more know-how for bilateral contracts needed)

• H2020-SCC-Initiatives: information on feasible business cases and cost-benefit evaluations needed first from LHCs and industry partners to propose measures to local decision makers of Follower Cities

• Comparability: local/national framework conditions differ a lot. e.g. building standards, land ownership, national funding possibilities for urban development, financial / staff resources …
Thank you for your kind attention!

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