



# „SMART CITIES” IN HUNGARY – SOME RESULTS OF A MTA-IBM SURVEY

MTA Regionális Kutatások Központja



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***‘European Digital Agenda  
Going Local 2’ Initiatives  
Workshop on ‘Smart Cities’***

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**1990s:**

**Bangemann Report (1994)**



**National, regional and local ICT strategies**

**2000s:**

**E-government – Smart cities**



**More efficient (cheaper, reliable, transparent)  
public services**

- Assessment of competitiveness of **9 Hungarian cities** based on the definition of „smart city” (Debrecen, Szeged, Pécs, Veszprém, Győr, Tatabánya, Székesfehérvár, Miskolc, Kőszeg)
- Working out of the **methodology of assessment**
- Based on the analysis and the strategic objectives of cities identification of **development axes and project proposals**
- **Financial possibilities**
- **Publishing the results:** book and e-book



Based on

- **IBM Smarter City Assessment** methodology
- Results and experiences of **international and Hungarian research of cities**

Objective of the research:

- to survey **the quality of life of the selected cities** by different dimension of life measuring hard and soft indicators
- Using hard indicators: ensuring **objectivity**
- Using soft indicators: fill in the study with life



- ***Around 80 indicators*** by the database of KSH, KSH T-Star, GKleNeT és az MTA RKK
- Additionally ***analysis of local documents and personal discussions***
- ***Point system*** regarding all researched sector
- ***Weight system: „People” and „Businesses” had higher weight***



Based on the analysis and the vision of the city possible to identify future ‘Smart City’ type developments



## Comparison – Peer cities

- Debrecen
- Győr
- Miskolc
- Pécs
- Szekesfehevar
- Tatabanya
- Veszprem
- Brno
- Ottignies – Louvain – La - Neuve
- Odense
- Copenhagen
- Helsinki
- Stockholm
- Boston
- San Francisco



# Surveyed sectors



7 sectors were analysed:

- **„People”** including public safety, health and education
- **Businesses** including local policy and regulation
- **City services** including local government administration
- **Transport**
- **Communication**
- **Water supply**
- **Energy**





# Horizontal measures



- **Prerequisites**
- **Smarter systems**
- **Management**
- **Outcomes**





# A holistic and comprehensive assessment system



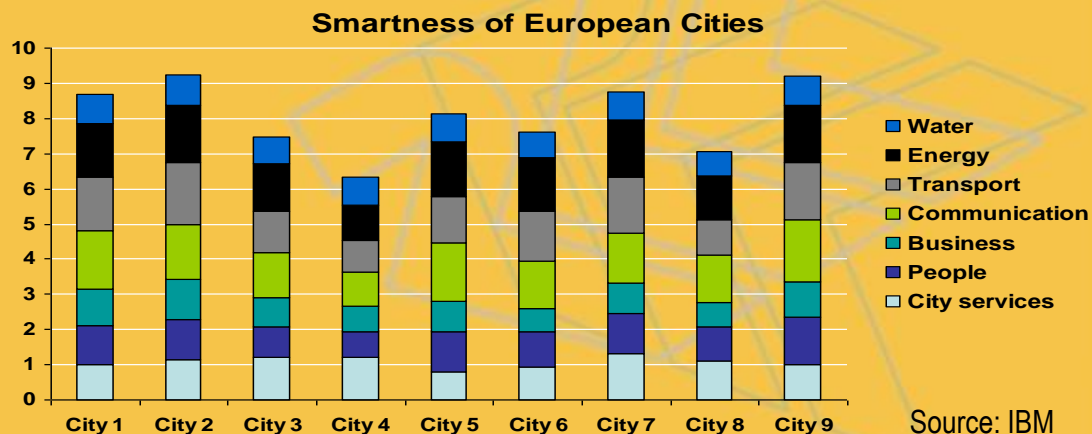
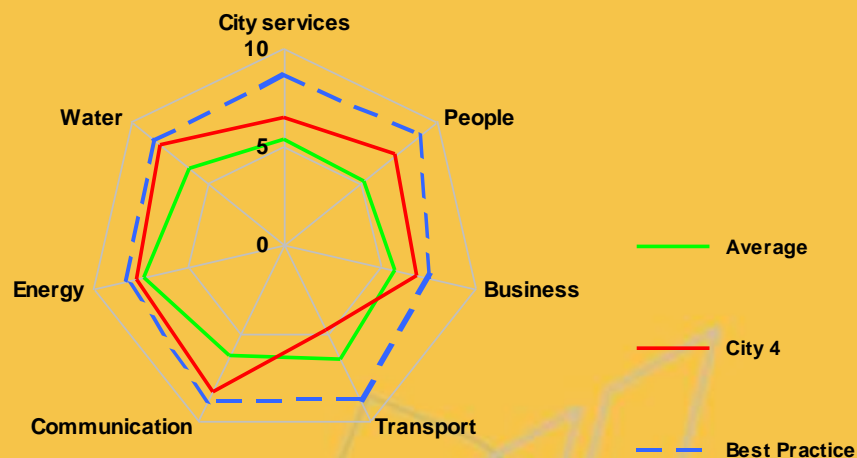
System	Prerequisites	Management	Smarter Systems	Outcomes
<b>City services</b>	Local government expenditure Local government staff	Coordinated service delivery	E-government Application and use of ICT for service delivery and management	Efficiency and effectiveness of public service delivery
<b>People</b>	Investment in education, health, housing, public safety and social services	Strategic planning and management for skills and health	Application and use of ICT for education and health	Education, health, housing, public safety and social outcomes
<b>Business</b>	Access to finance, administrative burden, barriers to trade, business real estate	Strategic planning and management for business (economic development strategy)	ICT use by firms E-business	Value added, business creation, innovation, job creation
<b>Communication</b>	Investment in communication infrastructure	Integrated strategic planning for communication system Coordinated regulation of communication system	High-speed broadband, Wi-fi	Communication system quality and accessibility
<b>Transport</b>	Investment in transport infrastructure and public transport. Quality of basic infrastructure.	Integrated strategic planning and performance management for transport	Use of RFID for traffic management. Use of congestion pricing (and type).	Congestion levels; Accessibility within and to city; Energy intensity of transport system, CO2 emissions from transport
<b>Energy</b>	Investment in energy infrastructure	Integrated strategic planning and performance management of energy system	Presence of smart grids; use of smart metering	Energy waste/loss; Reliability of energy supply; Renewable energy; CO2 emissions
<b>Water</b>	Investment in water infrastructure; Investment in flood defences	Integrated strategic planning and performance management for water	Use of smart technologies for water management	Water use; Water waste/loss;

Source: IBM

# Smarter city assessment tool



- The Smarter City Assessment Tool has been developed by IBM Global Location Strategies on the basis of proven location assessment methodologies for assessing business locations
- The Tool 'measures' cities' performance against many indicators for each of the Smarter City systems
- It allows benchmarking of a city's overall capabilities against peer locations, and best practice
- The Tool identifies challenges that cities face and where improvements can be made



Source: IBM



# Overall results

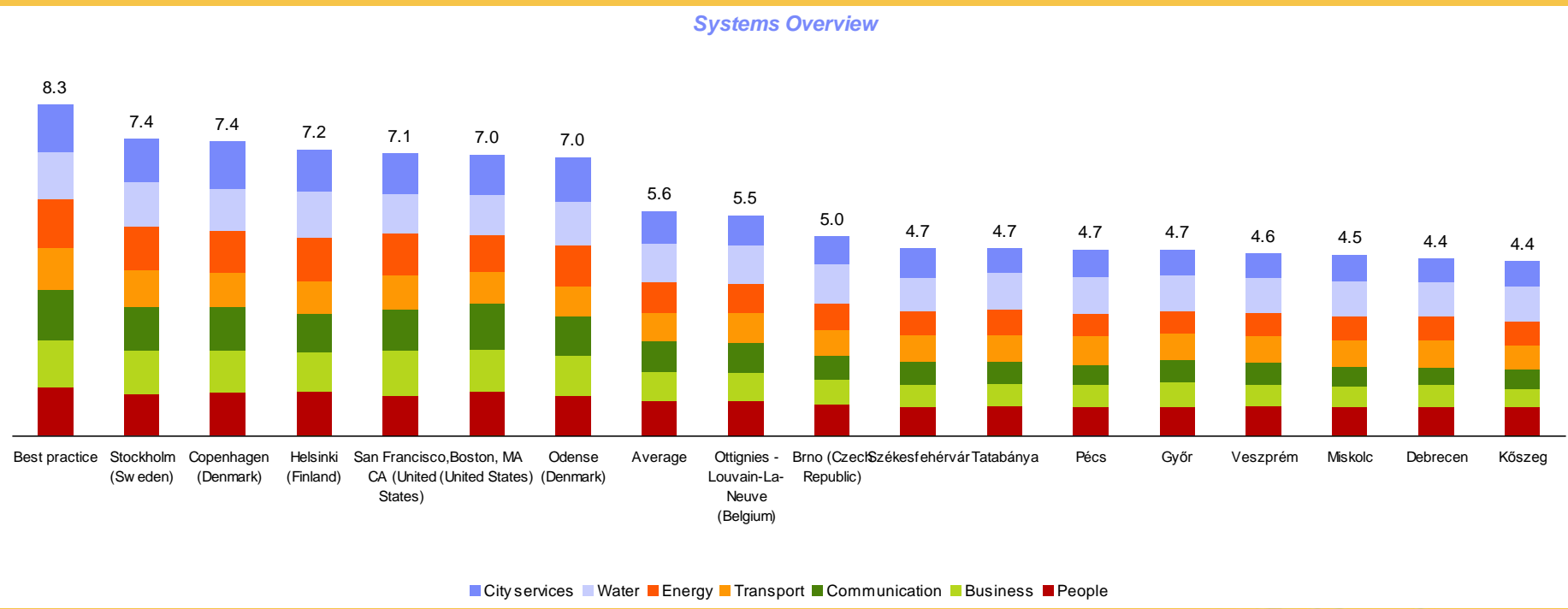


**Kőszeg ranks last among the cities analysed.**

**Stockholm is the top performing city, closely followed by the other Nordic capitals, Copenhagen and Helsinki.**

**Székesfehérvár is the top performing Hungarian city**

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Source: IBM

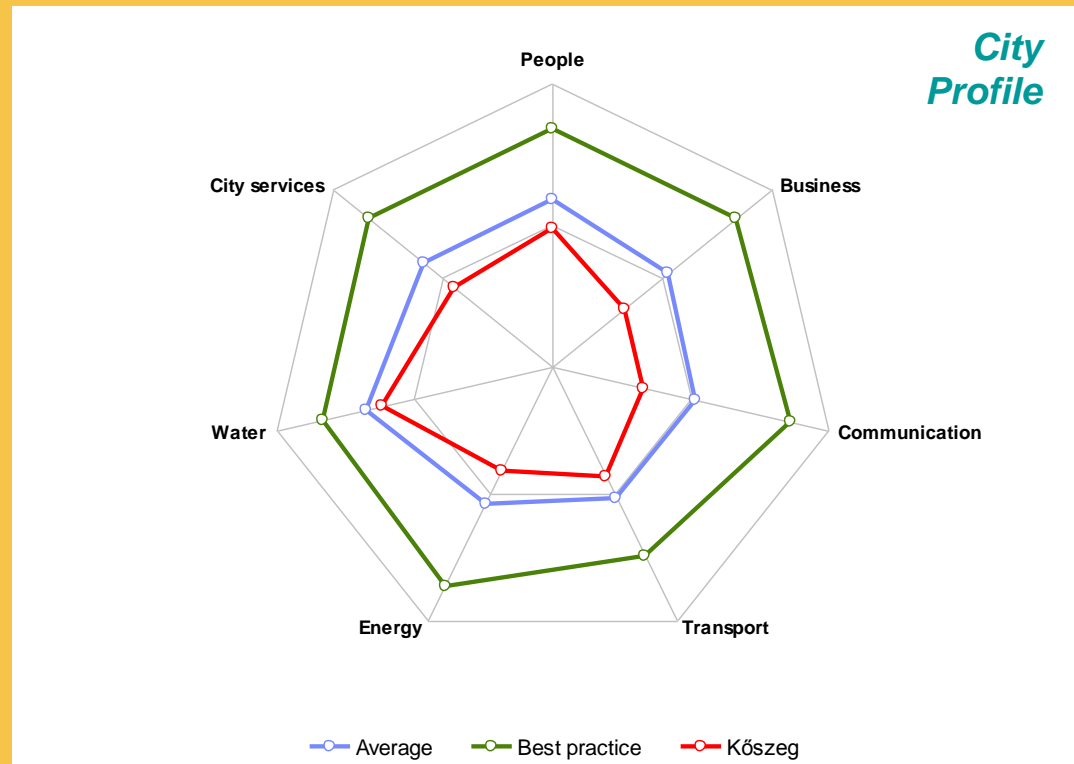


# Case of Kőszeg



Kőszeg's relative performance is not uniform across all the systems.

For example, while performing relatively well in the water and people systems, the city is performing relatively more poorly in the business, communication, transport and energy systems.



Source: IBM



# Communication system in Kőszeg



Kőszeg ranks second last in the communication system, suffering from a **relatively poor communication infrastructure**.

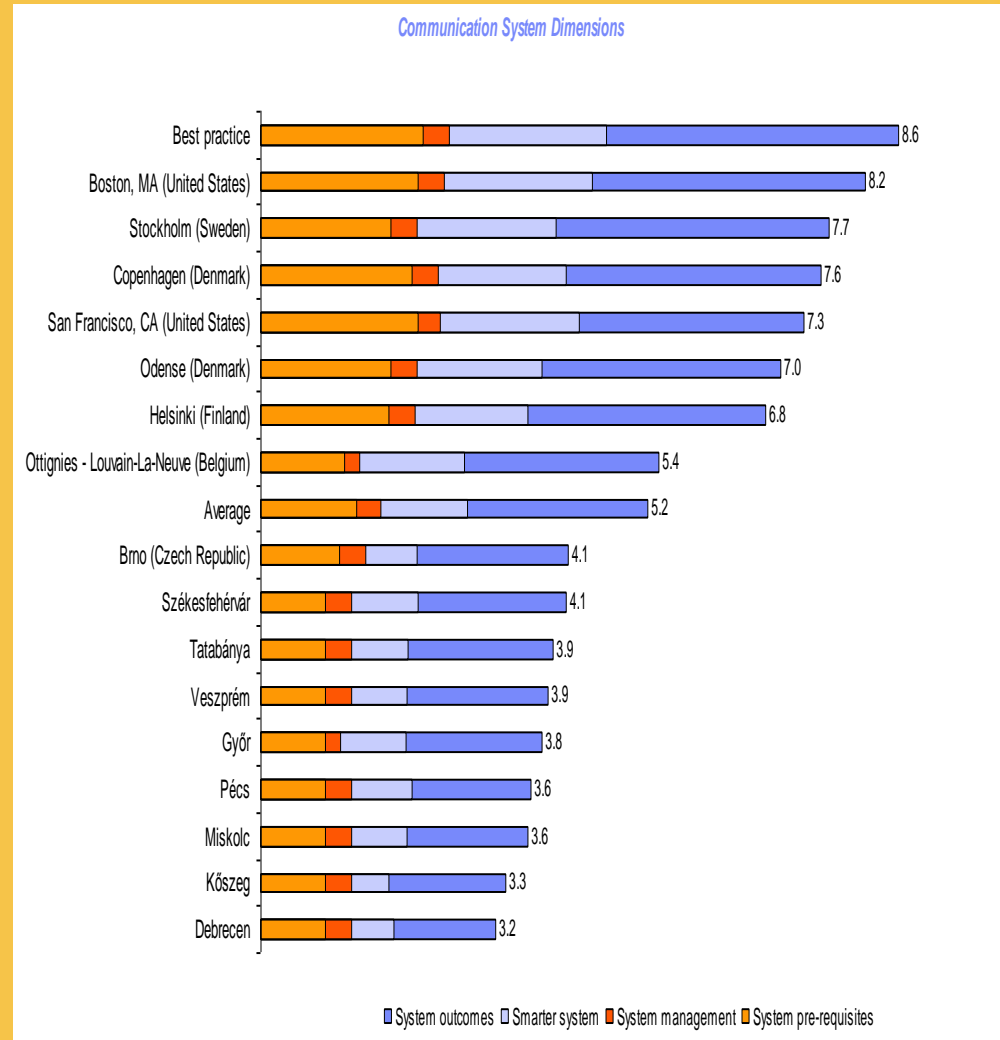
Boston and Stockholm are the leading cities internationally, while Székesfehérvár is the best performing Hungarian city.

Kőszeg has a very low level of broadband penetration, with only 34% of households connected to broadband. In comparison, Székesfehérvár has a broadband penetration rate of 63%.

Similarly, Kőszeg **has no Wi-fi hotspot coverage**.

The poor underlying infrastructure also means that the citizens of the city have less access to ICT than in most other cities analysed. Only 43% of the population have access to the internet at home, compared to 70% in the best performing Hungarian cities and more than 90% in the leading international cities.

Source: IBM





# Project ideas coming from the survey



- **Set up missing sector strategies :**  
e.g. local economic development, transport, energy
- **Development of ICT infrastructure:**  
high speed internet and wi-fi
- **Intelligent city management**
- **Intelligent transport (optimise public transport)**
- **Intelligent tourism (new marketing and information services)**
- **Intelligent public administration (e-government)**



# Financial Resources



EUROPEAN UNION  
European Regional  
Development Fund



**SZÉCHENYI TERV**



# **„SMART CITIES” MTA-IBM STUDY**

**Theory – Methodology – Resources –  
International best practices –  
Local Case studies**

[http://www-05.ibm.com/hu/download/IBM\\_SmarterCity\\_20110721.pdf](http://www-05.ibm.com/hu/download/IBM_SmarterCity_20110721.pdf)





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**Thank you for your attention!**

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