TOWARDS CLEANER AIR

KEY OUTCOMES OF THE LIFE IP HUNGAIRY PROJECT

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CIMACT2ADAPT CONFERENCE

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ABOUT THE LIFE IP HUNGAIRY

Aim: improving ambient air quality in 10 Hungarian municipalities across 8 regions of the country

Project duration: 01/01/2019 – 31/12/2026

Coordinating Beneficiary: HungaroMet Hungarian Meteorological Service

Associated Beneficiaries:

VITO - Flemish Institute for Technological Research NV (BE), Association of Everyday Cultures, University of Miskolc,10 municipalities and their service companies: Békéscsaba, Budapest, Debrecen, Eger, Kaposvár, Karcag, Miskolc, Pécs, Szolnok, Tatabánya

Project budget: 15 967 741 €

Contribution of the European Union: 60%

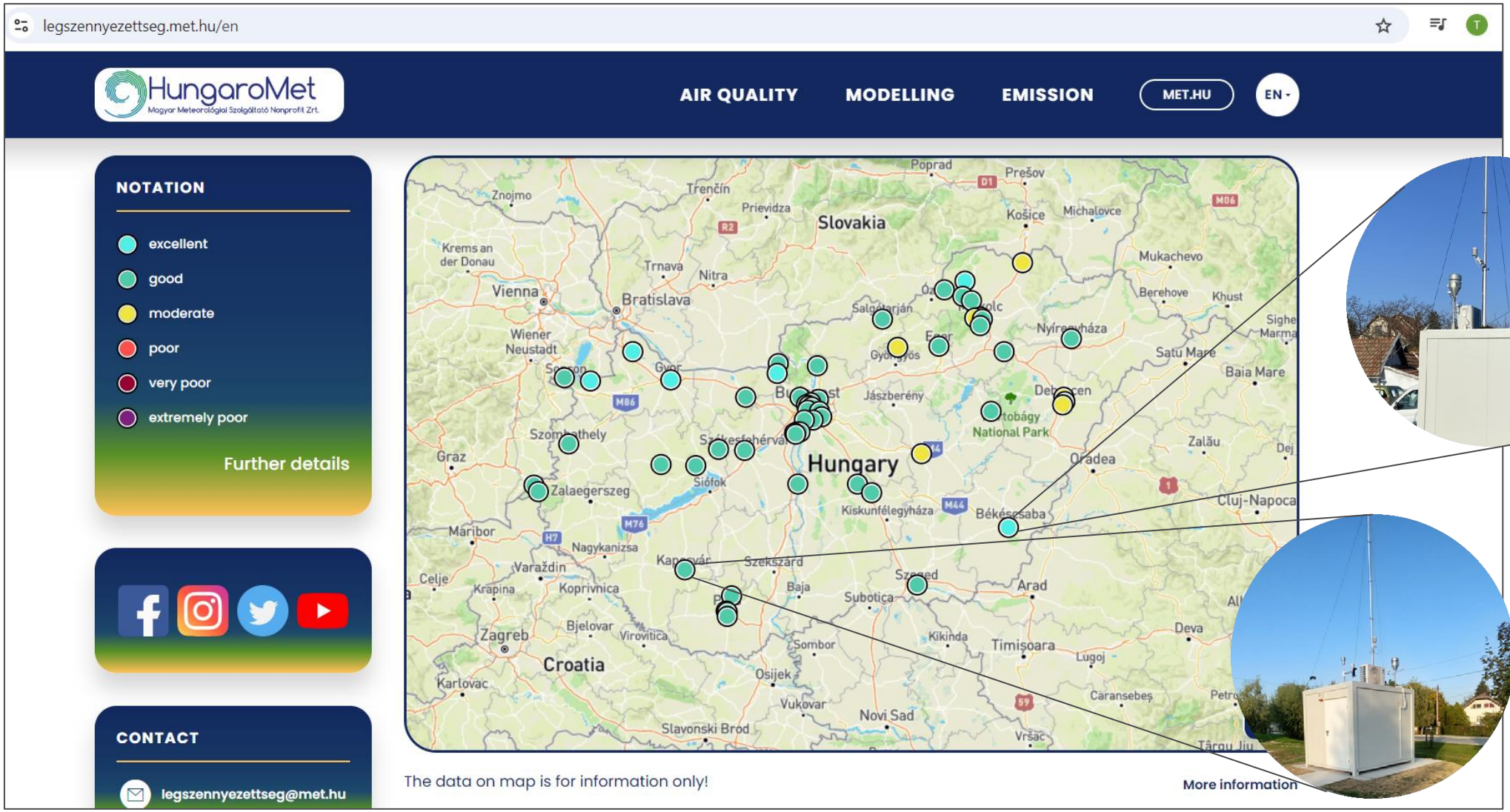
PROJECT ACTIVITIES

HUNGAIRY

ECO-MANAGER NETWORK

- An **Eco-manager Knowledge Centre** (EKC) was established in 2019.
- An **eco-manager office** with 1-4 eco-managers began operations at each municipality/partner in 2020.
- **Professional, communication, and management trainings** have been organized for the eco-managers by the EKC.
- **E-learning materials** have been developed.
- **Eco-managers meet monthly** to discuss various topics.
- **Eco-managers report their activities** *quarterly* to the leader of the EKC.

INSTALLATION OF NEW MONITORING STATIONS



Békéscsaba
(February 2021)

Kaposvár
(July 2023)

HIGH RESOLUTION PM MONITORING NETWORK

Low-cost sensor deployment:

- PM_{10} and $PM_{2.5}$ measurements
- Miskolc: 60 units
- Kaposvár: 20 units
- Individually calibrated PM sensors

Data access:

- Available on PMmonitoring.hu & mobile application

Meteorological stations:

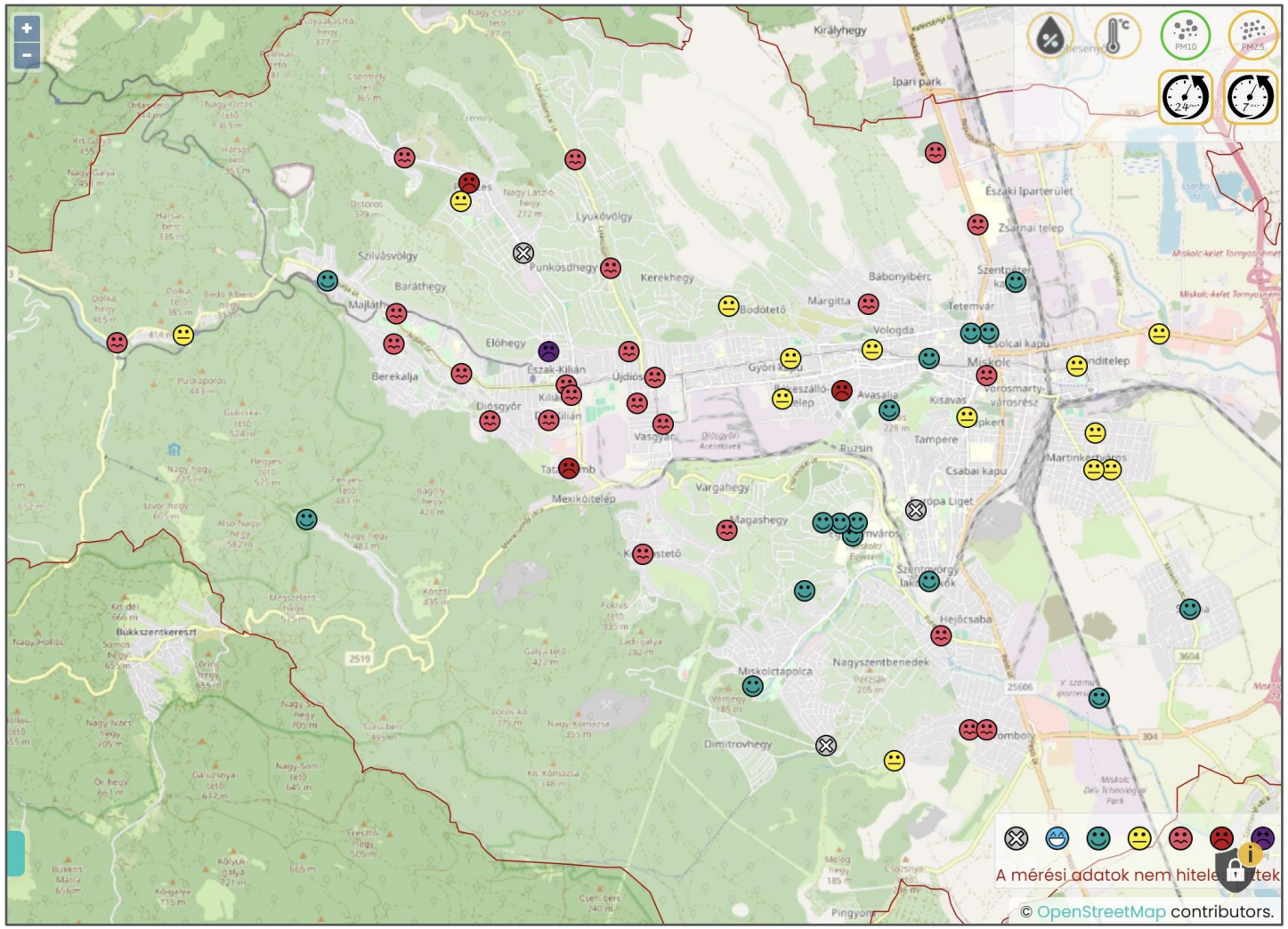
- 2 stations installed

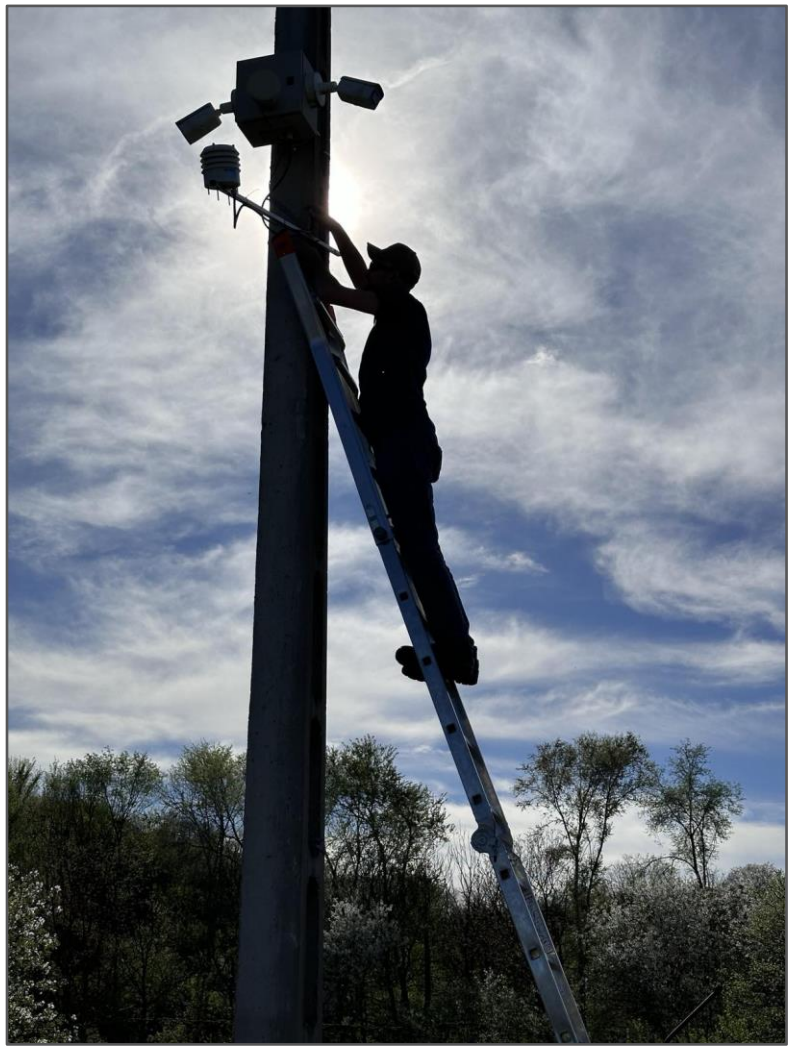
Key activities:

- publications, presentations, events

https://www.sciencedirect.com/science/article/pii/S0301479721022209

HIGH RESOLUTION PM MONITORING NETWORK - MISKOLC





ATMO-PLAN: AIR QUALITY PLANNING TOOL

HUNGAIRY

ATMO-Plan
Supporting Urban Air Quality Plans

What is ATMO-Plan?

- ATMO-Plan is an urban-scale air quality planning application.
- A user-friendly, web-based tool designed to determine the impact of measures aimed at improving air quality.
- Designed for eco-managers, municipal experts, environmental specialists, and researchers.

Features:

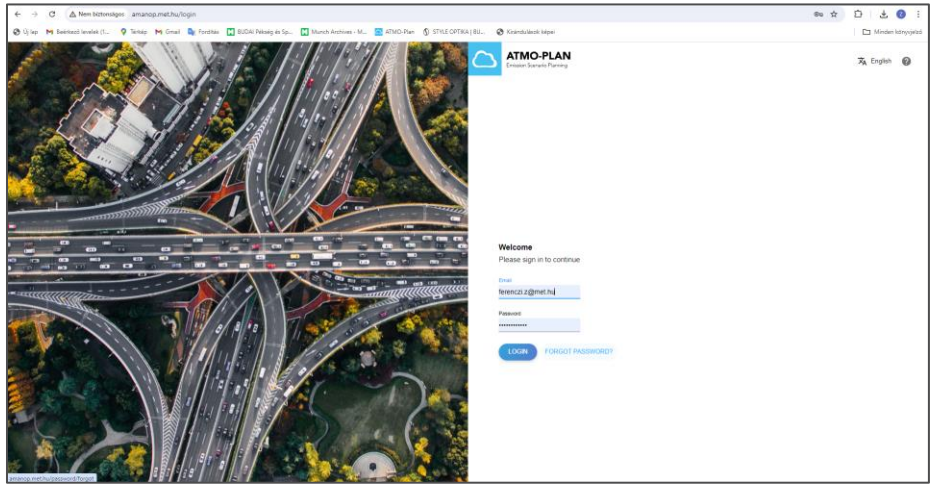
- Customizable for specific regional conditions.
- Facilitates scenario evaluation to assess the impact of air quality measures.
- Accessible interface allows users with limited expertise to run air quality simulations.

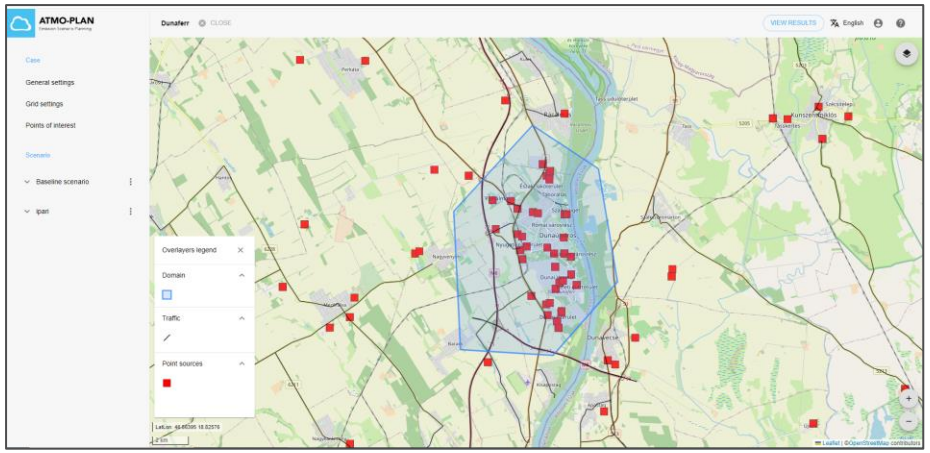
What can be calculated with ATMO-Plan?

- Changes related to traffic measures (traffic network & volume, vehicle fleet/type & speed)
- Changes related to residential heating measures (fuel type, building energy demand, type of heating equipment)

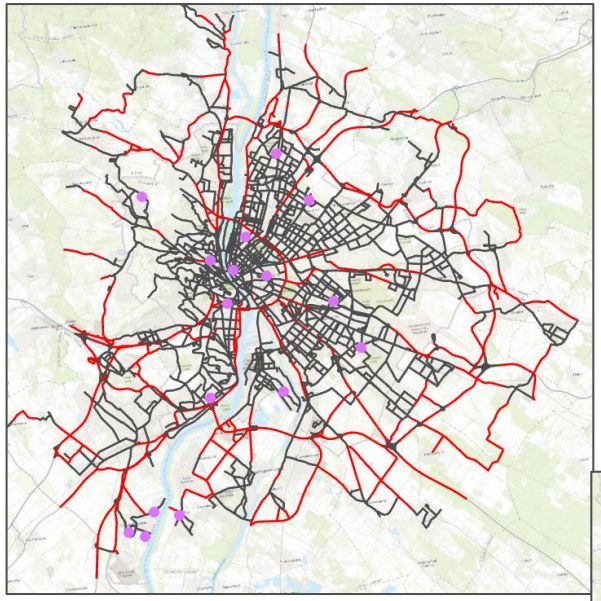
DEVELOPMENT OF A DECISION SUPPORTING TOOL

Homepage



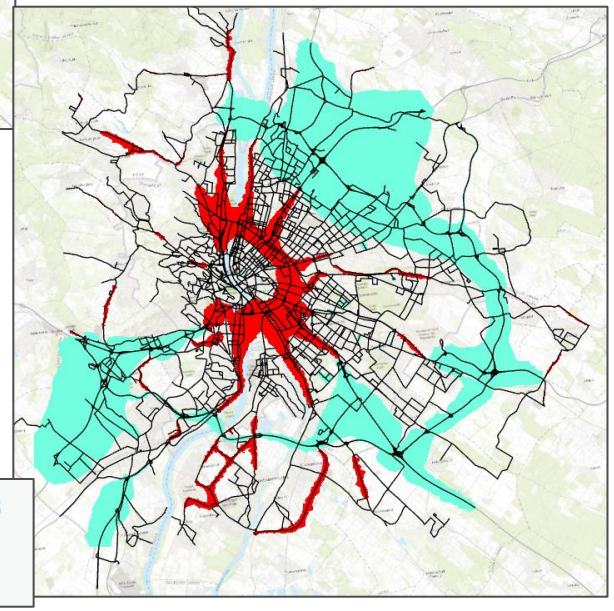


Reduction of speed limit to 50 km/h



Roads with speed limit above 50 km/h are shown in red.

Difference in NO_2 concentration



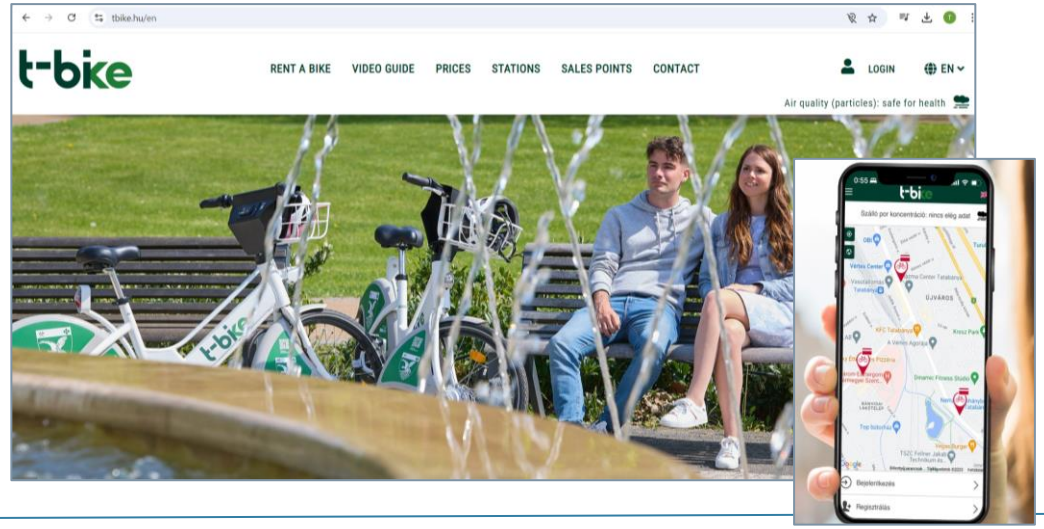
DEVELOPMENT OF A PUBLIC BICYCLE SYSTEM

1. Eger

- "**Eger Bringa**" with 2 stations and 20 bicycles was launched for public use in April 2023.
- The municipality is exploring options for expanding the system.

2. Tatabánya

- „**T-Bike**” with 6 stations and 50 bicycles was launched for public use in May 2024.



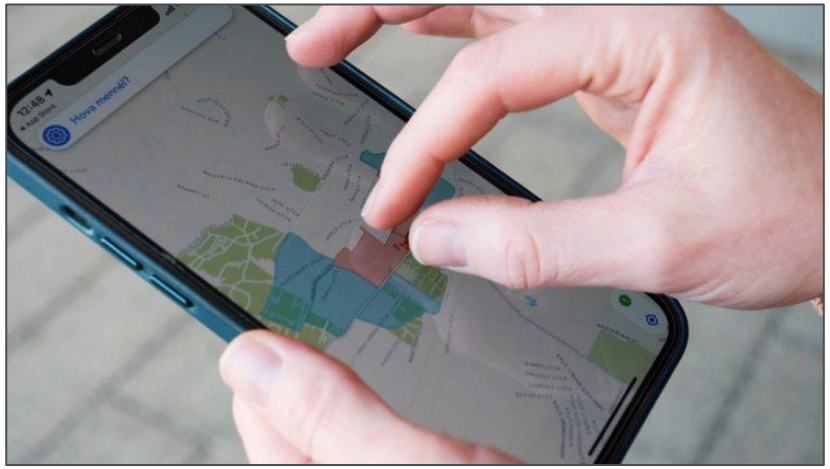
SMART PARKING SYSTEM IN PÉCS

The **Smart Parking System** aims to optimize parking space usage and provide real-time information on availability through sensors and information panels **in Pécs**.

- 640 sensors from the tender plus an additional 69 sensors. Sensors detect occupancy in paid parking spaces.
- 7 information panels installed near parking areas. Panels display availability of parking spaces on specific streets.

Usage statistics

- Card payment parking events increased by 29.51%.
- Mobile app payment events increased by 31.44%.
- Currently, 91% of the 5,285 parking spaces are in use.



REDUCING RESIDENTIAL GARDEN WASTE BURNING IN MISKOLC

HUNGAIRY

Effective controlling – new local regulation and regular trainings

- Reduced frequency of residential garden waste burning
- 94 (2019) 110 (2020) 141 (2021) 60 (2022) 89 (2023)

Supporting local composting

- Increasing knowledge levels and reducing the amount of residential garden waste burning
- 88 training events, 1733 frames allocated

Awareness raising and media appearance

- Dissemination of information and promotion of behavioral change
- 1975 appearances, 6560 persons reached, 9017 pupils reached, 157 200 Fb site visitors

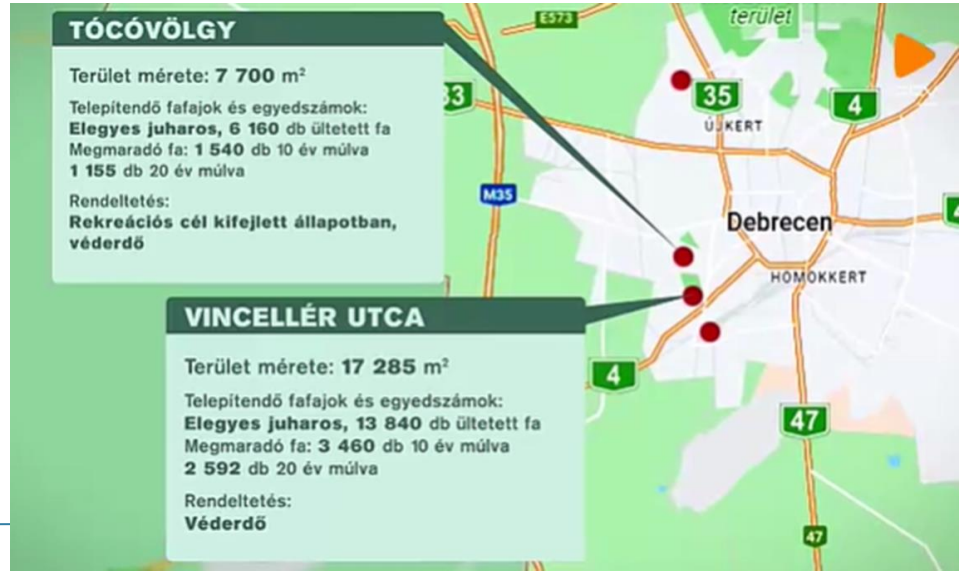
Monitoring and collaboration

- Efficiency is enhanced through an annual review of actions and attitude formation efforts.
- Yearly maps, reports and stakeholder meetings. 119 inspections and consultations on composting

DEVELOPMENT OF A PROTECTIVE FOREST IN DEBRECEN

The main objective - to reduce dust load coming from the west, from agricultural areas.

Awareness-raising and recreational purposes.



GREEN CADASTRE IN PÉCS

Objective: Preserve and develop green areas in Pécs using the Green Cadastre.

Phases of vegetation survey:

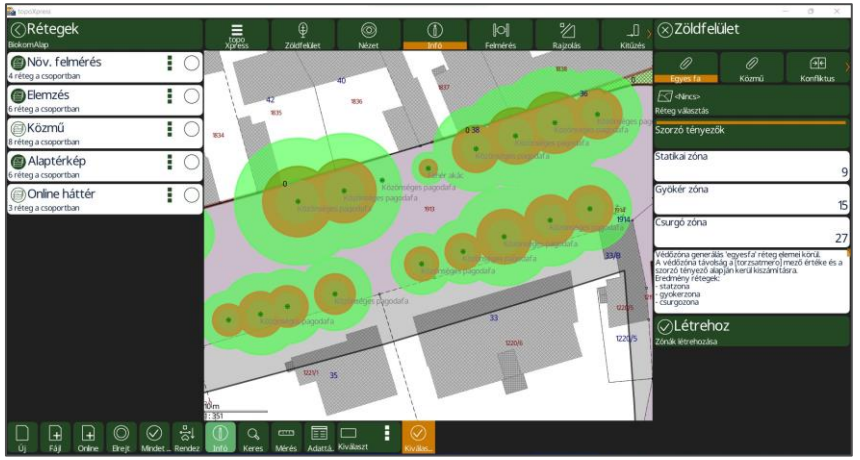
- Completed surveys covering 242.09 hectares with 21,740 plant specimens.
- Ongoing quality control of data.

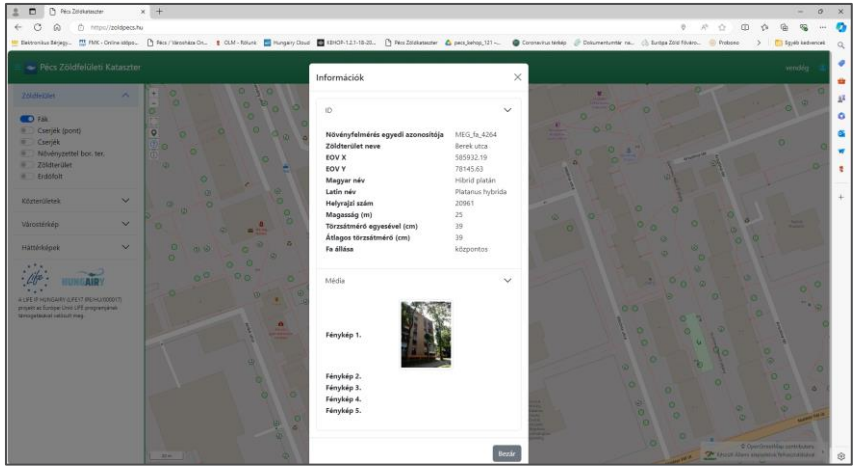
Access and features:

- The Green Cadastre database is available to the public.
- Implemented GIS for data visualization and integration with municipal systems.
- Key features: root and utility zones, conflict detection, planting areas, filtering functions

Benefits:

- Enhanced urban planning: Data-driven decisions for green space management.
- Public engagement: Increased accessibility and awareness through web access.
- Conflict prevention: Early detection saves costs and protects infrastructure.





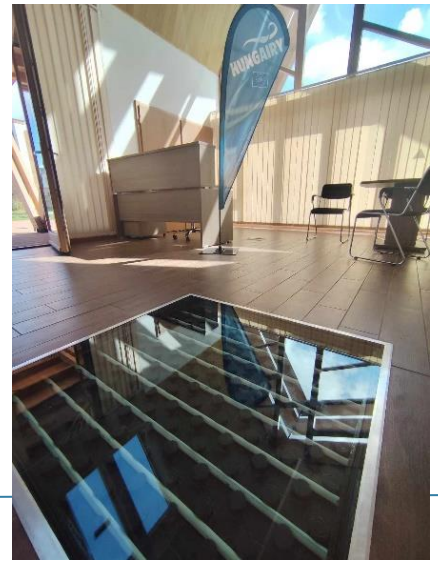
IMPLEMENTATION OF THE PILOT HOUSE

Aims of the Pilot House:

- **Eco-manager office:** A place for eco-managers to organize lectures, and host events.
- **Demonstration site:** Showcases technological solutions for energy efficiency.
- **Knowledge transfer:** Educates residents and stakeholders, including organizations.

Energy efficiency features

- Design elements
- Engineering solutions



COMMUNICATION, DISSEMINATION

Topics:

- environmentally friendly solid combustion
- composting, green waste management
- energy efficiency of households
- promoting cycling mobility
- eco-driving
- e-mobility

Materials (only in Hungarian so far):

- video
- poster
- roll-up
- leaflet
- publications

Thank you for your attention!

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