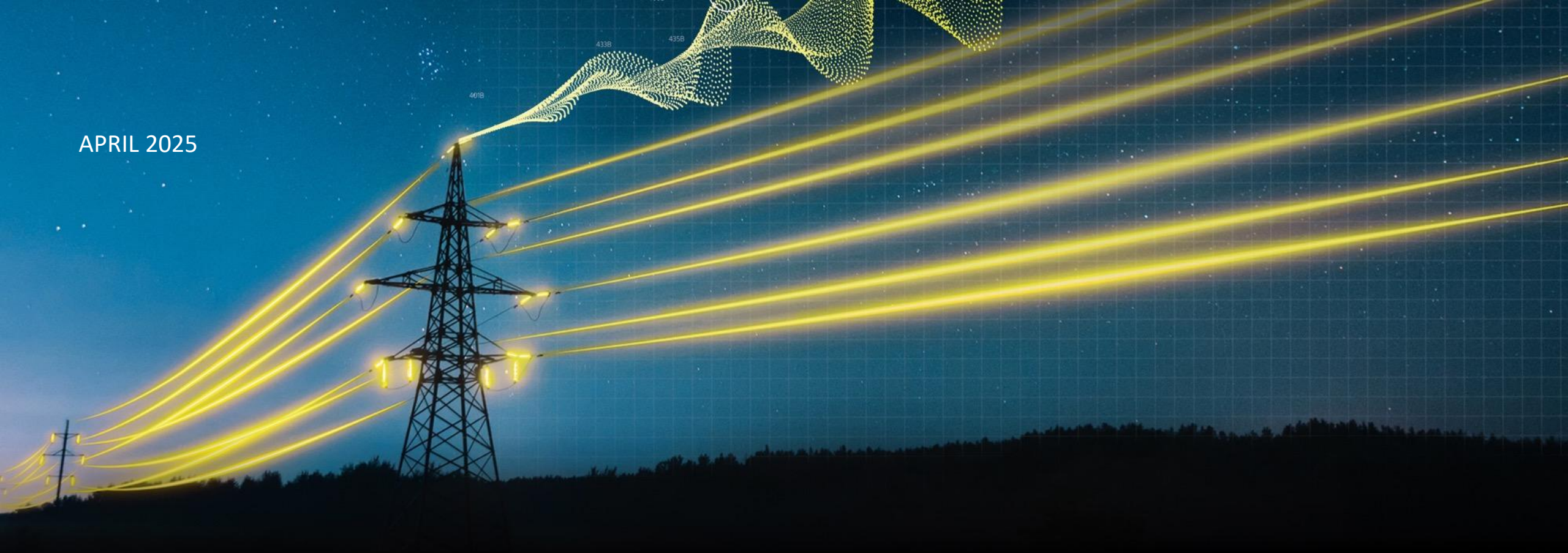

AVEVAWORLD



APRIL 2025

Industry Accelerators

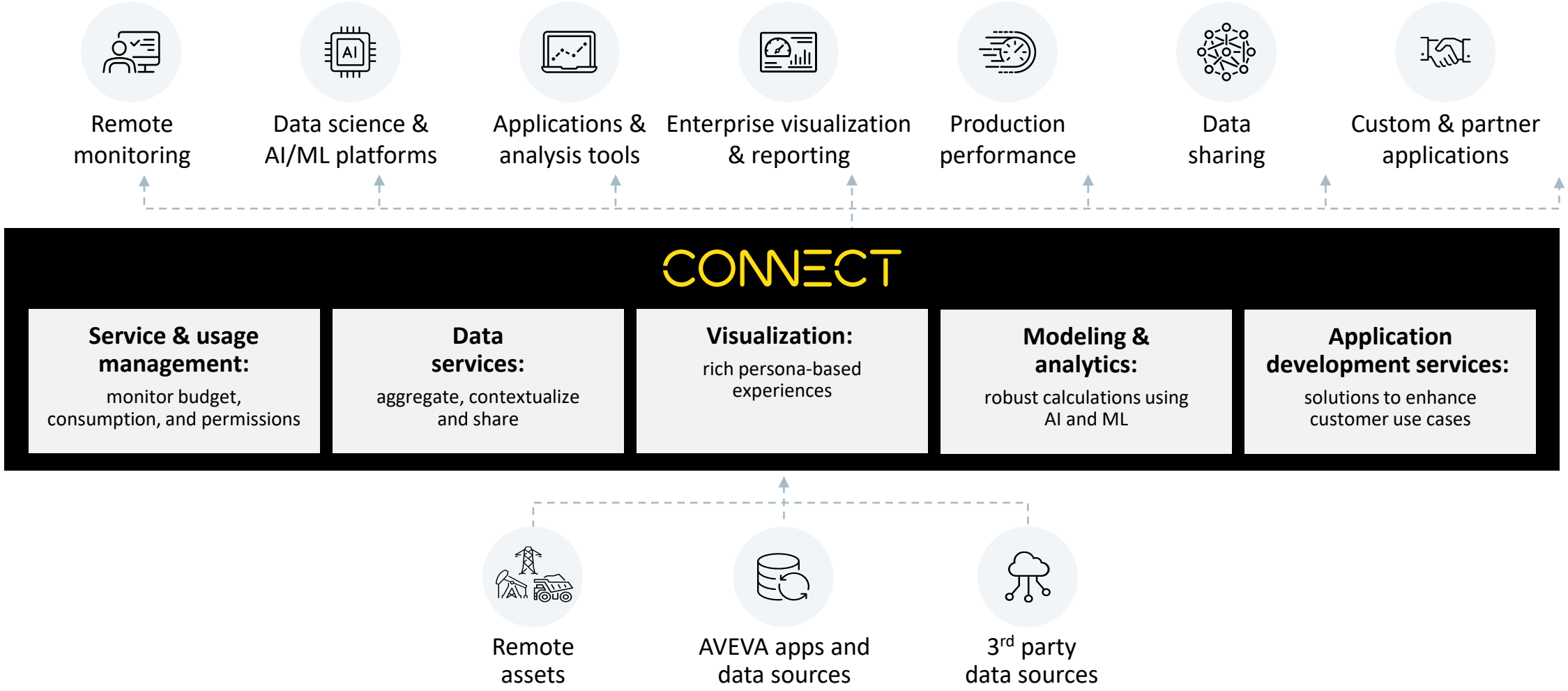
Cloud Practice

Rajneesh Tiwari - Vice President, Services

CONNECT

CONNECT, our industrial intelligence platform

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



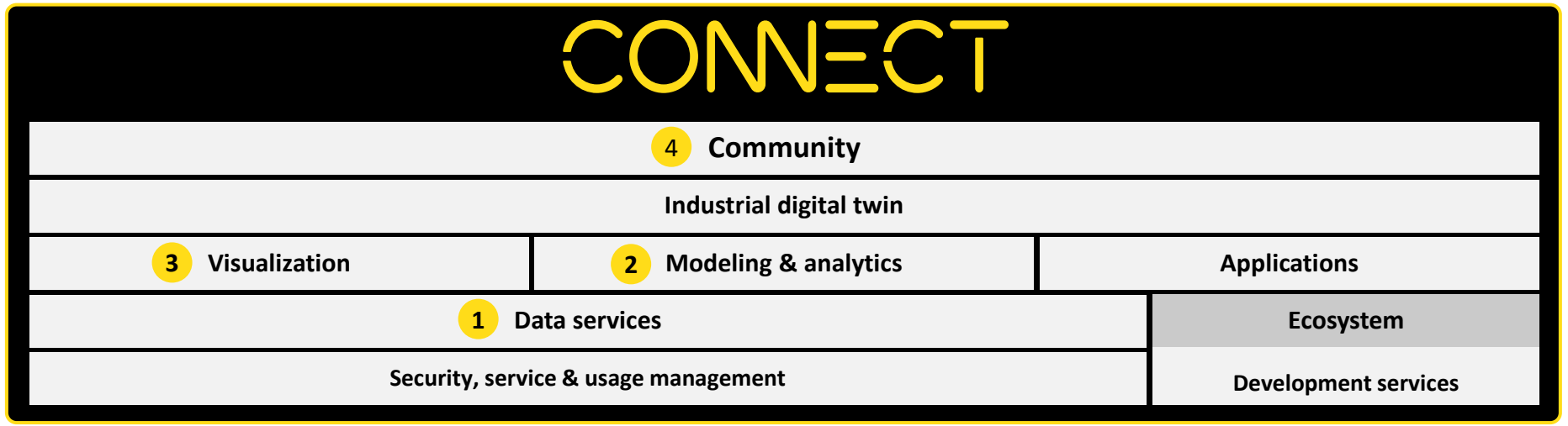
What are Industry Accelerators for CONNECT?

Industry Accelerators are partially assembled analytics visualizations built using CONNECT platform services.

They combine several industry use cases to accelerate time to value using CONNECT. The visualizations and supporting analytical calculations and models are completed using customer supplied data and customization choices.

- Quick onboarding and adoption
- Out-of-the-box CONNECT capabilities
- Native cloud, ready with minimal configuration
- Select from a use case library
- Scales in size and complexity
- Integrate diverse IT/OT data sources
- Utilize advanced analytics models and calculations
- Interactivity for drilldown, investigation, and action

Solution structure



1

Data ingress

Data from available on-premises and cloud sources is streamed into CONNECT data services for aggregation and conditioning.

2

Developed analytics

Existing analytics models and computations are fed using stored data to output predicted and calculated insights.

3

Preset visualizations

Provided visualizations are adapted using requested visual and informational insights to assist decision-making.

4

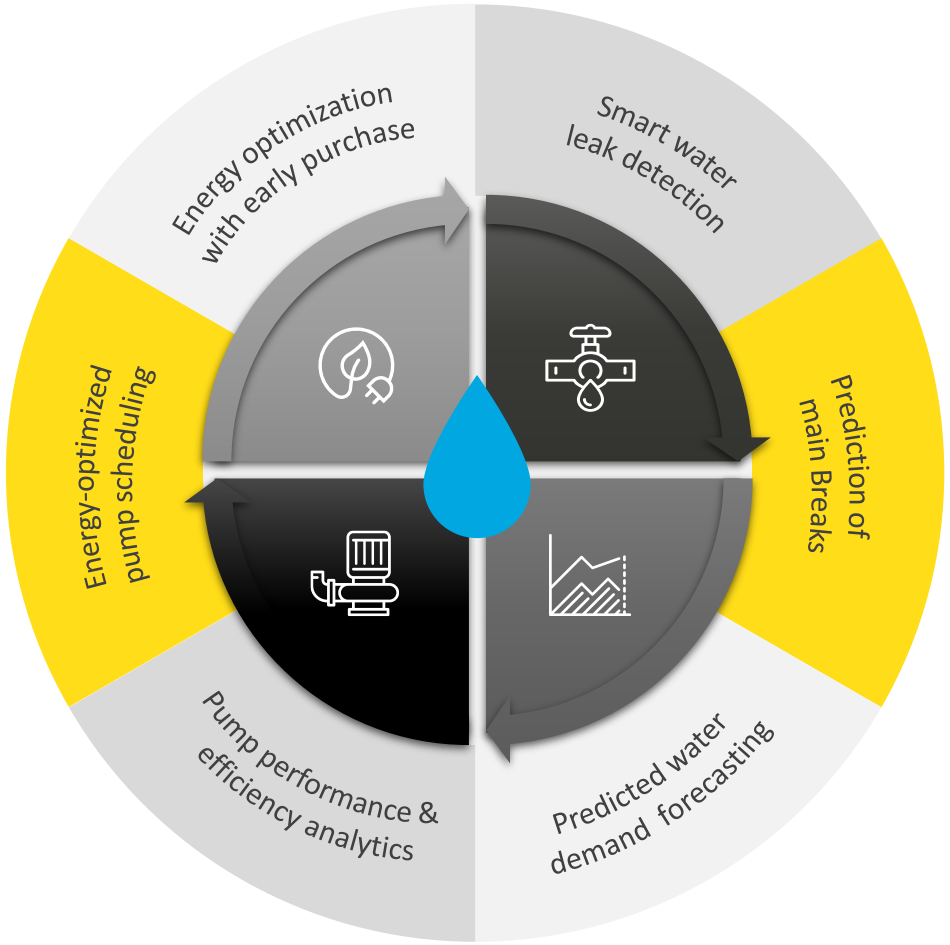
Information sharing

Secure, bi-directional and multitenant way of sharing information externally with your trusted ecosystem.

Industry Accelerator for water

Industry Accelerator for water

Efficient water supply and demand, while optimizing energy consumption



Key capabilities

- Detect active water leaks, including leak volumes over time
- Proactively identify and mitigate potential pipeline failures due to corrosion and pressure fluctuations
- Forecast water demand based on historical data and enable demand profile visualization
- Ensure that the most efficient pumps are utilized first, reducing overall operational costs
- Optimize power consumption for operating pumps during off-peak electricity hours
- Optimize pumping schedules by leveraging real-time and historical data

Industry Accelerator for water

Use cases for smarter water use

Smart water leak detection

1

- Leverage historical and real-time data
- Near real-time infrastructure leakage index (ILI) indicator
- Early leak detection (location & volume)
- Enable corrective maintenance
- Reduce non-revenue water losses
- Minimize supply disruptions
- Improve system reliability

Prediction of main breaks

2

- Leverage historical, real-time data and maintenance data
- AI-driven water main break prediction
- Enable preventive maintenance
- Anomaly detection and identification
- Assist maintenance prioritization
- Improve system reliability

Predicted water demand forecasting

3

- Leverage historical water consumption data
- Generate 7-day demand forecast (AI-powered)
- Support water supply planning
- Enable informed decision making
- Promote efficient water usage

Industry Accelerator for water

Use cases for smarter energy use

Pump performance & efficiency analytics

4

- Leverage pump design data
- Near real-time pump efficiency metrics such as pump head, flow and pressure data
- Near real-time pump performance monitoring
- Enable predictive maintenance
- Reduce operational costs

Energy-optimized pump scheduling

5

- Leverage water demand forecast data, predicted energy demand data, near real-time pump efficiency data
- Generate optimized pump schedule
- Enable predictive energy management
- Promote efficient operations and contributes to long-term sustainability

Energy optimization with early purchase

6

- Leverage water demand forecast data
- Prediction of energy demand
- Consider various energy tariff rates (peak and off-peak)
- Enable early energy purchase
- Reduce operational cost

Industry Accelerator for water

Progressing on new Wastewater Use Cases

Flow Equalization

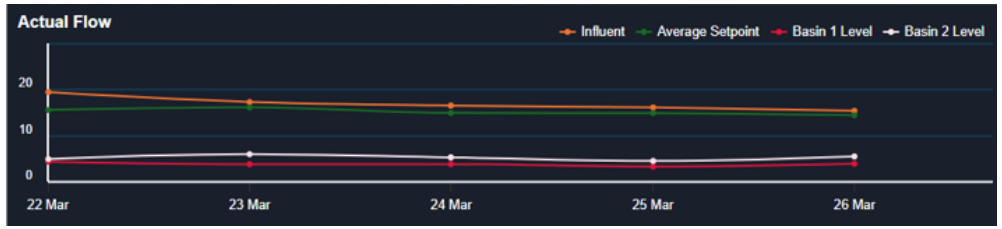
1

- Maintain stable flow going into secondary treatment process
- Predicted setpoint recommendation to the operator for three shifts
- Prediction of Influent flow
- Prediction model considers influent flow, weather, storm conditions
- Transition into AI driven prediction from manually calculated setpoints

UV Optimization
[in progress]

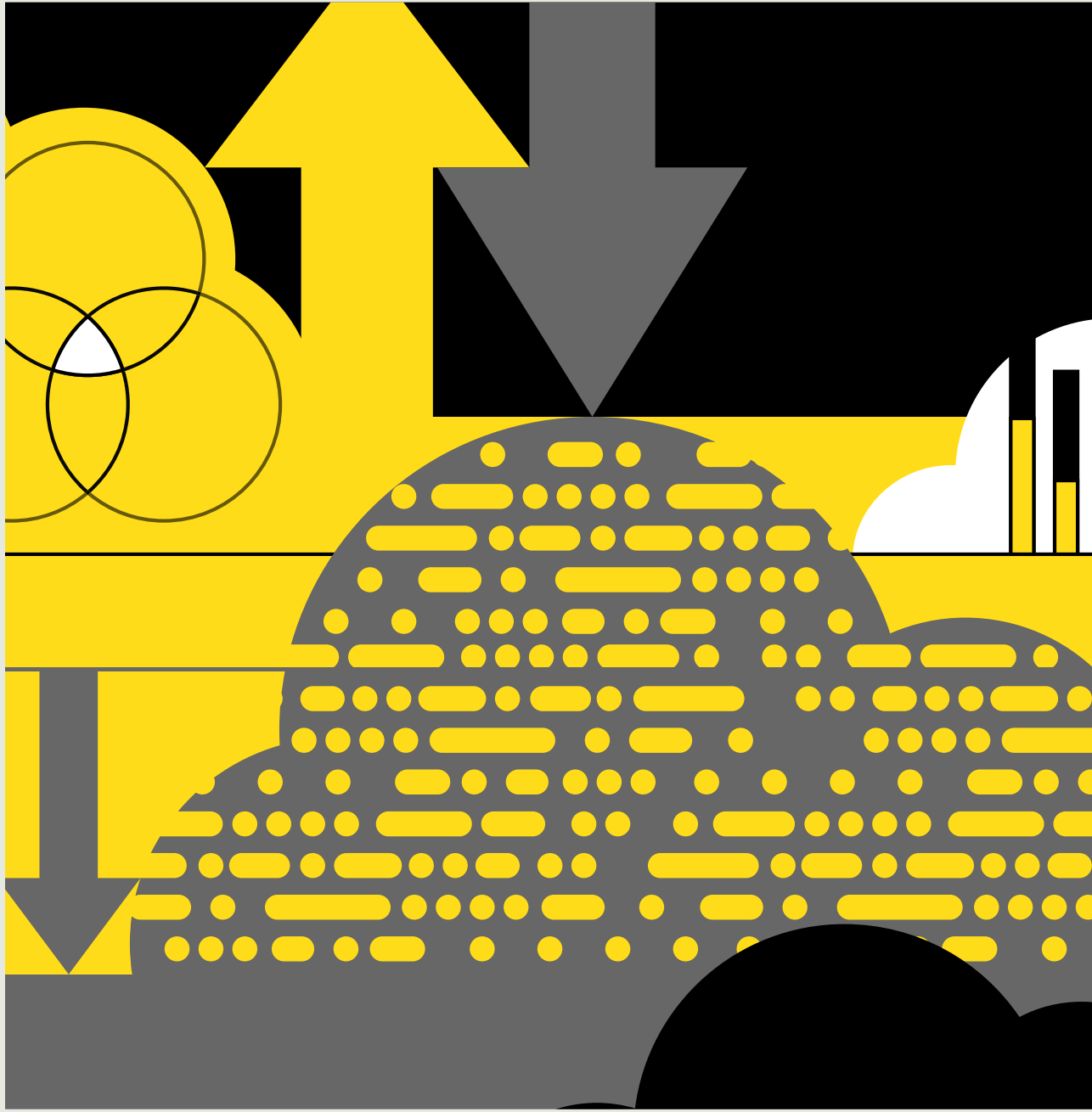
2

- AI driven prediction model to reduce the coliform hits
- Correlation of water quality with UV performance using AI Model
- Predicted UV Dose recommendation based on quality of water
- Optimize the UV Disinfection System and potentially reduce power consumption



INDUSTRY ACCELERATOR FOR WATER

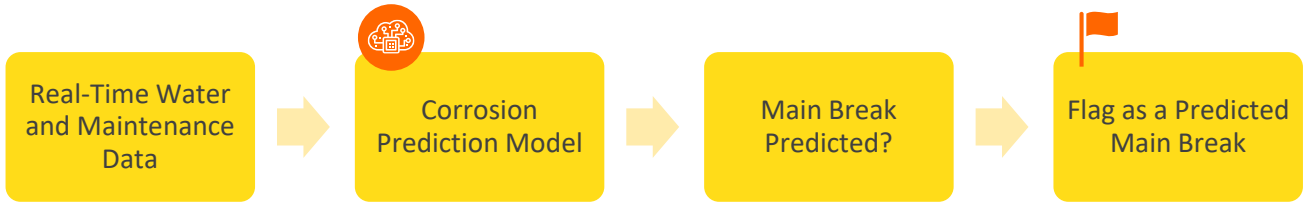
Solution Deep Dive



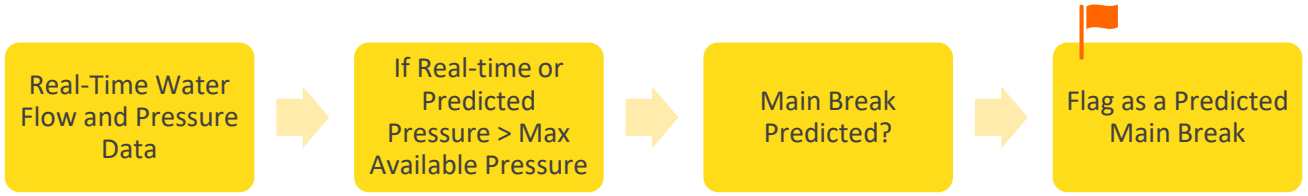
UC2. Prediction of Main Breaks

Proactively Predict Main Breaks

1 Predict Main Breaks Due To Pipeline Corrosion



2 Predict Main Breaks Due To Excessive Pressure Fluctuations

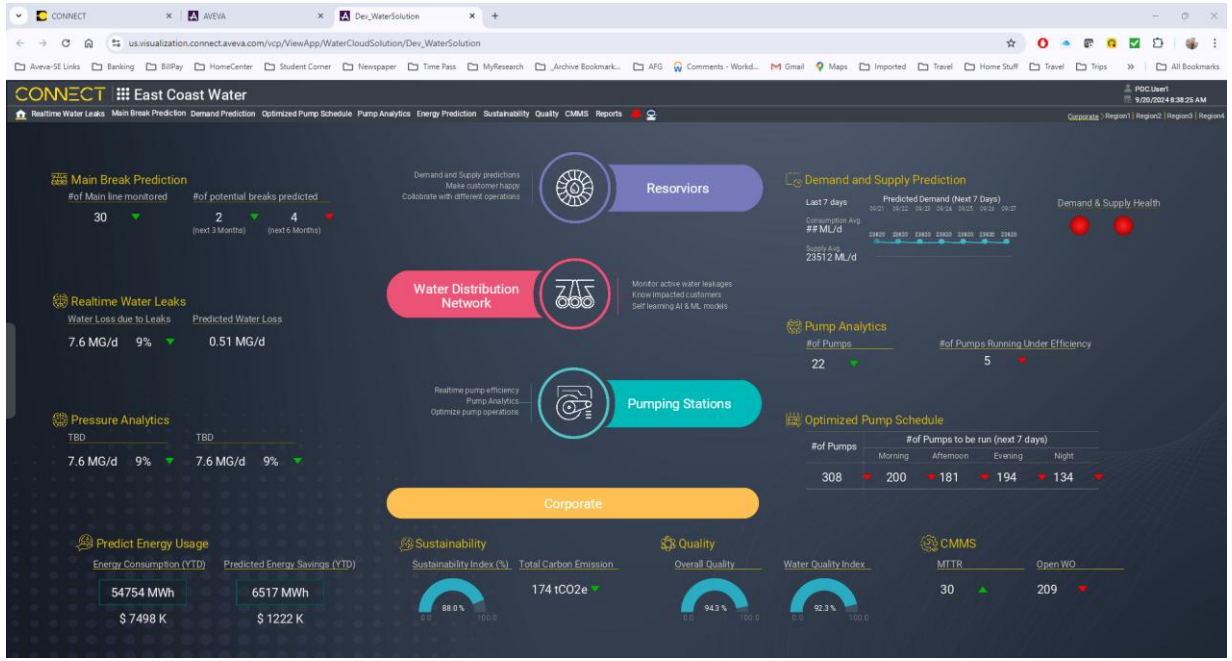


Highlights

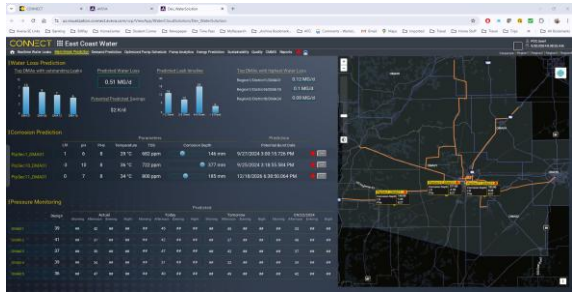
- Leverage real-time **water data,** available **maintenance asset data,** and **water quality data** to predict main breaks due to **corrosion**
- Leverage real-time **pressure data** between pump stations to predict main breaks due to **pressure fluctuations**
- Leverage **self-learning AI & ML modeling**
- **Assumptions:**
  - Necessary **instruments and data** are available for critical assets such as pumps
  - **Quality data** is available for corrosion prediction
- **Data Requirements:**
  - **General Business** Details
  - **Network Diagrams** for the considered pipe sections and connected pump stations
  - **Pipe Sections Data**
    - Pipe sections data (such as age, design life, thickness)
    - 2 years of historical inspection data
  - (continues in the next slide)

Industry Accelerator for water

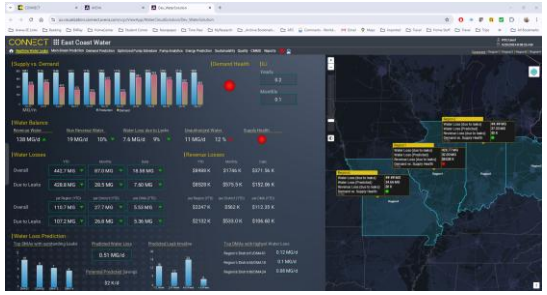
Cockpit View : Summary Analytics View



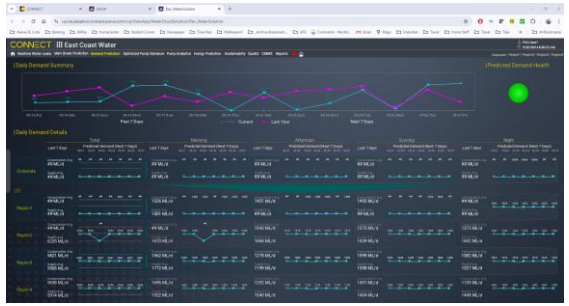
Predicted Main Breaks



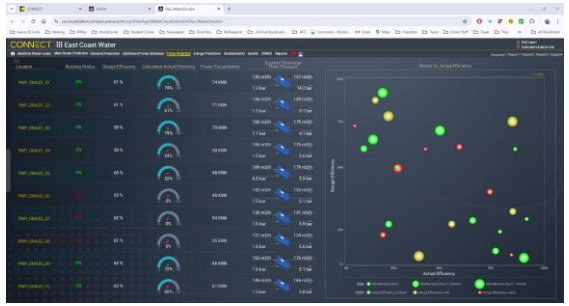
Real-time Water Leaks



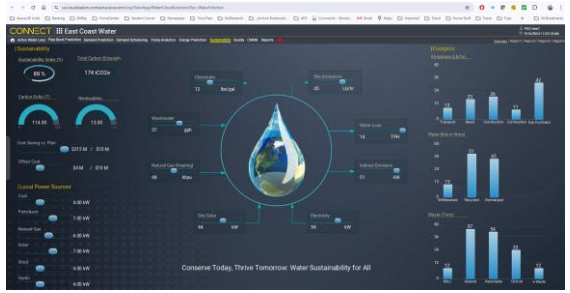
Demand Prediction



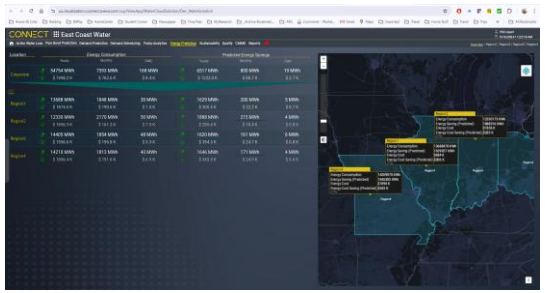
Pump Analytics



Sustainability



Energy Prediction



Live Demo

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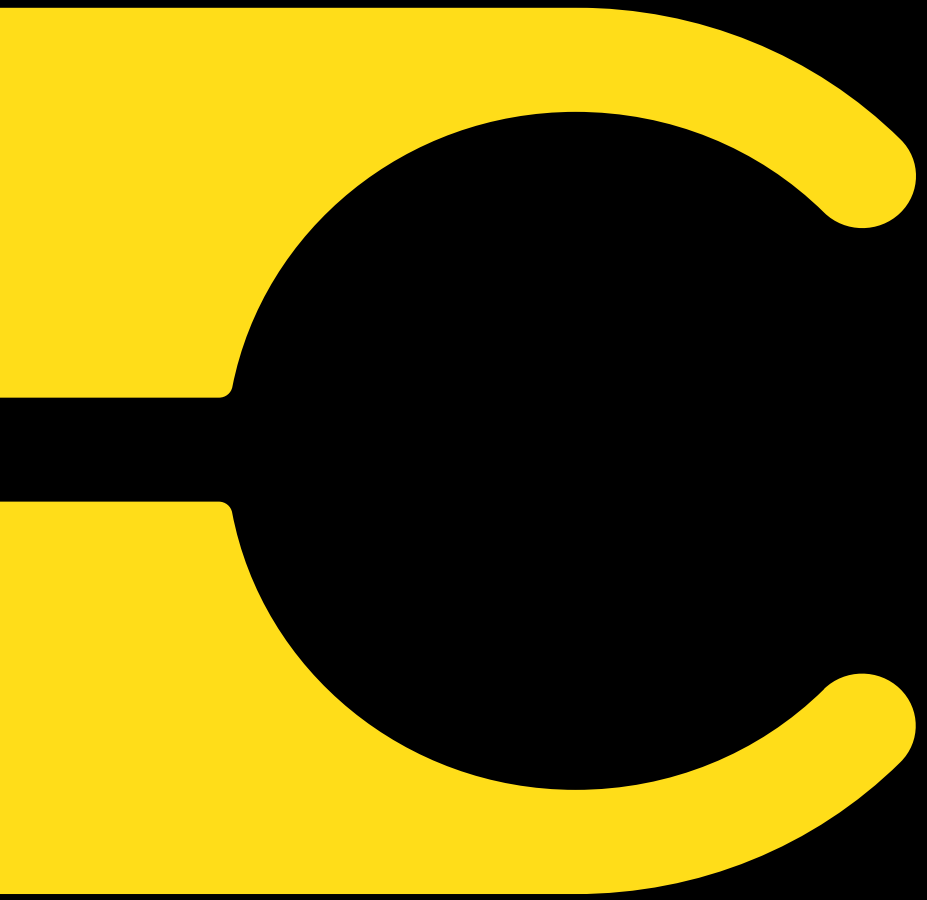

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ABOUT AVEVA

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.

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