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DATA FJORDS: UNLOCKING AI FOR INDUSTRY & SOCIETY

5-6 May 2026 / Oslo

SUPPORTED BY

The Research Council of Norway

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Collaborating Digital Twins:
A Data Space Mini-Energy-Grid Use Case for Sovereign Data Exchange

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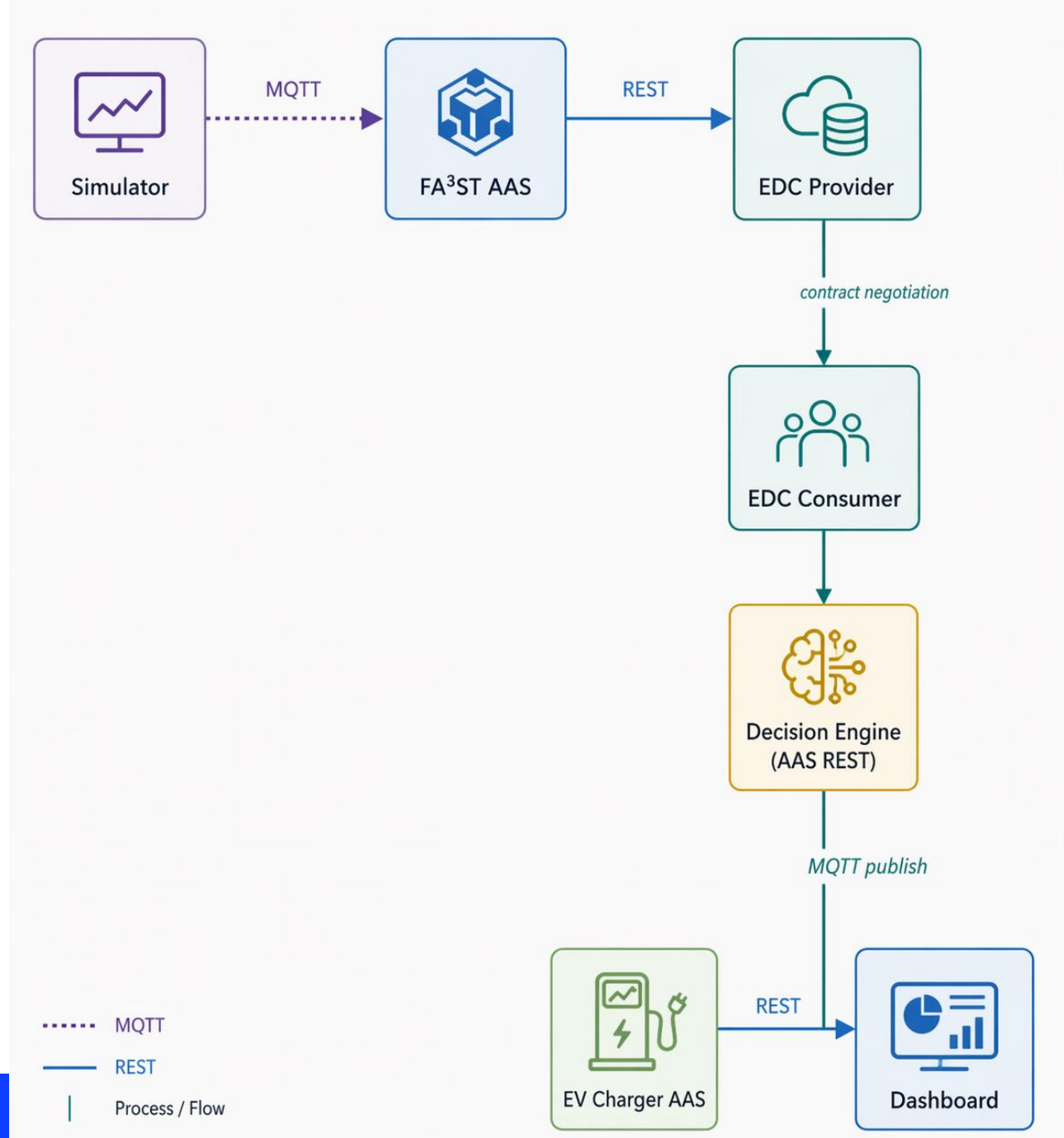
SUPPORTED BY The Research Council of Norway
IN COLLABORATION WITH IFE NTNU SINTEF VESTLANDSFORSKING

Gøran Svaland

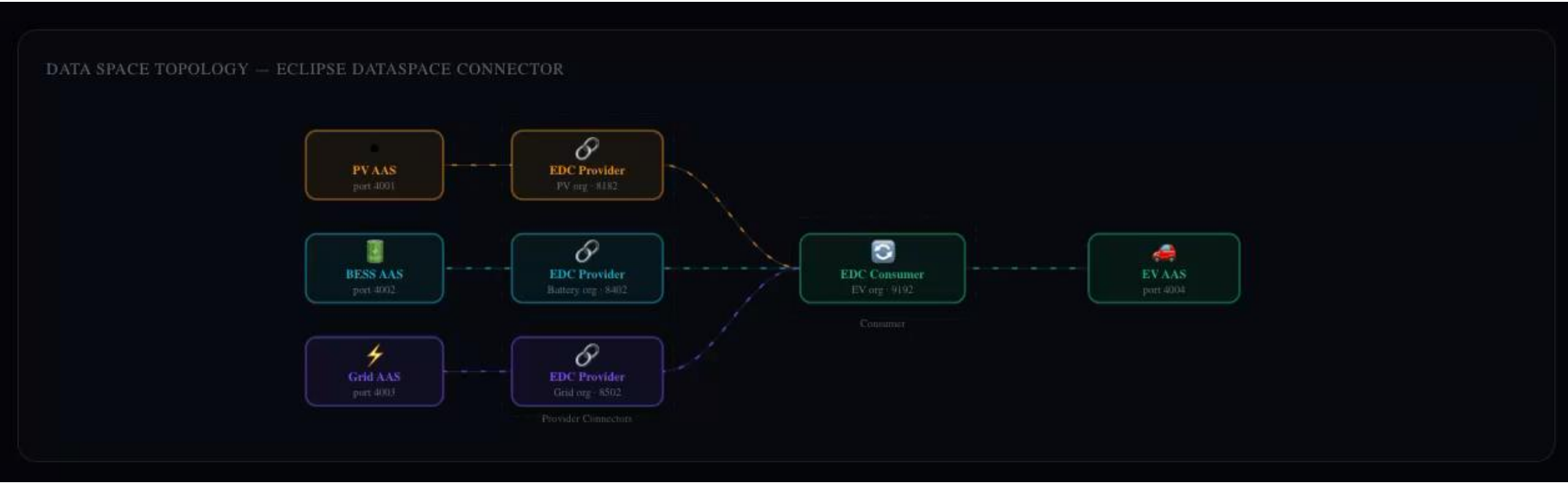
Researcher at SINTEF Digital;

Digital Twins and Data Spaces

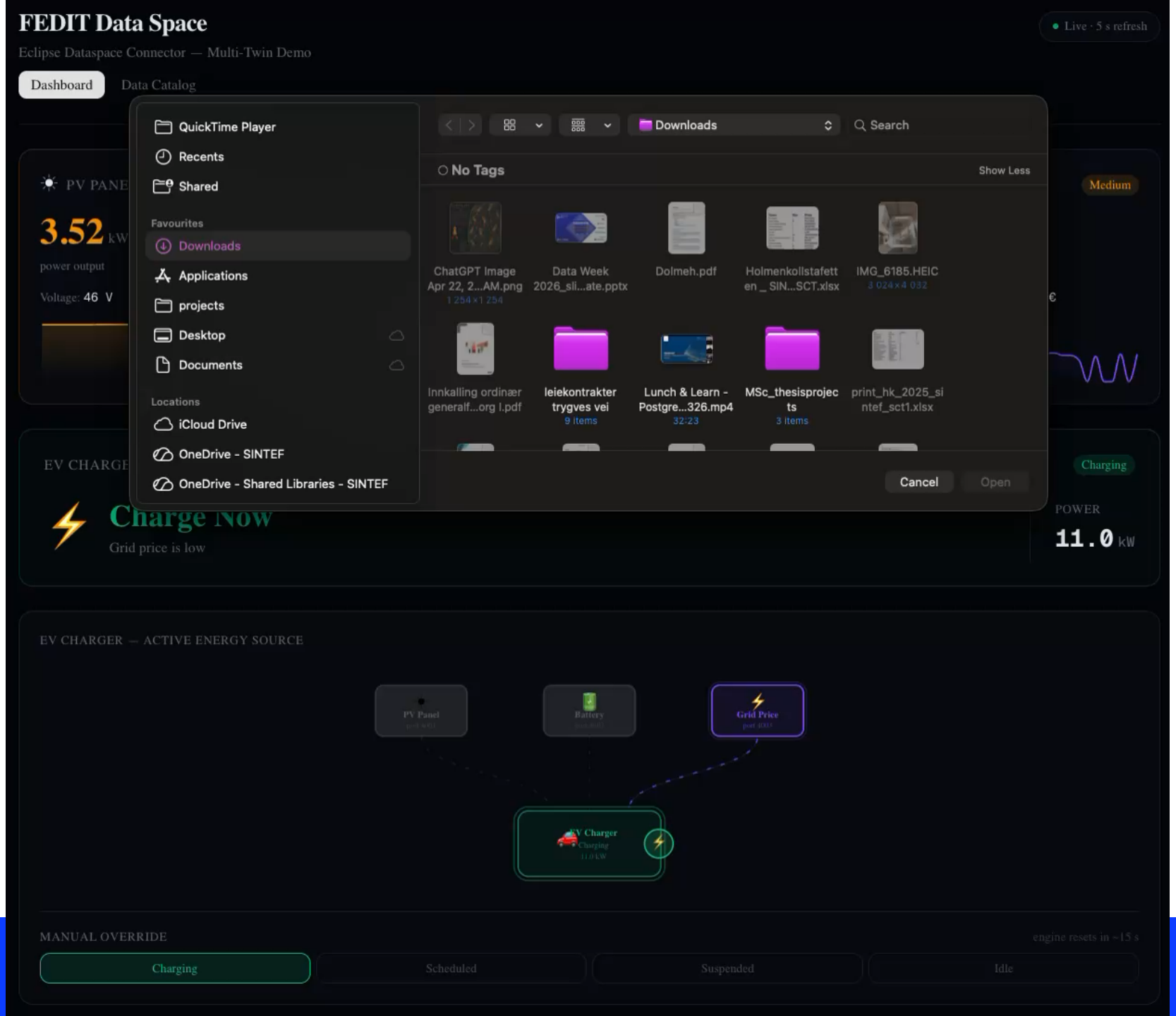
Use-case overview: Mini-Grid



Data Space Topology: EV-Charger



DT Dashboard



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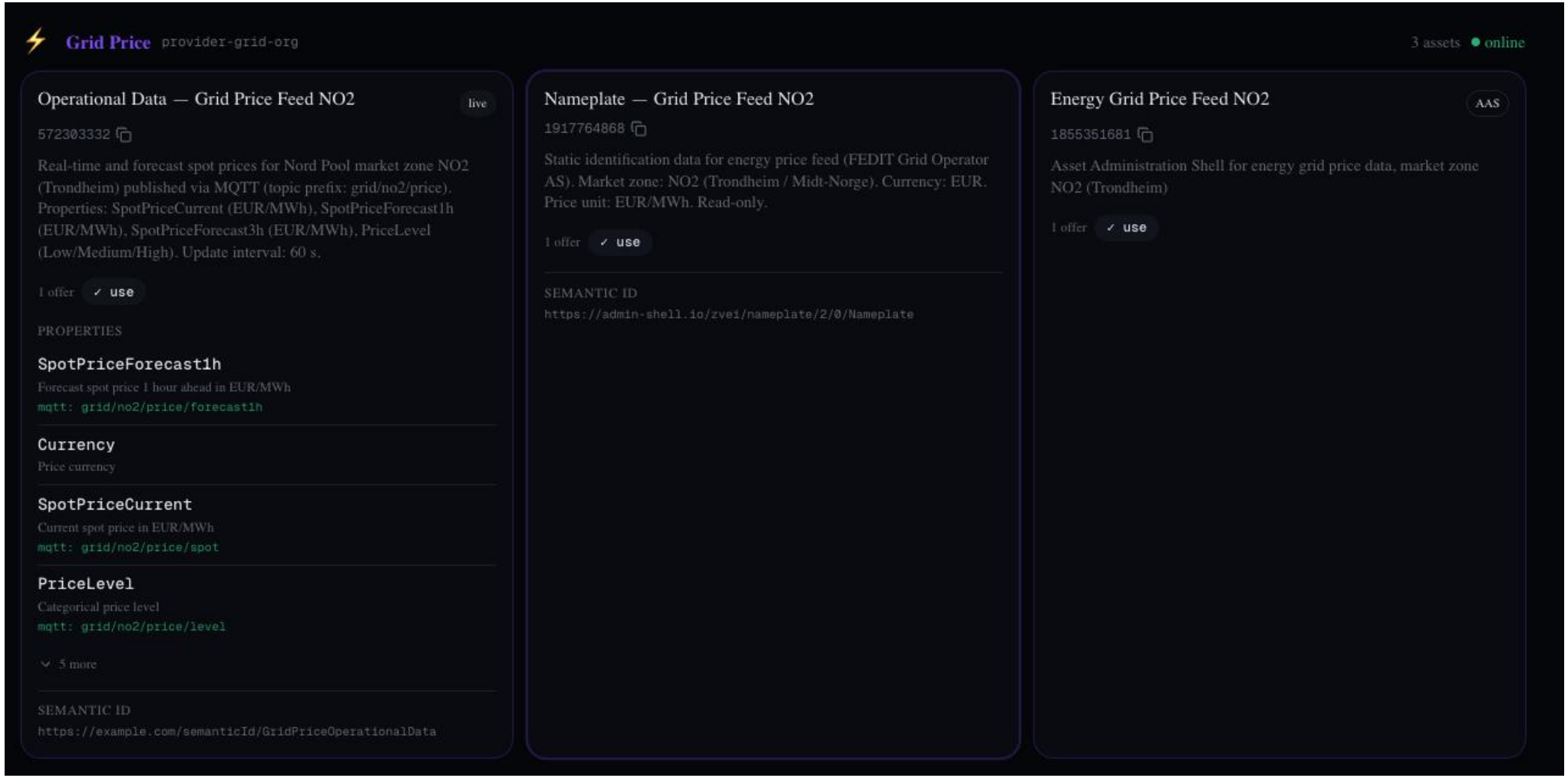
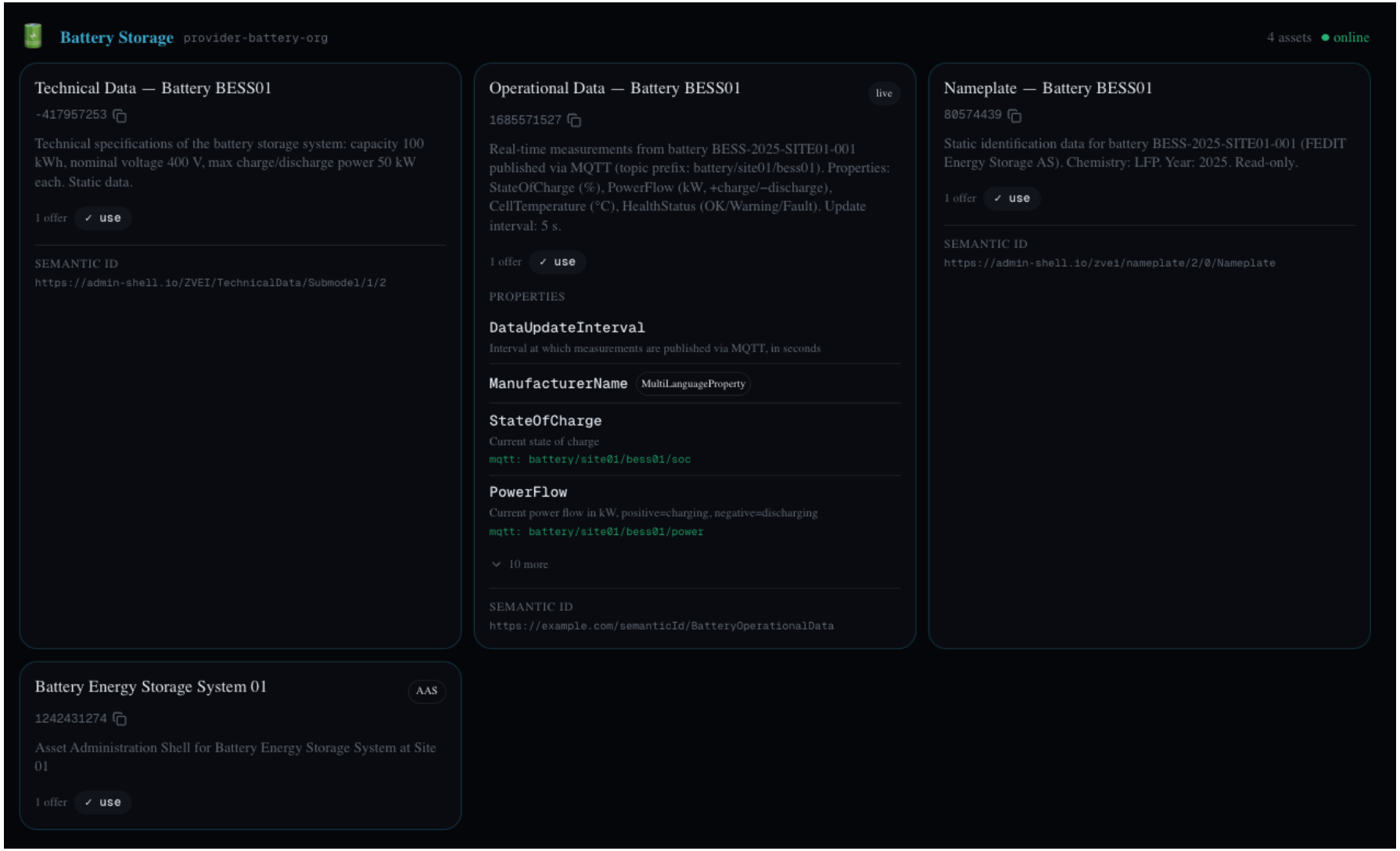
DATA DISCOVERY

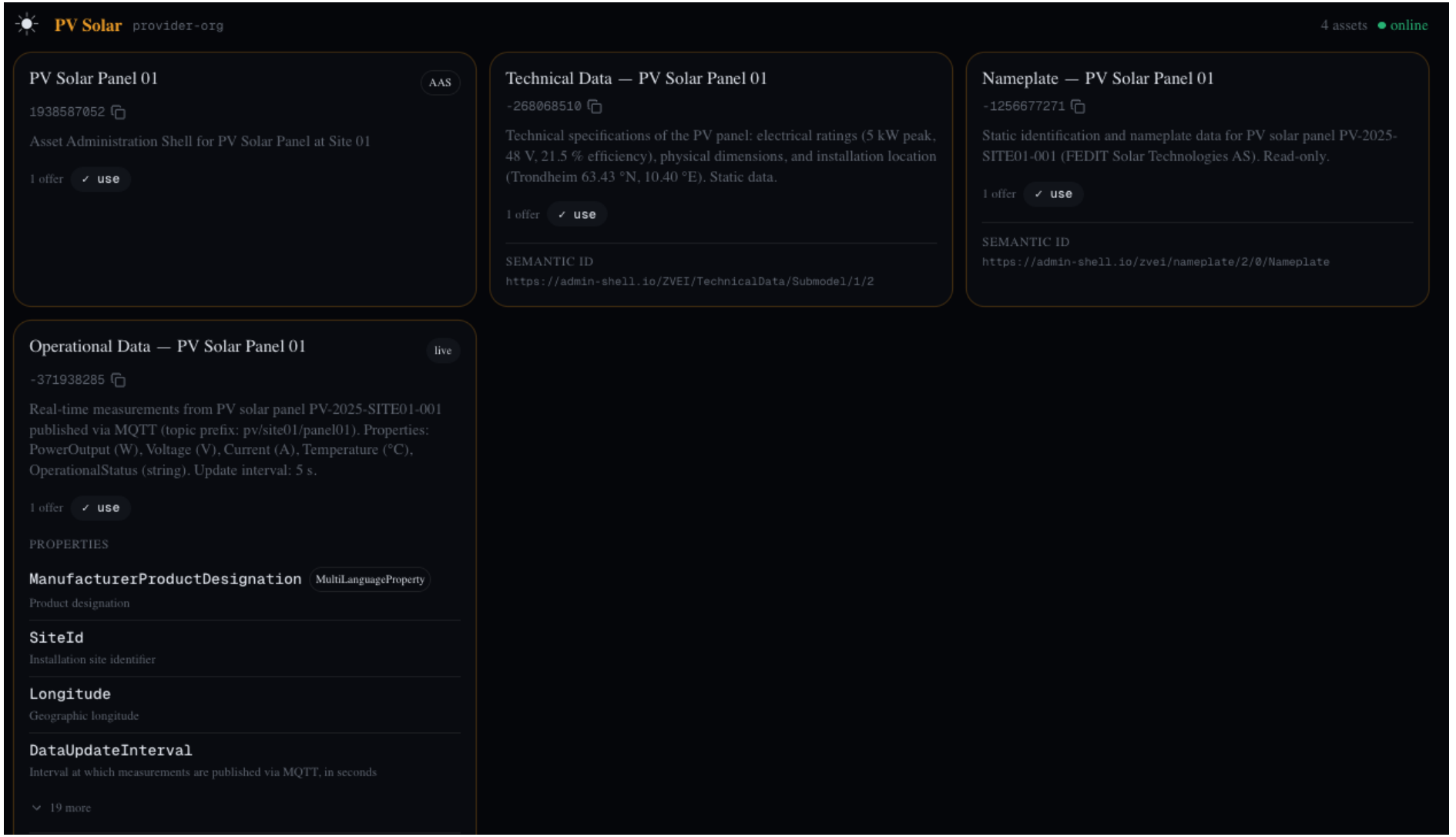
Data Catalog



Data Catalog

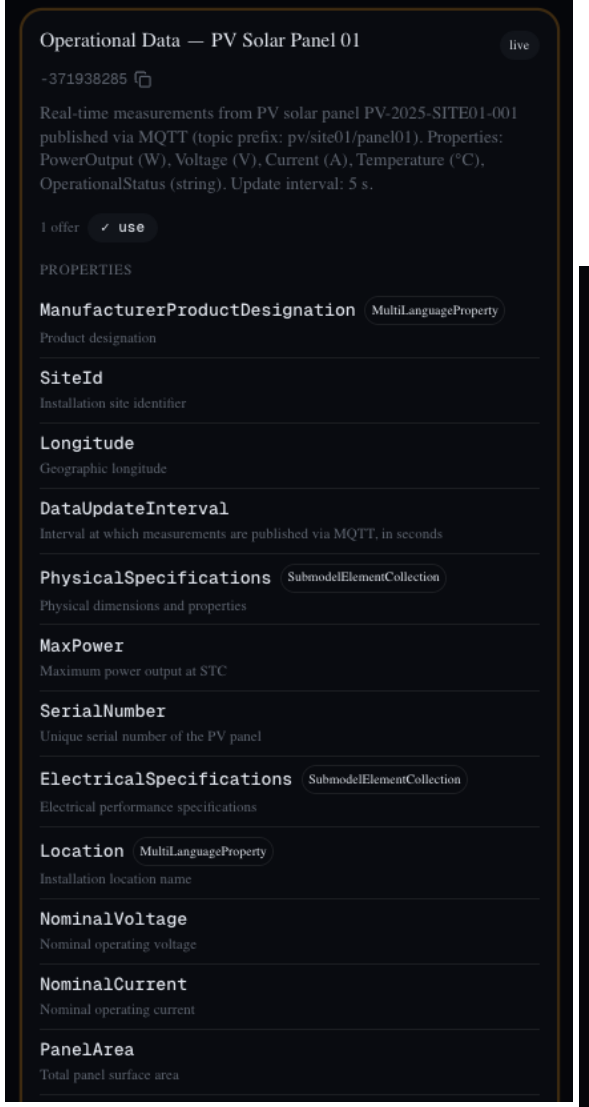


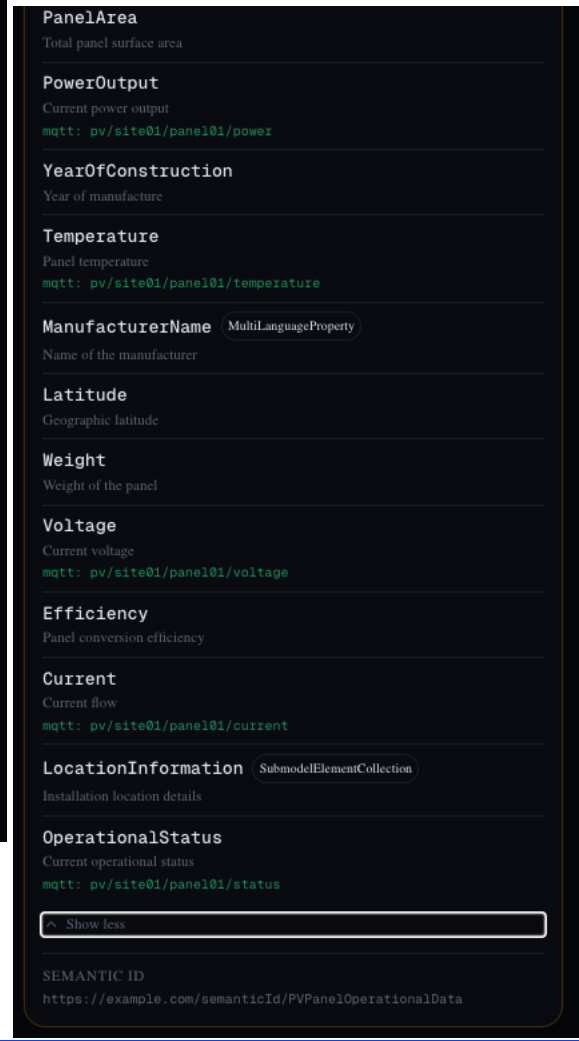
Data Catalog



Data Catalog

MQTT topics descriptions





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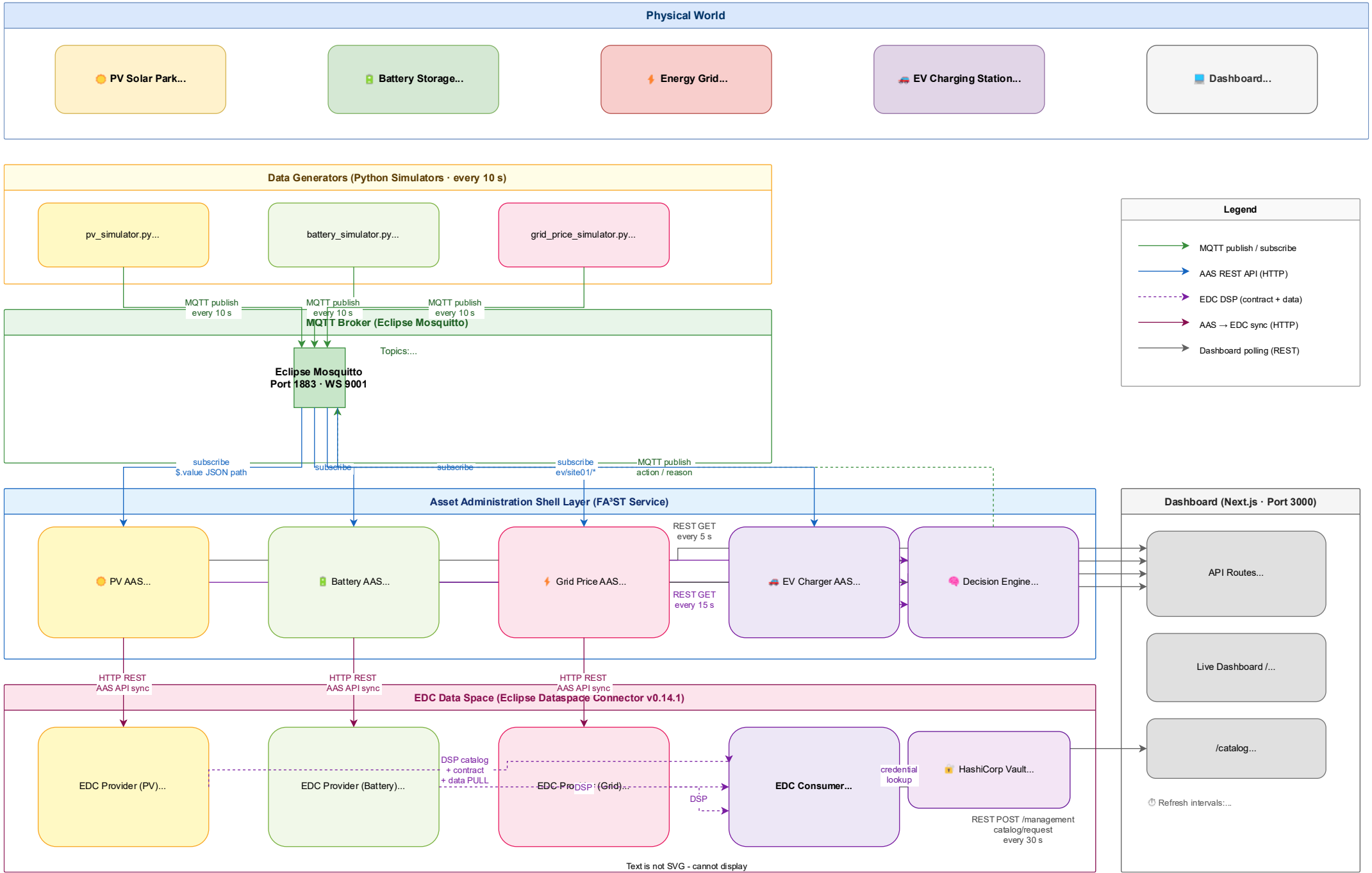
HOW IS IT BUILT?

FEDIT Mini-Grid Demo — Digital Twin Data Space



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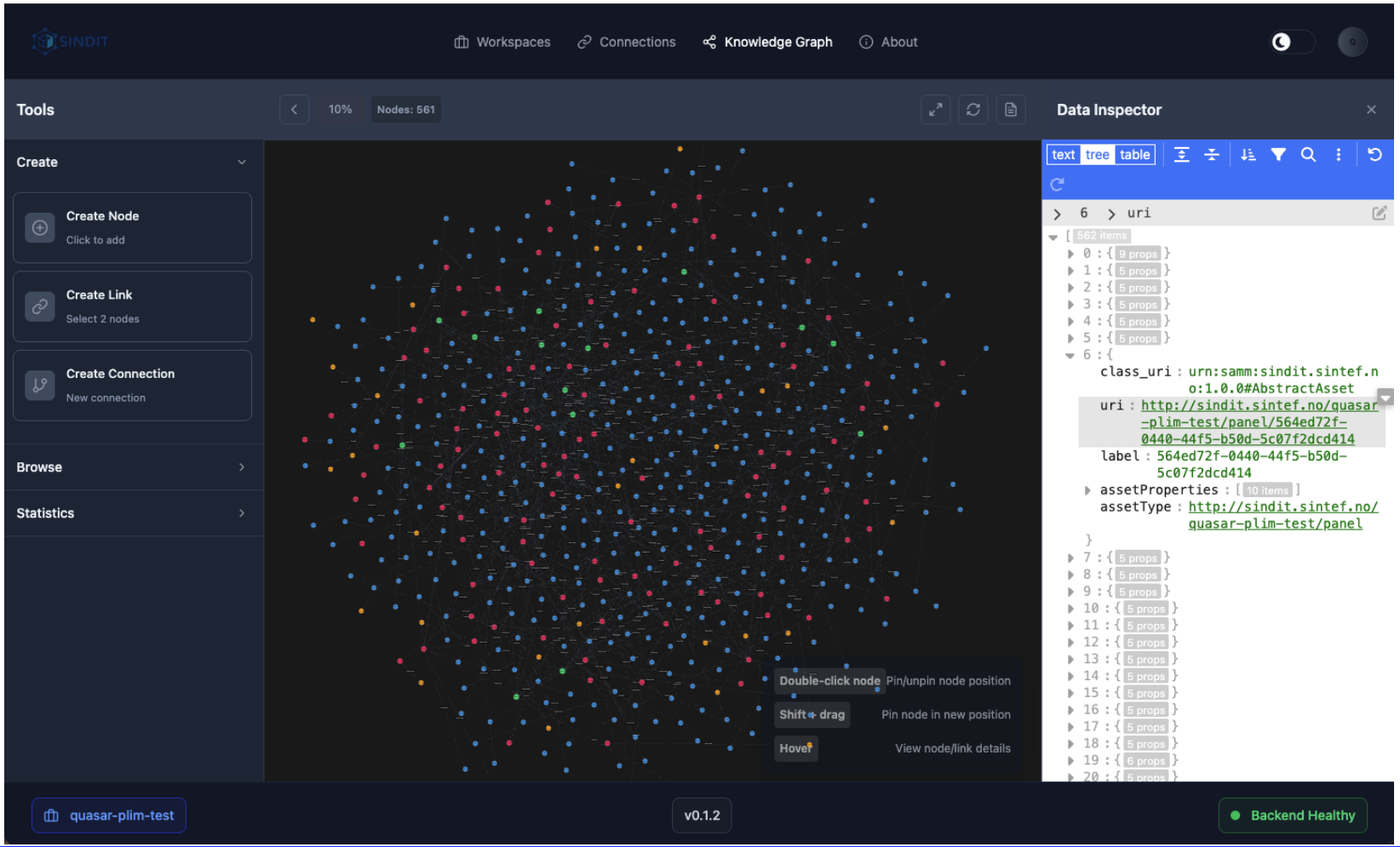
WHERE DO WE GO FROM HERE?

Imagination is the limit

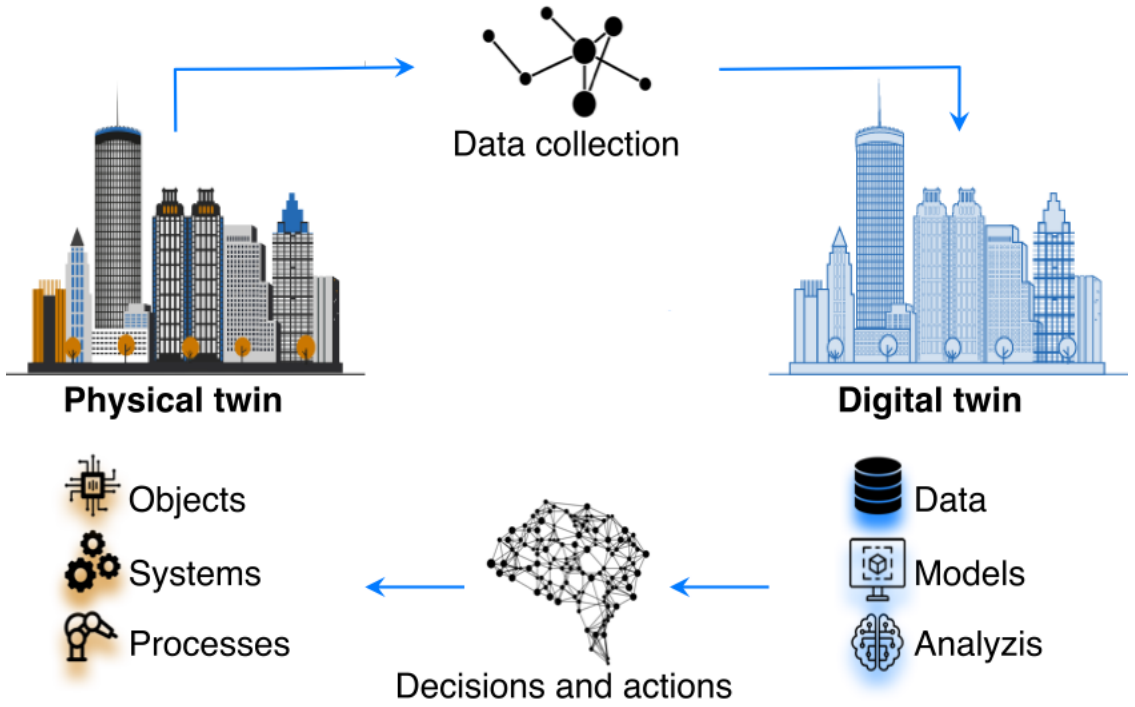
1. Modeling environments
2. What-if scenarios
3. Desicion making

SINDIT - SINTEF Digital Twin Framework

- GraphDB
- FastAPI
- NextJS frontend
- LLM-based graph query



The Idea

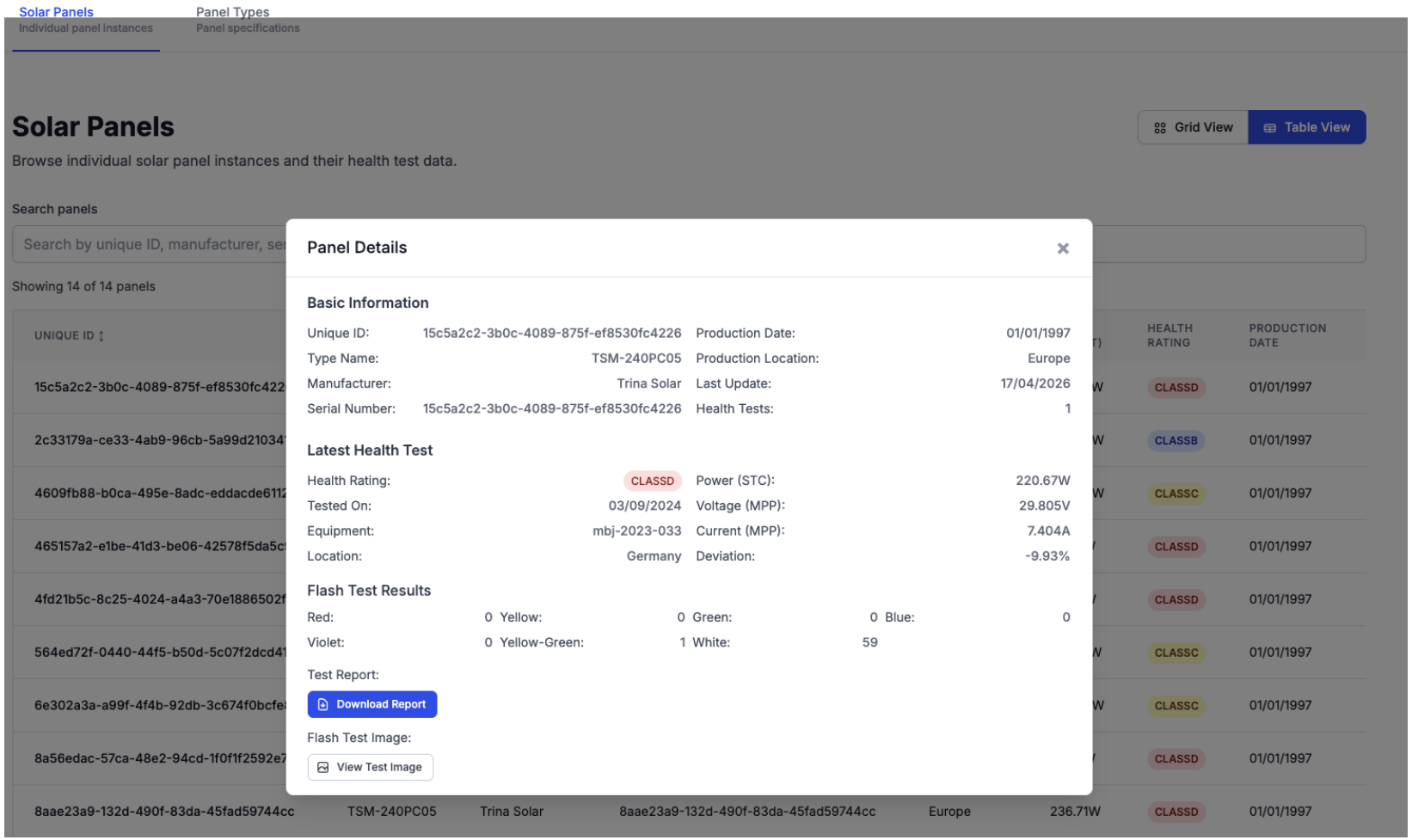

Data collection
Physical twin
Digital twin
Objects
Systems
Processes
Data
Models
Analyzis
Decisions and actions

Built on top

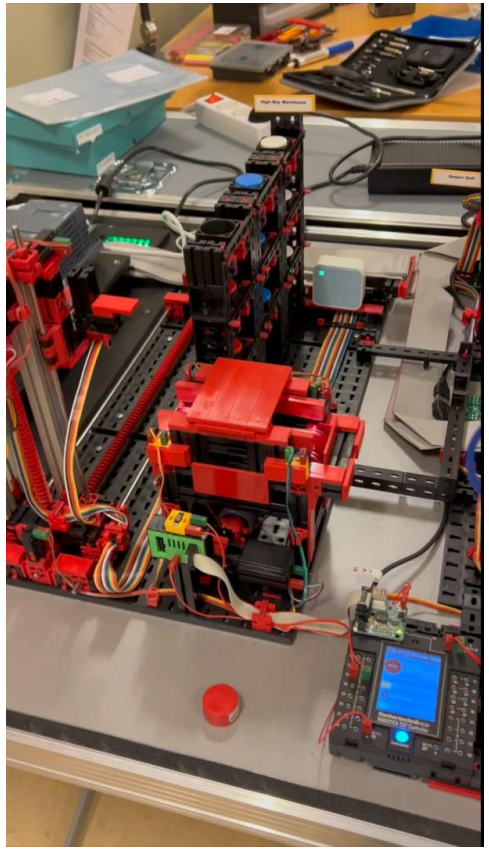
DPP for solar panels

Quasar

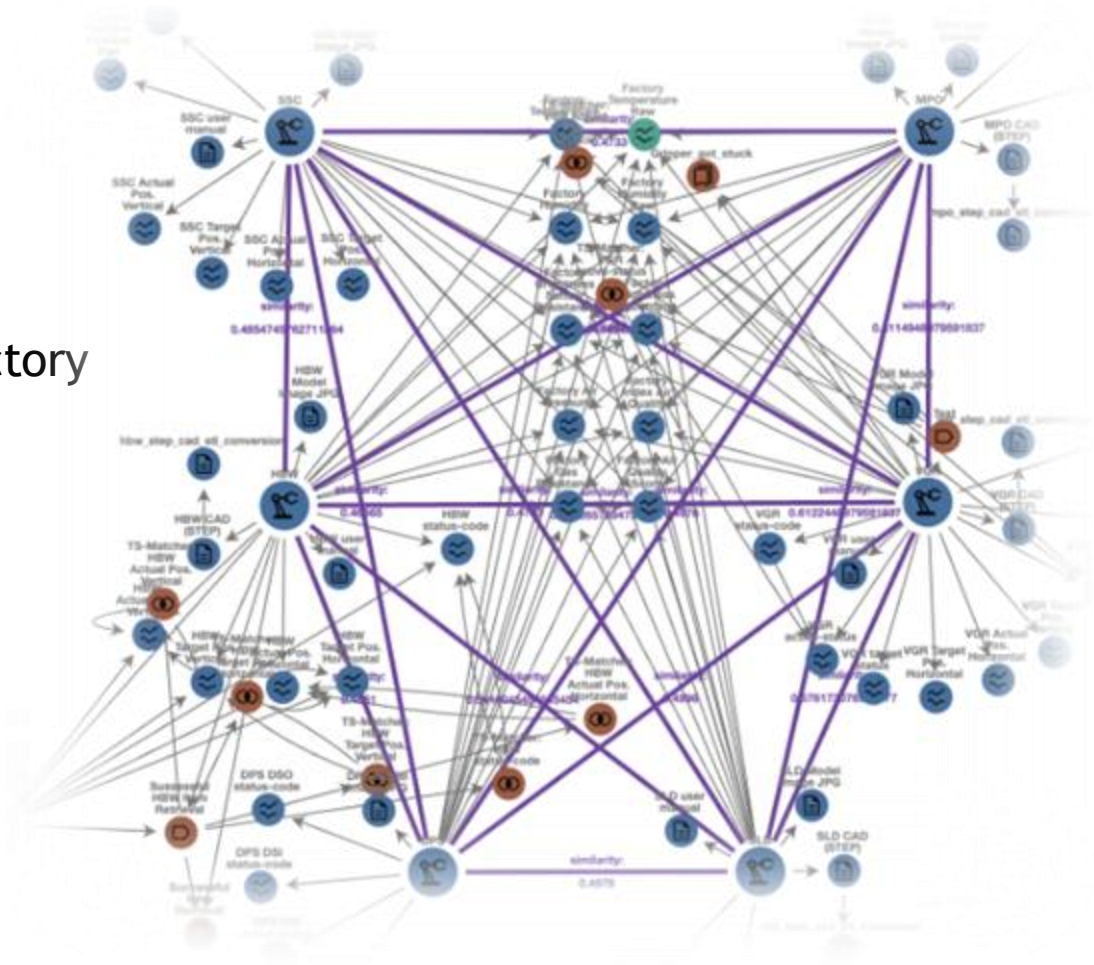
quasar-project.eu

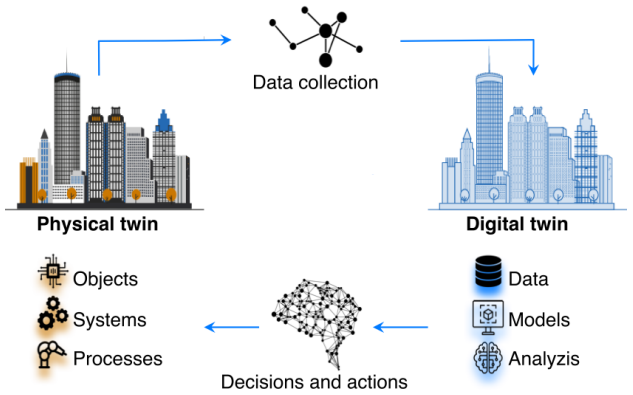


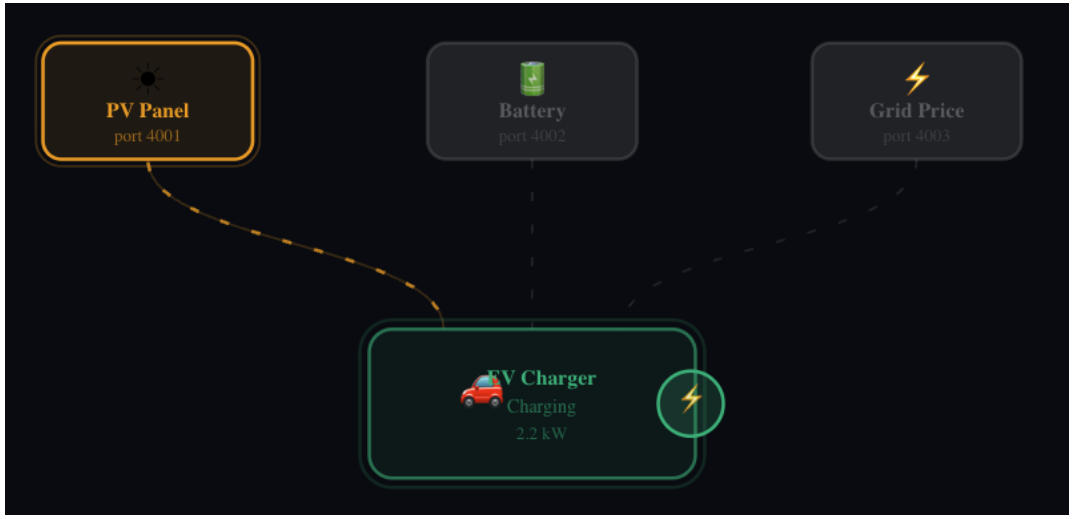
Built on top



Industrial warehouse/factory







Foundation for collaborating, dynamic DTs

DATA..

1. Discovery
2. Interoperability & Harmonization
3. Sovereignty

Data Space Mini-Energy-Grid Use Case for Sovereign Data Exchange

How to make Collaborating Digital Twins

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