

An aerial photograph of a complex multi-level highway interchange. The roads are filled with cars, and the surrounding area includes green spaces with trees, some buildings, and a residential area with red-roofed structures. A semi-transparent dark rectangle is overlaid on the center of the image, containing white text.

**Smart Cities are a
means to an end,
not a goal**

Monitoring cities

Different models:

- **City dashboards**
- **Certification based on process**
- **Comparison with other cities – City rankings**
- **Performance tracking**

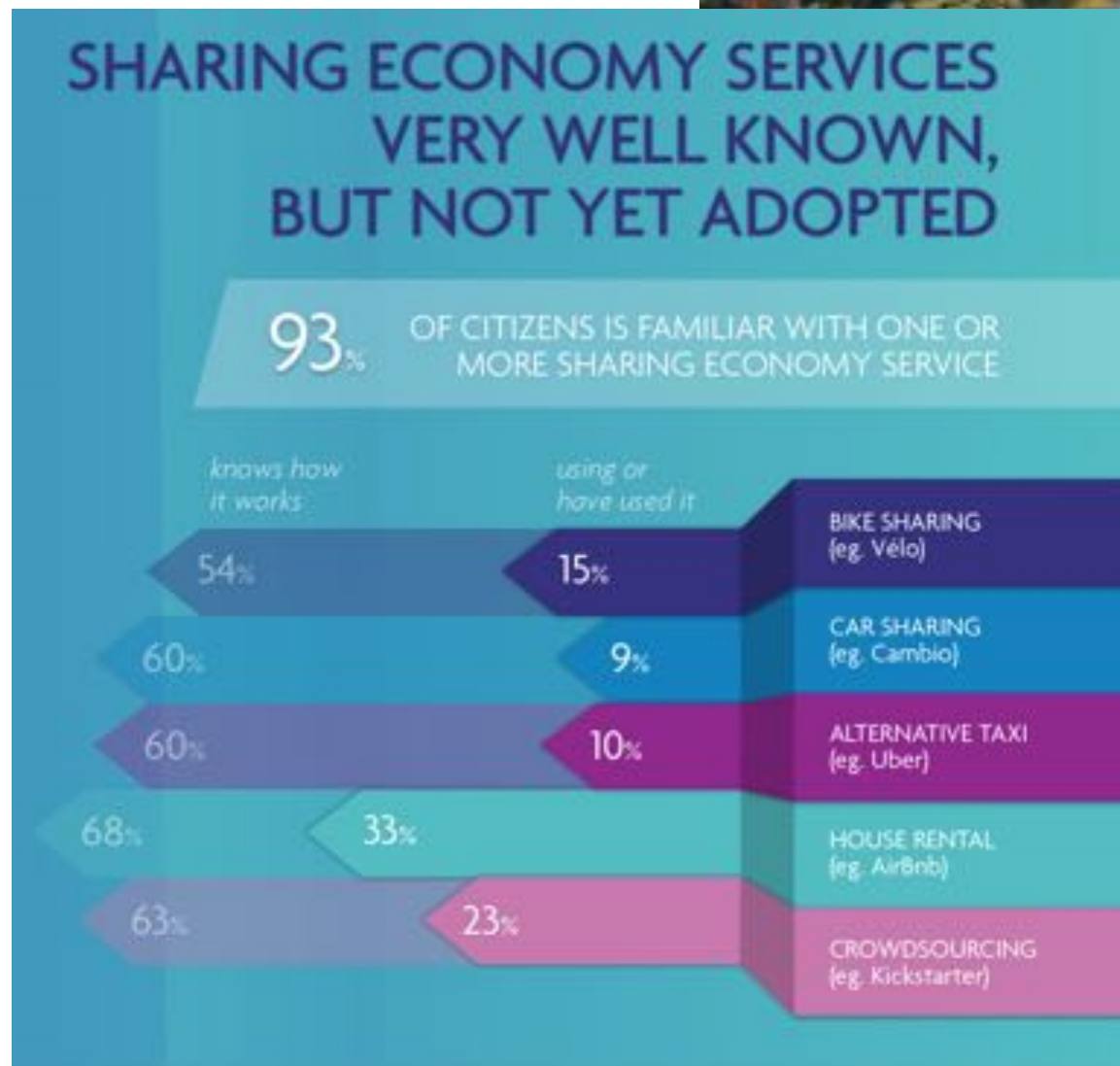


Smart City Meter

Yearly survey by imec

What does the citizen want from Smart City services?

<https://www.imec-int.com/nl/smart-city-meter>



Pitfalls

Bad monitor model for your goal

Gaming the system

Too many indicators

Bad indicators



Case: Vienna Smart City

**Started in 2011 under lead of the mayor
Creation Strategic vision for 2050**

Bottom-up within the government

Different stakeholders involved in the objectives

First monitoring results: 2017



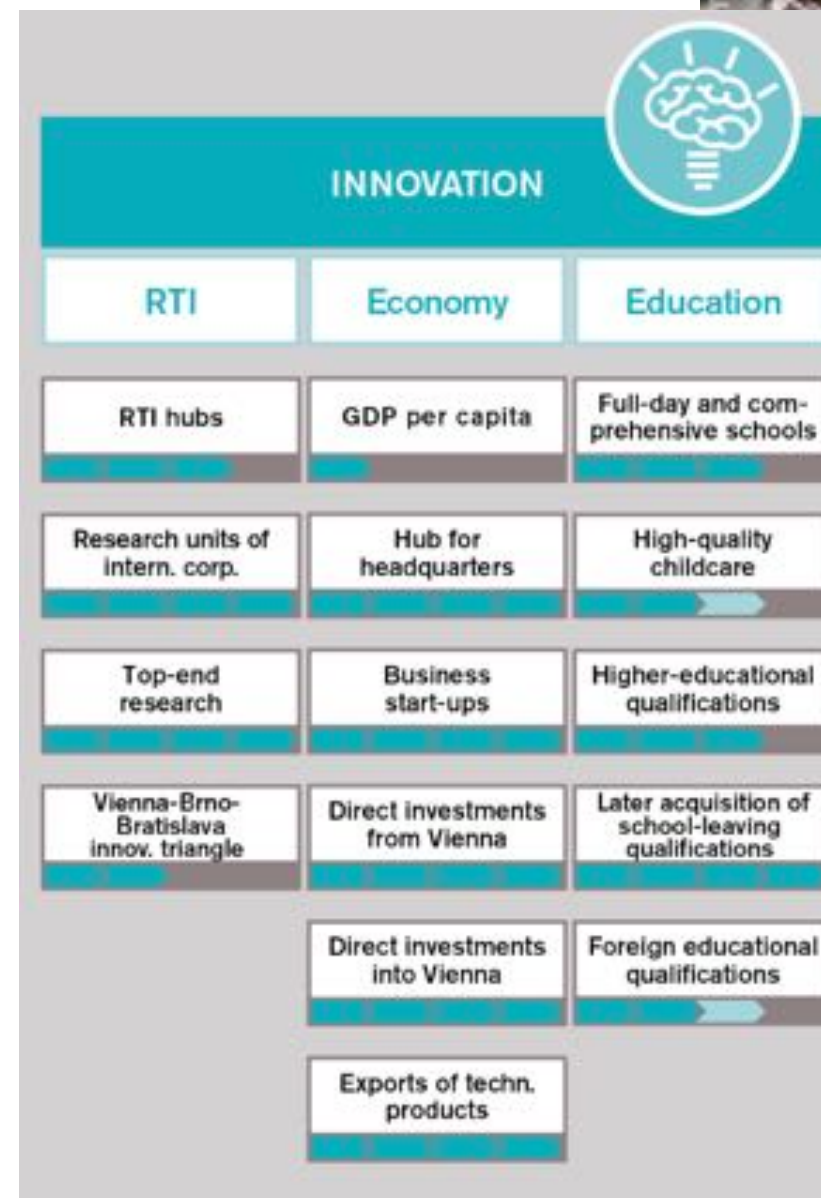
Case: Vienna

Overall goals: energy and climate

Targets:

- **Reduction of resource use**
- **Quality of life**
- **Innovation**

Total of 56 indicators



Case: Vienna

Indicators:

- Both quantitative and qualitative
- Compound score
- Scored by evaluation teams
- Measures progress

Objective	Indicator(s)
Increase in energy efficiency by 40% by 2050 (compared to 2005). (1)	Final energy consumption [kWh per capita]
Vienna maintains its quality of life at the current superlative level and continues to focus on social inclusion in its policy design. In 2050, Vienna is thus the city with the highest quality of life and life satisfaction in Europe. (2)	<ol style="list-style-type: none">1. Subjective life satisfaction on a scale of 1-5 [%]. Source: Surveys on quality of life in Vienna2. Subjective response to the question "How much do you enjoy living in Vienna?", three-grade scale [%]. Source: Surveys on quality of life in Vienna3. Key statements from the "multi-topic survey". Source: Specialist assessment by the objective evaluation team4. Subjective assessment of quality of life in different European cities [%]. Source: Quality of Life in Cities – perception survey, European Commission

To enable uniform presentation of the overall results, a four-level scale was determined and used to evaluate the degree of attainment of all objectives, both quantitative and qualitative:

- ▶▶▶▶ Objective fully attained / fully on track for attainment
- ▶▶▶ Objective largely attained / largely on track for attainment
- ▶▶ Objective partially attained / partially on track for attainment
- ▶ Objective not attained / not on track for attainment

Case: Vienna

Principles:

- **Bottom-up within organisation: involve everyone – because everyone is involved**
- **Use data that is available where possible**
- **Reflect and correct**
 - **Current update according to Paris agreement: higher ambition**

A total of 120 experts from around 50 municipal departments, funds, enterprises and companies of the City of Vienna, as well as all its administrative groups, participated in the first monitoring cycle.

Participants in the SCWFS monitoring process

Persons from	
Municipal departments	77
Chief Executive offices	12
Associated organisations and enterprises	31
Total	120
Participating organisational units	
Administrative groups	7 out of 7
Municipal departments	25 out of 57
Associated organisations and enterprises	18
Participants according to their roles	
Reporting on objectives	34 internal, 1 external
Data provision	41 internal, 5 external
Objective evaluation teams	66 internal, 27 external
Project team	3 internal, 7 external
Gender distribution	
Women	44 internal, 11 external
Men	45 internal, 20 external

Case: Vienna

Use of the monitor

- Evidence-based information and decision-making tool
- Reveal trends and tendencies
- Encourage transparent debate
- Flag cross-cutting issues, encourage cooperation
- Communication and mobilisation



Case: Vienna

Lessons learned

- **Hard to find data owner**
- **Data quality**
- **Finding the right indicator**
- **When setting targets, know how you will measure this**



Case: Vienna

Online Monitoring reporting

<https://smartcity.wien.gv.at/site/en/the-initiative/monitoring/>

Vienna Monitoring Report 2017

<https://www.wien.gv.at/stadtentwicklung/studien/pdf/b008520.pdf>

Vienna Smart City Framework Strategy

https://smartcity.wien.gv.at/site/files/2016/12/SC_LF_Kern_ENG_2016_WEB_Einzel.pdf



A wide-angle photograph of a busy city street intersection. Tall, multi-story buildings line both sides of the street. The buildings on the left have a mix of grey and white facades, while the building on the right is more colorful with orange and yellow accents. Pedestrians are walking across the street, which has yellow markings on the pavement. A semi-transparent dark grey box is overlaid in the center of the image, containing the word "Questions?" in large white font, underlined, and the email address "Jan.Waeben@imec.be" in smaller white font below it.

Questions?

Jan.Waeben@imec.be