

Delivering urban efficiency
through collaboration. Today.

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Cities need to become smarter

by becoming more efficient, more sustainable and more liveable



Efficient

- Better information sharing
- Improved resiliency to disruptions
- Increased control over city systems

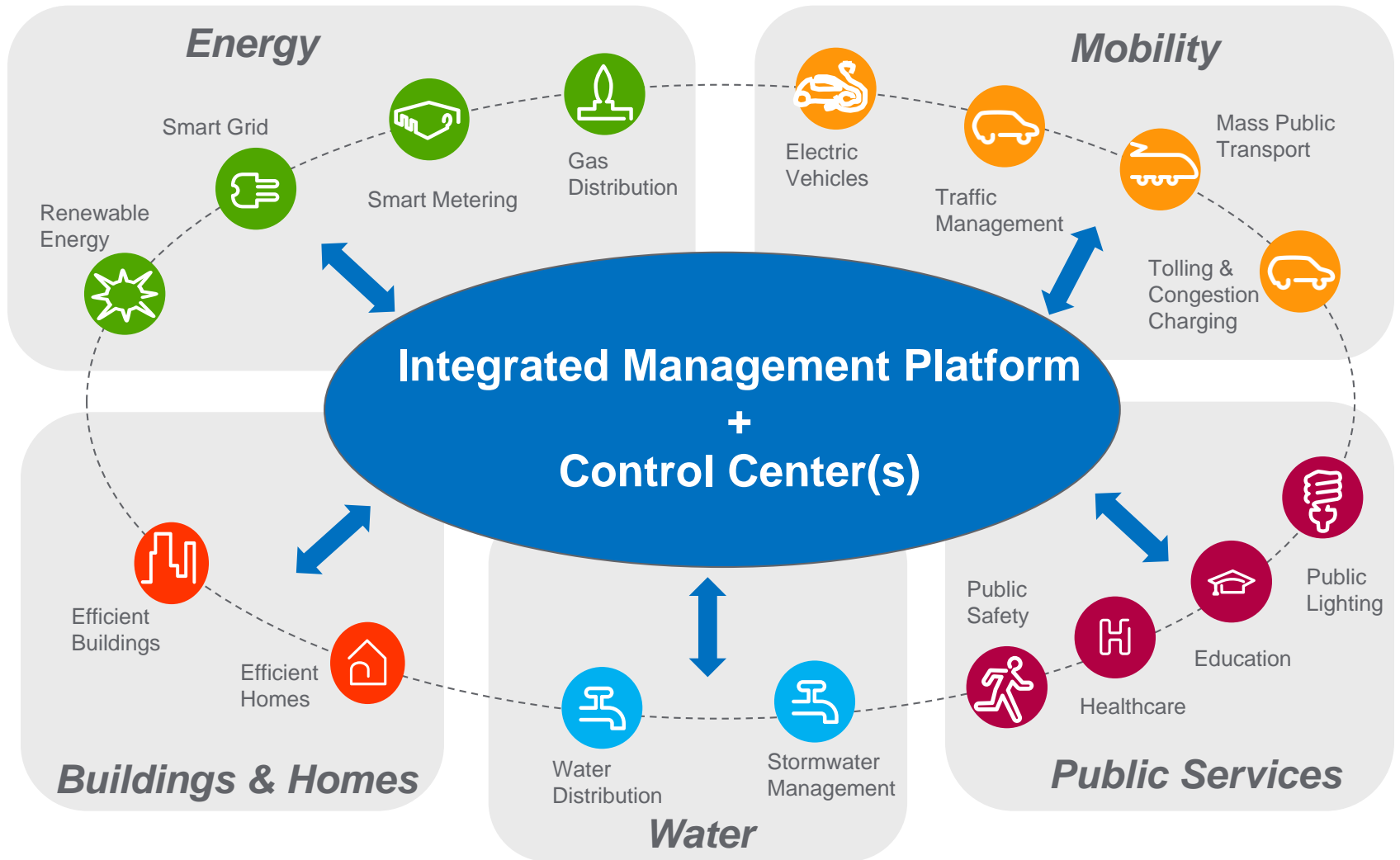
Sustainable

- Reduced Carbon emissions and energy consumption
- Operational cost savings
- Decreased need for massive infrastructure investments

Liveable

- Higher quality of life for city residents
- Increased attractiveness to jobs & talent
- Increased global competitiveness

A city's infrastructure is made up of operating systems



Rio de Janeiro, Brazil

City Objectives

- City has been focused on optimizing individual systems to become **more efficient, reduce costs, and improve quality of life**
- Recently, the city has taken a holistic integrated approach to infrastructure management in preparation for upcoming Olympic Games and World Cup

Our contribution

Over several years, Schneider Electric has worked with city agencies and utilities to implement:

- **A water distribution automation system serving over 2 million citizens**
- A traffic control center and advanced traffic management system for over 1000 intersections helping to optimize traffic
- **Automation systems to manage electric and gas distribution**
- **Interfaced with Rio's Intelligent Operations Center (IOC) to provide a holistic view of city systems**



Benefits

- **>15%** reduction in traffic delays
- Improved response to **water outage** events and more efficient maintenance of water network
- Reduced operational **costs** of managing electricity & gas networks
- **~80%** of data provided in city IOC comes from SE systems

Barcelona, Spain

City Objectives

- Barcelona stated the goal to become the world's leading Smart City
- Barcelona focuses on improving sustainability and differentiating itself in the global economy
- Barcelona has begun a holistic planning process to achieve this goal with involvement from the private sector

Our contribution

- SE has worked with Barcelona over time to implement traffic management systems, fare collection & metro control center, and CCTV video security and command center
- SE has strengthened its partnership with the city and is involved to:
 - Develop a **Smart Mobility** master plan for Barcelona
 - Support development of the City Protocol reference architecture and measurement framework for Smart Cities
 - Pilot the Integrated City Management platform in Barcelona
 - Jointly build City Services model for **delivering value-added services to residents**

El Ayuntamiento de Barcelona y Schneider Electric firman un acuerdo para crear el primer Centro de Excelencia SmartCity

ECOMOVE - 16/02/2012

Schneider Electric, junto con su filial Telvent, colaborará con el Ayuntamiento de Barcelona en la aplicación de una movilidad inteligente en la capital catalana. La iniciativa convertirá el modelo "Barcelona" en un referente mundial de ciudad inteligente.



Benefits

- Significant reduction in **traffic** delays and improvement in air quality
- Development of a standard measurement **framework** for cities worldwide
- **Establishment of innovative city services** to improve quality of life for residents

IssyGrid, France

City Objectives

- Development of first Smart District in France in Issy-les-Moulineaux (Paris suburb)
- Technology demonstrator for the implementation of an energy management model at a district level covering 10,000 residents



Our contribution

- Schneider Electric is working with a number of partners to develop an ecosystem of technology solutions which enables **energy optimization at district level**
- Schneider Electric is providing:
 - Energy efficiency solutions for buildings and homes
 - Connecting systems and automation of the smart grid
 - Renewables installation solutions
 - Electric Vehicles charging management infrastructure



Performance Contracting: Houston, USA & Oskarshamn, Sweden



Houston USA

City Objectives

- City aimed to become the first US city to implement a comprehensive energy-saving building retrofit program, as established under the Clinton Climate Initiative

Our contribution & Benefits

- SE performed comprehensive retrofits on 7 buildings in a first phase and 19 additional in a second phase
- Retrofits led to annual energy savings for the city of over \$2.5m, guaranteed for 15 years



Oskarshamn Sweden

City Objectives

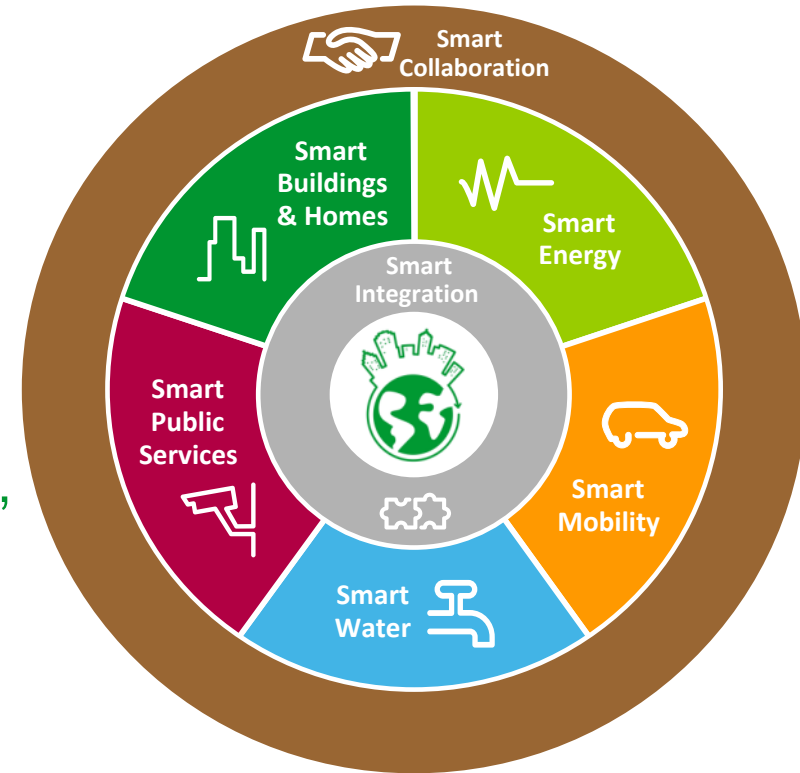
- Oskarshamn intended to break a long trend for the city of rising energy and maintenance costs

Our contribution & Benefits

- SE retrofitted 28 facilities at an initial investment of 2.6 MEUR funded through private capital
- Total annual savings of 349 MWh of energy or 79 tons of CO₂
- Guaranteed cost savings to city of over 0.3 MEUR / year

'Smart' makes urban efficient, requires for

- **Solutions** to cities' immediate challenges,
- **Integration** for increased efficiency,
- **Innovation** for a holistic sustainable future,
- **Collaboration** to make it all happen.



We understand what it takes. We make Smart Cities a reality.

This demands stakeholders collaboration

A Smart City will combine public governance, people ownership and business collaboration

