



Empowered by: KU Leuven, VITO, imec & UHasselt

SmarThor Data Platform

ICT-System for Monitoring Living Lab Experiments

Description

Internal platform for **data collection, storage, provisioning, and processing**

- To increase the **TRL** of product development at EnergyVille
- To facilitate **cooperation** with partners

Monitor and control energy production, use, and exchange at Thor park

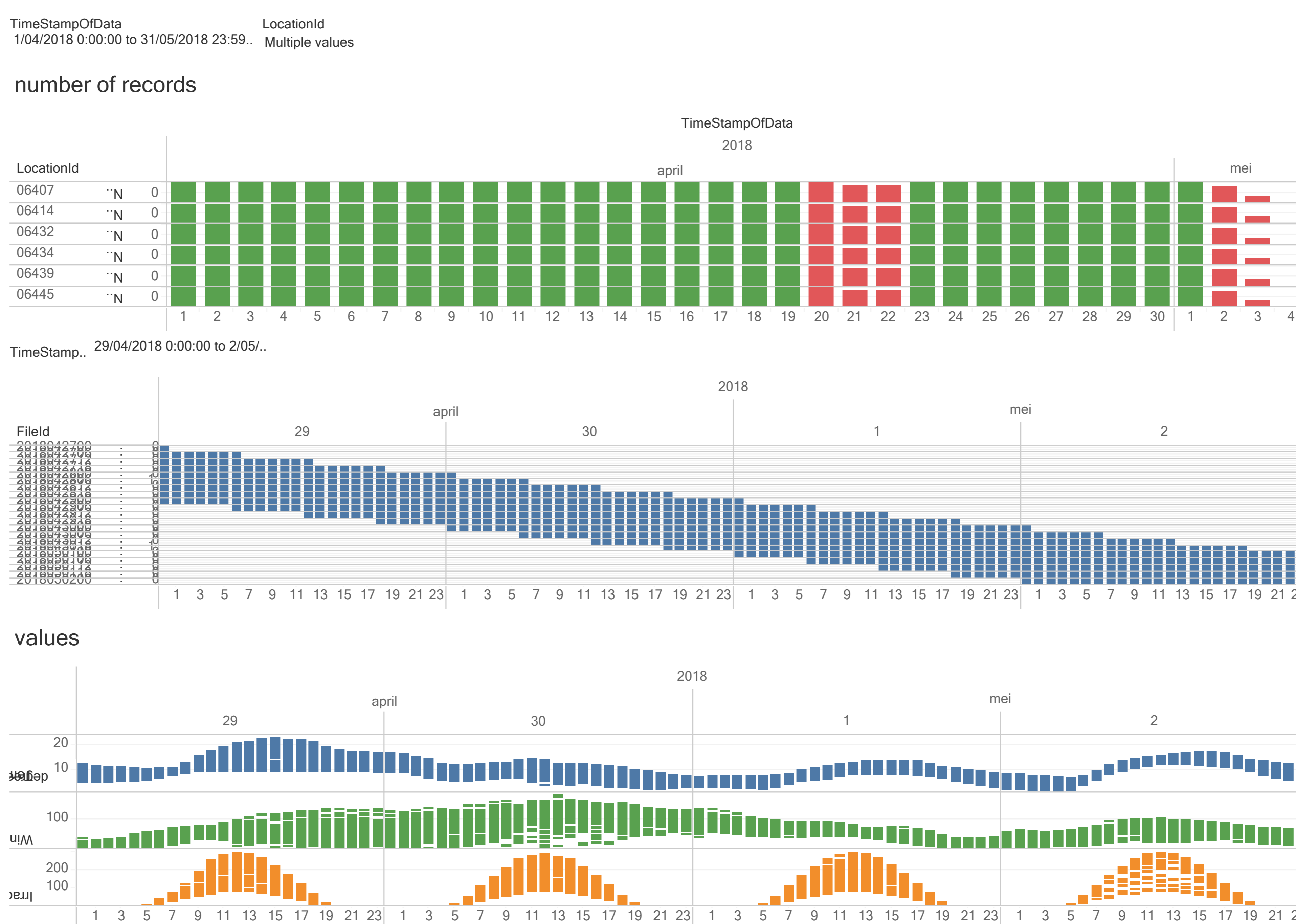
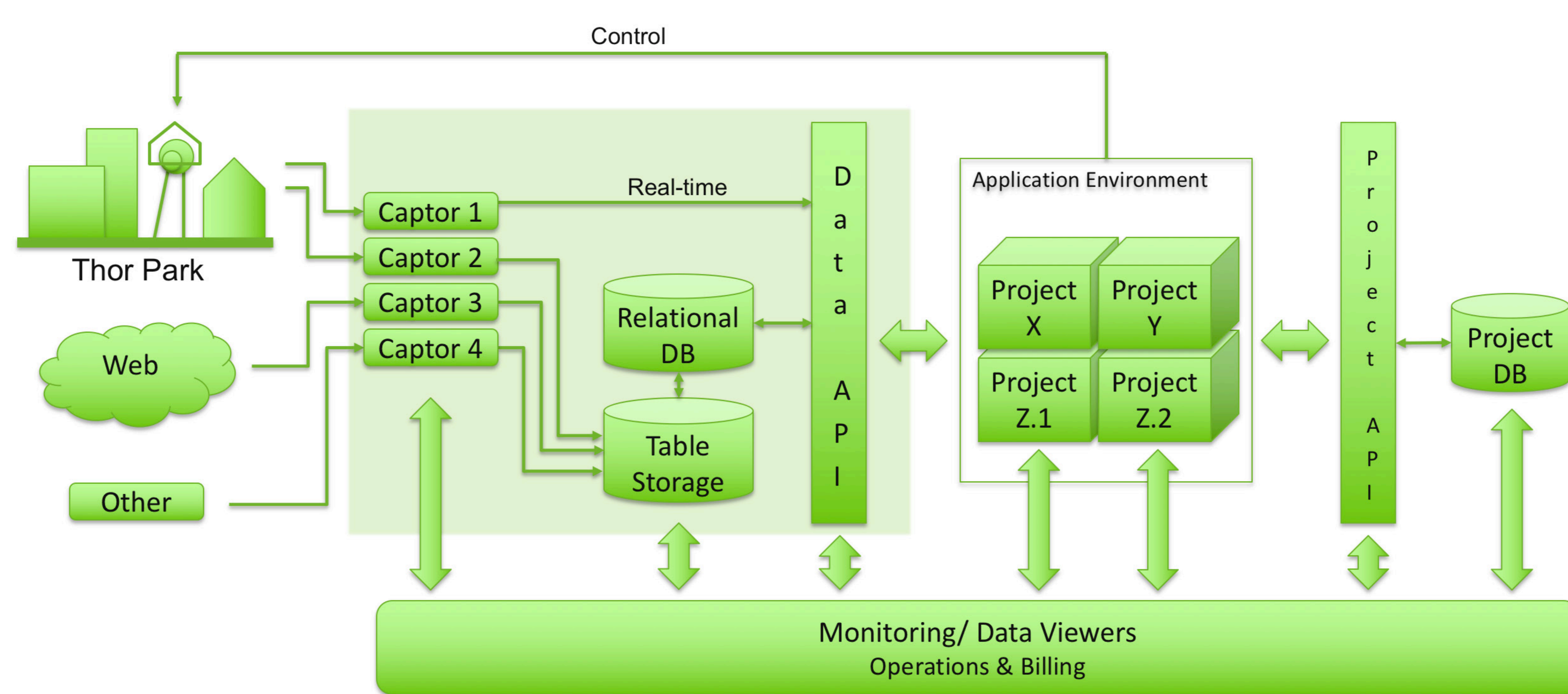
- Determine energy losses
- Integrate optimisation and control algorithms
- Coupling with market models

Platform features

- Uniform data provisioning
- Application environment for parallel execution of project experiments
- Separate project databases
- Control interface to integrated energy systems at Thor park
- Data monitoring dashboard:
 - Verification and exploration of data
- Process monitoring dashboard:
 - Verification of correct platform operation

Additional requirements

- High volume data collection and storage
- Hybrid deployment across Cloud and on-premise infrastructure
 - Optimal scalability, security, speed, and IP protection



Historical data and (near) real-time data

EnergyVille/Thor park:

- Building management systems
- Local energy production and consumption
- Local energy exchange systems
- PV production forecast
- Electric vehicle charging stations

External data:

- Energy market data (day ahead, imbalance, ...)
- Power generation forecasts
- Weather forecasts

Proof-of-concept: Smart EV charging @ EnergyVille

- Applies data provided by the solar panel installation and electrical vehicle charging stations at EnergyVille
- Evaluates various optimisation strategies to limit peak power consumption and maximise self-consumption

