

# CONNECT

Unifying the industrial ecosystem with data,  
AI and deep domain expertise for greater sustainability and efficiency



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AVEVA



Up to  
**73%**

of all data collected within  
enterprises goes unused

*Source: AIoT: The Key to Unlocking Business  
Value From Industrial Data, Forbes, 2021*

**AVEVA**

# Connecting people to that data is key

Leveraging the cloud to empower your ecosystem securely and seamlessly across the value chain for exponential business growth

By 2025,

# 40%

of global organizations will have a digital platform in place for ecosystem operation, driving a 10% higher data capitalization rate than those that do not take this approach<sup>1</sup>

# 7+%

more revenue growth for companies further along in their digital transformation journey than industry peers<sup>2</sup>

<sup>1</sup>Source: IDC FutureScape: Worldwide Future of Industry Ecosystems 2024 Vendor Assessment (doc #US50217123, October 2023 ); <sup>2</sup>McKinsey

# Customer challenges

Information silos

Inconsistent data and slow responsiveness

Remote and virtual teams have limited access to reliable data

Difficulty understanding operational performance across sites and teams

Need to predict behaviors and outcomes for greater efficiency and sustainability



Plant manager



Field technician



Reliability engineer



Business analyst



Data scientist



Internal developer



Equipment manufacturer



Analytics provider



App developer

# CONNECT

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## TRUSTED INTELLIGENCE

Single source of truth  
for  
proven applications

## ACTIONABLE INSIGHT

Closing the loop for  
real-world impact

## UNIFIED EXPERIENCE

Hundreds of  
perspectives.  
One shared reality

## EMPOWERED ECOSYSTEM

Accelerating the network  
effect across the value chain

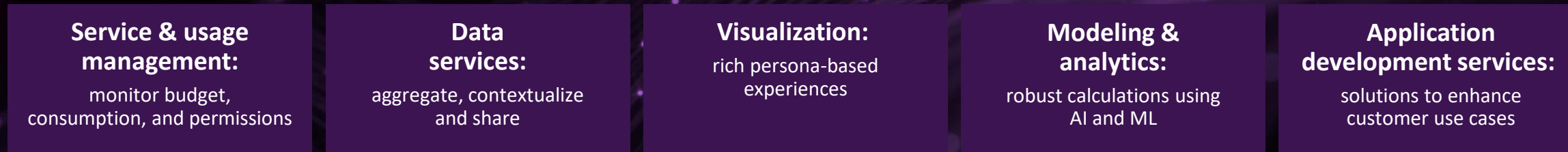
# CONNECT, our industrial intelligence platform



Open and neutral, providing rich data insights for your unified industrial ecosystem



## CONNECT



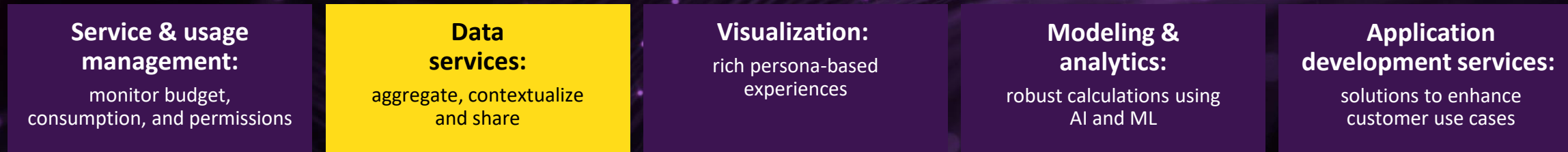
# CONNECT, our industrial intelligence platform



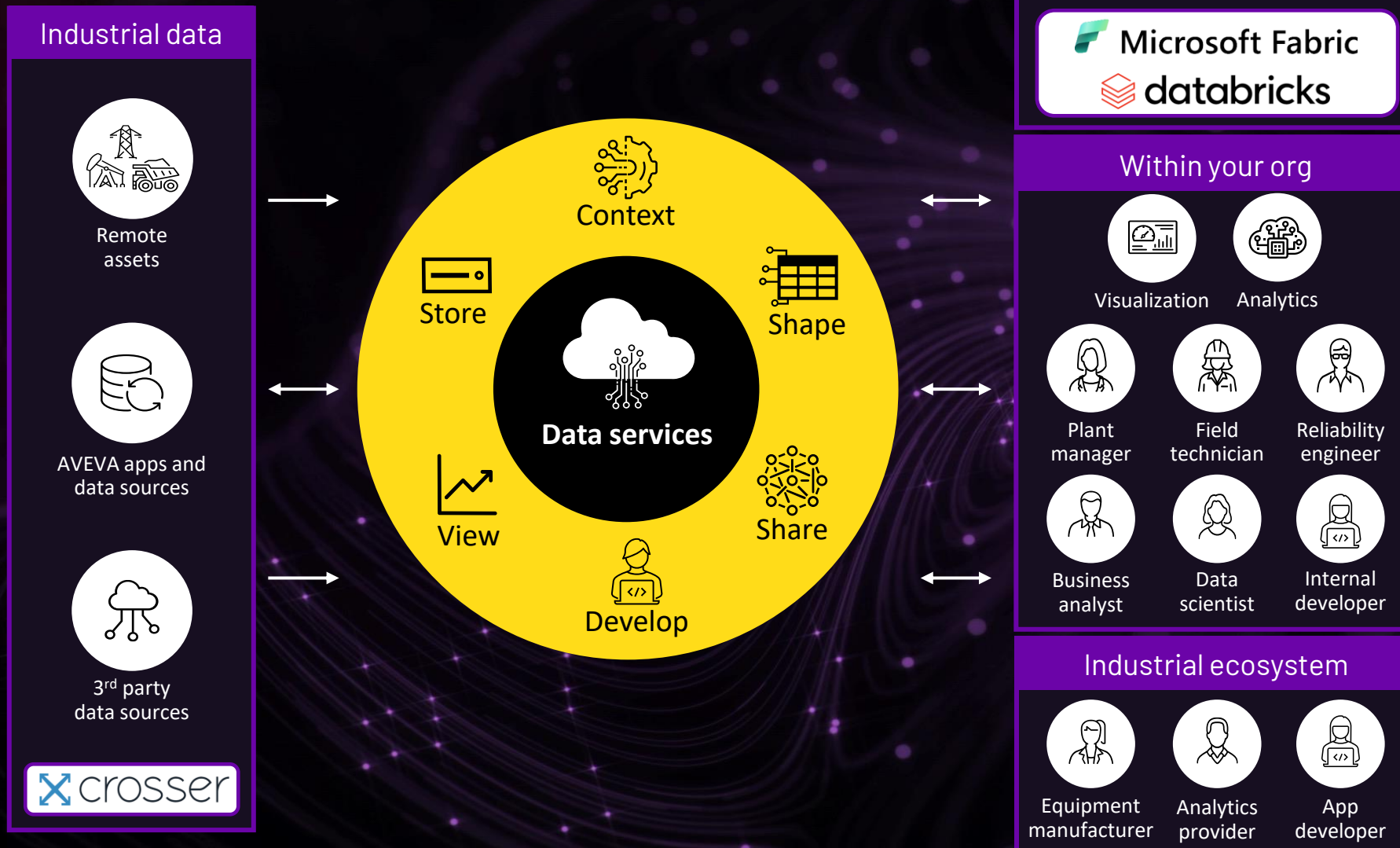
Open and neutral, providing rich data insights for your unified industrial ecosystem



## CONNECT



# CONNECT data services



**Aggregate, contextualize, and share real-time industrial data**

- Build and manage a central data repository for BI, data and analytics, and AI / ML tools
- Securely share your industrial information with authorized users, extending the use of your existing data beyond your organization's four walls
- Enable 3<sup>rd</sup>-party providers to access real-time industrial data for customized services and applications



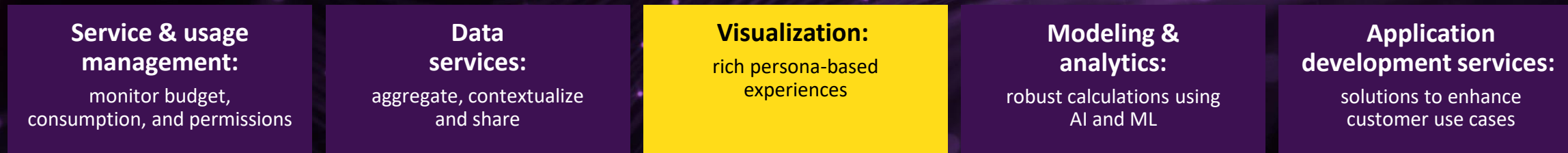
# CONNECT, our industrial intelligence platform

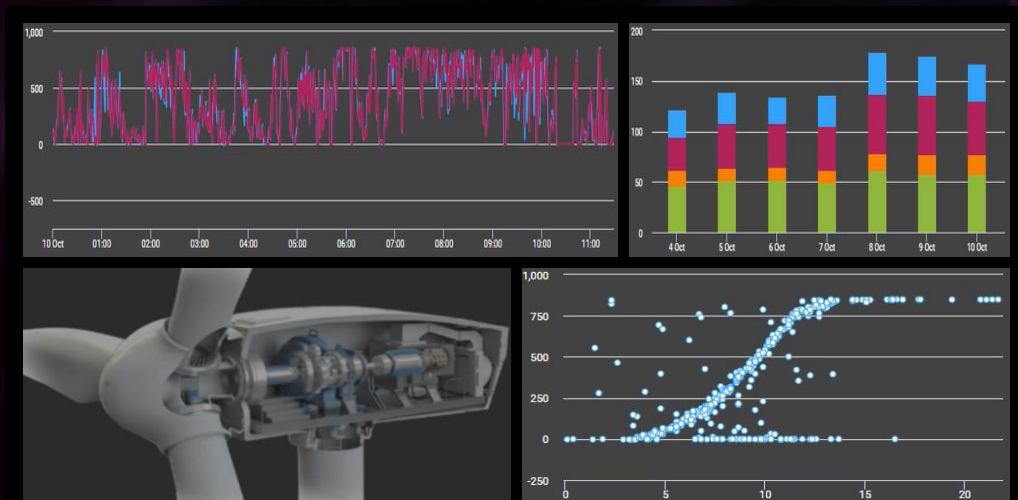


Open and neutral, providing rich data insights for your unified industrial ecosystem

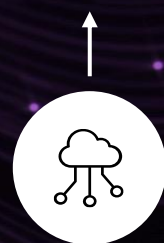


## CONNECT





Data services



3<sup>rd</sup> party data sources

## Self-service

- Editable dashboards
- Arrange various content types
- No code experience
- Search for content
- Adjustable historical view

## Pre-defined

- Custom developed experiences
- Rich animations and dynamic styling
- Asset driven navigation
- Complex interactions
- Holistic operations view

## Visualize industrial data using self-service and pre-defined dashboards

- Visually relate disparate data sources & systems in context to each other
- Gather insights between applications and across data types quickly and easily
- Share actionable information with operations, reliability, business, and other teams, anywhere through a browser

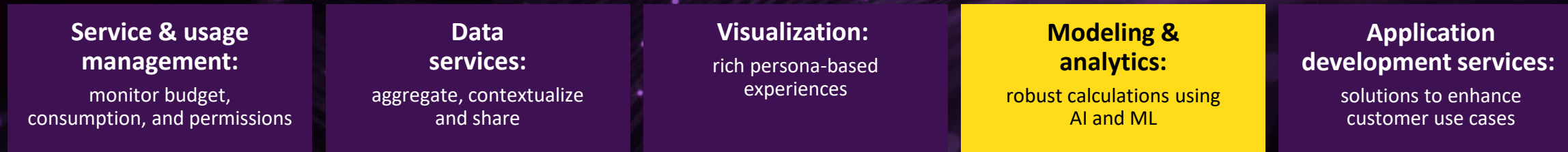
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## CONNECT



# CONNECT modeling & analytics (AVEVA Advanced Analytics)



## Solve

Consolidate learnings and apply solutions that mitigate problems and improve performance

## Learn

Automate investigations and understanding of performance drivers with ML



Data services



3<sup>rd</sup> party data sources

## Model

Combine data from multiple sources to mirror physical assets & processes on digital twins

## Monitor

Apply algorithms & logic to continuously assess performance

## Alert

Give early warnings of performance issues with improvement suggestions

## Combine existing data with AI for faster and smarter decisions

- Utilize AI and ML to improve process efficiency
- Understand production outcomes and get recommended corrective actions
- Collaborate with trusted partners to enable cross-company collaboration and discover new opportunities



## Predictive quality

- Reduce frequency of quality measurements
- Offline measurement with delayed lab results
- Get an early indication of quality in production line



- Predicted quality value
- Ideal operating conditions
- Anomaly timeline and breakdown
- Recommendations on controllable parameters



## Predictive throughput

- Identify optimum operating conditions to maximize production
- Identify measures of production by product or rate



- Predicted production rate
- Ideal operating conditions
- Anomaly timeline and breakdown
- Recommendations on controllable parameters



## Predictive energy efficiency

- When there is no overall measure of energy consumption
- Normalized measures of energy use by product
- Identify optimum operating conditions to minimize energy consumption



- Normalized energy use
- Predicted total energy consumption
- Ideal operating conditions
- Anomaly timeline and breakdown
- Recommendations on controllable parameters

# Activate your data with AI-enabled applications



The screenshot shows the AVEVA Model Factory interface. The main panel displays the model configuration for 'PL 2 DS 1 Optimize Energy Efficiency'. The model is active and has been trained. The interface includes a sidebar with navigation options like 'Monitor', 'Alerts', 'Twins', 'Analysis', 'Events', 'Cases', 'Sources', 'Models', and 'Twins Admin'. The main content area shows the model's name, description, and a list of data sources used for training. Below this, there are six steps in a process flow: 'What data should the Model consider?' (Complete), 'When should data be collected?' (Complete), 'Validate the Model's configuration.' (Completed), 'Start training a Model with your Twin's data.' (Blocked), 'See what your Model found in your data.' (Blocked), and 'When should the trained Model run?' (Blocked).



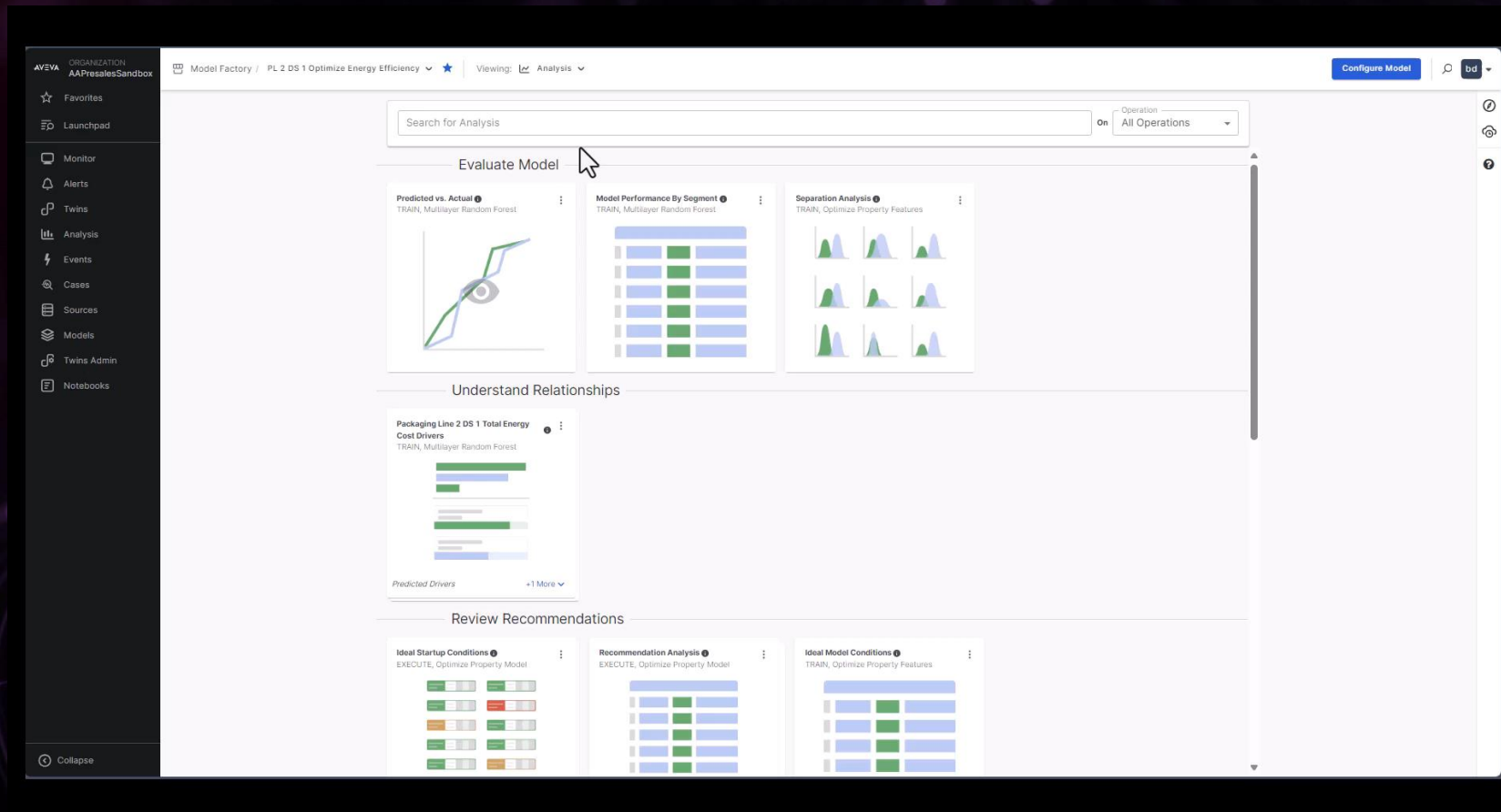
## Predictive energy efficiency

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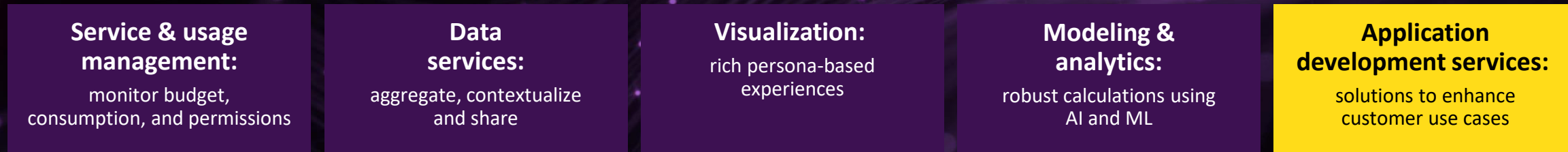
# CONNECT, our industrial intelligence platform



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## CONNECT





# CONNECT

Extending existing investments and capabilities





## Operations

- Real-time data
- Trends
- Self-service
- Alerts
- Data in context



## Data Scientist/Engineer

- Historische data
- Beschikbaar in Databricks, MS Fabric, etc...
- Data in context



## Service Provider

- Toegang tot specifieke subset(s) aan data
- Géén toegang tot data buiten domein
- Data in context

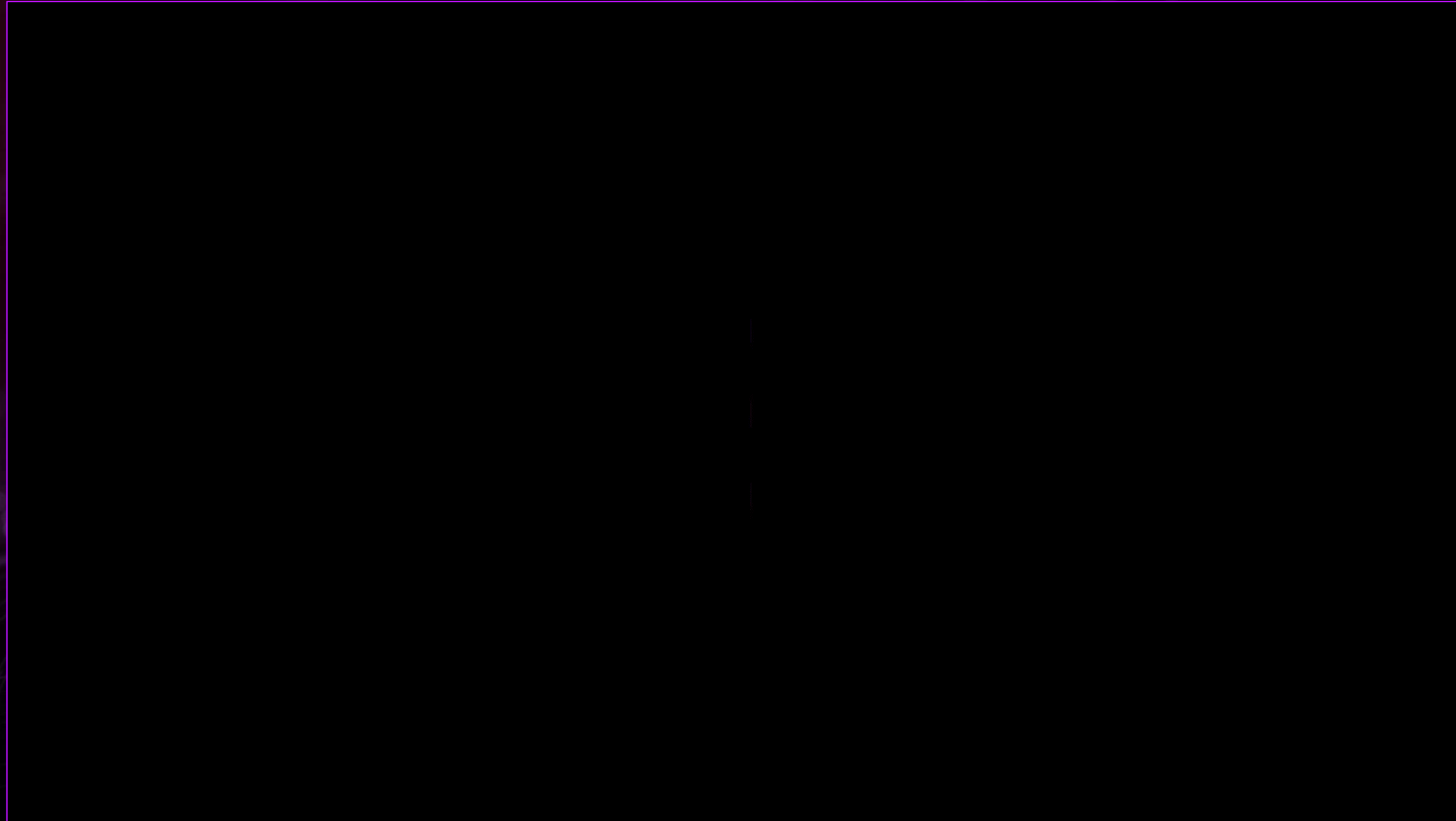


## Management

- Interactieve dashboards
- KPI's
- Data in context

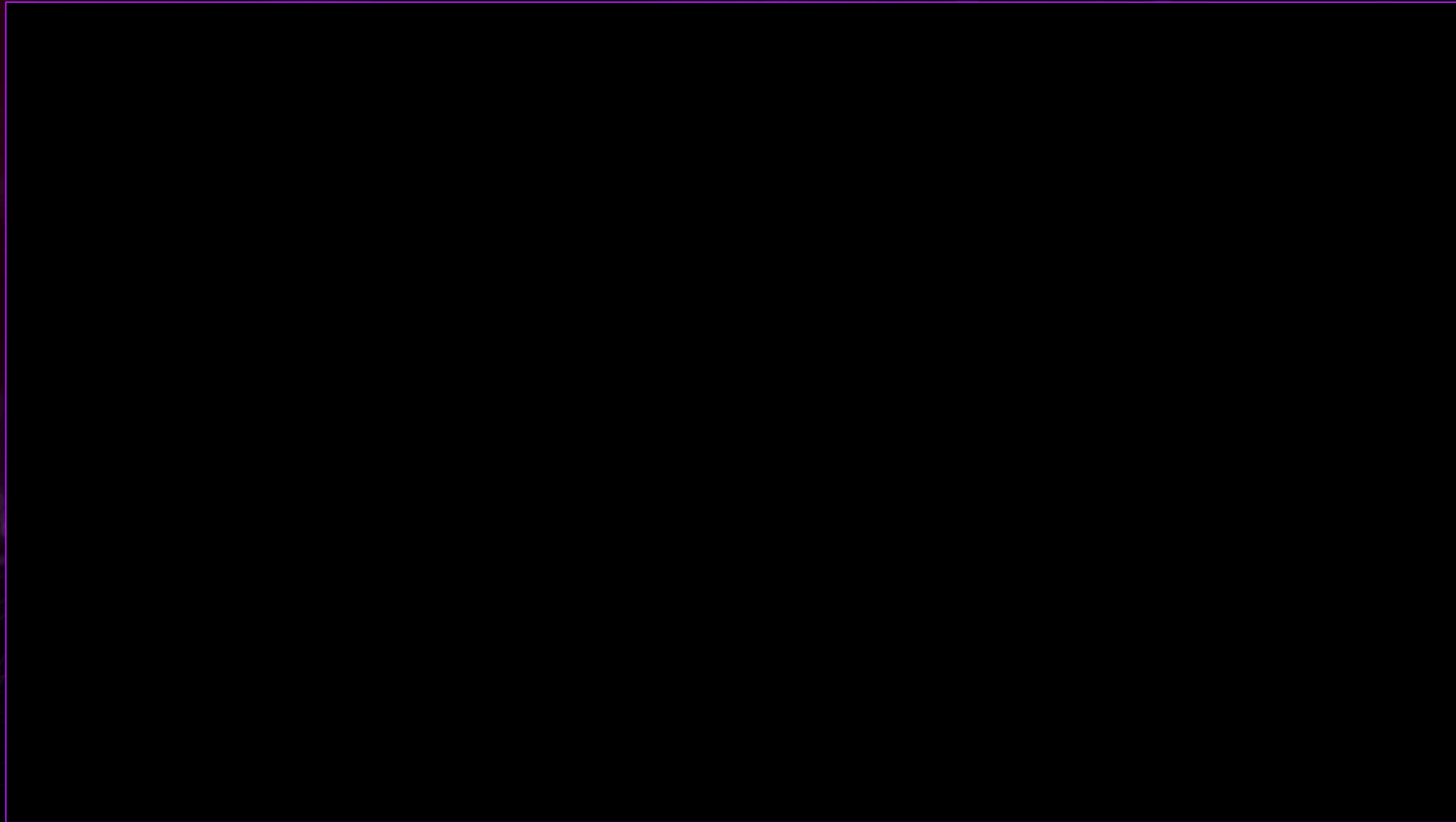
# Operations – Visualization Services

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# Operations – Visualization Services (UoC)

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# Data Scientists – Data Views



AVEVA™ Data Hub ▶ Data Views Analytics for Industry ▼ 3 ? ⌵

Home Data Management > Data Collection > Visualization > Σ Analytics > Security > Developer Tools > Support >

ℹ Retrieve Data Views in Microsoft Power BI for advanced data visualization and analysis: [Download Power BI Connector](#) ✕

Filter Data Views [+ Add Data View](#) ⬇ ⋮

Id ↑	Name	Description	Query Sources
EMS	EMS		<span>Analytics for Industry</span>

COLLAPSE < Items per page: 50 ▼ 1 - 1 of 1 |< < > >|

# Data Scientists - Data Views



AVEVA™ Data Hub ▶ Data Views Analytics for Industry ⌵ 🔔 ? 🏠

🏠 Home 📊 Data Management > 📶 Data Collection > 📈 Visualization > Σ Analytics > 🛡 Security > 🔧 Developer Tools > 📄 Support >

Name\* ASKx Demo Description Data View Shape  Standard  Narrow ⚙ Manage Queries

Filter Fields... + Add ✎ ✕ ↑ ↓  Auto Refresh 📄 View in API Console

Timestamp	Name	Site	Area	Asset Type	ProductionRate Value WeightedMean	Electricity Value Range kWh
May 22, 2024, 4:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	6.842076411181023	1653
May 22, 2024, 5:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	6.839319482776852	1653
May 22, 2024, 6:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	1.201701395710308	1402
May 22, 2024, 7:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	3.770361091362106	1380
May 22, 2024, 8:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	7.173187446594238	1652
May 22, 2024, 9:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	7.173604114850361	1652
May 22, 2024, 10:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	7.173124954766695	1655
May 22, 2024, 11:00:00 PM	Baking.Oven1	NL0076	Baking	Oven	7.172756904694766	1653
May 23, 2024, 12:00:00 AM	Baking.Oven1	NL0076	Baking	Oven	7.172527731127216	1652
May 22, 2024, 12:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	16.028173853291428	1654
May 22, 2024, 1:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	16.029125213623033	1652
May 22, 2024, 2:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	16.028083560201875	1652
May 22, 2024, 3:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	16.0289377305243	1652
May 22, 2024, 4:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	16.02777799500361	1654
May 22, 2024, 5:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	7.223583459854135	1652
May 22, 2024, 6:00:00 AM	Baking.Oven2	NL0076	Baking	Oven	4.201833368009992	1126

Items per page: 50 1 - 50 of 300 ⏪ ⏩

5/22/24 12:00 AM - 5/23/24 12:00 AM, 00.01:00:00 ⏪ 📈 Interpolated Cancel Save Save and Close

**Index Field**

- Timestamp Index

**Grouping Fields**

- Name Name

**Query1** Analytics for Industry Assets ⏪

Identifying Field

- IdentifyingValue Site Uom Metadata · Site
- IdentifyingValue Area Uom Metadata · Area

# Management – Power BI



Untitled - Power BI Desktop

File Home Insert Modeling View Optimize Help

Clipboard: Cut, Copy, Paste, Format painter

Data: Get data, Excel workbook, OneLake data hub, SQL Server Data, Enter data, Dataverse, Recent sources

Queries: Transform data, Refresh data

Insert: New visual, Text box, More visuals

Calculations: New measure, Quick measure

Sensitivity: Sensitivity

Share: Publish, Copilot

Build

Suggestions

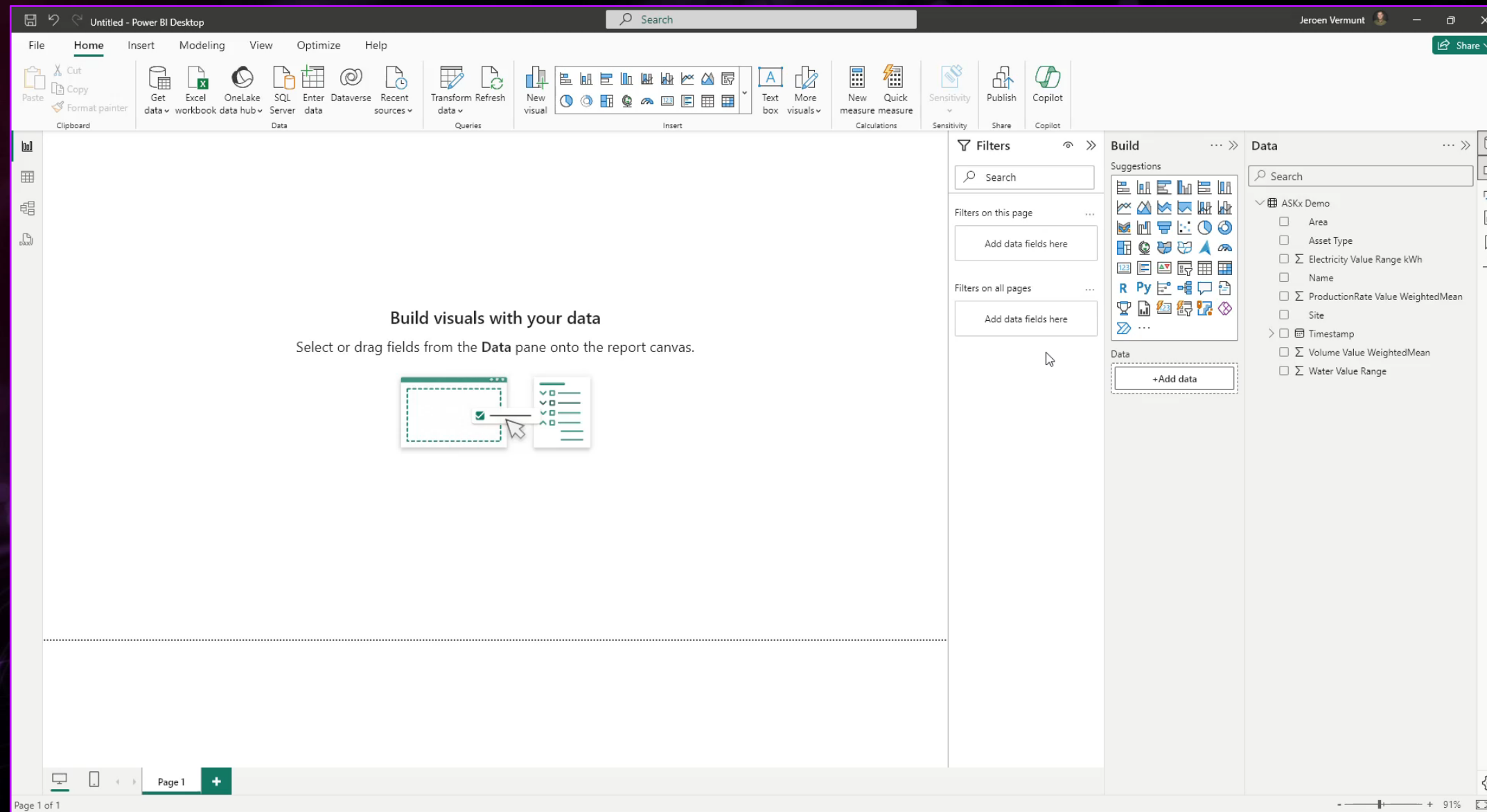
Filters

Data: +Add data

Page 1 of 1

113%

# Management – Power BI





# CONNECT: out-of-the-box examples



ANALYTICS  
FOR INDUSTRY

## Performance & OEE Analysis (MES)

## Energy Monitoring & Analysis (EMS)

