FROM CONCERTO COMMUNITIES TO SMART CITIES: THE ROLE OF SMART CITIES INFORMATION SYSTEM

Branislav Iglár
20th REFORM-Group Meeting
Salzburg, September 2 2015
CONCERTO experience
Smart Cities ahead

The CONCERTO Initiative (2005)

- 6th FP and 7th FP
- It aims to demonstrate the energy-optimisation of districts and communities as a whole is more cost-effective than optimising each building individually
- All relevant stakeholders work together and integrate different energy-technologies in a smart way

Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse projects (2014)

- 7th FP and H2020
- These solutions at the intersection of the three sectors will have a holistic approach and are still facing first mover risk.
- Projects will target primarily large scale demonstration of replicable SCC concepts in city context where existing technologies or very near to market technologies will be integrated in an innovative way.

Source: EC DG ENER / H2020 WP ENERGY 2014-15
EU-funded projects on buildings

- Eco-building projects (90s-2000)
- CONCERTO (2005-2009)
- Follow-up in FP7 and H2020
  - Smart Cities and Communities (2012-ongoing)
- Cohesion policy – ERDF, ESF, CF (2014-ongoing)

Source: EC DG ENER
Upscaling... from buildings to districts to cities
CONCERTO programme

- 58 cities
- 23 countries
- Integrative approach
- Energy efficiency
- Renewable energy sources
- Polygeneration
- Research
- Monitoring
- Training
Evolution from CONCERTO to Energy Efficiency in Buildings

Demo Energy Efficiency – New buildings

Demo-Energy Efficiency– retrofitting

CONCERTO: INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY

<p>| 2010 | 2011 | 2015 | 2020 |</p>
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**CONCERTO: INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY**

**Evolution from CONCERTO to Energy Efficiency in Buildings, to Districts**
Evolution from CONCERTO to Energy Efficiency in Buildings, to Smart Cities

CONCERTO: INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY

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EU Smart Cities Information System
... to integration of mobility and ICT infrastructure

CONCERTO: INTEGRATION OF RENEWABLE ENERGY SUPPLY AND ENERGY EFFICIENCY


SC - Demonstration of optimised energy systems in districts

SC - Strategic sustainable city planning

Demonstration of nearly Zero Energy Building Renovation for districts

Demonstration of Systems for urban area heating and cooling

Demo-Energy Efficiency – New buildings

Demo-Energy Efficiency – retrofitting

Like CONCERTO many are the composed of several projects

GrowSmarter
REMOURBAN
Triangulum

CITY-ZEN READY SINFONIA

INSIMART PLEEC STEEP STEP-UP TRANSFORM

SC - Demonstration of optimised energy systems in districts

EU-GUGLE R2CITIES ZENN

CELSIUS PITAGORAS

BUILDSMART DIRECTION EE-HIGHRISE NEED4B NEXT-BUILDINGS

BEEMUP E2REBUILD SCHOOL OF THE FUTURE

Like CONCERTO many are the composed of several projects
A Headache?
We have the answer...
SCIS in a nutshell

• **Supports the replication of smart cities innovation & technologies:**
  • **Gathers data** from CONCERTO, EE-buildings, SC FP7&H2020 projects → Technical Monitoring Database
  • **Offers a one-stop-shop** for replication:
    • Compares technologies,
    • Communicates best practices,
    • Offers information on support instruments
  • **Generates policy recommendations** from results
  • **Disseminates information**
    • exchange among projects, project coordinator’s meeting
    • website, newsletter, social media
SCIS builds on CONCERTO

CONCERTO
- Buildings
- Building clusters
- Districts

SCIS
- Buildings
- Building clusters
- Districts
- Energy aspects: ICT
- Energy aspects: Transport
- City level

Enhanced data collection methods

New KPIs for ICT + transport
SCIS Evolution

CONCERTO PLUS

CONCERTO PREMIUM

SCIS

2006

CONCERTO I

CONCERTO II

CONCERTO III

2010

EeB / EE

SC

2015

SCC
Embedded in a dynamic development

- CIVITAS
- CENELEC
- EERA
- EEA
- SCSP
- CORDA
- EII
- EEA
- Covenant of Mayors
- EUROSTAT
- GREEN Digital Charter
- BUILD UP
- SCIS EIP OIP
- EKRC

DATA GAPS
CONSISTENCY
Role in the environment

Relevant Stakeholders for Implementation

- Needs/Feedback
- Outputs

SCIS

- Synergies/Alignment
- Context information
- Input

Policy Makers

- Recommendations

European Commission

- Recommendations

Relevant Initiatives

- Projects CSA

Projects DEMO
SCIS as an interface

complementarity + synergy + alignment

Projects

TMD

Focus on Inputs

Recommendations

Alignment / Approach

Feedback

Focus on Outputs

Framework

Alignment / Approach

Technical specifications

Outputs

Policies

Initiatives

Technical committees & standards

Inputs
How will we provide clear information?

• Information to assist technology replication:
  – A **user-friendly** interface **to input** data
  – A **user friendly** interface **to analyse** data and find solutions to barriers

• Formatted and targeted for the needs of different users
Technical Monitoring Database

Data Collection

- **Self-reporting**
  (allow for different units etc.)

- **Auto-analysis**
  - Fault-detection including automated Feedback
  - Auto-completion (default values, filling data gaps)

Online Web Access

- **Selection of filters**
  - Measure/Technology
  - Combination of measures/technologies
  - Context
  - KPIs
    - Target groups
    - Show all

- **Results & Visualisation**
  - Choose from different possibilities
For whom? What for...??
Example 1... town mayor
Example 2

... architect / urban planner

WHAT INTEGRATED SOLUTIONS FOR A LOW CARBON TOWN?
SCIS follows up

• SCIS reacts to the **key needs of knowledge transfer for replication**

• It will provide **technical, policy and financial details of projects**

• It will **identify by technology group barriers and enablers**

• It will provide **visibility for the projects** through clear easily understandable and accessible information

• Also replication studies, financial assessments, policy recommendations
Timeline

- End of 2014 – launch of SCIS
- Summer 2015 – start of data collection
- October 2015 – alignment with projects
- November 2015 – web functionalities
- March 2016 – self-reporting feature
- Mid 2016 – launch of the new TMD incl. visualisation
- End 2017 – SCIS preparation fully finalised
THANK YOU

www.smartcities-infosystem.eu

Sign up, keep informed and interact