

Participative Foresight for Smarter Cities: Drivers, barriers and strategy development

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Thematic understanding: Smart Cities



VINCENT CALLEBAUT ARCHITECTURES

SETEC BATIMENT



MAIRIE DE PARIS

PARIS 2050

POUR UNE VILLE DURABLE, DENSE ET CONNECTÉE

PLAN CLIMAT ENERGIE

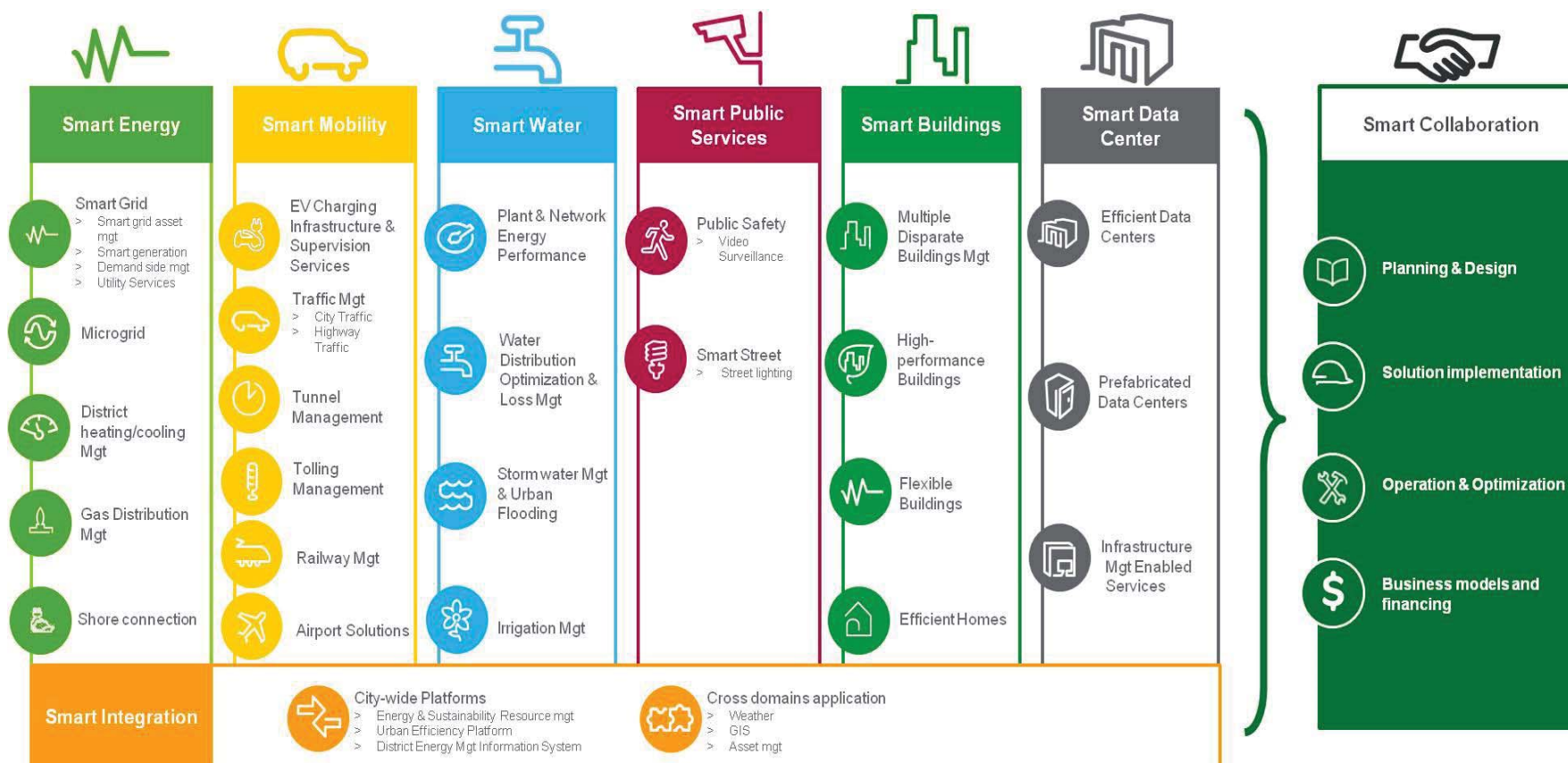
EVOLUTIONS ET PERSPECTIVES POUR LES IGH



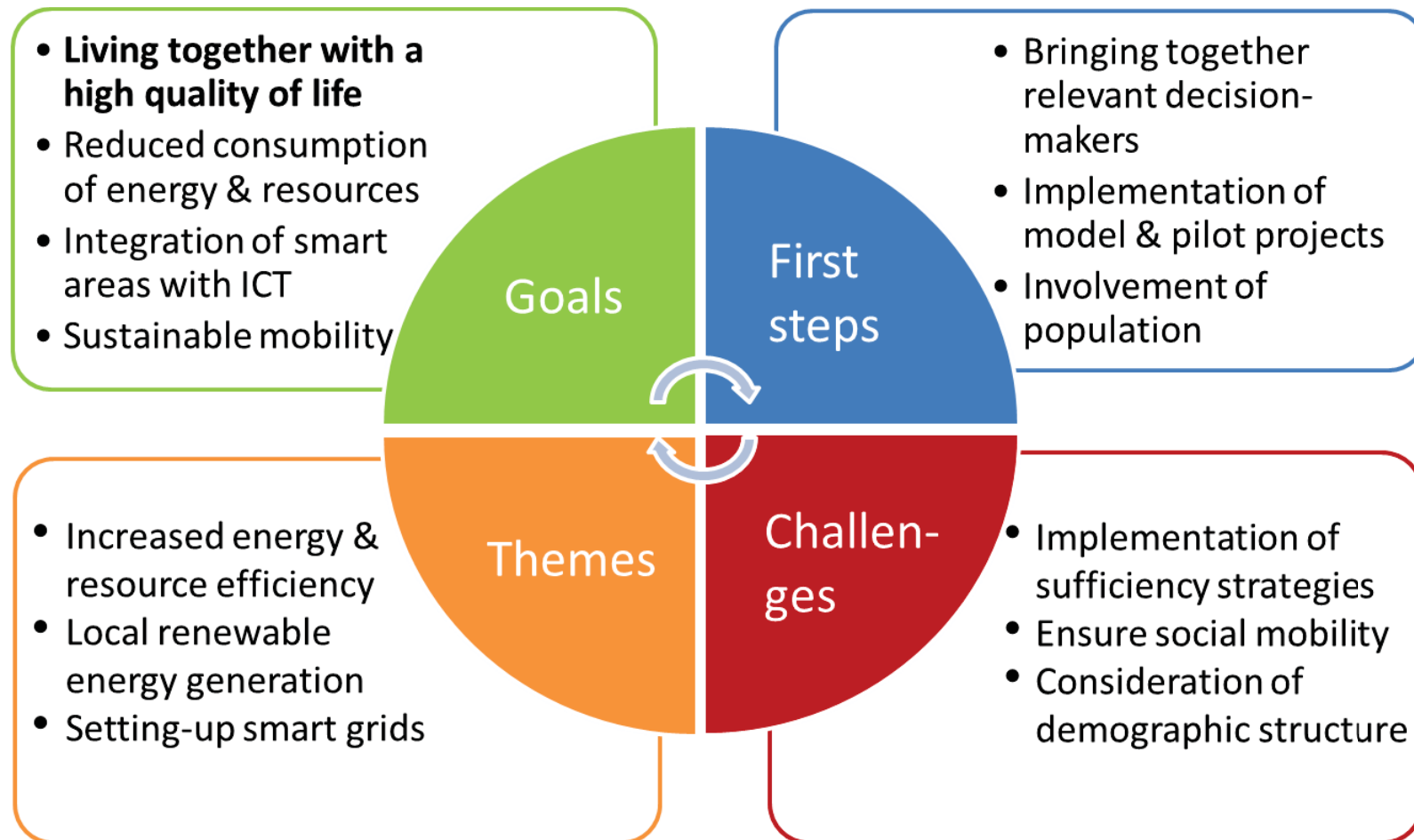
PARIS 2050

VINCENT CALLEBAUT
ARCHITECTURES

Smart Cities Segments

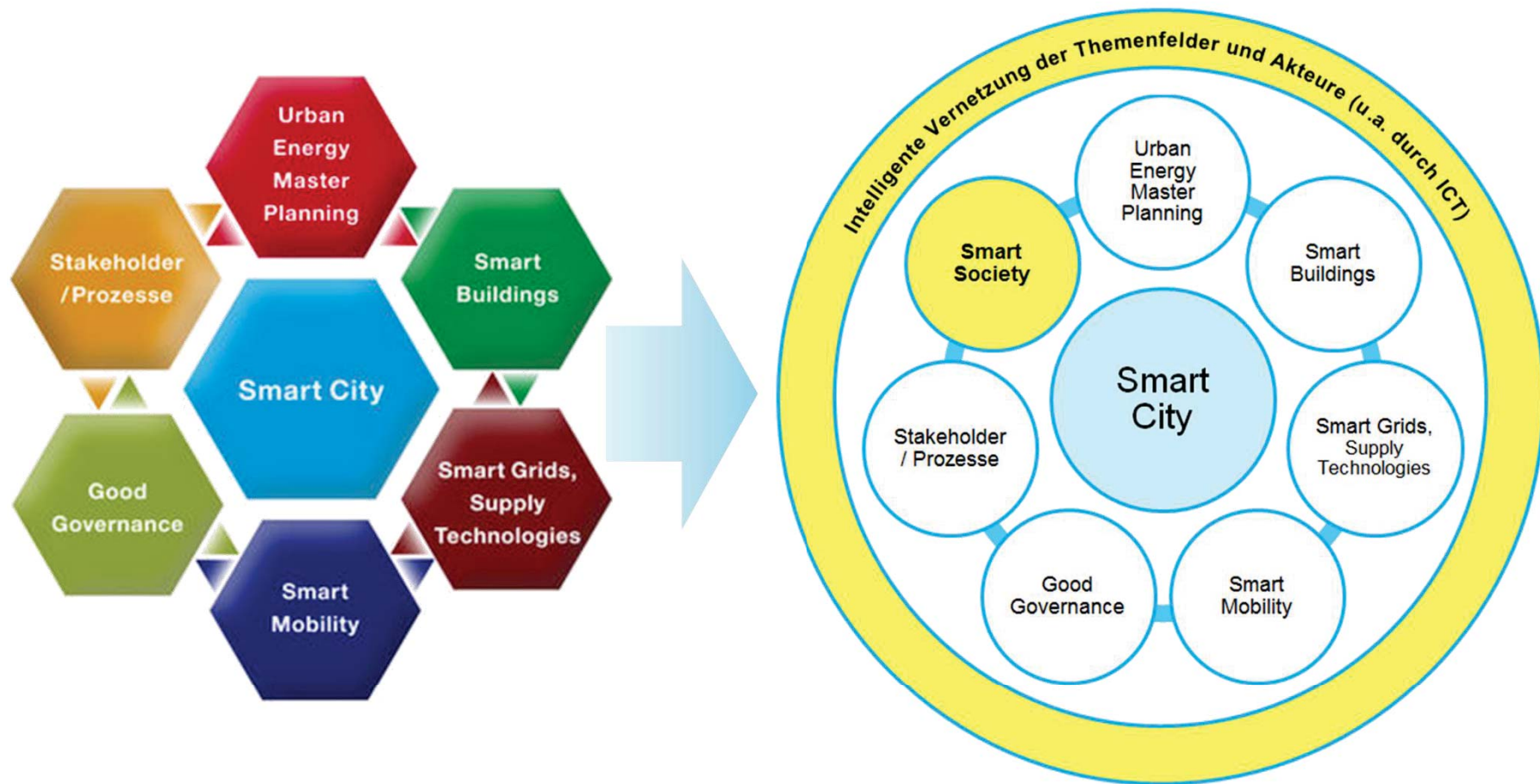


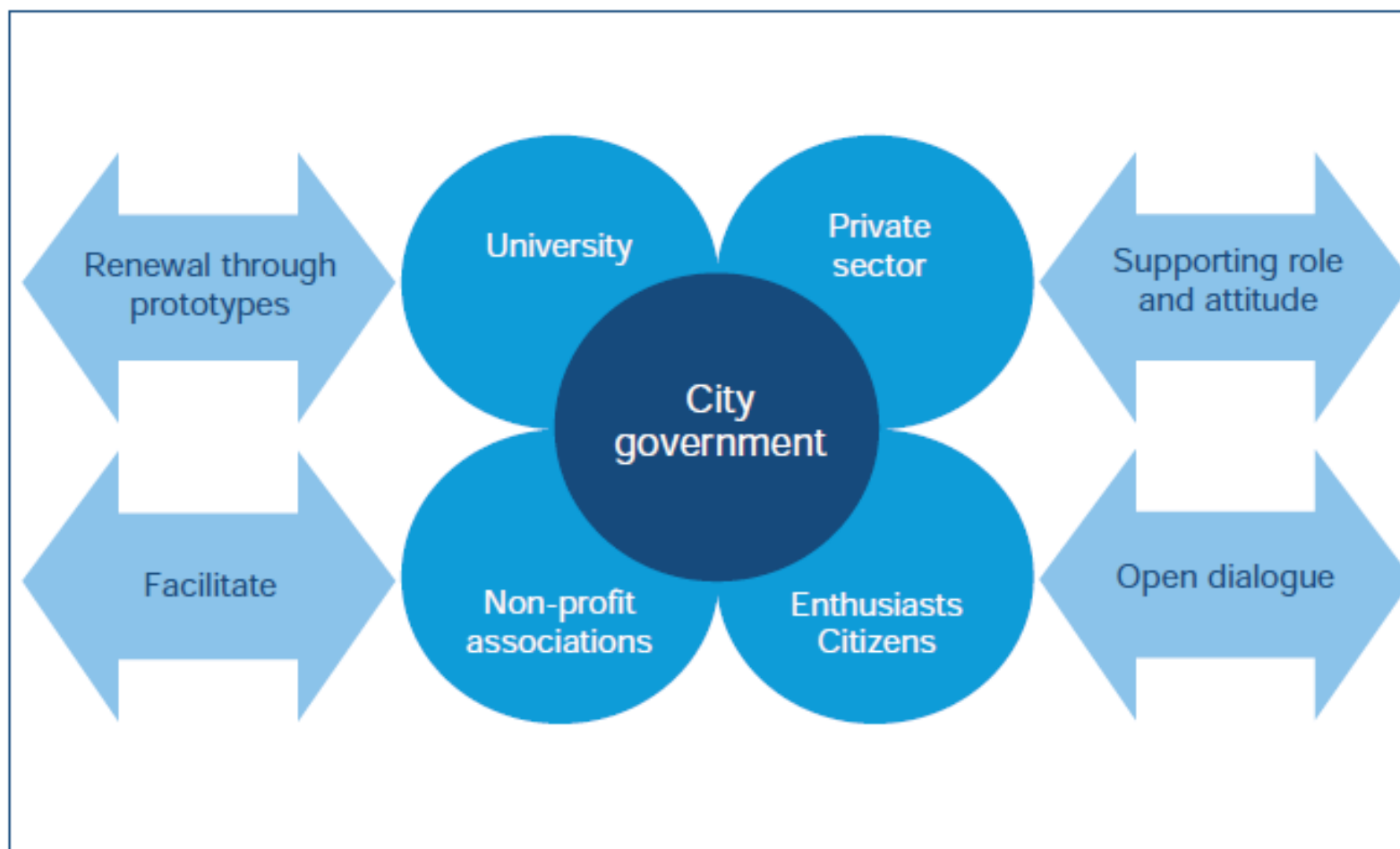
Results of the Delphi expert survey (2016)



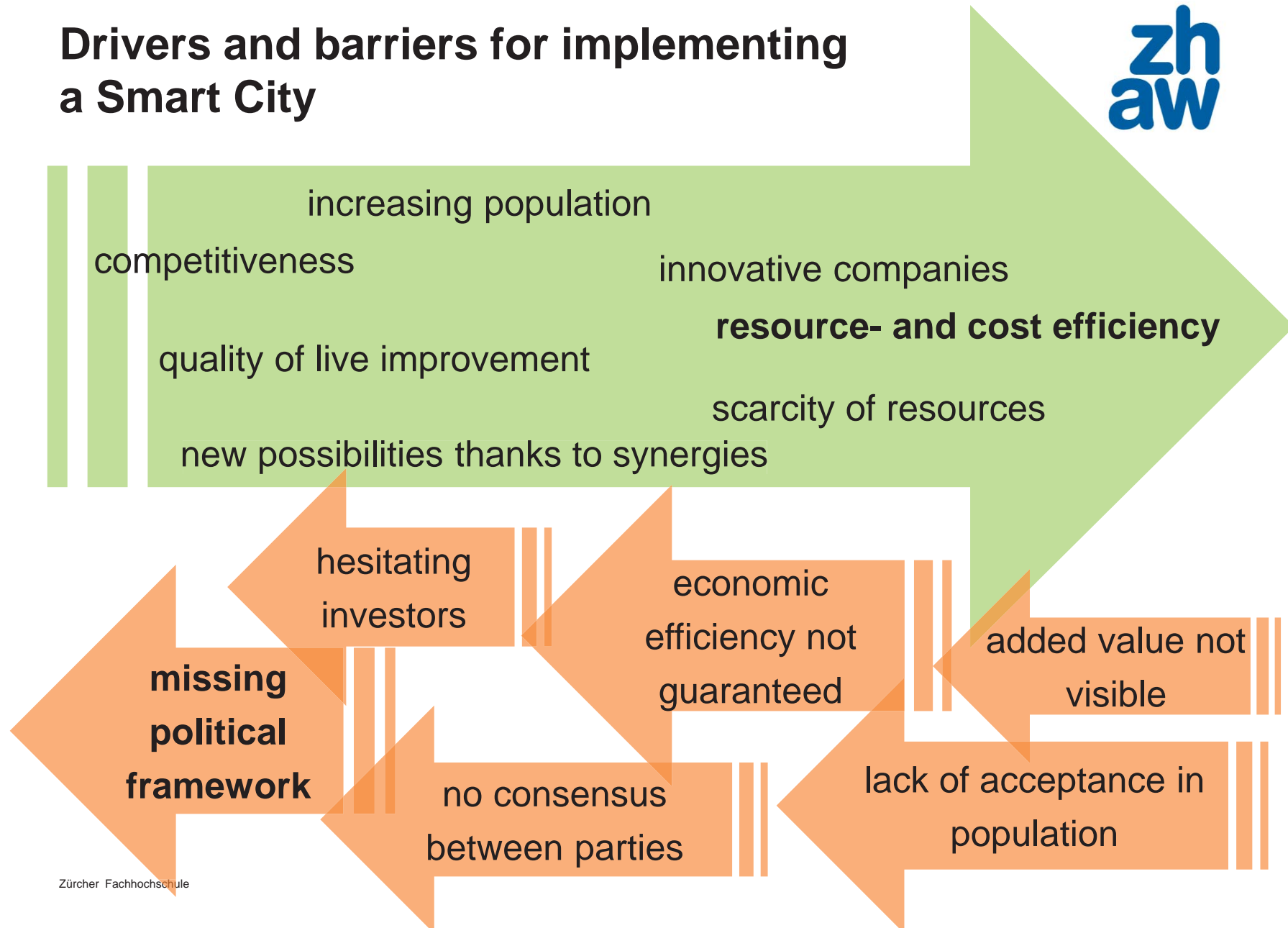
Quelle: Yildirim & Zwahlen (2016)

Evaluation of Smart City Switzerland concept





Drivers and barriers for implementing a Smart City



Which technologies are suitable for the design of a Smart-City?

E-Mobility

Vehicle-to-Grid

**Sharing
platforms**

Smart Meter

**Smart Phone as
Passe-Partout**

**Smart Home
functions**

**Optimised
Matching of
Electricity Supply
& Demand**

**Traffic
Management
Systems**

Most important tasks of a City → political framework

Perform exemplary function

→ Stronger participation in Smart-City-Projects

Ensure cooperation of most important actors in Smart-City-Projects

→ Lead & Coordination

Destruct bureaucratic barriers

→ Optimisation of administrative processes

Ensure acceptance of Smart-City-Projects

→ Information campaigns for the population

Active involvement of population in Smart-City-Projects

→ Offer idea-generation & discussion platform

hesitating
investors

no
consensus

lack of
acceptance

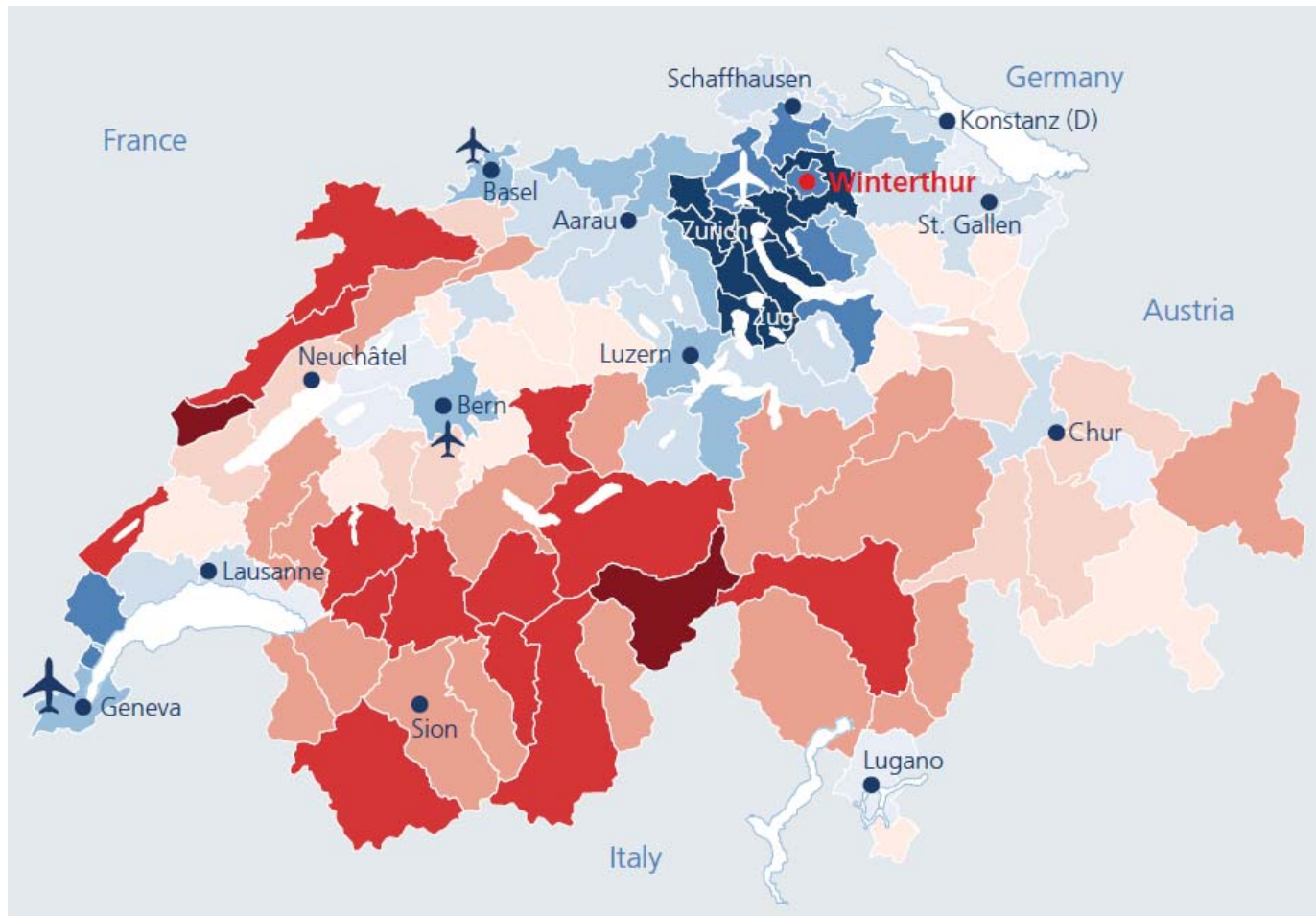
added value
not visible



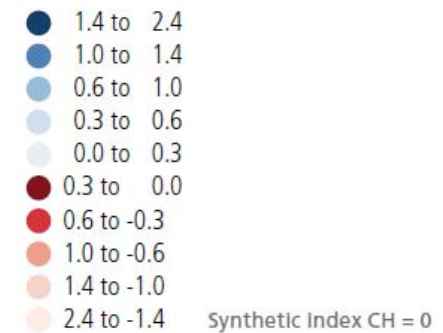
Stadt Winterthur



The Cities of Winterthur and Zurich



Quality of Location of the Swiss Economic Regions



At a glance

- Proximity to airport – 15 minutes from Winterthur to ZHR Airport
- Education center: ZHAW Zurich University of Applied Sciences, first International Congress on Vocational and Professional Education and Training
- Competence Center for high-tech engineering and machine industry
- City of Culture with international reach

© Location Promotion Winterthur Region

Stadt Winterthur



The City of Winterthur

Green City

(Former) Industry City

Insurance City

Ancient City

Culture City

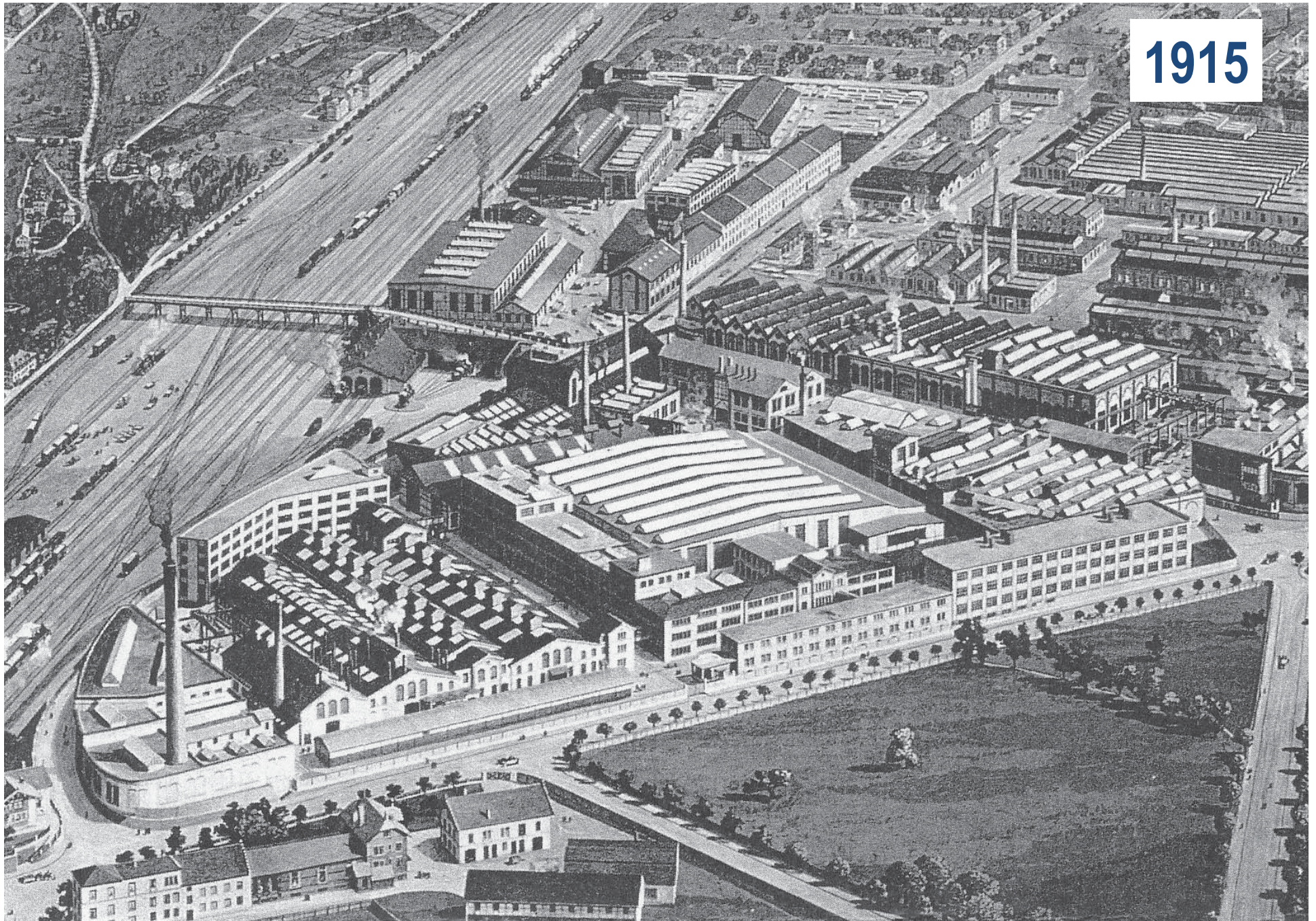
Bicycle City

Student City

Smart City Winterthur



1915



2015



Process to Smart City Winterthur (SCW)

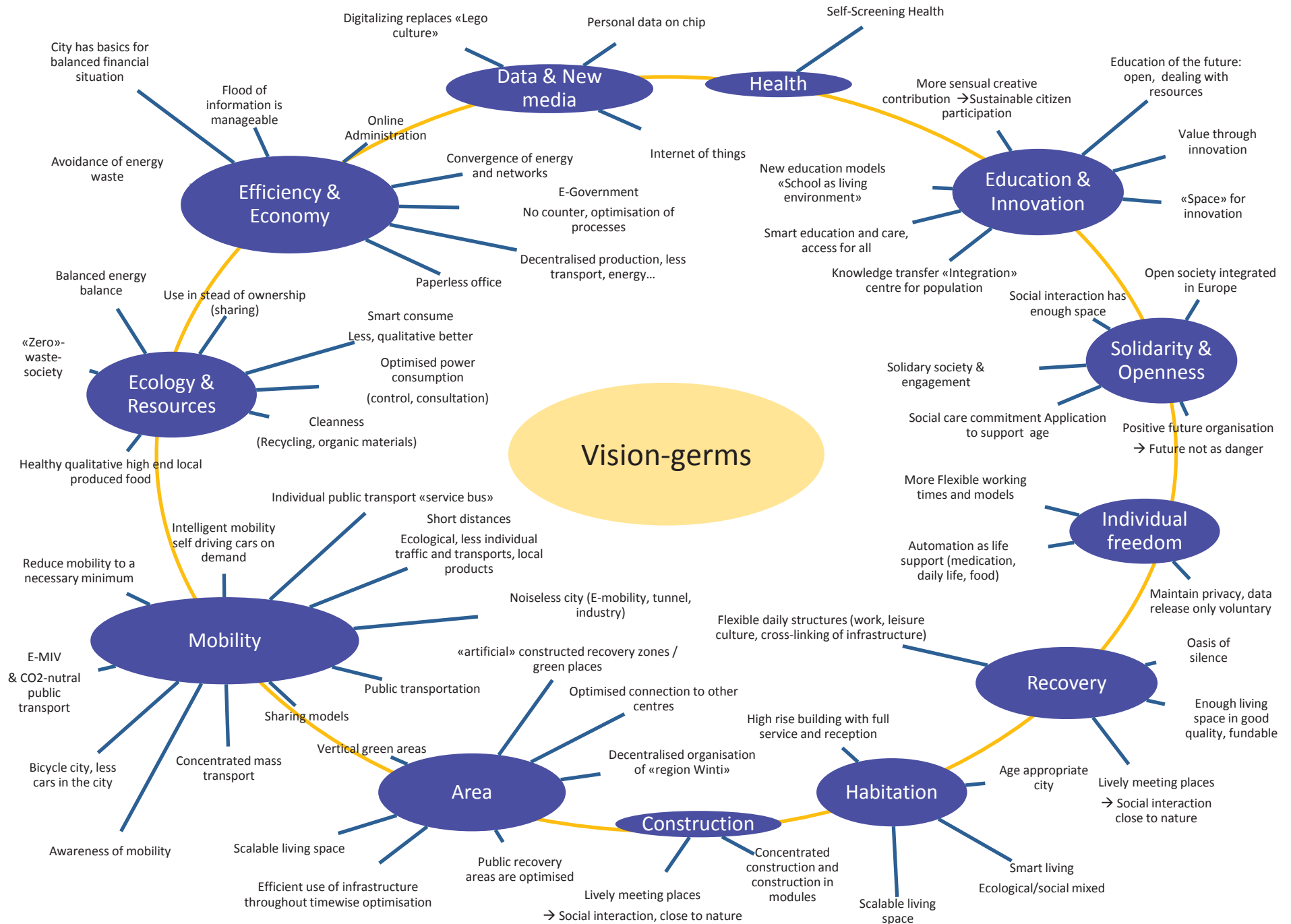
«Smart City is...

... a **progressive, connected city** with a **high quality of life**
and an **efficient use of resources.**»

Smart City Winterthur shall contribute to...

- ... reaching the goals regarding the «2000 Watt Society» and reduction of CO₂ emissions.
- ... identifying the relevance of new technologies and approaches such as Big Data, Cloud Computing, Internet of Things, Open Government Data, 3-D printing, etc.
- ... connecting stakeholders, infrastructures, processes and data networking as a basis for effective and user-friendly solutions.
- ... implementing innovative projects in various areas (mobility, energy, housing, health, education, ICT, etc.) together with partners from research and industry.
- ... informing the public and raising awareness for the sustainable development of the city in environmental, economic and social terms.
- ... positioning Winterthur as an innovative pioneer town.

➔ **Vision-building, scenarios & strategy development towards Smart City Winterthur**



Smart City Winterthur: Pilot projects



Smart City Winterthur
Coordination and
Communication

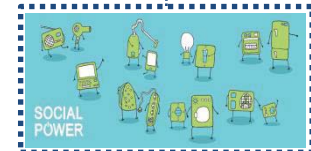


Seasonal
storage of
waste

Smart
retrofitting of
coop. housing

Analysis of
Electricity
Consumption

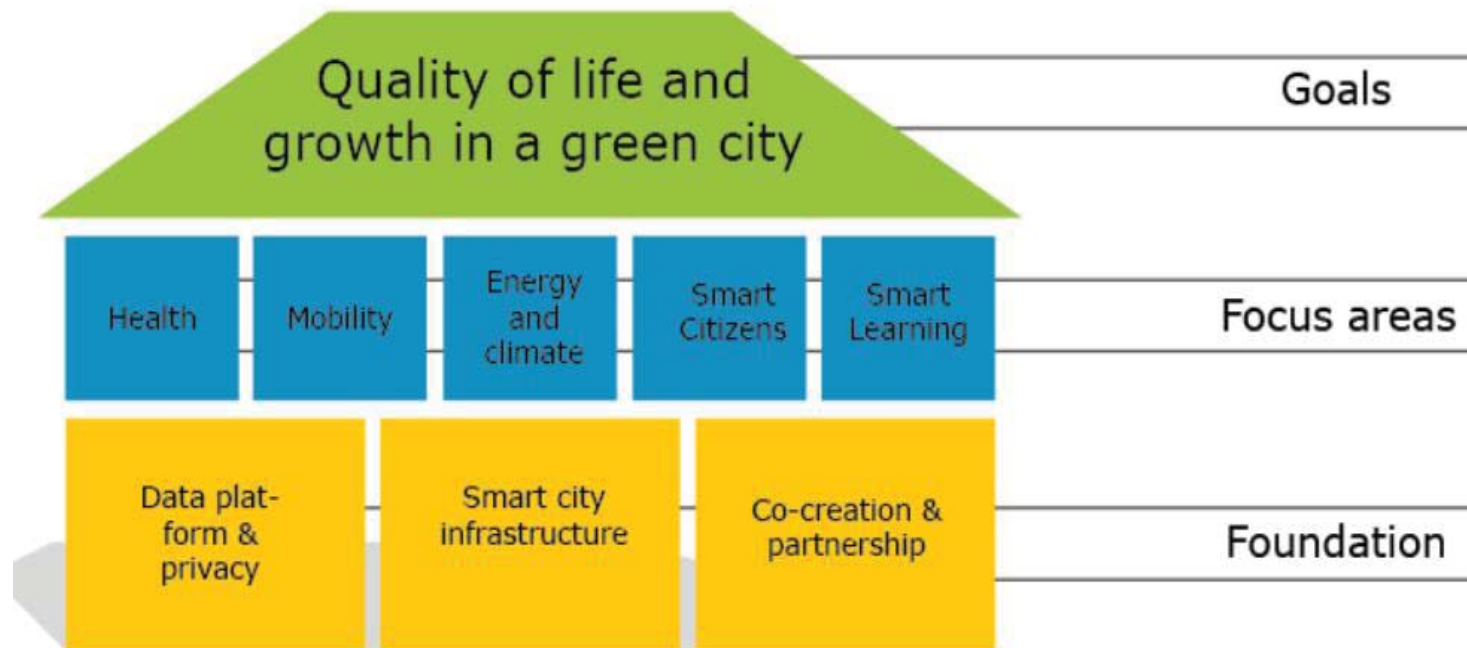
Basics BiCar
Test Fleet



→ Infos on www.smartcitywinterthur.ch

Smart City Copenhagen – CO2-neutral till 2025

Smart City Strategy



Source: Nielson, 2016

Energy & Societal Integration



Architektur, Gestaltung und
Bauingenieurwesen



Gesundheit



School of Management
and Law



School of Engineering



Angewandte Psychologie

Zürcher Fachhochschule



Soziale Arbeit



Angewandte Linguistik



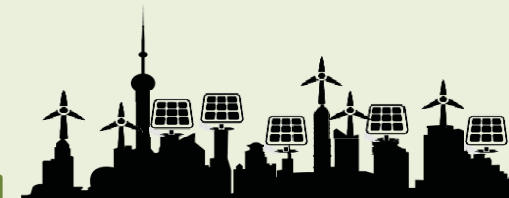
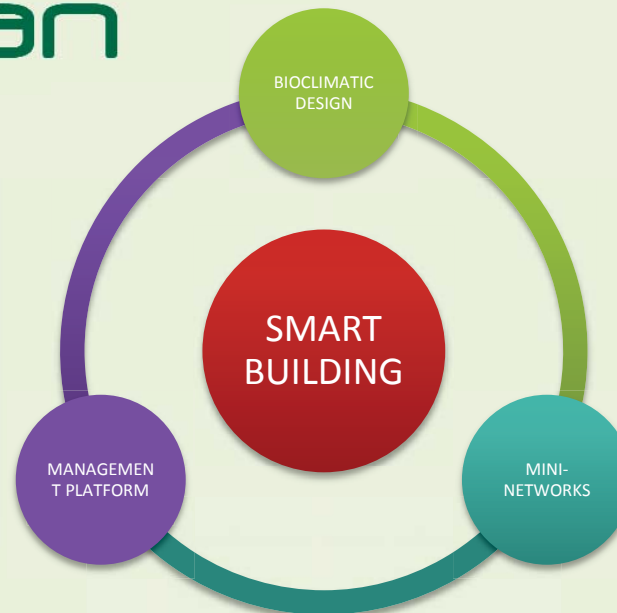
Life Science und Facility
Management ²⁶

Interdisciplinary Platform «Smart Cities & Regions»





Innovative basic energy unit in the Smart City



CITIES

Santa Cruz Tenerife (ES)
Granada (ES)
Amsterdam (NL)
Iasi (RO)
Winterthur (CH)
Zurich (CH)
Limassol (CY)
ecoEnergyLand (AT)



Thank you for your attention!

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www.smartcitywinterthur.ch