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Accelerate your time to value with analytics and applications fueled by AVEVA™ Data Hub

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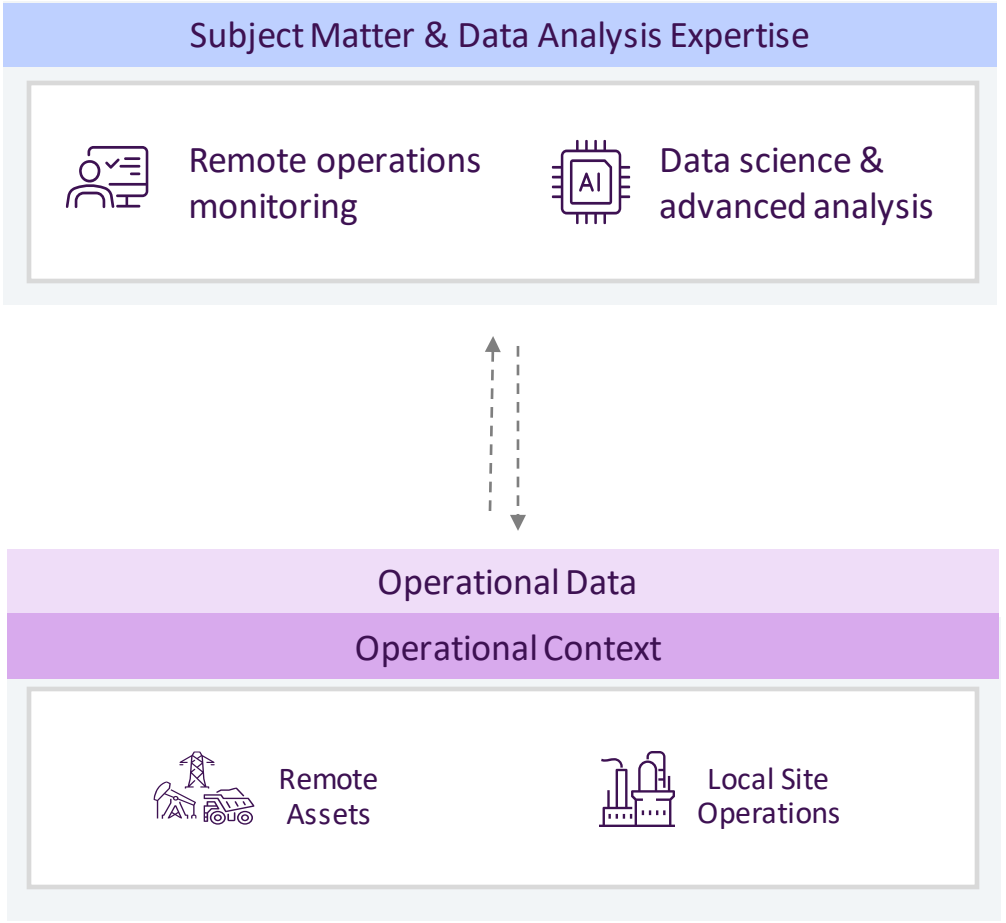
Breaking down data silos

- Preserve operational context
- Enable secure access to a trusted system of record
- Provide a common surface for data access



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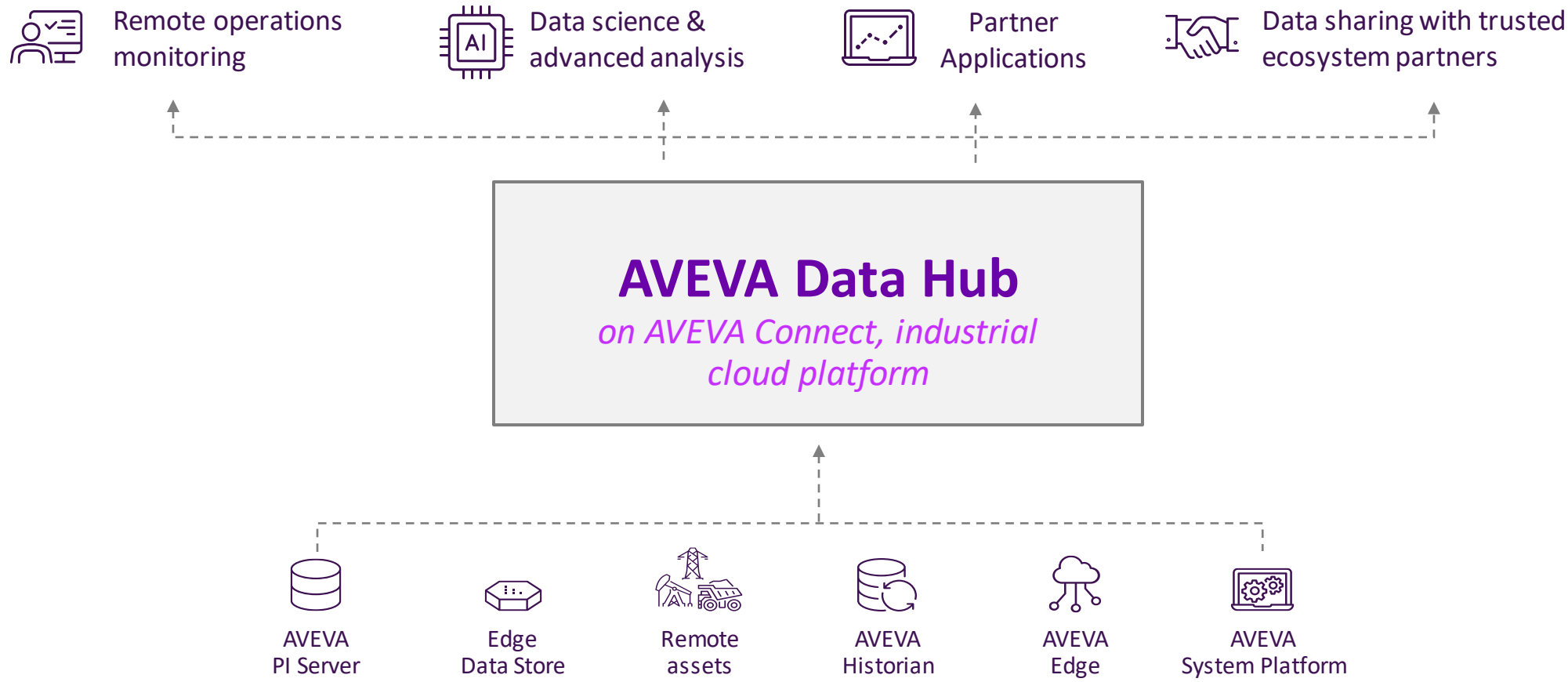
Engage new personas, enable new use cases

AVEVA Connect enables a hybrid data architecture through cloud offerings



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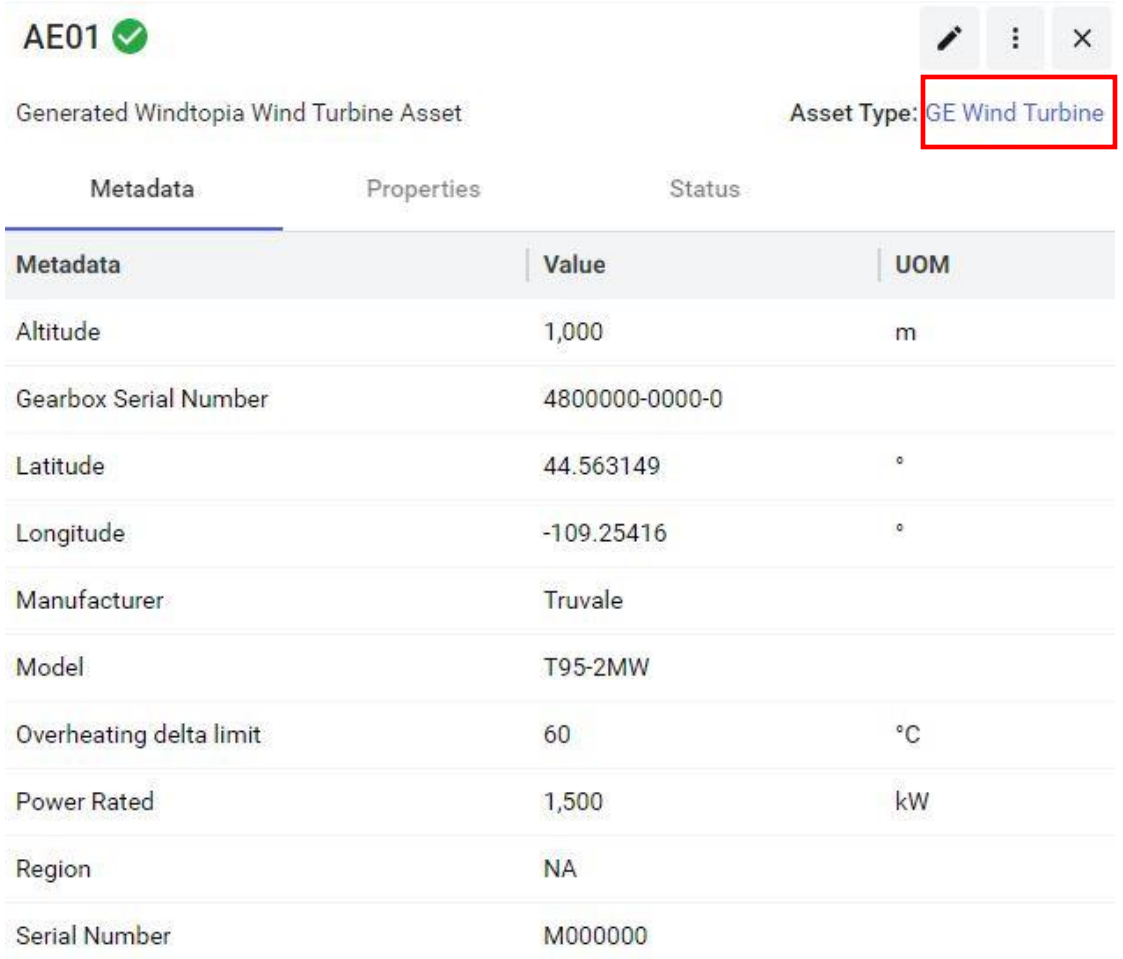
Assets give useful context to your data streams

Assets



- **Static metadata** (Region: North America, Wind farm: Big Buffalo Wind Farm, Asset Type: GE Wind Turbine, Manufacturer: Truvale, …)

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Assets give useful context to your data streams

Assets

AE01

Generated Windtopia Wind Turbine Asset

Metadata | Properties | Status

Property	Last Value	UOM	Timestamp
Auto Stop Reason	4.000		10/17/22, 7:10 AM
Apparent Power	1,514.068		10/17/22, 11:14 AM
Revenue - Daily	266.340		10/17/22, 11:03 AM
Expected Power - 10 min rolling avg	1,500.011		10/17/22, 11:09 AM
Energy Production - Monthly	266.981		10/17/22, 11:03 AM
Revenue Rate	53.246		10/17/22, 11:14 AM
Wind Deviation 1s	-27.461	°	10/17/22, 11:14 AM
Wind Deviation 10s	-10.698	°	10/17/22, 11:13 AM
Wind Speed	14.415	m/s2	10/17/22, 11:14 AM

- **Static metadata** (Region: North America, Wind farm: Big Buffalo Wind Farm, Asset Type: GE Wind Turbine, Manufacturer: Truvale, …)
- **Stream reference properties** (Active power, expected power, operating state, etc.)

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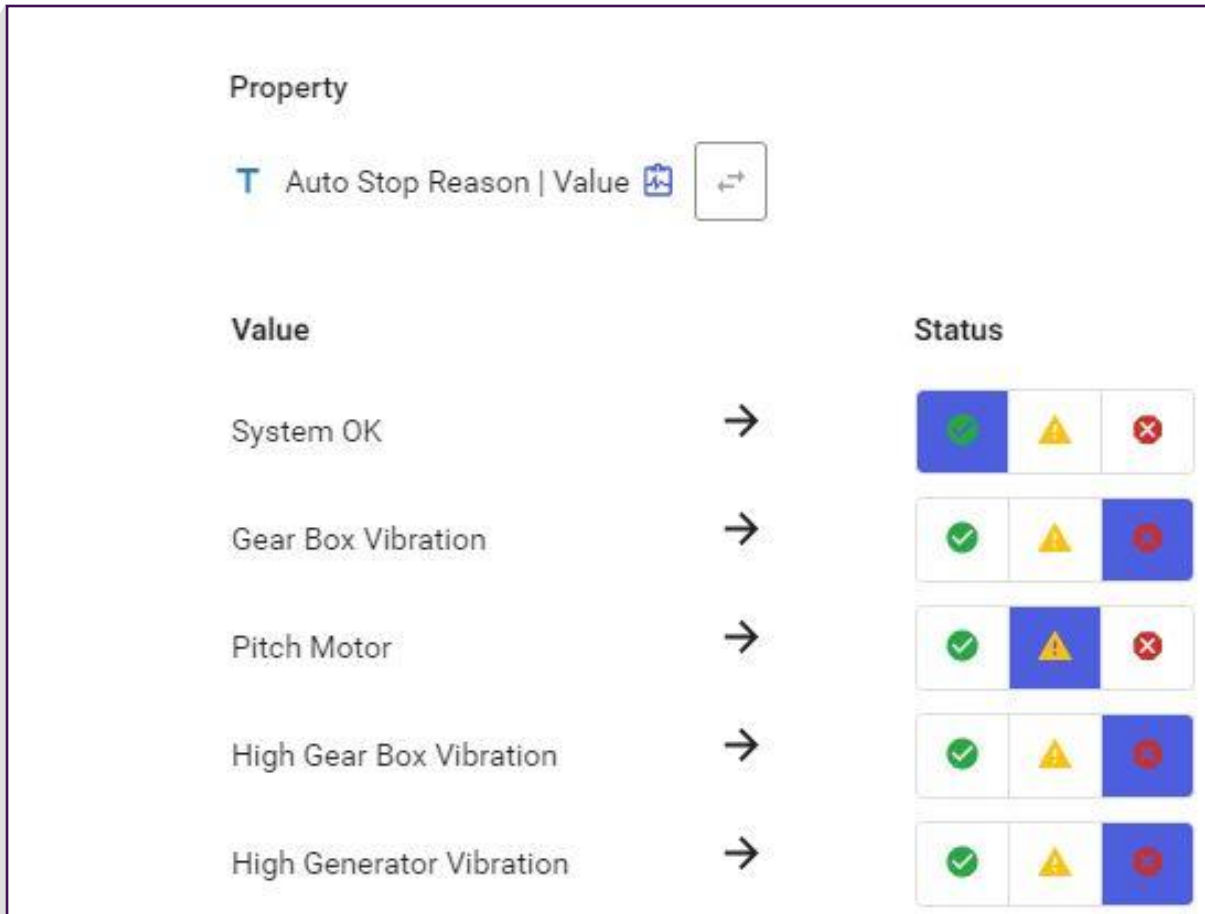
Assets give useful context to your data streams

Assets



- **Static metadata** (Region: North America, Wind farm: Big Buffalo Wind Farm, Asset Type: GE Wind Turbine, Manufacturer: Truvale, …)
- **Stream reference properties** (Active power, expected power, operating state, etc.)
- **Asset status** (stream property values mapped to status: good, warning, bad)

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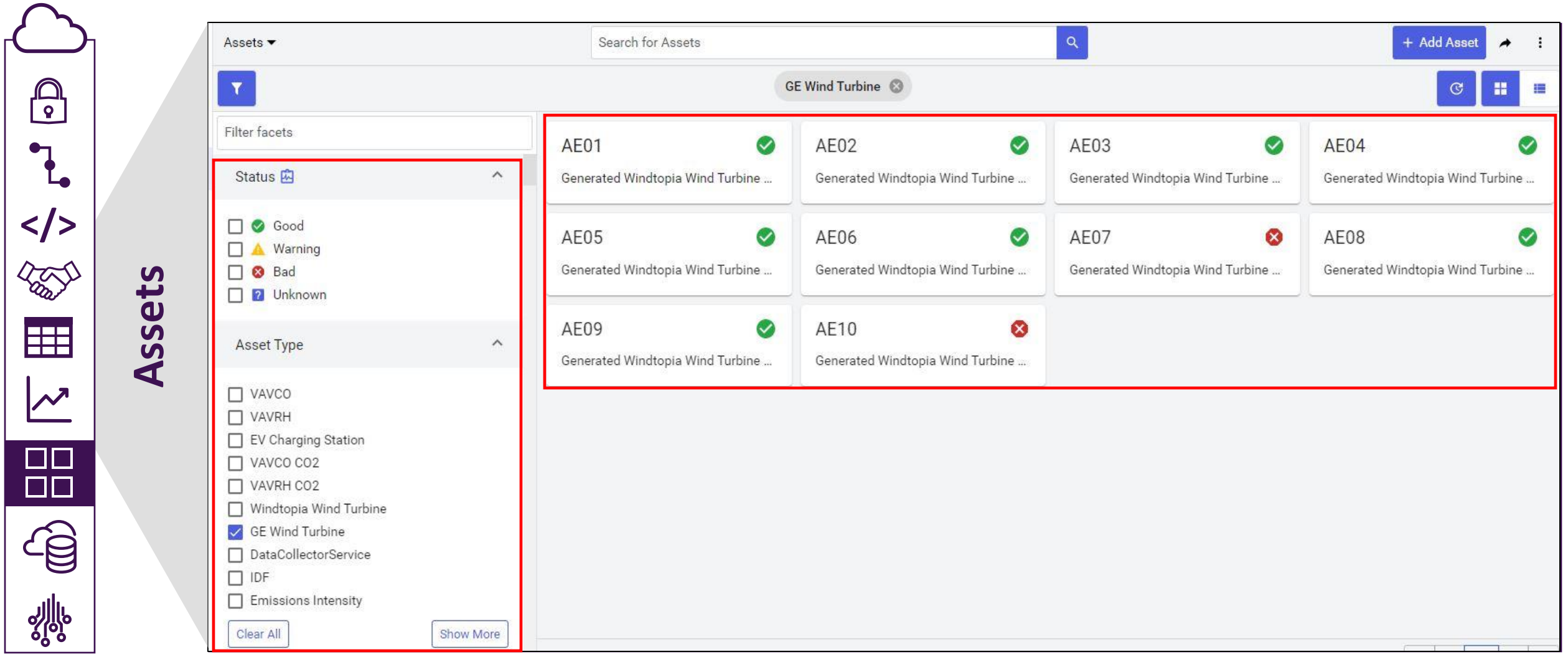
Asset status enables real-time monitoring



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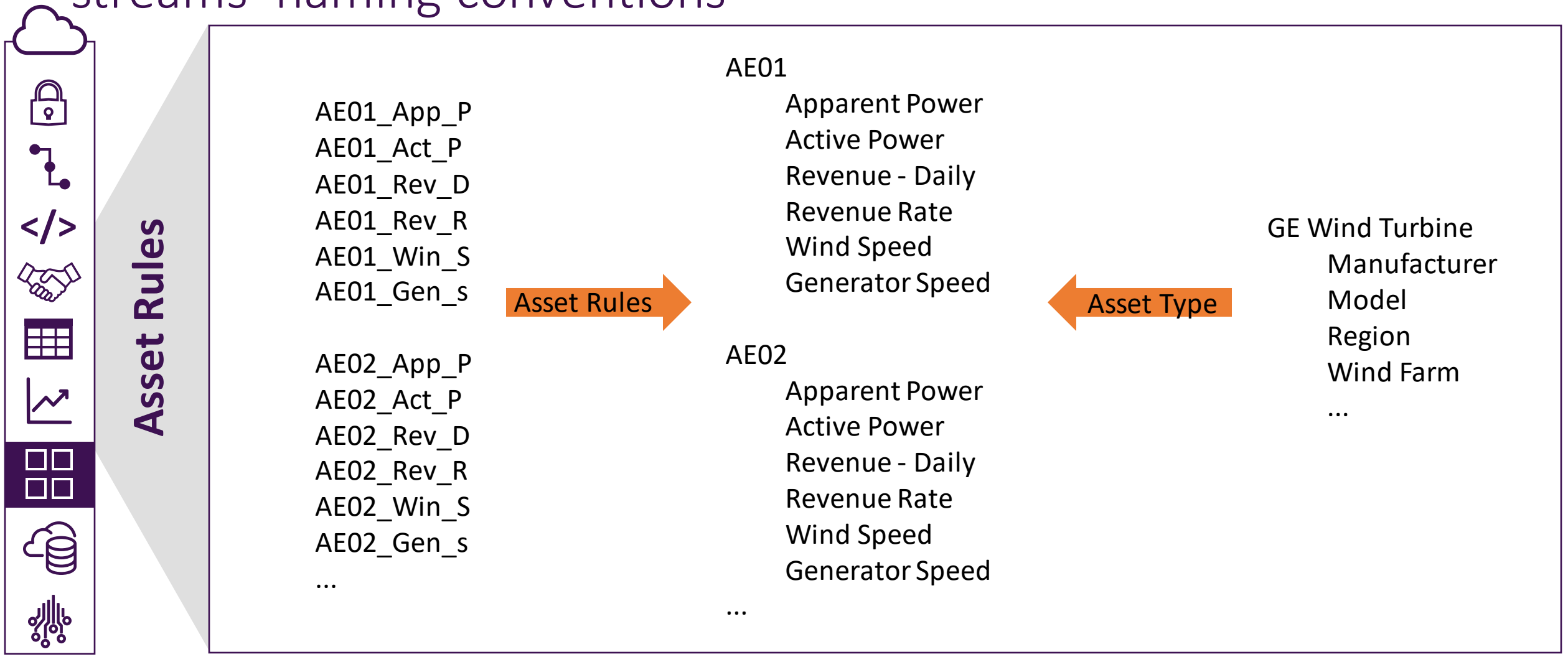
Assets rules automatically create/update assets based on streams' naming conventions



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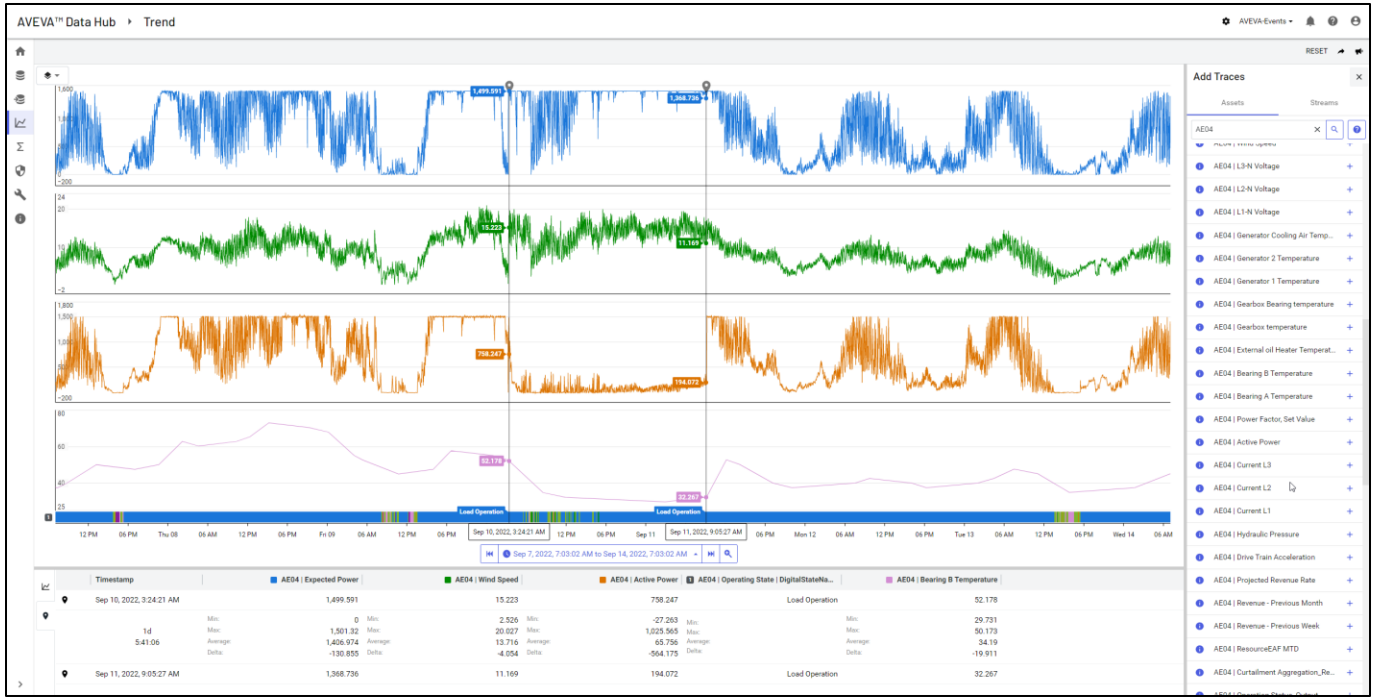
Visual trending enables asset root cause analysis & investigations

Trending

- ✓ Stream & asset search
- ✓ Common trend interactions
- ✓ Stacked trends
- ✓ Trend summary calcs
- ✓ Min/max easy cursors
- ✓ Multiple cursor delta summary calcs
- ✓ Trend sharing
- ✓ URL parameters
- ✓ String & Enum trending
- ✓ Seamless contextual navigation from Asset Explorer
- ✓ Trending asset properties
- ✓ Asset swapping
- ✓ Trending shared streams

Trending



Sharing with URL Parameters

https://datahub.connect.aveva.com/tenant/cee3a3fd-aeb2-4950-80f5-4b72c77322b1/trend?origin=1;cee3a3fd-aeb2-4950-80f5-4b72c77322b1;uswe.datahub.connect.aveva.com;ed809cce-0e64-446f-a4c3-ada80bcf3367&trace=a;1;d68f33a8-0bc8-43a6-a9b4-9aadd041ed1f;Expected%2520Power;Value;%25231A76D9&trace=a;1;d68f33a8-0bc8-43a6-a9b4-9aadd041ed1f;Wind%2520Speed;Value;%2523008A00&trace=a;1;d68f33a8-0bc8-43a6-a9b4-9aadd041ed1f;Active%2520Power;Value;%2523DC7300&trace=a;1;d68f33a8-0bc8-43a6-a9b4-9aadd041ed1f;Operating%2520State;DigitalStateName&trace=a;1;d68f33a8-0bc8-43a6-a9b4-9aadd041ed1f;Bearing%2520B%2520Temperature;Value;%2523D28CD2&mode=stacked&cursor=2022-09-10T07:24:21.797Z&cursor=2022-09-11T13:05:27.127Z&selectedTrace=null;&startIndex=2022-09-07T11:03:02.714Z&endIndex=2022-09-14T11:03:02.715Z

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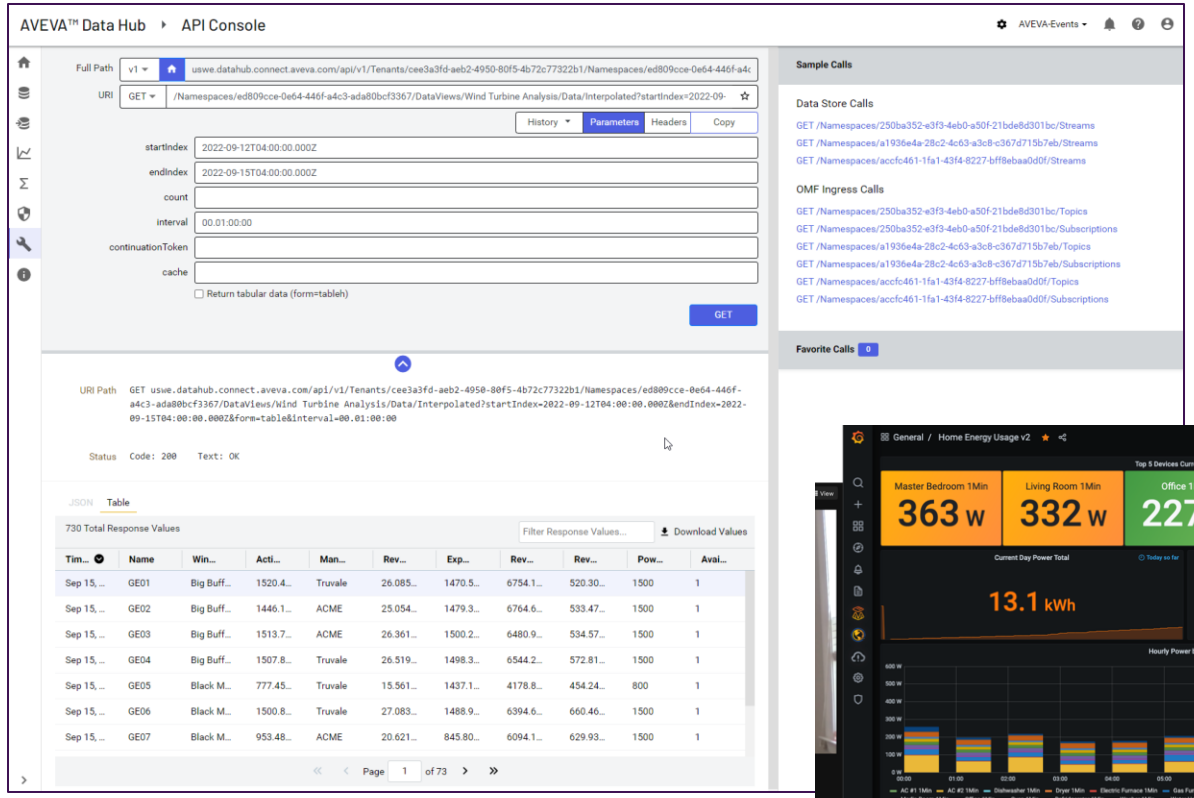
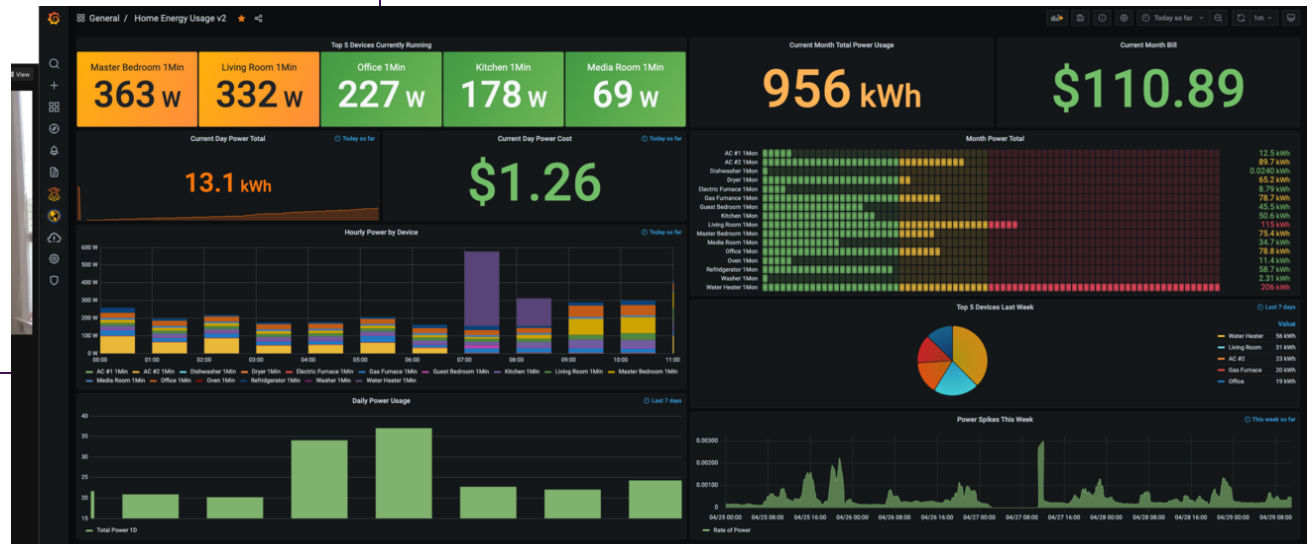
Data Hub API Documentation: https://docs.osisoft.com/bundle/data-hub/page/api-reference/ocs-api-reference.html

Modern REST API to enable your applications

REST API





C#
Python
Java
NodeJS
Angular

https://github.com/osisoft

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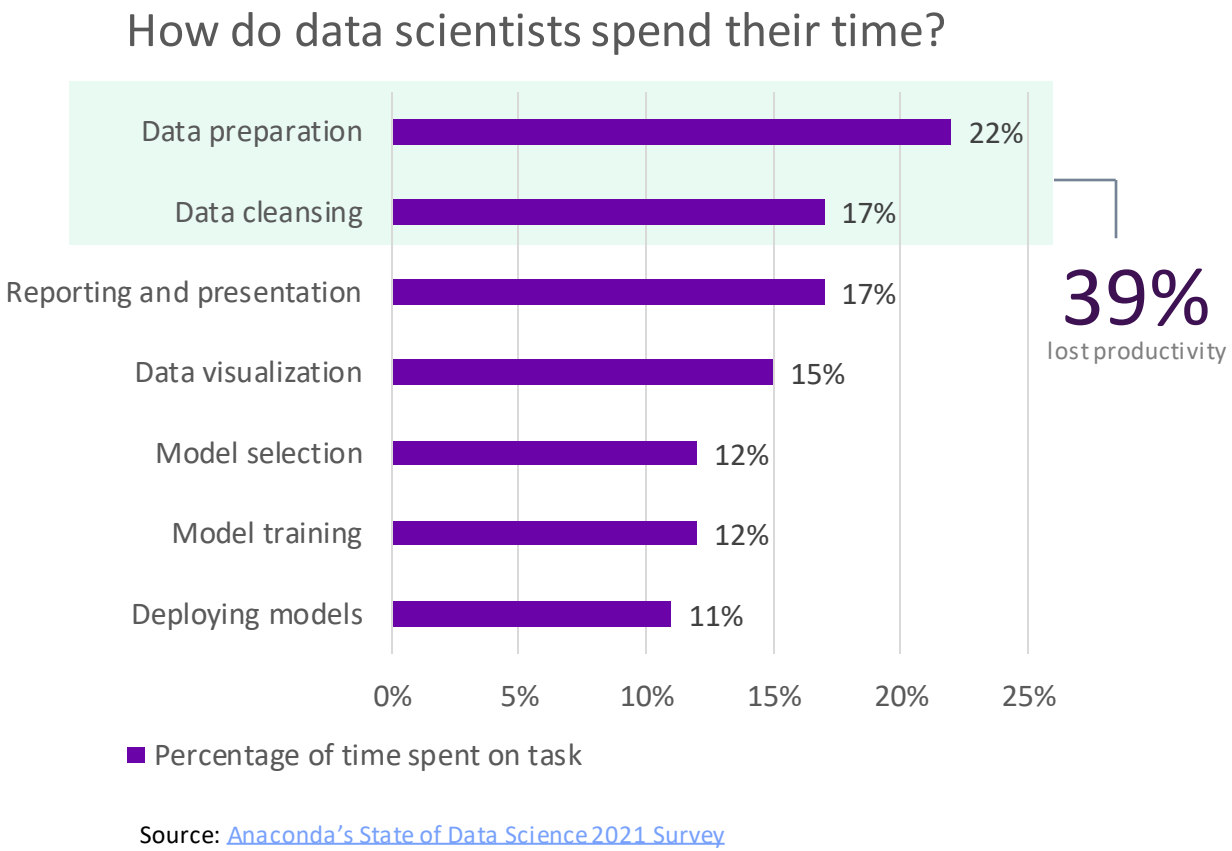
Preparing data for analytics

It’s time consuming, even for data scientists



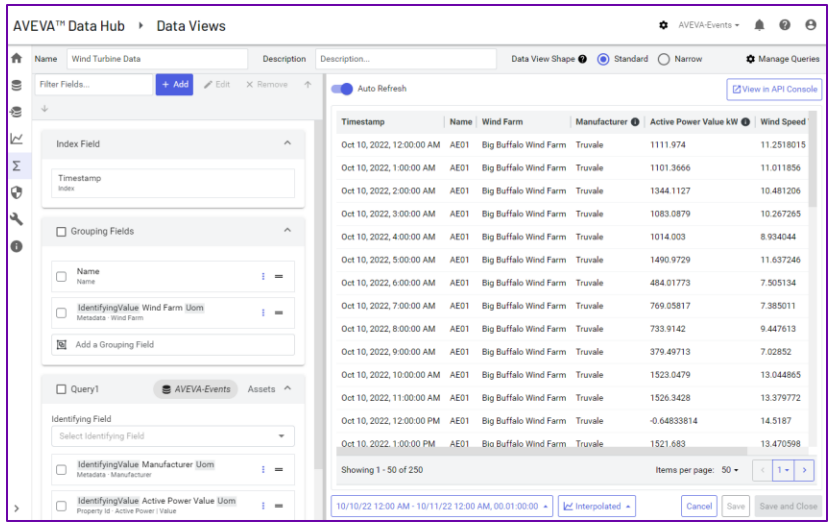
Source: Anaconda’s State of Data Science 2021 Survey

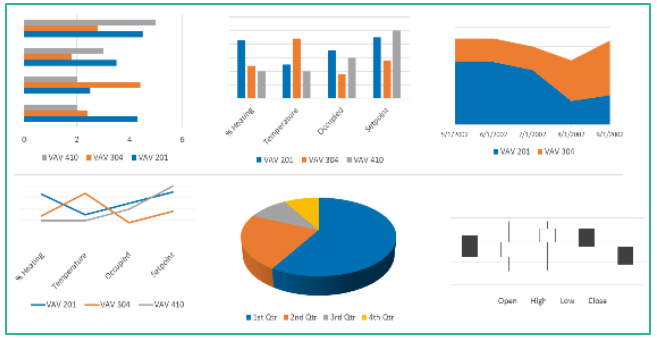
Data Views curate operational data for external consumption

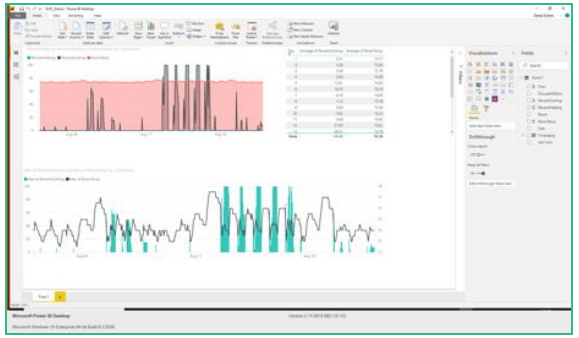
Data Views

Enabling data exploration, integration, & data science

DATA VIEW







Data Science Tools & Data Exploration

Data Science via Code

Partners & Apps

Cloud Platforms

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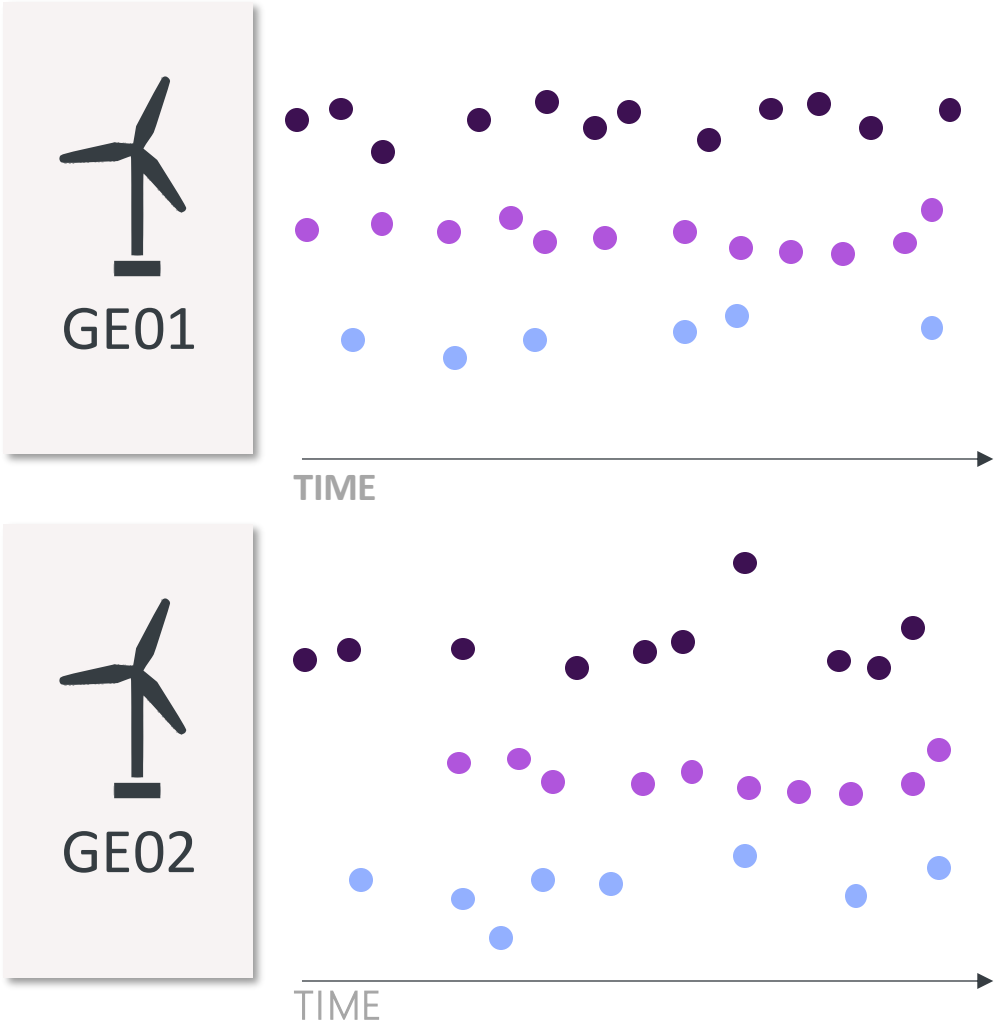
Data is aggregated and context-aware



STREAMS	ASSETS + METADATA	
GE01_BL1.ACT_PV	*Turbine Measurement*	**GE01 Blade 1, Actual**
GE01_BL2.ACT_PV	*Turbine Measurement*	**GE01 Blade 2, Actual**
GE01_P.ACT_PV	*Turbine Measurement*	**GE01 Active Power**

STREAMS	ASSETS + METADATA	
GE02_BL1.ACT_PV	*Turbine Measurement*	**GE02 Blade 1, Actual**
GE02_BL2.ACT_PV	*Turbine Measurement*	**GE02 Blade 2, Actual**
GE02_P.ACT_PV	*Turbine Measurement*	**GE02 Active Power**

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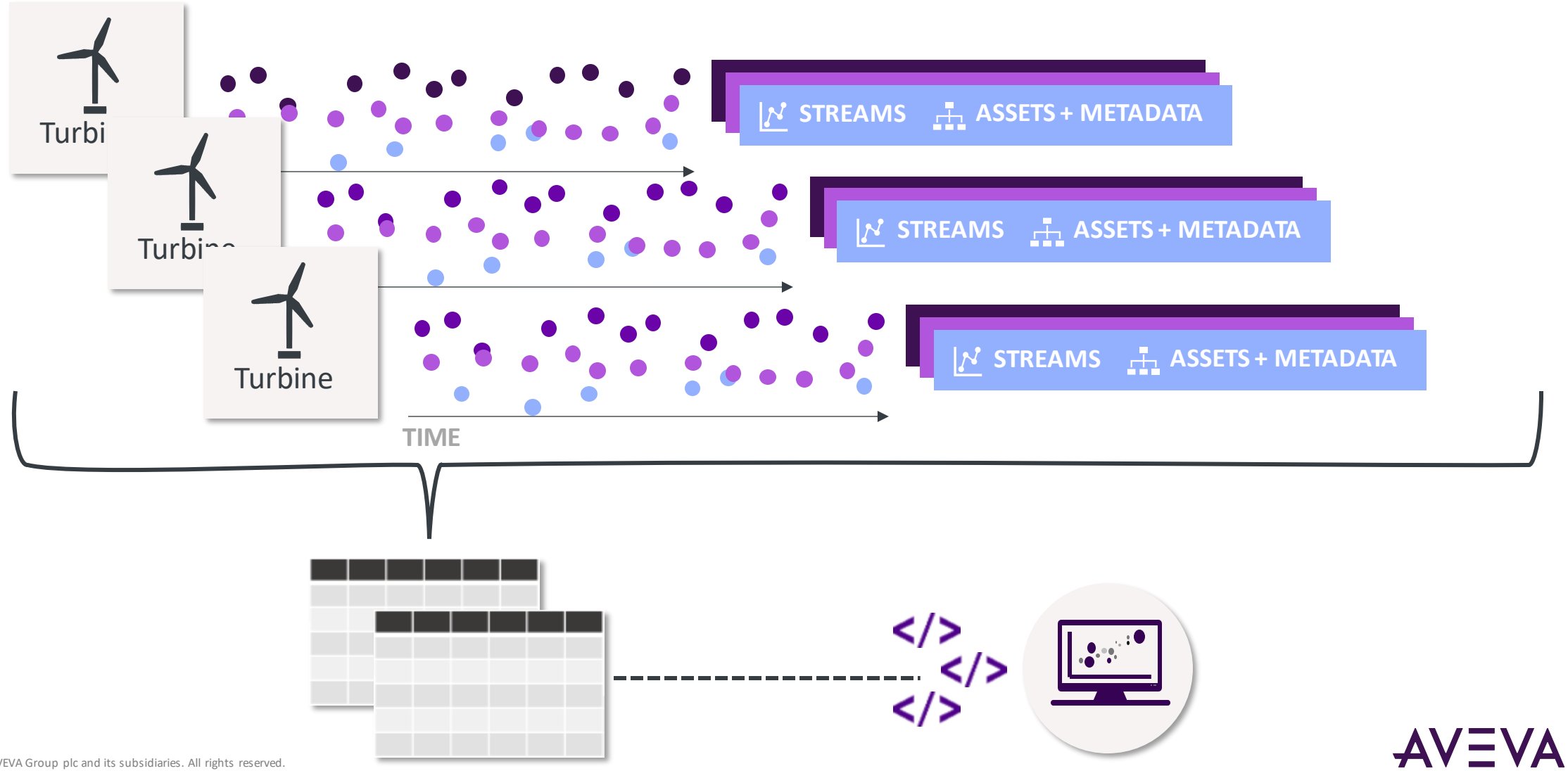
Data is shaped for consumption



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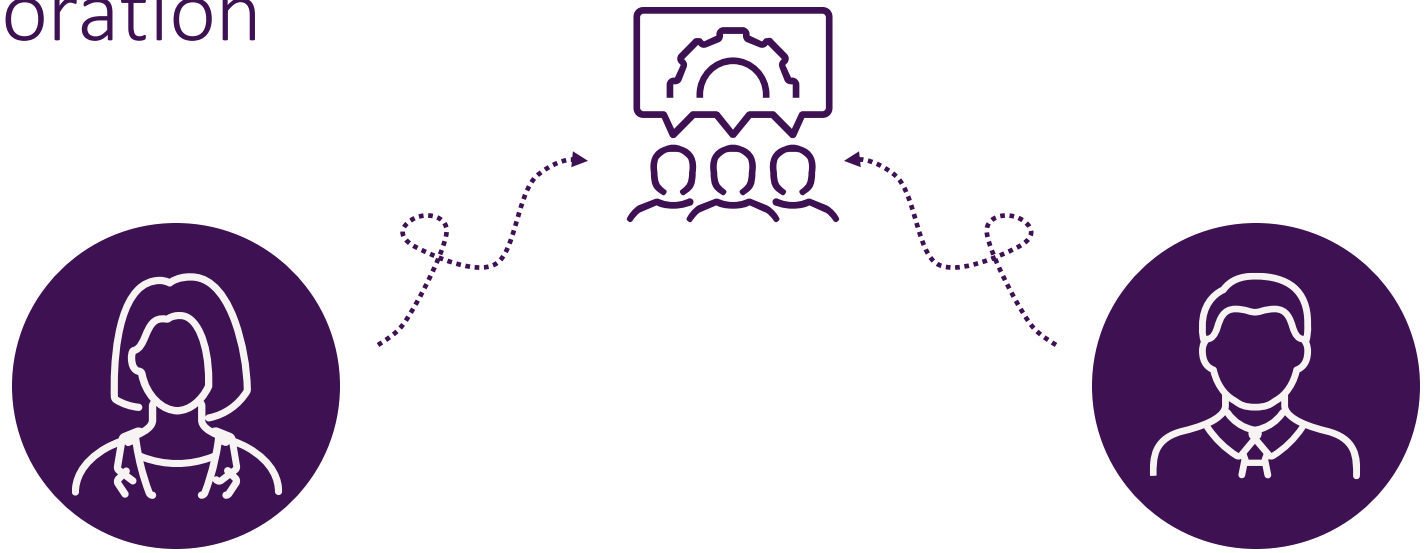
OT/IT Collaboration



Engineer

- Organize and shape data for analysis
- Add meaningful context to data

Data Scientist

- Use AI / ML and visual analytics to enable new insights

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Easily slice & dice your AVEVA Data Hub data in Power BI

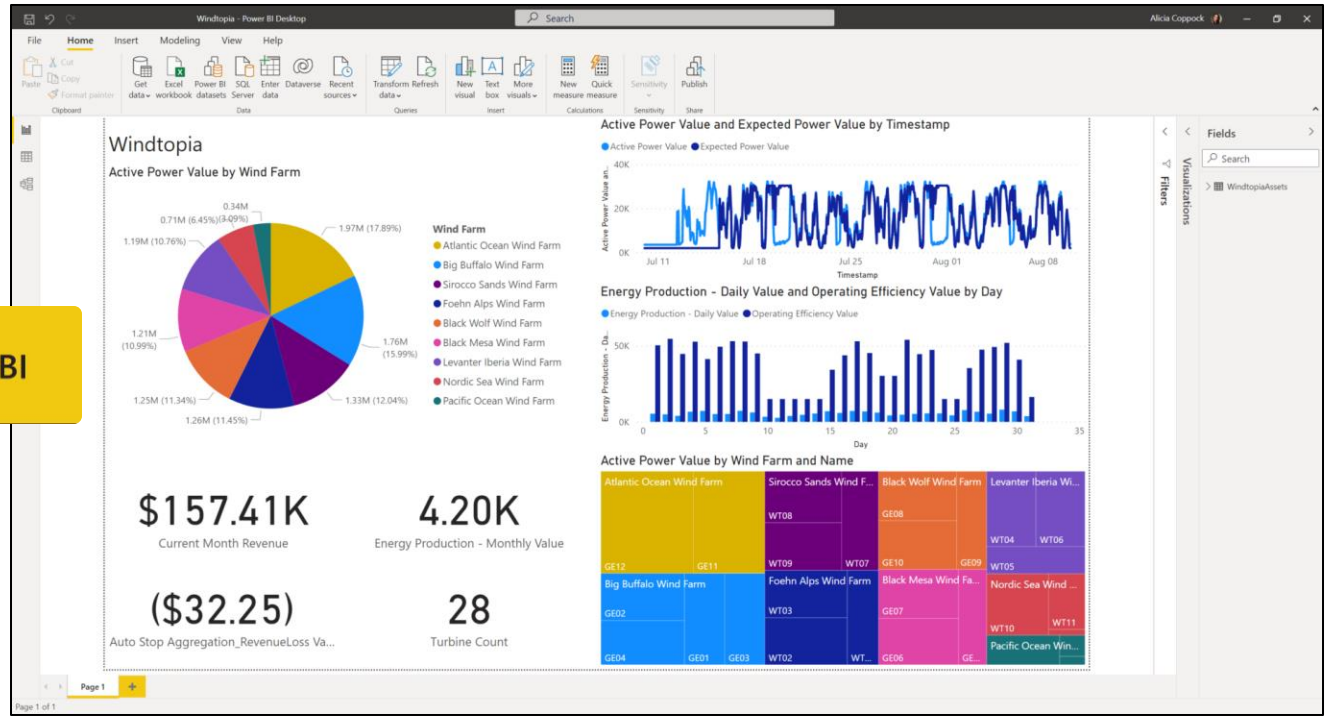
AVEVA Data Hub
Power BI Connector

AVEVA Data Hub Power BI Connector

Data Hub

Data Views

Power BI



- ✓ Import Data Views into Power BI
- ✓ Stored & Interpolated retrieval modes
- ✓ No coding required
- ✓ Power BI Desktop and Power BI Service (through On-Premises Data Gateway)

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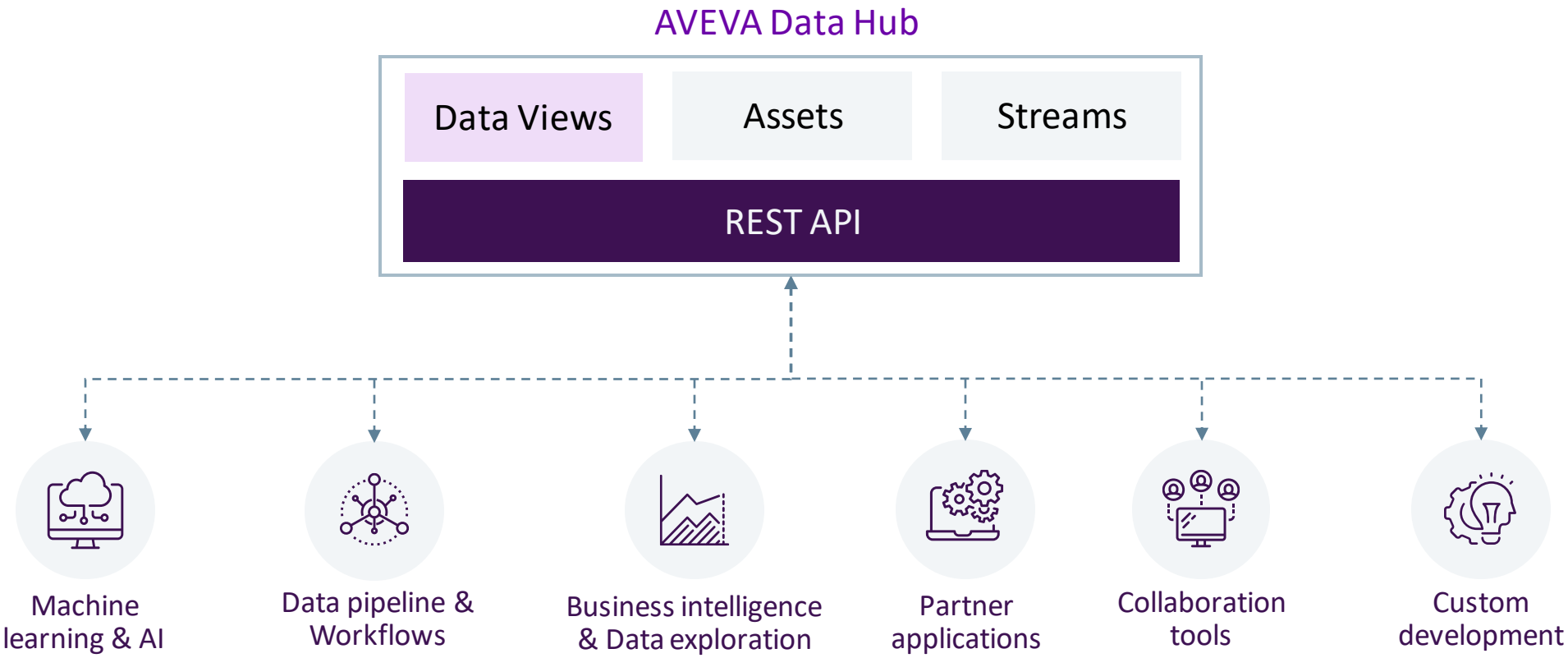
Integration through REST API for many use cases



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Accelerate your time to value with AVEVA Data Hub

- Preserve operational data context with **Assets**
- Monitor and visualize assets and data with **Asset Explorer** and **Trending**
- Curate data for analytics with **Data Views**
- Modern **REST API** for analytics, integrations and custom applications

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Learn more about AVEVA Connect & AVEVA Data Hub

Industrial Cloud Platform @ AVEVA PI World 2022 – San Francisco

- **Day 1: Industrial Cloud Platform**
  - AVEVA: AVEVA Connect, Industrial Cloud Platform – Vision, roadmap, and starting your operations and engineering digital twin journey [14:00]
  - AVEVA: Power your secure industrial ecosystem of data, applications, and partners with AVEVA Data Hub connected communities [14:40]
  - AVEVA: Accelerate Your Time to Value with Analytics and Applications Fueled by AVEVA Data Hub [15:40] [this talk]
  - AVEVA: On your marks, get set, Unleash your Operational Data in the Cloud! [16:20]
  - AVEVA: Aggregating Engineering Content, Data and Documents and Real-Time Data into a Common User Experience [17:00]
- **Day 2: Customer Presentations**
  - IGI: The International Group: Lityx, use AVEVA™ Data Hub (ADH) to implement AI-based analytics, improving yields and generating millions in additional profit at a 20x ROI [10:55]
  - First Quantum Minerals: Mixed Mobile Machinery Fleet Streaming Data to AVEVA Data Hub at First Quantum Minerals [14:00]
  - Industrial Parts Depot: Real-Time Fleet Monitoring with OCS at Industrial Parts Depot [14:00]
- **Day 3: Industrial Cloud Platform**
  - AVEVA: Four Imperatives of a Trusted Information Infrastructure [10:45]
  - AVEVA: Deploy Edge Data Store and Adapters in minutes with AVEVA Edge Management [11:25]
  - AVEVA: Visualizing the Digital Twin, an Independent Service on the Industrial Cloud Platform [13:30]
  - AVEVA: Uniting the connected community through secure and transparent industrial data sharing [14:25]
  - AVEVA: Harnessing the power of Sequential Data Store (Sds) and Assets for developers and partners [15:30]
  - AVEVA: Aggregating data with Data Hub asset rules and data views for analytics and applications [16:25]

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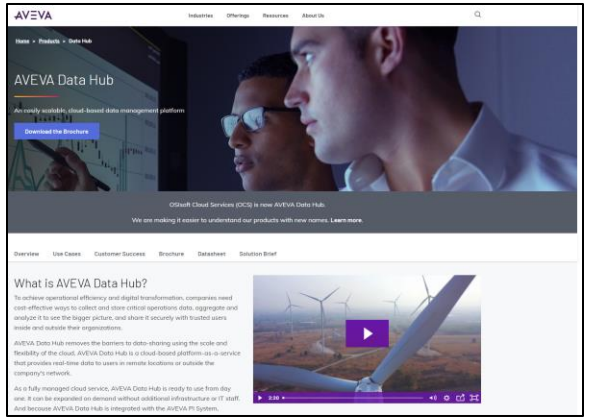
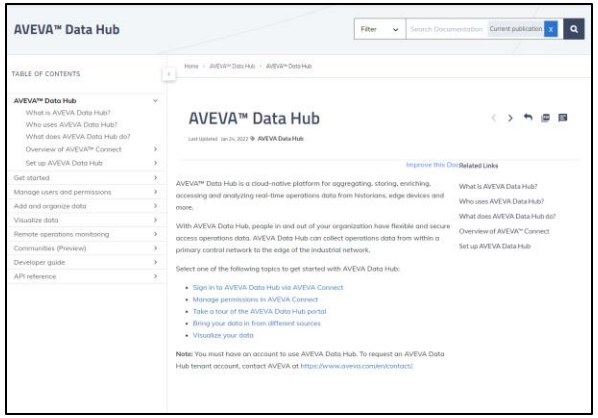
Where to find more information on AVEVA Data Hub

Overview & Resources



https://www.aveva.com/en/products/data-hub/

Documentation

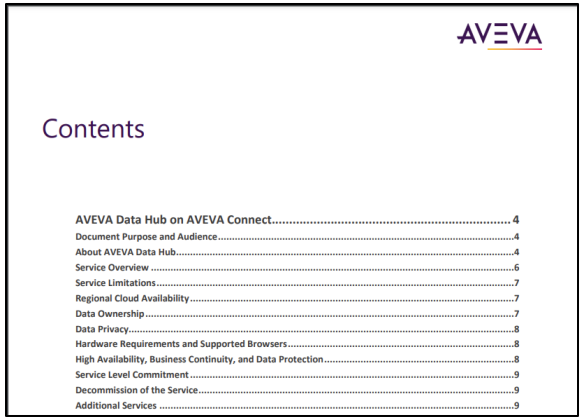


https://docs.osisoft.com/bundle/data-hub/page/adh-content-portal-overview.html

Security & Trust Center

https://www.aveva.com/en/legal/trust/

Service Description



https://www.aveva.com/content/dam/aveva/documents/legal/service-documents/AVEVA-Data-Hub-on-AVEVA-Connect_v1-0.pdf

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How can you influence the AVEVA Data Hub roadmap?

https://feedback.aveva.com

Let us know your product feedback!

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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.

Thank you!

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AVEVA

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ABOUT AVEVA

AVEVA is a global leader in industrial software, sparking ingenuity to drive responsible use of the world's resources. The company's secure industrial cloud platform and applications enable businesses to harness the power of their information and improve collaboration with customers, suppliers and partners.

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. With operations around the globe, we are headquartered in Cambridge, UK and listed on the London Stock Exchange's FTSE 100.

Learn more at www.aveva.com

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