SMART AMBITIONS AND ACHIEVEMENTS IN HUNGARY

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TOPICS IN SHORT

- Smart city as a national ambition: fundaments and supportive structures
- Smart projects: national and local smart ambitions meet
- Smart projects: cutting edge technologies tested
- Smart city achievements: sectoral approach vs. integration
- Smart city planning – planning smart cities ?
- Smart city: futuristic visions on the way to reality in Hungary

SMART CITY: FUNDAMENTS & SUPPORTIVE STRUCTURES

No one specific ministry assigned by the government to be responsible for smart initiatives and smart city projects, but every relevant government entity has its own role. Ministries mainly in charge:

- Prime Minister's Office – urban development, urban planning –Deputy Secretariat of Built env.
- Ministry of Interior, e-Government Secretariat
- Ministry of Innovation and Technology (ITM) (Secretariats with thematic topics of SMART)

National „smart policy": Digital Welfare Program 2.0 (2018) (general scope: digital infrastructure, digital competences, digital economy, digital administration – 10 city pilots were to be implemented based on DJP 2.0) (ITM)

Other important entities:

- **Lechner (Knowledge) Center** (LTK) relevant national agency for smart urban development (data and document storage / GIS system / regional and urban planning and relevant ICT systems)
- **National Info-communication Services PLC** (NISZ) state owned company for developing sectoral smart systems (e.g. developer of the National smart mobility systems platform and other national sectoral platforms)

SMART CITY: FUNDAMENTS & SUPPORTIVE STRUCTURES

Financing smart initiatives:

- Modern Cities Program (national funding scheme for Cities of County Rights)
- Hungarian Village Program (just being launched)
- Governmental initiatives by Gov. Decision – e.g. Monor Smart city project (in progress)
- Direct EU support – e.g. ELENA for 6 cities, UIA
- IT companies / developers and municipalities own co-financing schemes
- European Investment Bank is present and co-works with Hungary's Development Bank (MFB): assessed the cities' needs and capacity to implement smart projects
- commercial banks – ongoing ex-ante assessments for cities to define the space for co-financing of remuneratory investments (mostly smart city solutions)

SMART is not yet directly financed by the Structural Funds ERDF urban initiatives – smart solutions can be involved but not directly targeted subjects of support in the 2014-2020 period (TOP – Territorial and Settlement dev. OP 2014-2020).

SMART PROJECTS: NATIONAL AND LOCAL SMART AMBITIONS MEET

Large scale and centralized smart cities undertakings – system building

1.) **ASP (Application Service Provider)** a cloud-based service in modular system for the support of municipal administration (since 2012):

- Efficient resource management of municipalities / Support of task management / Provision of particular e-administration services in 1800 municipalities

2.) **National level integrated services** – application of Intelligent Transport Systems

NESZIP: (National smart mobility systems platform), one module of NESZIP is NEJP (national e-ticketing platform) – transparent ticketing system of public transport (apps – RIGO)

Installation: Tatabánya 2019 (financed via Modern Cities Program) / Budapest on particular bus lines – ongoing extension of the e-ticketing system

3.) **Urban Data Platform –** free of charge geo-spatial data platform for all municipalities (Lechner Knowledge Centre).

4.) **Unified e-governance** e.g. health care, e-ID (17 modules)

SMART PROJECTS: CUTTING EGDE TECHNOLOGIES TESTED

Cutting edge infrastructure advancement:

In July 2018, Hungarian Telekom conducted a first 5G trial at the company's headquarters in Budapest. Its first 5G standard station opened at Zalaegerszeg at the end January 2019, and there are also further pilots in Kecskemét.

In Zalaegerszeg:

- Besides the operational test the development of business solutions, using the network, has also started.
- Magyar Telekom and T-Systems Hungary are constructing a dedicated, wireless network that can be rendered 5G capable later, on a facility of an automotive vendor,
- self driving cars demonstrated their manoeuvring abilities, using the 5G network at the ZalaZONE test track.

SMART CITY ACHIEVEMENTS: SECTORAL APPROACH VS. INTEGRATION

Sectoral approach

Integrated approach

Leading sectors for smart solutions in Hungary (esp. in larger cities):

1. Smart mobility: Intelligent transport systems are being installed in several cities and include radar, cameras and advanced electronics for road transport, electronic ticketing, WIFI on board, hybrid and e-buses, public e-information system for passengers.

Debrecen: smart Z crossing, cooperation WAZE (sharing anonym data for the dev. of transport network, e-tickets)

Miskolc: TRAM project

Szeged: SASMob project - Urban Innovative Actions / cash free city

Győr: fast charging stations in parking garages, GyőrBike

Further achievers: Békéscsaba, Dunaújváros, Veszprém, Kecskemét etc.

SMART CITY ACHIEVEMENTS: SECTORAL APPROACH VS. INTEGRATION

Sectoral approach

Integrated approach

Leading sectors for smart solutions in Hungary:

2. Smart buildings and construction – both the public and private sectors are converting current buildings into smart buildings including renewable energy sources, advanced access controls, and sophisticated security management among other innovations. (solar panels are especially well supported by the government and EU structural funds) Complete **SMART GRIDS** are still **rare to find.**

KAPOSVÁR aims high and also is a high achiever in this field:

among others it has launched an ELENA (*European Local ENergyAssistance)* project with 5 more Hungarian cities (Dunaújváros, Szombathely, Tatabánya, Veszprém and Zalaegerszeg). The project includes installation of solar panels on public buildings, public lighting, installing smart metering techniques, centralized controlling system

SMART CITY ACHIEVEMENTS: SECTORAL APPROACH VS. INTEGRATION

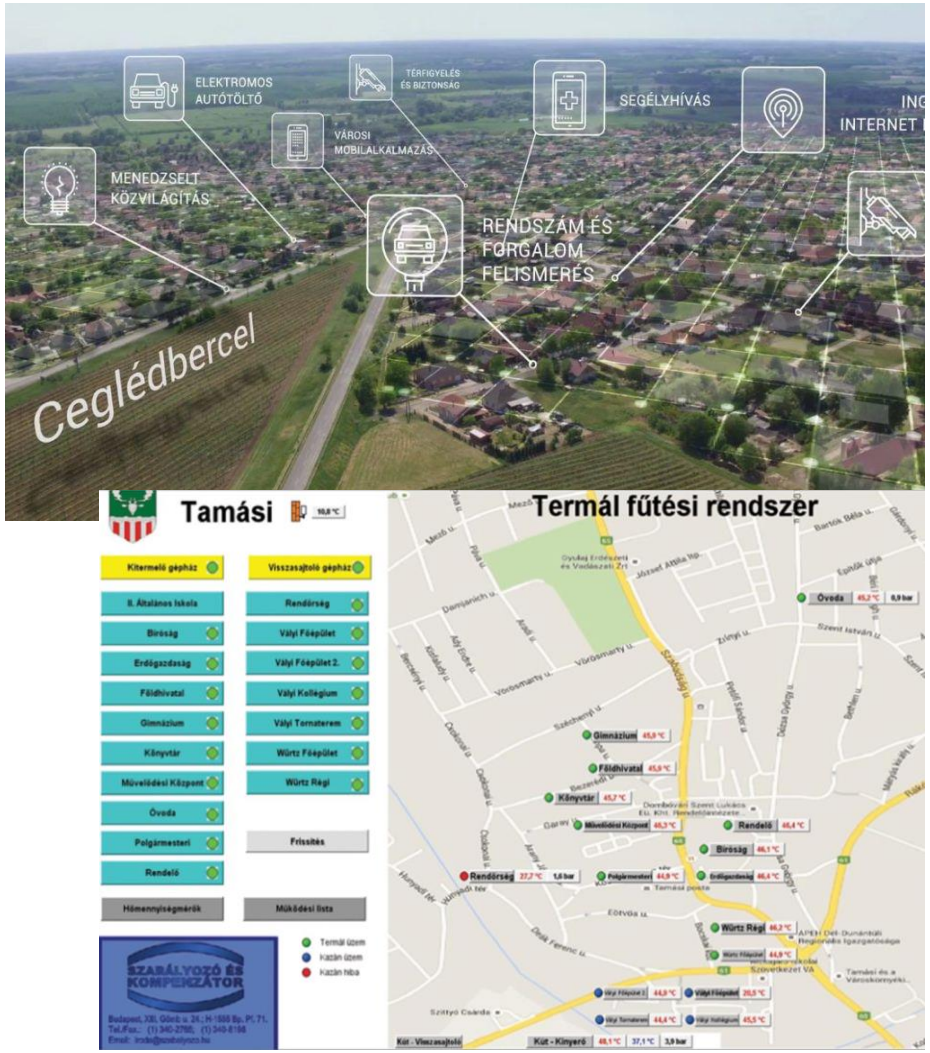
Smaller cities and villages: preference for INTEGRATED approach but different priorities

Ceglédbercel (a village of 4000) - in cooperation with Invitech Solutions:

- System of 8 full HD camera linked to the local police station / WiFi hotspots / MobilApp
- Environmental sensors and IoT-network – for public lightning, traffic controlling.

Tamási (the digital small city):

- Geothermal public utility system (heating, warm water – targeted CO2 emission reduction)
- Instalment of 1445 LED light bulbs, controlled via the CityTouch system (reduction of electricity by 30%)
- Planned: smart metering, smart administration, upgrading the entire utility systems)



SMART CITY PLANNING – PLANNING SMART CITIES?

Integrated urban development strategies

Obligatory for cities (314/2012 Gov. Decree)

Besides being an urban dev. regulation tool-kit, is also a base for benefitting from the EU structural funds

Revision is linked to the EU programing periods

The third round is due soon!

Smart city urban development model (strategy)

Methodology provided by the Lechner Center

Little motivation to invest into costly planning procedures so far. (hardly any completed strategies)

Preference for smart concepts and sectoral smart strategies such as SECAP, SEAP – financed from ERFA)

CHANGE in legislation (2018):
Integrated Strategies are to be made smart by considering LTK methodology
(expected challenge: integration of approaches and planning practices)

Challenging points:

- Planning small towns (resources)
- Planning for urban agglomerations – city regions ??
- Integrating smart initiatives of public services owned by the state and by the municipalities

SMART CITY – FUTURISTIC VISIONS

Hegyeshalom-Bezenye project – a new town from scratch

- the town will occupy an area of 1.27 square miles (330 hectares) and will provide 1,000 homes and create 5,000 permanent jobs in the greenhouse sector
- the carbon-neutral smart city would be a landmark of eco-living in Europe
- German developer Fakt AG will spend $1.13 billion (€1 billion) on the project that, in addition to the Hungarian government, will also benefit from the contribution of two other companies: German energy supplier E.ON., and Hungarian construction company KESZ Group.
- sustainable water management practices to avoid lowering the region's water table, and geothermal plants will be used for cooling purposes

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THANK YOU FOR YOUR ATTENTION

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