AVEVAWORLD

ACCELERATE INDUSTRIAL INTELLIGENCE

CONNECT

MAY 21, 2026

Integrating CONNECT with the Enterprise Data Stack

Presented by:

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Agenda

Data Platform Integration Overview

Release train

Snowflake Integration

CONNECT Ecosystem

Every company wants to be
~~a data-driven company~~
an AI-driven company

Challenge #1: Data

The AI challenge is really a Data challenge

- 95% of pilot projects crash before take-off […]
- Without data governance, AI is nothing more than a machine that produces illusions.

The GenAI Divide: State of AI in Business 2025, MIT

Data is the new gold

- 68% of the data available to enterprises is unleveraged
- New data created each year is growing 26% YoY

The Seagate Rethink Data Survey, IDC

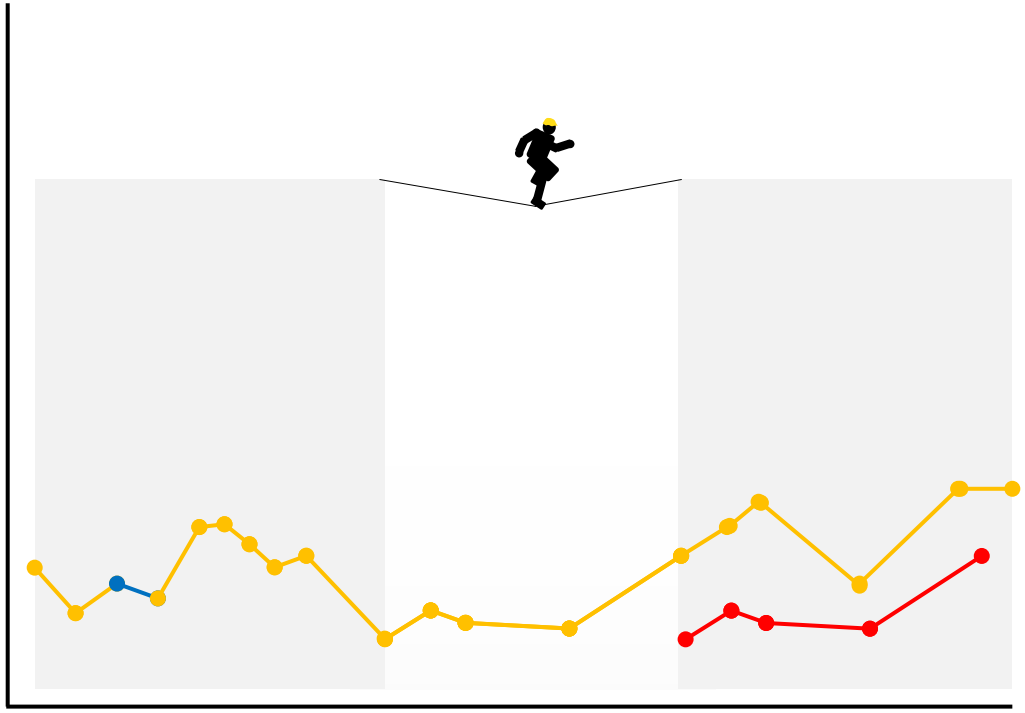
Challenge #2: DataOps

Technology is rarely the bottleneck.
Poor architecture / operating model is.

Challenge #1: late, modified, and out-of-order operations data

Mind the gap. Steep consequences

What OT systems have



What Enterprise IT systems need

Timestamp	Name	Bearing Temperature Value °C	Gearbox Bearing Temp Value °C
Apr 13, 2025, 7:00:00 AM	Wind Turbine 1	189.76889	73.63
Apr 13, 2025, 7:01:00 AM	Wind Turbine 1	189.76944	74.01
Apr 13, 2025, 7:02:00 AM	Wind Turbine 1	189.76999	73.84
Apr 13, 2025, 7:03:00 AM	Wind Turbine 1	189.77054	73.67
Apr 13, 2025, 7:04:00 AM	Wind Turbine 1	189.77109	74.37
Apr 13, 2025, 7:05:00 AM	Wind Turbine 1	189.77164	73.8
Apr 13, 2025, 7:06:00 AM	Wind Turbine 1	189.77217	73.825005
Apr 13, 2025, 7:07:00 AM	Wind Turbine 1	189.77272	73.850006

Challenge #2: DataOps – seamless IT/OT continuity

High maintenance and brittleness

Integration becomes a sprawl of point solutions per source and per destination platform

Slow time-to-insight

Custom data pipelines and high data engineering efforts make every data project an integration marathon

Critical OT systems at risk

Industrial data is hard to access due to restricted infrastructures and complex OT environments.

Low data quality and integrity

Ensure the data remains accurate, validated, and trustworthy as industrial sources evolve

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Seamless Integration

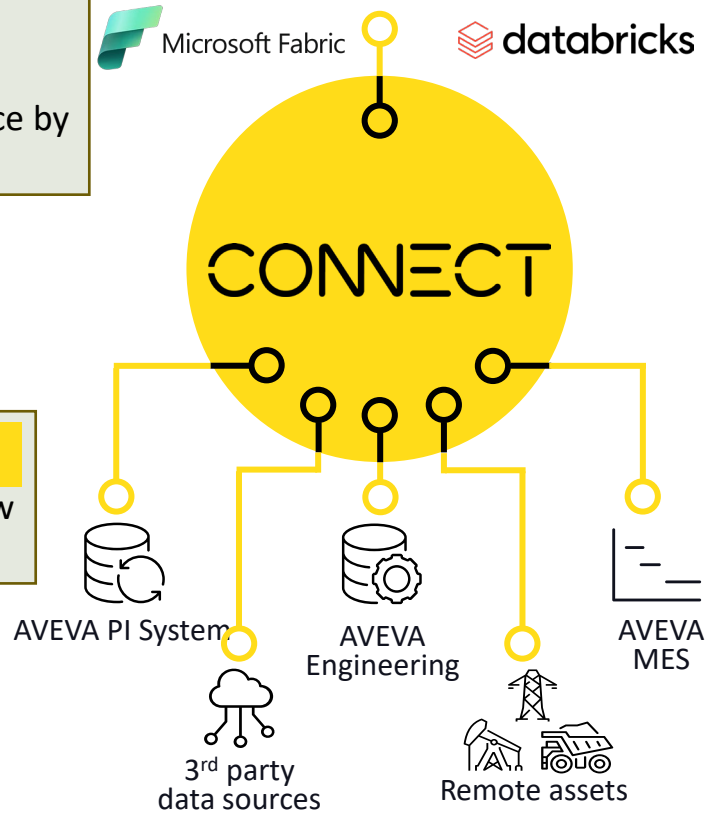
Out-of-the-box integration

- No custom development
- No maintenance by end customer

snowflake
Unified Analytics Platforms

Microsoft Fabric

databricks



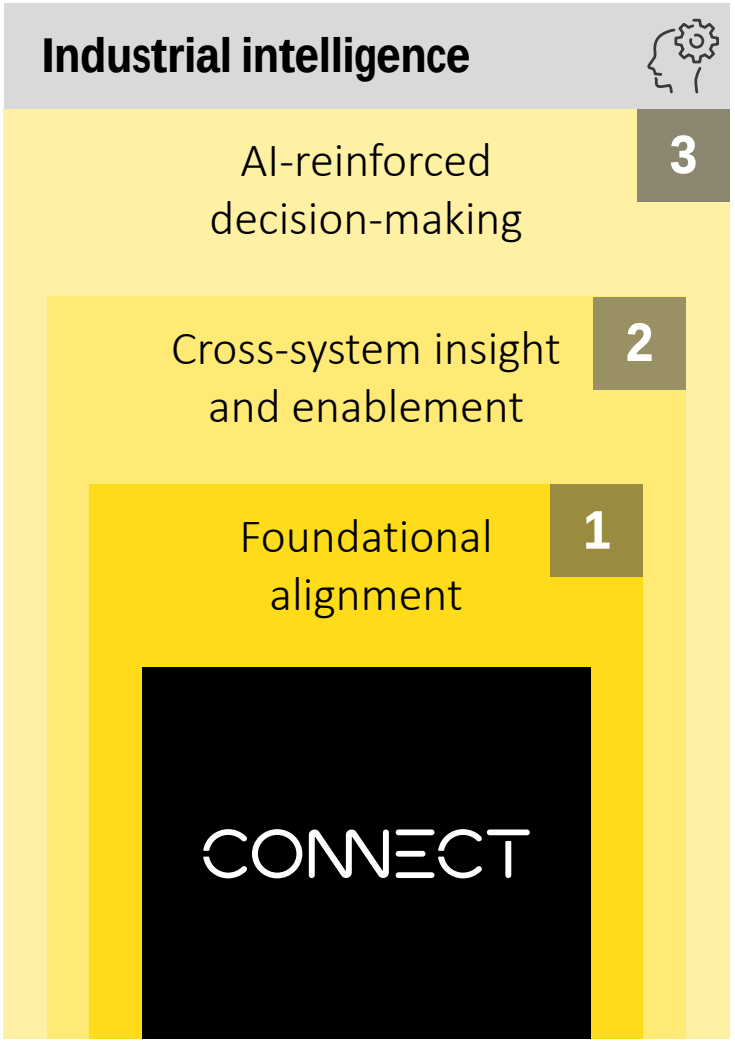
Aggregated industrial data

- Maintain and augment contextualization of data across sites and sources
- Ensure accurate capture of updates and changes to the system of record.
- Results and insights return to OT environments

Easily scales
to support new use cases

Native integration
with operations and engineering data sources

The journey continues – ultimate agnosticity



3

Intersection of human intellect, data-driven decision-making and global visibility

- OT/ET/IT data convergence strategy
- AI-assisted data harmonization
- Enterprise-wide data visibility
- Full adoption and data value generation

2

- Standardized OT/ET data orchestration
- Established self-service usage
- Secure data sharing
- Collaboration framework

1

- Hybrid-cloud data configuration
- Early governance framework
- Initial data integration and orchestration strategies
- Cybersecurity alignment
- Basic data sharing / collaboration

Connectivity	Data management & visualization	Collaboration	AI & analytics	Applications

The journey continues – ultimate agnosticity

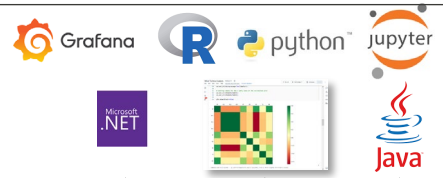
Industrial intelligence

AI-reinforced decision-making **3**

Cross-system insight and enablement **2**

Foundational alignment **1**

CONNECT



via Data views & REST API

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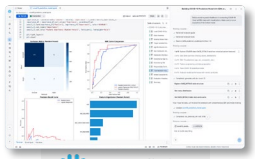

native integration via Virtual Tables

Grafana · R · python · jupyter · Microsoft .NET · Java

via Data views & REST API

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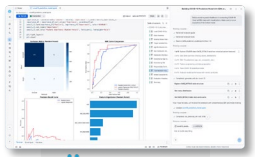
CONNECT

Excel · SAP Analytics Cloud · python · Power BI · tableau from Salesforce · Qlik

via Open Delta Sharing



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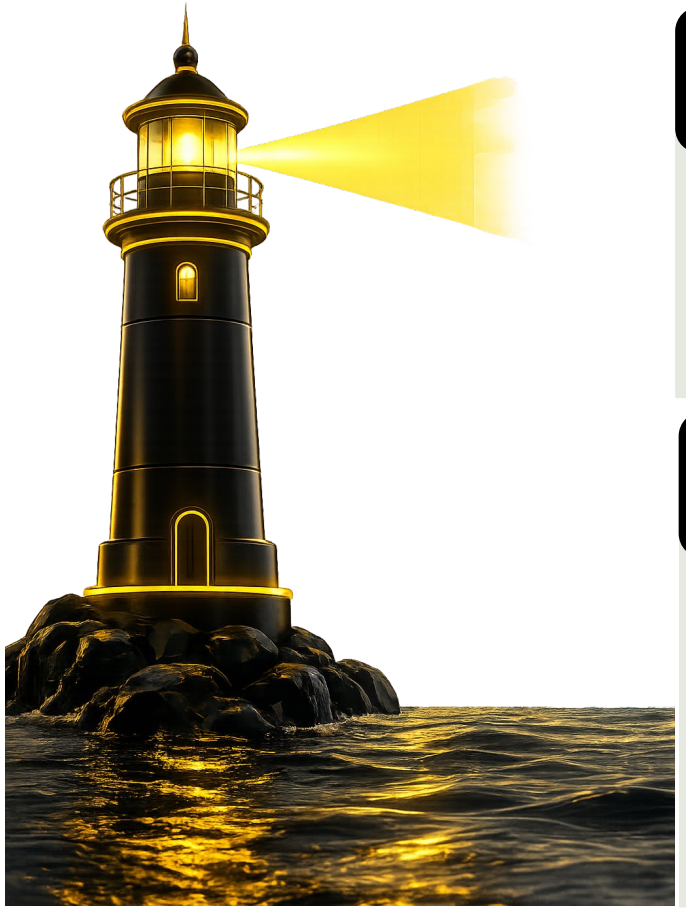
Connectivity | Data management & visualization | Collaboration | AI & analytics | Applications

Existing Lighthouse Program Engagements

Customers already utilizing Virtual Tables



Mobile Fleet
Fuel Efficiency & Maintenance Reduction

Reduced Data preparation time from weeks into days

Energy Transportation
Supporting daily and weekly production targets

Enabled a reliable data pipeline to support optimal production planning

Renewable Energy
Optimizing uptime, production and architecture

Accelerated path to value by reducing implementation time through a solution that will scale with their roll-out

Oil & Gas
Ensuring asset health for critical equipment

Replace existing PI-based, fragile and complex integration, reducing performance concerns and single points of failure

Point-and-click integration workflow

CONNECT

1 Create Virtual Table

- Select the Data View

2 Configure Virtual Table

- Set the **Retrieval Interval**
  - Time-Fixed Window
  - Time-Extending Window
- Set the **Retrieval Mode**
  - Stored/Interpolated
- Set the **Refresh Interval**

3 Create Share

- Select Share type as per Databricks, Snowflake, Delta Sharing

4 Summary

- Review before saving

Catalog
Centralized discovery and governance
Unity Catalog

Table Formats
Open table formats for interoperability
Delta Lake
Apache Iceberg

File Formats
Centralized discovery and governance
Parquet

Lake Storage
Secure, scalable, durable storage foundation
Azure Data Lake Storage Gen2

Microsoft Azure

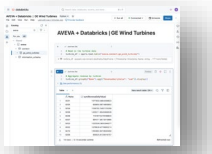
Customer's Analytics Client

snowflake

databricks

Delta Sharing:
Open Sharing Protocol

Zero-copy Data Access



Data Scientist

Data Analyst

Delta Sharing: Open Sharing Protocol

The Open Standard for Cross-Platform Data Access

- **What It Is**
  - Open protocol for secure data sharing
  - Works across clouds, regions, and tools
  - Supports Delta Lake & Iceberg
  - Part of the modern data ecosystem
- **How It Works**
  - Data stays in cloud storage (Parquet)
  - Access via secure endpoints + tokens
  - Query remotely (zero-copy)
  - No ingestion, no ETL, no duplication
- **Why It Matters**
  - Breaks down data silos
  - Cuts infrastructure & pipeline costs
  - Faster time-to-insight
  - Works with any BI / AI / analytics tool
  - Built on an open, future-proof standard

Delta Sharing is the data access layer of the modern data stack - connecting storage to any analytics engine, without friction.

CONNECT Virtual Table Integration with Snowflake

Home
Applications
Explore
Browse
Create

Data management
Data connections
Data stores
Data modeling

Administration
Access
Account
Configure

Developer tools

Marketplace

Collapse

Streams: AWC26 - Data Stores

Change instance

Go to Data store page

AWC26_-_Data_Stores Copy ID

Streams | Stream types

Search for streams...

Terms (e.g. Pump*)

Term	Equals *Term*
*Term**	Starts with *Term*
**Term*	Ends with *Term*
Term	Contains *Term*

Filters (e.g. name:Pump*)

id:	Stream Id
name:	Stream Name
description:	Stream Description
typeId:	Stream Type Id
metadataKey:	Stream Metadata (help)

Operators (e.g. name:Pump* AND id:Sensor01*)

AND *NOT* *OR*

Multiple Terms (e.g. Pump* OR "Air Valve"*)

Term1 Term2	*Term1* OR *Term2*
"Term1 Term2"	*Term1 Term2*

For more ways to query, see the help page

Create stream

		Id	Description	Stream type
☐	Yorkshire.Expected Power Generation	PI_AZEUWCDSPPIDA_484		PI-Float64
☐	Yorkshire.Energy Production - Previous Week	PI_AZEUWCDSPPIDA_581		PI-Float64
☐	Yorkshire.Energy Production - Previous Month	PI_AZEUWCDSPPIDA_580		PI-Float64
☐	Yorkshire.Energy Production - Previous Day	PI_AZEUWCDSPPIDA_579		PI-Float64
☐	Yorkshire.EAF MTD	PI_AZEUWCDSPPIDA_493		PI-Float64
☐	Yorkshire.Daily Energy	PI_AZEUWCDSPPIDA_494		PI-Float64
☐	Yishun.Zone Percent Leakage	PI_AZEUWCDSPPIDA_6514		PI-Float64
☐	Yishun.Zone NRW	PI_AZEUWCDSPPIDA_5459		PI-Float64
☐	Yishun.Zone Energy Consumed Current Month	PI_AZEUWCDSPPIDA_5455		PI-Float64

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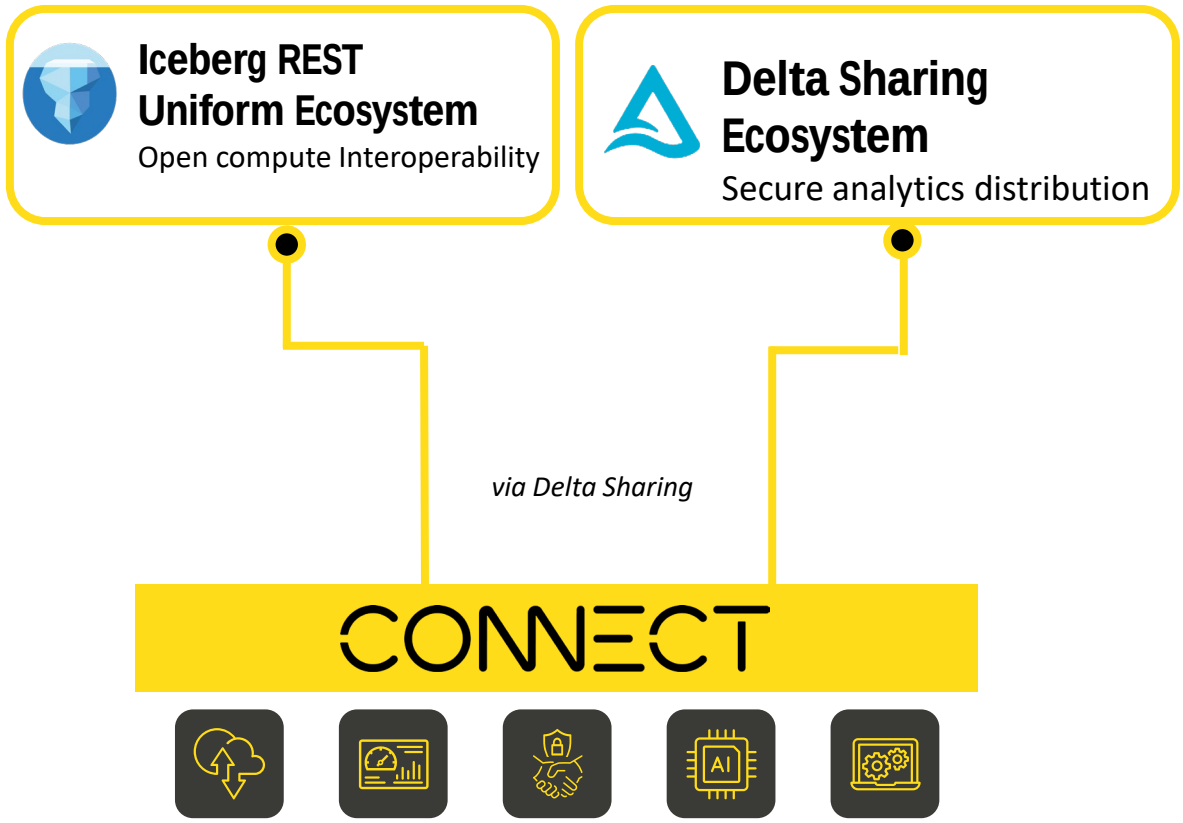
Unlocking the CONNECT Ecosystem

Enterprise Data Integration for BI, Analytics, Open Compute

Open interoperability through Delta Sharing and Iceberg REST



- CONNECT exposes governed industrial data via Open Delta Sharing
- Governed industrial data through open standards
- One source, multiple analytics consumers
- **Open architecture** - no vendor lock-in
- **Zero-copy** access to Parquet data in ADLS Gen2
- Compatible with Power BI, Tableau, **Snowflake, Databricks, Fabric**, Python, and more
- Secure token-based sharing and centralized governance
- Trusted, consistent data across all analytics platforms
- Accelerates BI, analytics, and AI workflows

Unlocking the CONNECT Ecosystem

Iceberg REST / Uniform Ecosystem

Open compute Interoperability

COMPUTE LAKEHOUSE

- databricks
- Apache Spark
- Microsoft Fabric
- Flink

SQL ENGINE

- presto
- trino
- dremio

CLOUD WAREHOUSE

- snowflake
- Microsoft Fabric

GOVERNANCE CATALOG

- Unity Catalog
- snowflake
- dremio
- APACHE POLARIS

PYTHON DATA SCIENCE

- pandas
- PyIceberg
- jupyter
- python

Delta Sharing Ecosystem

Secure analytics distribution

BI & ANALYTICS

- Power BI
- tableau
- Excel
- Qlik

PYTHON DATA SCIENCE

- pandas
- python

COMPUTE

- databricks
- Apache Spark

OTHER CLIENT

- Rust Client
- Custom REST Client

CONNECT


CONNECT
Trend
Streams Store: AWC26 - Data Stores
Change instance
Home
Applications
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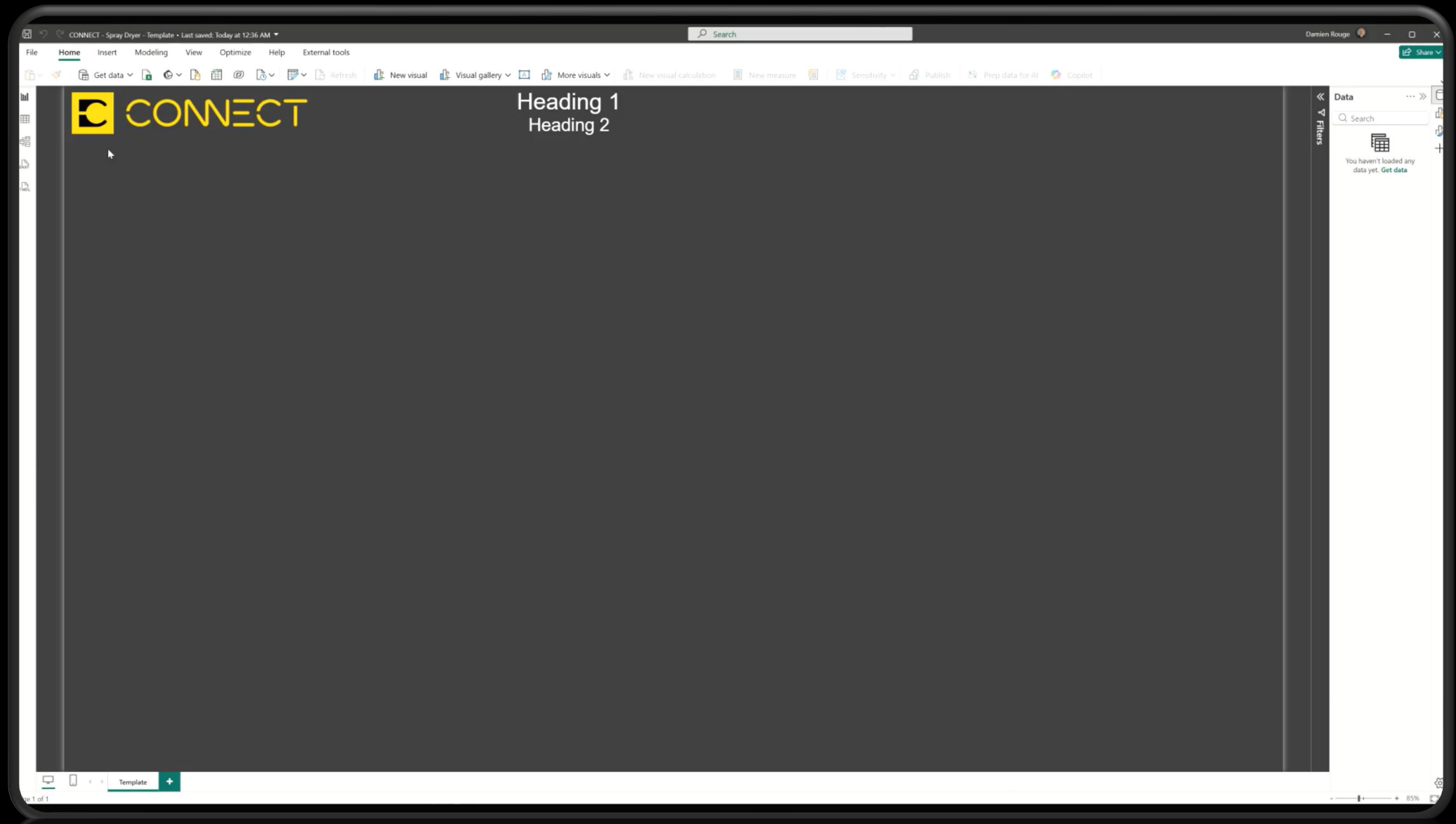
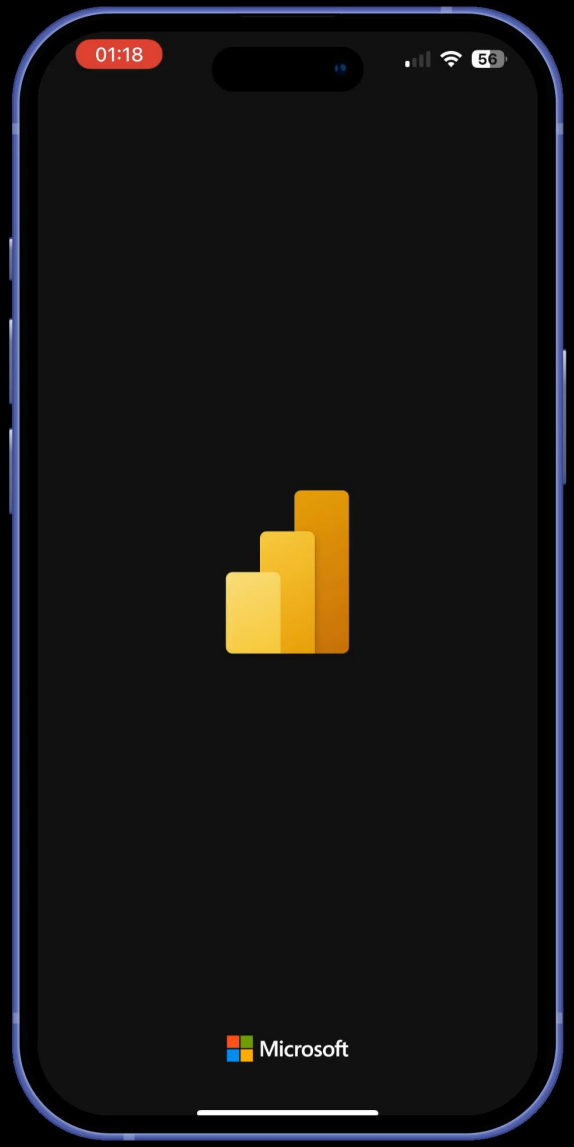
Stores
Modeling
Access
Account
Configure
Developer tools
Marketplace
350 150 8
300
250
200
150
100
50
0
-50 60 -1
Sat 25
03 AM
06 AM
09 AM
12 PM
03 PM
06 PM
09 PM
Apr 26
03 AM
06 AM
09 AM
12 PM
03 PM
06 PM
09 PM
Mon 27
Apr 25, 2026, 12:00:00 AM to Apr 27, 2026, 12:00:00 AM
Name
Timestamp
Value
UOM
Min
Max
Avg
Total
Dryer03.Motor.Power.PV
AWC26 - Data Stores
Value
Apr 27, 2026, 12:00:00 AM
270.107
-28.011
304.602
145.759
420,053.83
Dryer03.Fan.InletTemperature.PV
AWC26 - Data Stores
Value
Apr 27, 2026, 12:00:00 AM
110.047
67.011
137.086
98.249
283,067.538


CONNECT - Spray Dryer - Template • Last saved: Today at 12:36 AM
Search
Damien Rouge
File
Home
Insert
Modeling
View
Optimize
Help
External tools
Share
Get data
Refresh
New visual
Visual gallery
More visuals
New visual calculation
New measure
Sensitivity
Publish
Prep data for AI
Copilot
CONNECT
Heading 1
Heading 2
Filters
Data
Search
You haven't loaded any data yet. Get data
Template
Page 1 of 1
85%

CONNECT



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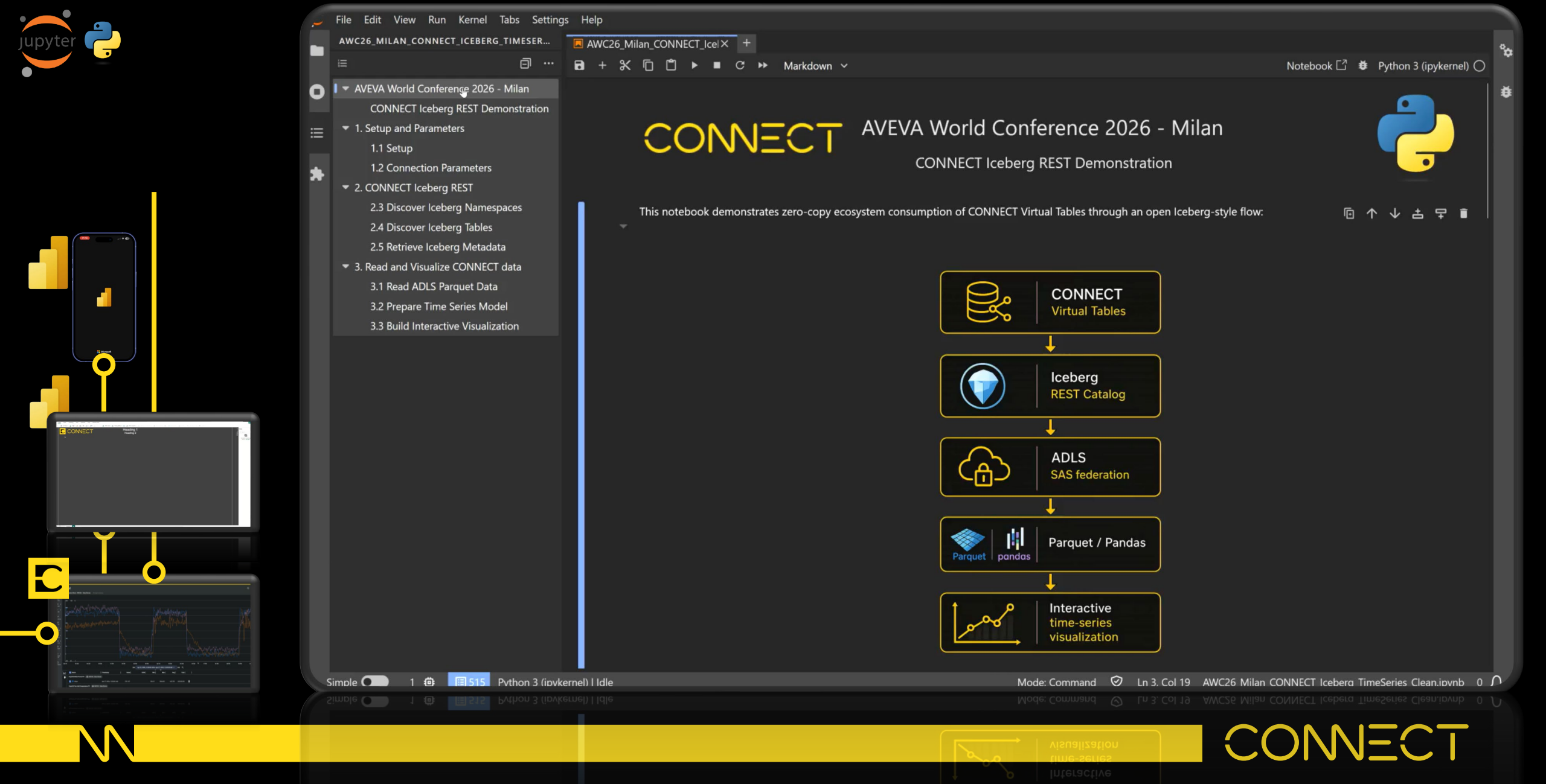
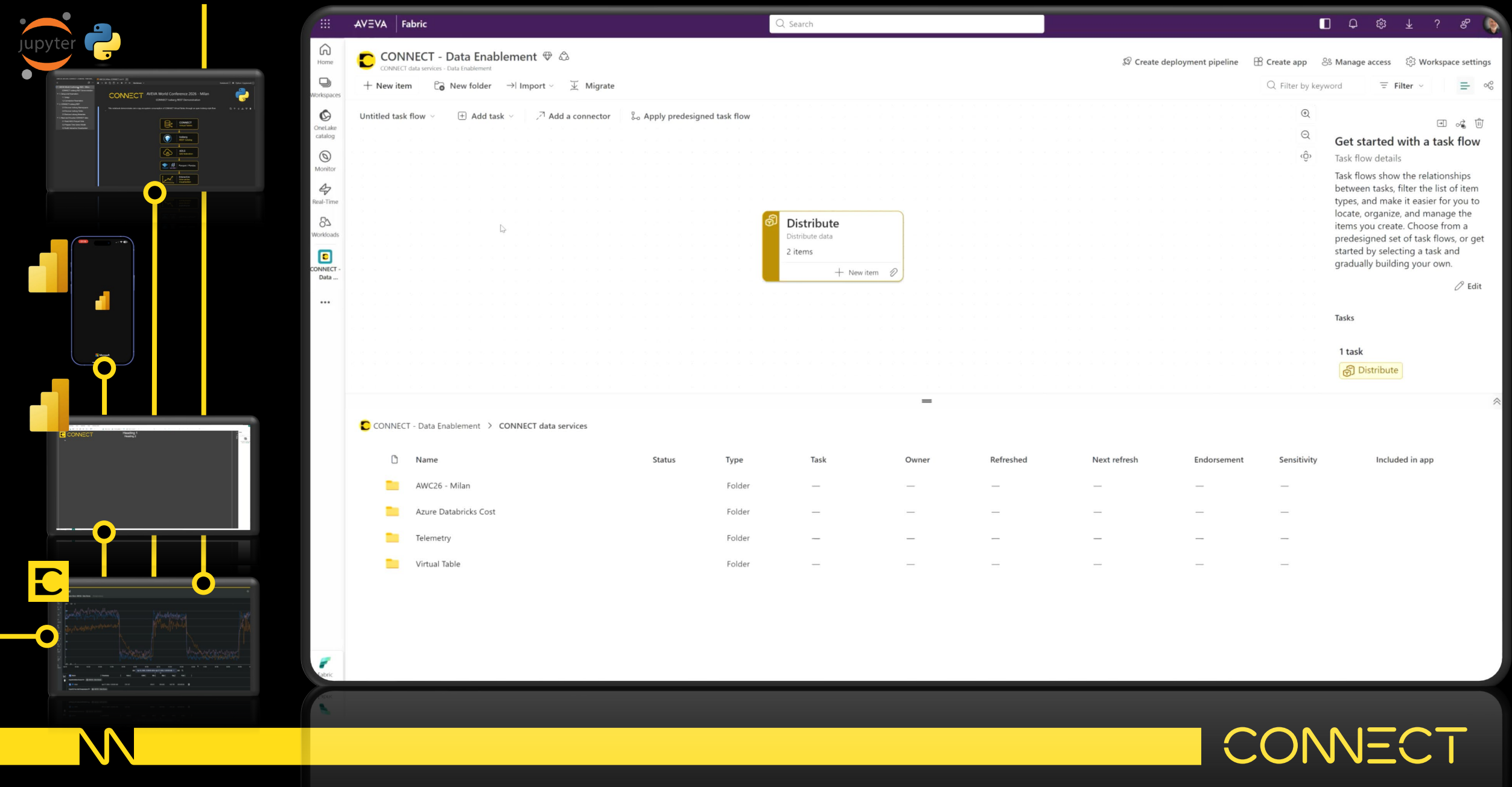

File Edit View Run Kernel Tabs Settings Help
AWC26_MILAN_CONNECT_ICEBERG_TIMESER...
AWC26_Milan_CONNECT_Ice
Markdown
Notebook
Python 3 (ipykernel)
AVEVA World Conference 2026 - Milan
CONNECT Iceberg REST Demonstration
1. Setup and Parameters
1.1 Setup
1.2 Connection Parameters
2. CONNECT Iceberg REST
2.3 Discover Iceberg Namespaces
2.4 Discover Iceberg Tables
2.5 Retrieve Iceberg Metadata
3. Read and Visualize CONNECT data
3.1 Read ADLS Parquet Data
3.2 Prepare Time Series Model
3.3 Build Interactive Visualization
CONNECT
AVEVA World Conference 2026 - Milan
CONNECT Iceberg REST Demonstration
This notebook demonstrates zero-copy ecosystem consumption of CONNECT Virtual Tables through an open Iceberg-style flow:
CONNECT
Virtual Tables
Iceberg
REST Catalog
ADLS
SAS federation
Parquet
pandas
Parquet / Pandas
Interactive
time-series
visualization
Simple
Python 3 (ipykernel) | Idle
Mode: Command
Ln 3, Col 19
AWC26 Milan CONNECT Iceberg TimeSeries Clean.ipynb

Microsoft Fabric



CONNECT

Questions?

- Please wait for the microphone
- State your name and company

Please remember to…

Navigate to this session in the mobile app to complete the survey

Visit us at the CONNECT booths in the Innovation Zone

Thank you!

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AVEVA is a world leader in industrial software, providing engineering and operational solutions across multiple industries, including oil and gas, chemical, pharmaceutical, power and utilities, marine, renewables, and food and beverage. Our agnostic and open architecture helps organizations design, build, operate, maintain and optimize the complete lifecycle of complex industrial assets, from production plants and offshore platforms to manufactured consumer goods.

Over 20,000 enterprises in over 100 countries rely on AVEVA to help them deliver life's essentials: safe and reliable energy, food, medicines, infrastructure and more. By connecting people with trusted information and AI-enriched insights, AVEVA enables teams to engineer efficiently and optimize operations, driving growth and sustainability.

Named as one of the world's most innovative companies, AVEVA supports customers with open solutions and the expertise of more than 6,400 employees, 5,000 partners and 5,700 certified developers. The company is headquartered in Cambridge, UK.

Learn more at www.aveva.com