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The Protheus project – urban electric transport and smart grids

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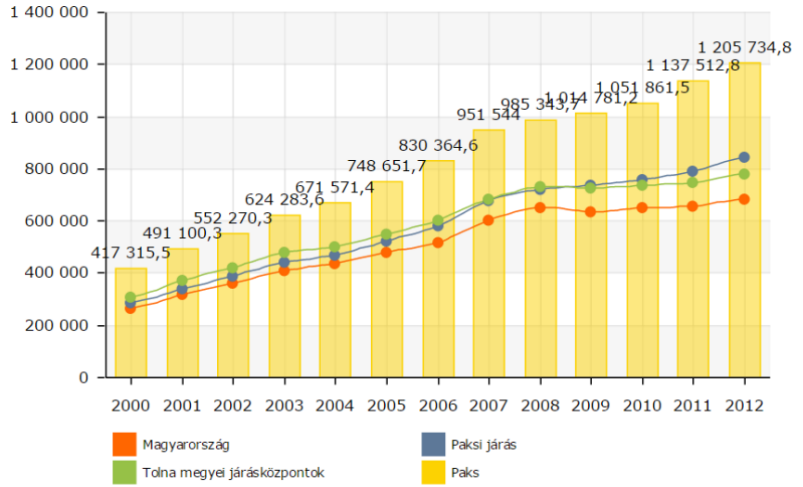
Basic data

- 18,788 (2018) inhabitants;
- 154,08 km²;
- Around 1500 local businesses, the biggest is by far the Nuclear Power Plant
- „Socialist industrial city”
- Wealthy and ageing population (2nd wealthiest in Hungary)
- Construction of a new nuclear power plant (Paks II.)



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Planning ahead

- Construction of a new nuclear power plant – but also developing a local smart grid (Protheus Holding Plc. -> Paks Transportation Ltd.)
- Increased population, increased traffic
- Regional approach to developments

Initiated by the Municipality of Paks:

- **Involvement of ELENA-funding as part of a bigger smart-grid project**
  - Protheus Holding Plc. and later the Paks Transportation Ltd.
- **SUMP & Transportation Intervention Plan outlining main activities**
  - In anticipation of the new Nuclear Power Plant, therefore:
    - New roads
    - New buses & routes
    - Facilities, bycicle roads, parking spaces, traffic management in the city centre, bottlenecks, etc.
    - Accounting for around roughly 15 million EUR

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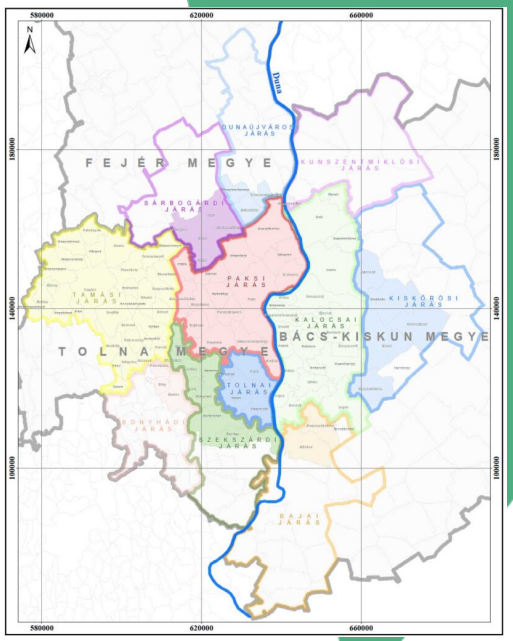
Further along the way

The Protheus project



The Protheus Smart Grid project does have several more elements:

- **Further charging points (public/semi-public) to boost transition/electrification**
- **Creating e-mobility plans in the Central Danube Region (99 settlements)**
- **Establishing community car-sharing systems**
- **Creating a regional energy map**
- **Pinpointing bottlenecks in the regional distribution network**
- **Creating network development plans**
- **Energy community (University of Pécs, PIP Nonprofit Zrt.,E-ON, Protheus Holding)**

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Further along the way

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Charging services for eletric vehicles:

- Paks 2 related regional public transport
- Paks, Szekszárd and Kalocsa public transport
- Regional car sharing
- Local taxi service
- Private electric car owners

System reserve service for the system operator (TSO)

- Automatic Frequency Restoration Reserve (aFRR+) service based on the PV panels and storage system

Saving costs of system usage fee

- System usage fee is bonded to the use of power grid, paid by the consumer for the TSO
- Electricity produced by PV systems can be used by the EV chargers directly or indirectly through the energy storage system
- Due to local energy consumption, operation of chargers requires less supply from the power grid which results in lower costs by saving system usage fee

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Thank you!

Project smedia