Smart City Monitor:
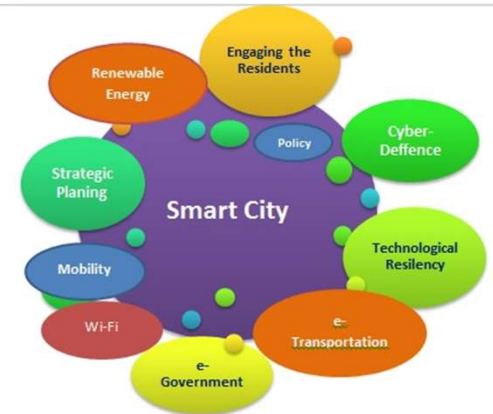# An AI Digital Twin assistant
for municipalities

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31 Jan 2024 presentation for WELLBASED consortium using the technology platform

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What is a Smart City Monitor?

- Advanced IoT software system in cloud
- Runs different models of a City, a District, including the full model of ISO 37120:2018 standard
- Automatically collects many city data from spreadsheets, IoT sensors, SCADAs, vehicles, robots, weather stations, mobiles
- Calculating any necessary standard and custom KPIs
- Analysing sustainability of urban systems, objects, processes, in real time and as predicted future
- Presenting analytics to municipality employees and citizens

Who are the target users?

- City administration and local governance in municipalities, city councils, urban communities

- Management of utilities and urban service providers - energy, water, waste, waste, transportation, economy, social, etc.

- Urban environment and services including health and emergencies, land value assessment

- Transparent public information about city processes & results

What problems are addressed?

• Providing consistent holistic vision of a City as a complex big System of Systems (SoS) in real time with cause analysis

• Representing a magnitude of concurrent processes real time,

• Quantitative assessment of the results for resource efficient and sustainable managing of urban communities,

• Improving transparency, non-biased predictability of results,

• Fostering community sustainability and capacity to cope with financial, economic, political and other instabilities under limited resources (budgets, specialists, materials, water, food) and climate change impacts

Let's ask ChatGPT4 how Smart City Monitoring may look like …

How AI represents addressing the problems?

Image by ChatGPT4, generated on 30.01.2024

Demonstration of the applications

WELLBASED: Automatic environmental and health data collection from many residence apartments in 6 pilot cities running in separate Smart City Monitor instances for each city

DOME Digital Europe project by EC: Smart City Monitor will support city certification by ISO 37120 and continuing auditing of compliance with major quality management standards

Other HEP projects in the pipeline: Circular tourism, Urban climate change and mitigation, Health ecosystem management, Coastal areas monitoring and protection, etc.

Video in YouTube (3 min): [Smart City Monitor intro](#)
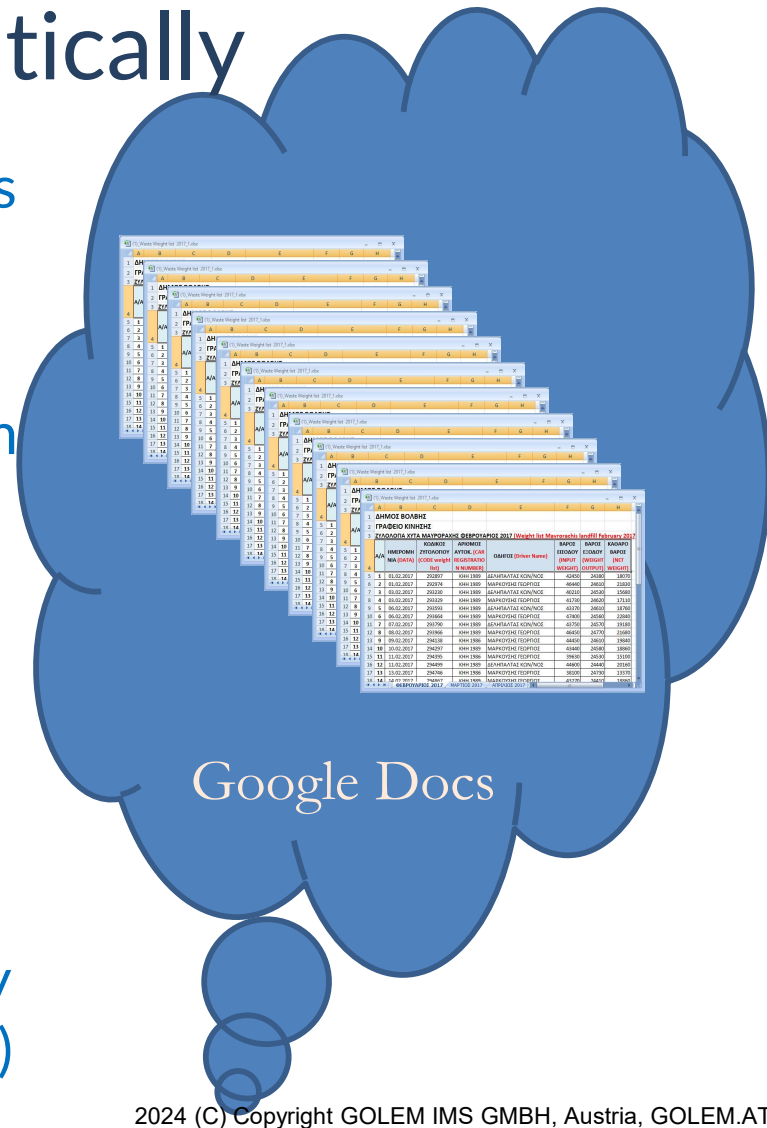Live demo: http://pharosnavigator.com

Data examples: Spreadsheet sources

● Waste water data by ISO 37120 model data in MS Excel files

MS Excel & Calc files are imported automatically from Linux /Windows servers, Dropbox, etc

Smart City Monitor automatically

1. Imports the data from all spreadsheet files

2. Saves local copy of data in the SCM database

3. Calculates all ISO and municipality custom KPIs in real time

4. Analyses each KPI value against targets

6. Evaluates sustainability for each process measured by KPIs, main city objects and subsystems and the whole city

7. Presents results at interactive dashboard and reports for each stakeholder individually (according to the role and data access rights)

Google Docs

Conclusions & Takeaways

- Smart City Monitor is an unique urban digital technology worldwide that was developed in EU and successfully applied in several Horizon Europe projects

- It is included into the Digital Europe project [DOME](#) by EC as a key certified service for EU municipalities to run at the DOME platform by the end of 2024

- Smart City Monitor supports ISO 37120 certification, ongoing compliance auditing, promoting community investment and city image building

- All WELLBASE pilot city partners are welcome to being using the new EU service Smart City Monitor @ DOME platform after August 2024

- This action will promote the WELLBASE dissemination and image of the pilot municipalities in EU and worldwide

- The experience offers attractive possibilities for the partnerships and collaboration in new projects: Horizon Europe, Interreg, ESIF 2024-2025

Online Smart City Monitor demos:

https://pharosnavigator.com

Video:

Smart City Monitor intro

Smart City Monitor Reports introduction

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DOME project: https://golem.at/dome/

X (Twitter): @MonitorSmart

Thank you!