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Smart Energy Day: Cybersecurity

Observations, actions and trends from a Smart Energy Gateway developer

Arnhem, 10 October 2024

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Building steadily since 2016

2 solutions

- Asset Monitoring Platform
- Teleport Gateway

Reliable & secure

- 99,9% availability
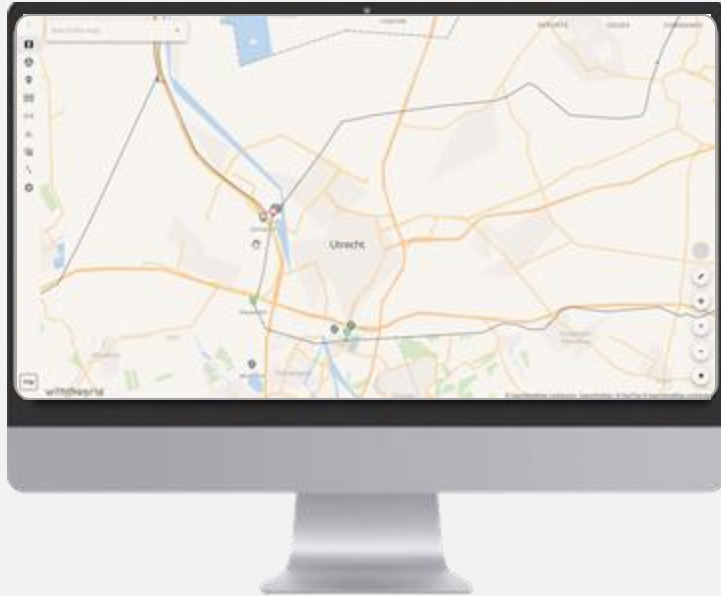- ISO27001 certified

Part of critical infrastructure

- Netherlands, Belgium, Spain, Germany
- Grid operators, Asset owners, Energy traders

Our track record now

- Unlocking 1GW of flexibility with the Teleport
- Monitoring 10 000KM of cables and pipelines with the AMP

For grid operators (TSO, DSO): Asset Monitoring Platform

- Bring assets online with IoT
- Monitor critical infrastructure

| Cable oil pressure (200 devices) | Cathodic protection (11k devices) | 6 IoT use cases (2k devices) |

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The Teleport

What is the Teleport?

- The Teleport is a gateway designed to enhance the flexibility and profitability of energy assets.

- It connects the assets securely to the cloud and allows real-time remote control via one single API.

Solar panels

Wind turbines

Batteries

Meters

250+
asset types

Maximizing value of your assets

1. Solar curtailment
(imbalance / aFRR)

2. Wind curtailment
(imbalance / aFRR)

3. Battery trading
(Utility scale, C&I, Mobile batteries)

4. On-site EMS

5. Dynamic load management

6. Cable pooling

7. Realtime interface

8. Energy hubs

9. Your use case?

The Teleport

Simplify connectivity, protect your grid connection

Simplify connectivity, protect your grid connection

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1. From demand drive to supply driven
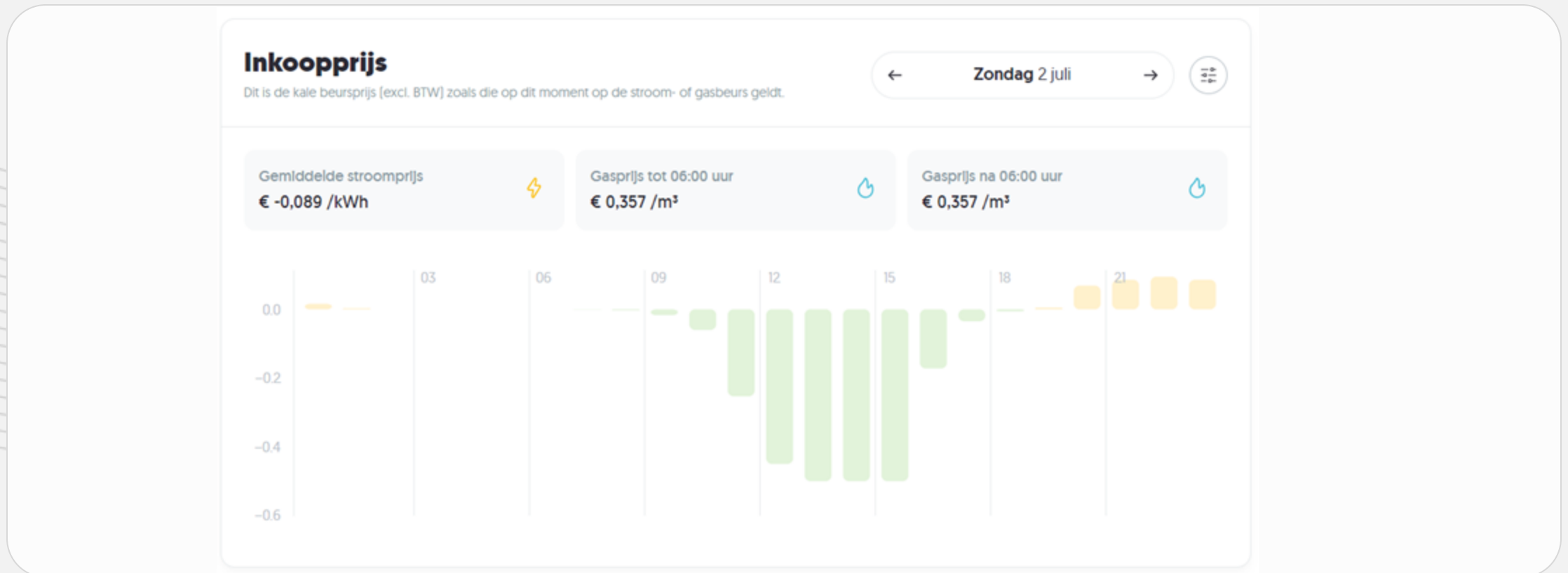
2. Centralized to decentralized

3. Predictable to unpredictable

- Continuous forecasting

- Continuous matching of supply and demand

- Continuous steering / asset control

Controlling assets is the name of the game

1. Negative hourly prices (Day-ahead EPEX)

2. Imbalance (*Curtailment*)

3. Congestion

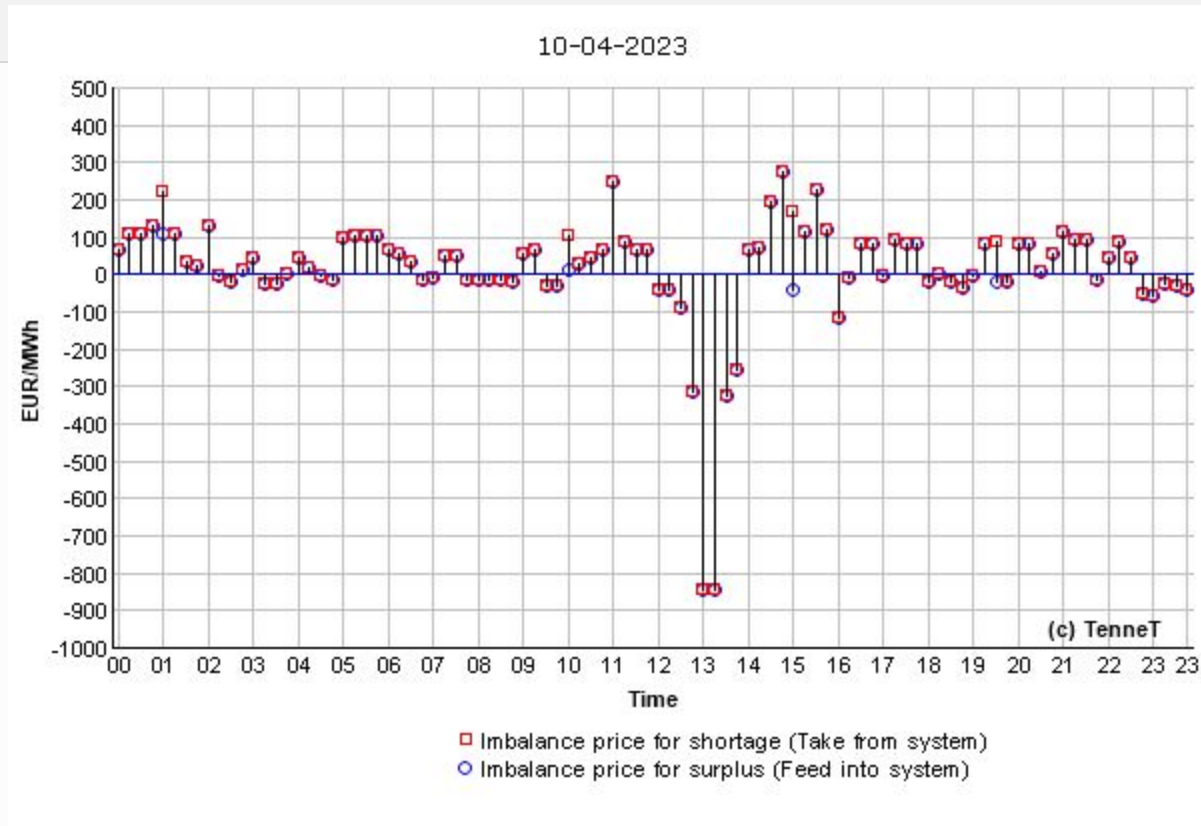4. Real-time Interface

5. Local Control

Day-ahead price

Imbalance
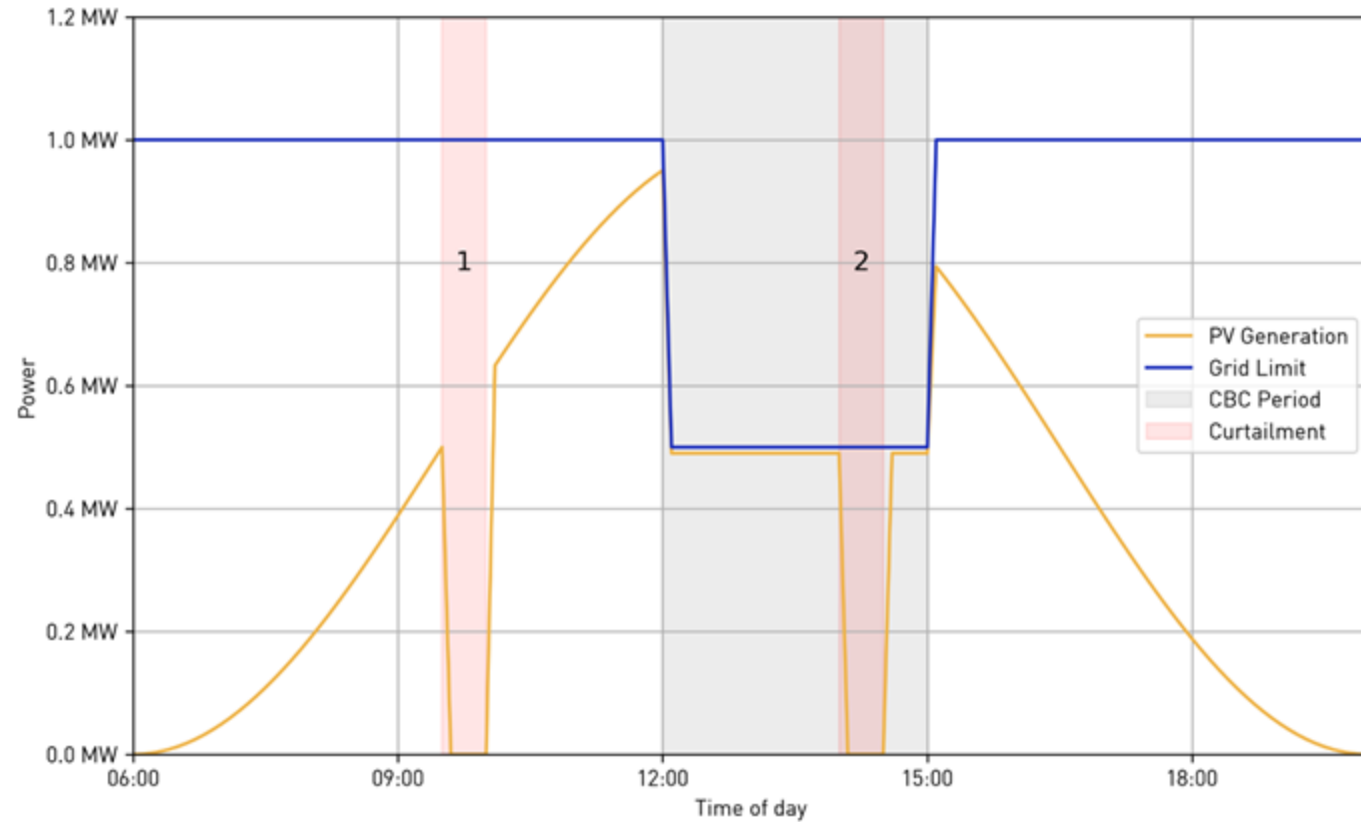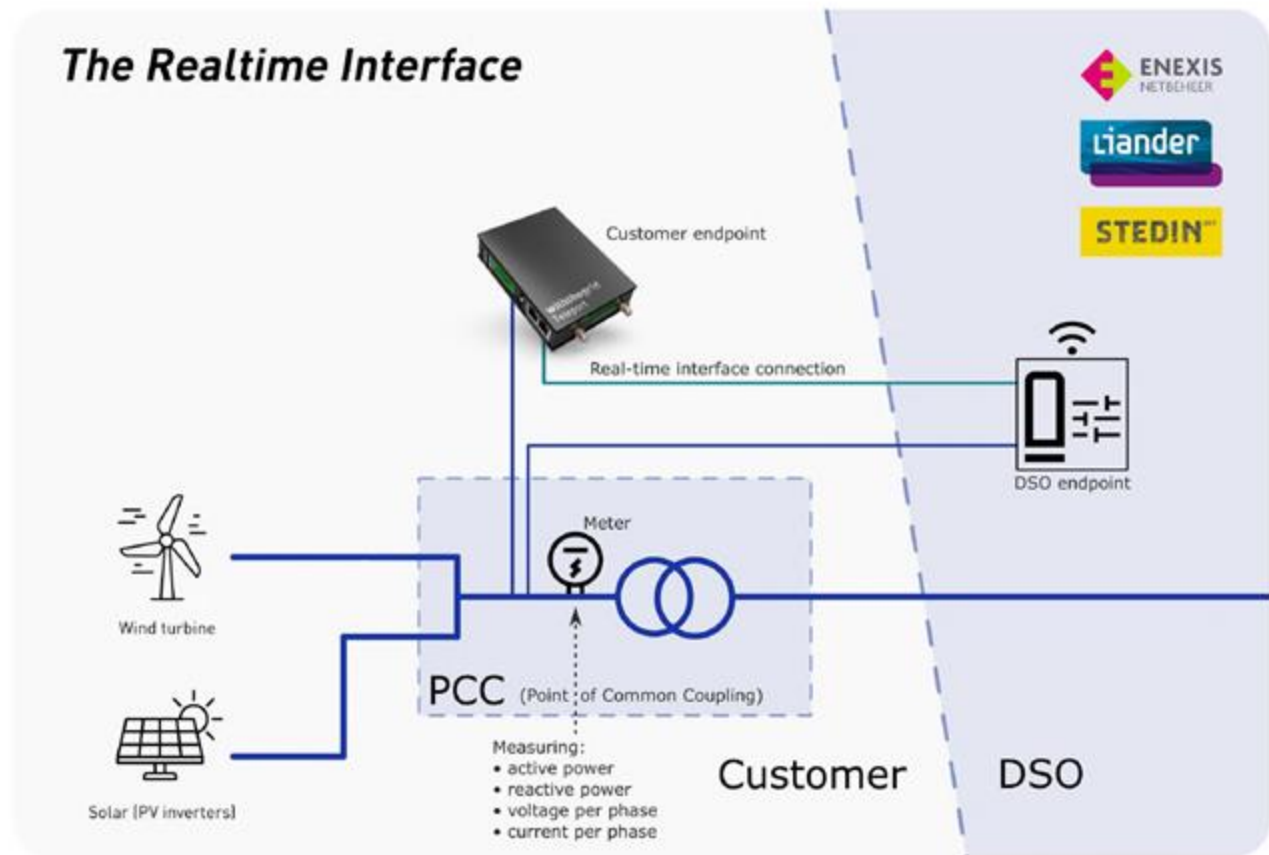

10-04-2023

Grid congestion

Real-time Interface

Figure 2: Realtime Interface setup diagram
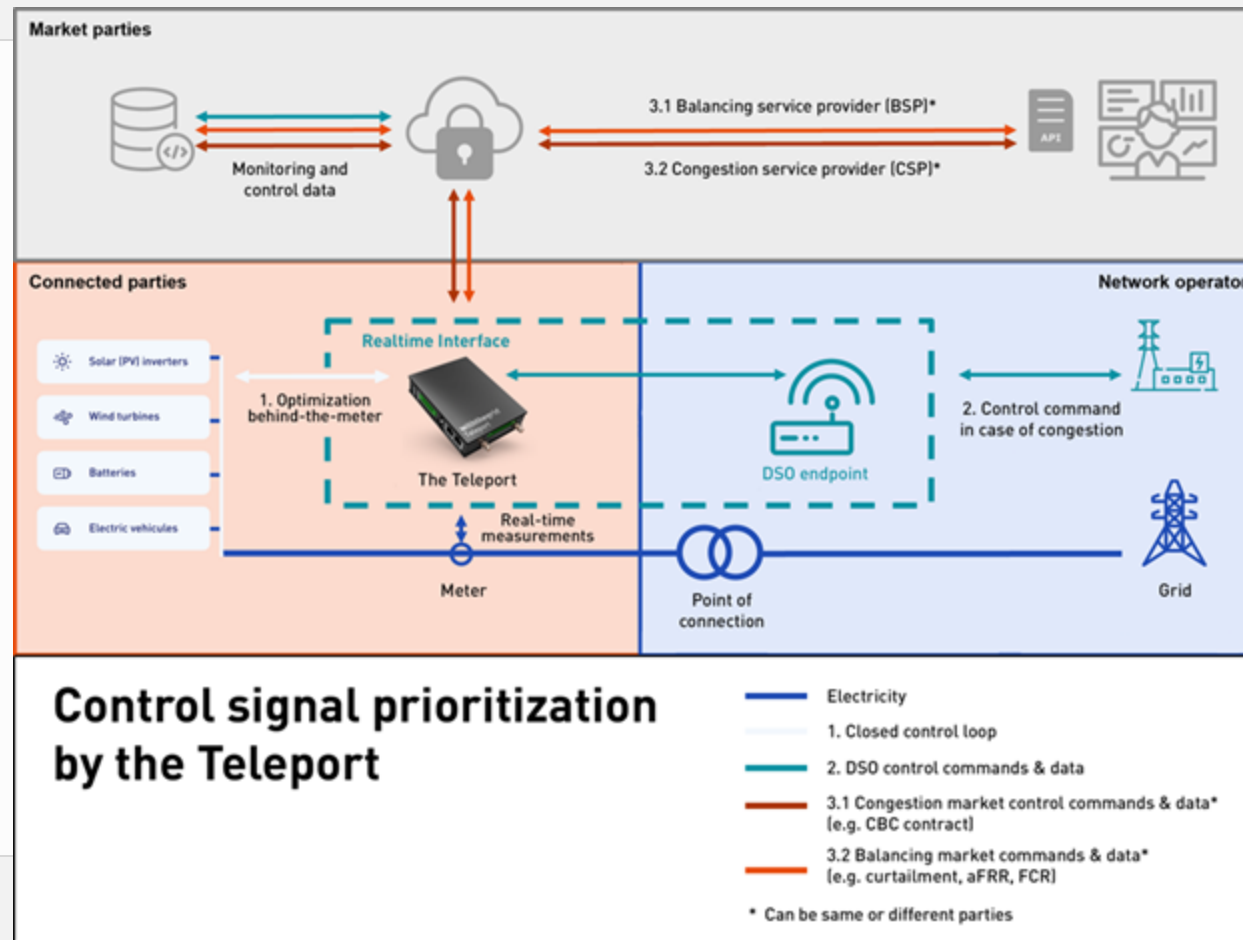
Local control (dynamic feed-in)

Solar system
(1 MW)

Factory
(500kW)

Grid connection
(500kW)

All steering combined

1. Industry sectors (Solar)

2. Grid operators

3. EU

1. Controllability separate role

2. Certification on company level

3. Official role (e.g. Dutch metering role)

4. Auditability

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Questions?

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