Data Spaces Symposium

Data Interoperability in Data Spaces & The Forestry Data Space

Thorsten Reitz

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Who are we and for whom do we work?

- Based in Darmstadt, Germany
- Mission: Building Green Data Ecosystems
- More than 130 customers, over 5,500 users
- hale»studio: OS software for data transformation
- hale»connect: Integrated & automated (INSPIRE) data platform

Simon Thorsten Flaminia Claudia Livia Kapil John Emanuela

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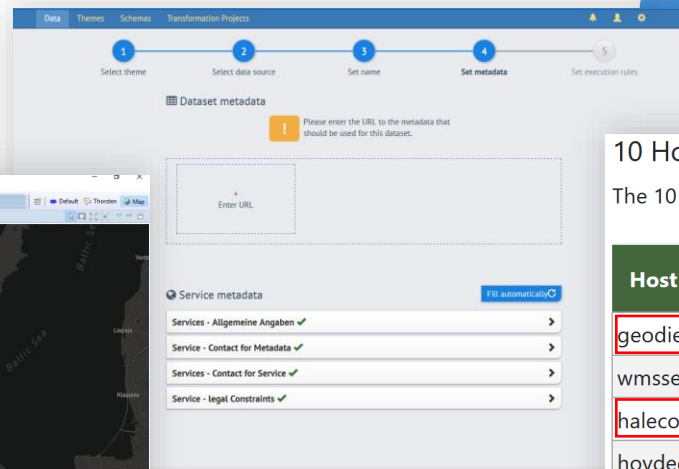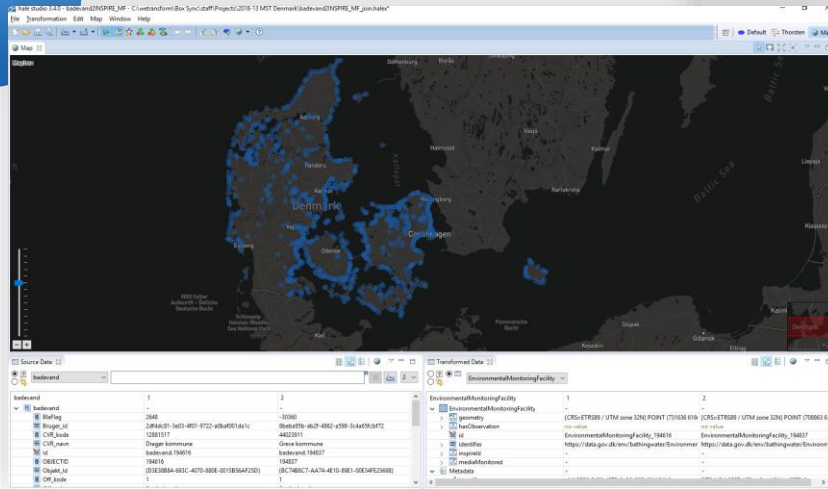
INSPIRE as a Service – Since 2015
1.200+ Organisations, 150.000+ Assets/APIs

10 Hosts with the most Datasets

The 10 hosts that have the most data. Or 'Who has the most data?'

Host Domain	Number of Datasets
geodienste.komm.one	842,876
wmsserver.snap4city.org	247,234
haleconnect.com	134,067
hoydedata.no	90,910
xplanung.freiburg.de	86,309
api.salo.ai	72,606
espacialg.geoperu.gob.pe	59,604
buergergis.pforzheim.de	41,308
geoservicos.ibge.gov.br	38,312
geoserver.d4science.org	30,026

Key Advantages

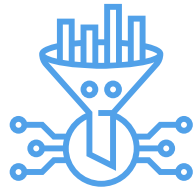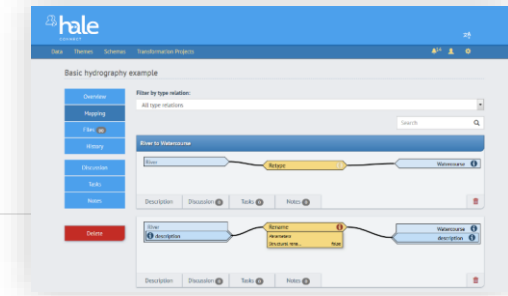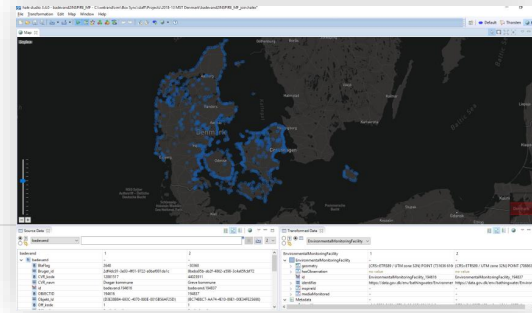Fully automated publication and effective harmonisation reduces effort by 80 to 95%

Continuous maintenance and high robustness ensures compliance

New APIs, Models and Formats can easily be added

Building Green Data Spaces

Capabilities

hale STUDIO

hale CONNECT

Simplified data onboarding and interoperability through (automated) data harmonization
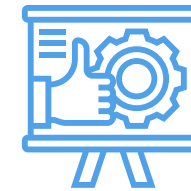
Fully automated workflows, publishing and updating metadata, data sets and services

Competencies

Use cases, data gap identification, Risks

Data Integration and Standardisation

Governance and Sharing Policies

Operation of Software-as-a-Service and Private Cloud

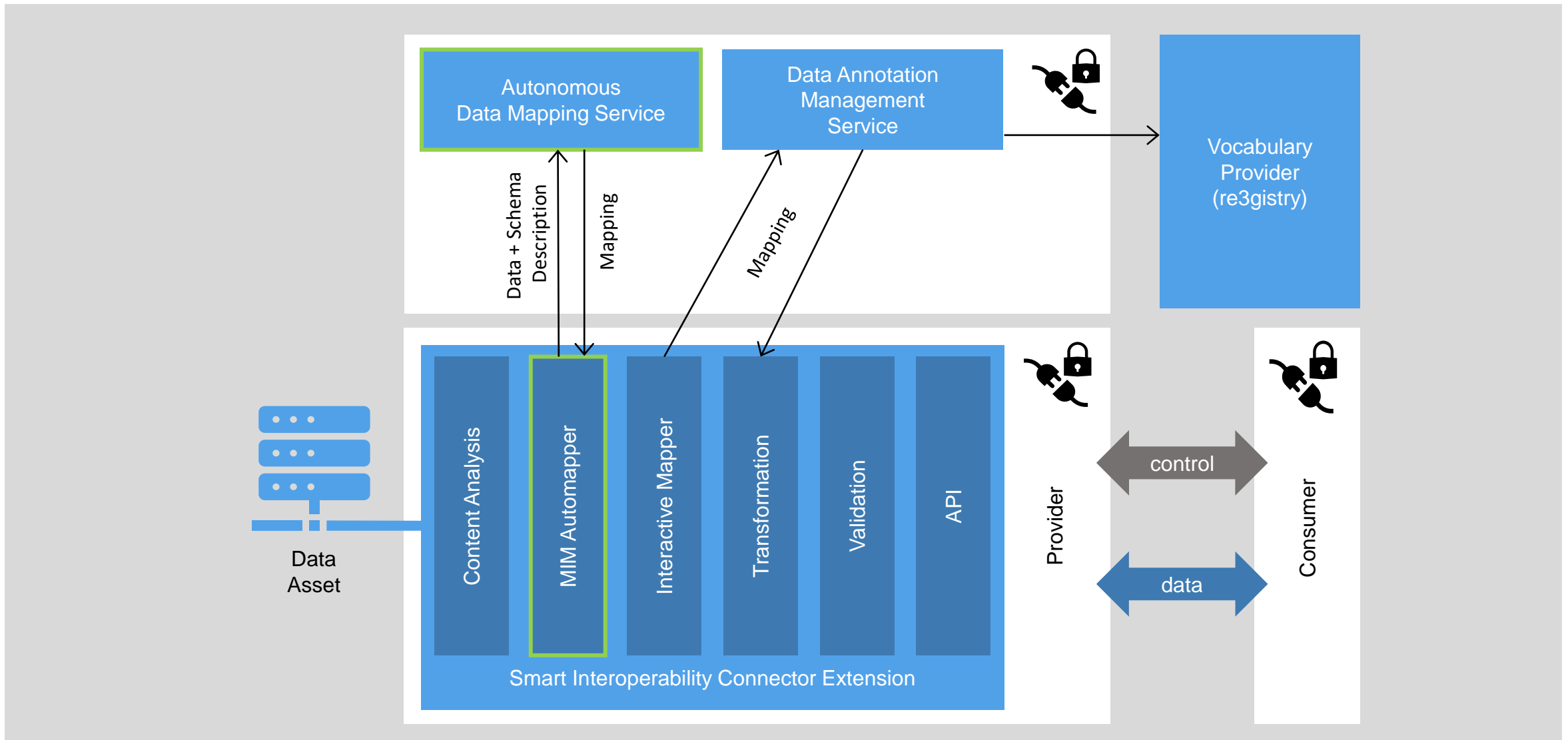# Data Interoperability in Data Spaces

Green Data Spaces

Forestry	InGeoDTM	Soilwise	Planning
Forest Transformation	**Sensitive Geodata**	**Soil Health / Compliance**	**Digital Building Permit**

Forestry

- DEM
- Land Cover
- Hydrography
- Protected Sites
- Area Management

- Species Distribution
- Economic data
- Owner data
- Management plans

InGeoDTM

- Noise Exposure
- Noise Contours
- Noise Sources
- Noise action plans

- Commercial Data
- Personal data in parcels/records
- Sensitive location data

Soilwise

- Soil maps
- Surface geology

- Detailed profiles
- Detailed yield
- Detailed moisture content

Planning

- Spatial plans
- Related reference data (Annex I)

- Comments
- Economic data
- Cadastral data

Objectives of the Forest Data Space
ZUG AI Lighthouse project, Phase II

Which stands are most at risk?

Which species are suitable for a location in different scenarios?

How can the forest be transformed to reach goals in terms of biodiversity, climate change, and economic factors?

Perceptive: Understand current tree health

Predictive: Understand impact of climate and pathogens

Cognitive: Support decision making and implementation

Connect: Forest owners, consultants, seed vendors, machine rental, …

Core goals

Hyper-local recommendations

Multiple scenarios with explanations and drill-down

Continuously updated data from in-situ and remote sensing sources

Identifying Stakeholders, Benefits and Needs
Forest Transformation: Dealing with Climate Change

Data Providers

Surveying Agencies
Forest Research Orgs
Remote Sensing companies

Facilitators

20+ Forest Research Orgs
(e.g. Thünen, state-level
agencies)
Environmental agencies

Users

2M Private Forest Owners
(Large to Small)
16 State Forests
5k+ Municipal Forests
4k Forest Management
Orgs

Added Value Services

Tree Seed providers
Field logging tools
UAV operators
Machine Renters

Data in the FDS

End of 2024: all of Germany, 100x100m² resolution

- **Base Data**
  - Forest Inventory
  - Forest Vitality/Calamities
  - Soil
  - Terrain

- **Forest Transformation Scenarios**
  - Per Climate Scenario
  - Management Scenarios
  - Tree Species

- **Climate & Weather variables coverage**
  - Historical Data
  - Climate Scenarios (RCP 2.6/4.5/8.5)

- **Additional data**
  - All original vector and relational data
  - Personal data/management data
  - Sensor Data
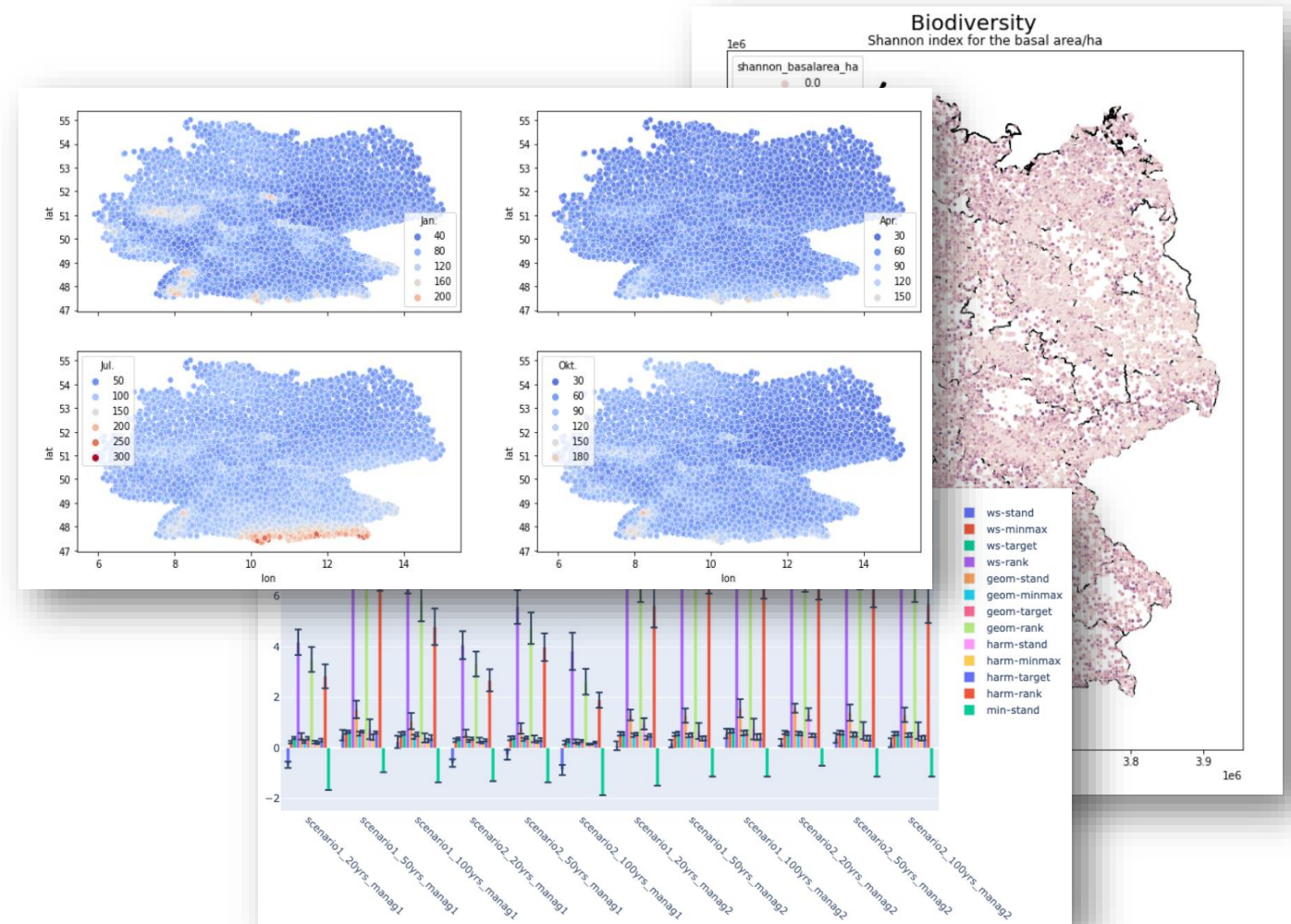
Architecture of the FDS
Full operation in Q2/2025
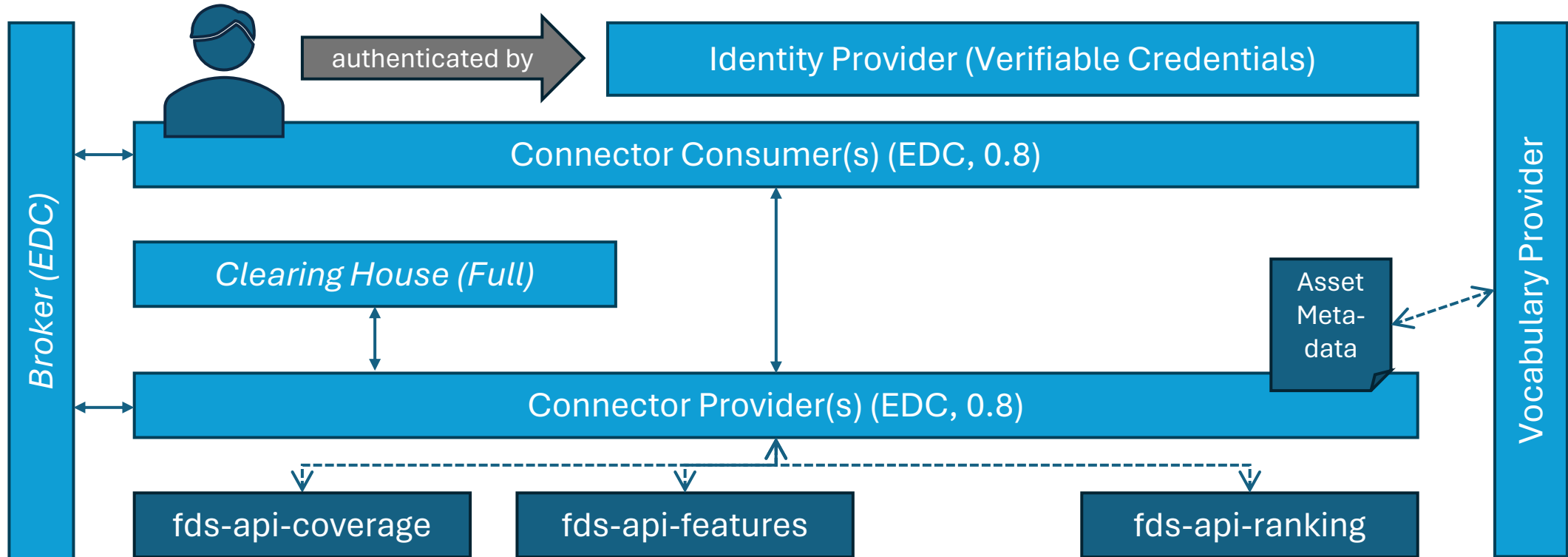
More about the FDS
… at our **booth** or at <u>forestdata.space</u>!

CONTACT

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