NOVEMBER 2022

Getting the most out of AVEVA™ Unified Operations Center

with Apps and Integrations

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AV∃VA

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AVEVA

Meeting the needs of the Enterprise User
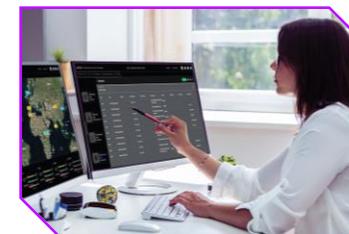
Enterprise

Long Term Focus (up to 1 Year)

Enterprise View

IT/OT Convergence

Command Center

Remote Operations Center

Casual User

Supervisory

Medium Term Focus (up to 1 Week)

Process View

OT Convergence

Control Room

Area Workstation

Mobile Supervisor

Edge

Short Term Focus (up to 1 Shift)

Work Cell View

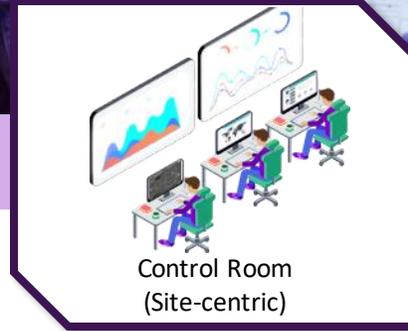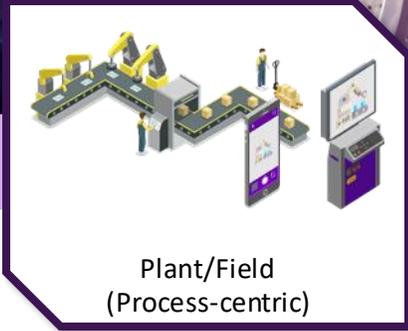Control Convergence

Panel-based Operations

Tablet-based Operations

Off-site Operations
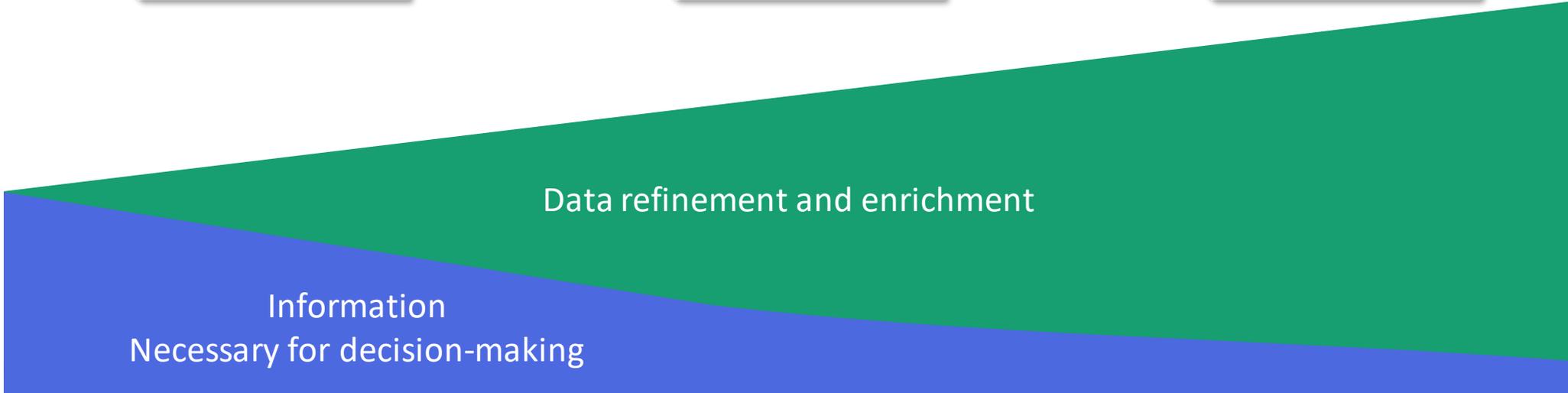
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Decision making needs for data

Plant/Field
(Process-centric)

Real-time

Control Room
(Site-centric)

Near Real-time

Enterprise
(Global / Regional)

Data refinement and enrichment
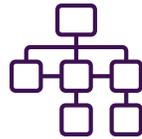
Information
Necessary for decision-making

AVEVA

Converting data to decision-ready information

Reliable sources

Contextualization

Definition of KPIs and metrics

Intuitively visual

Accessible

Data refinement and enrichment

Information
Necessary for decision-making

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AVEVA Unified Operations Center for Mining

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Composite information environment by user need

| Engineering, 1D-2D-3D Schematics, Documents | HMI/SCADA, Historians, MES, Workflow, IIoT | Financial, ERP | Third-party Databases, Weather, Market Data | Maintenance, EAM, CMMS, Connected Worker |

On-Premises or Cloud

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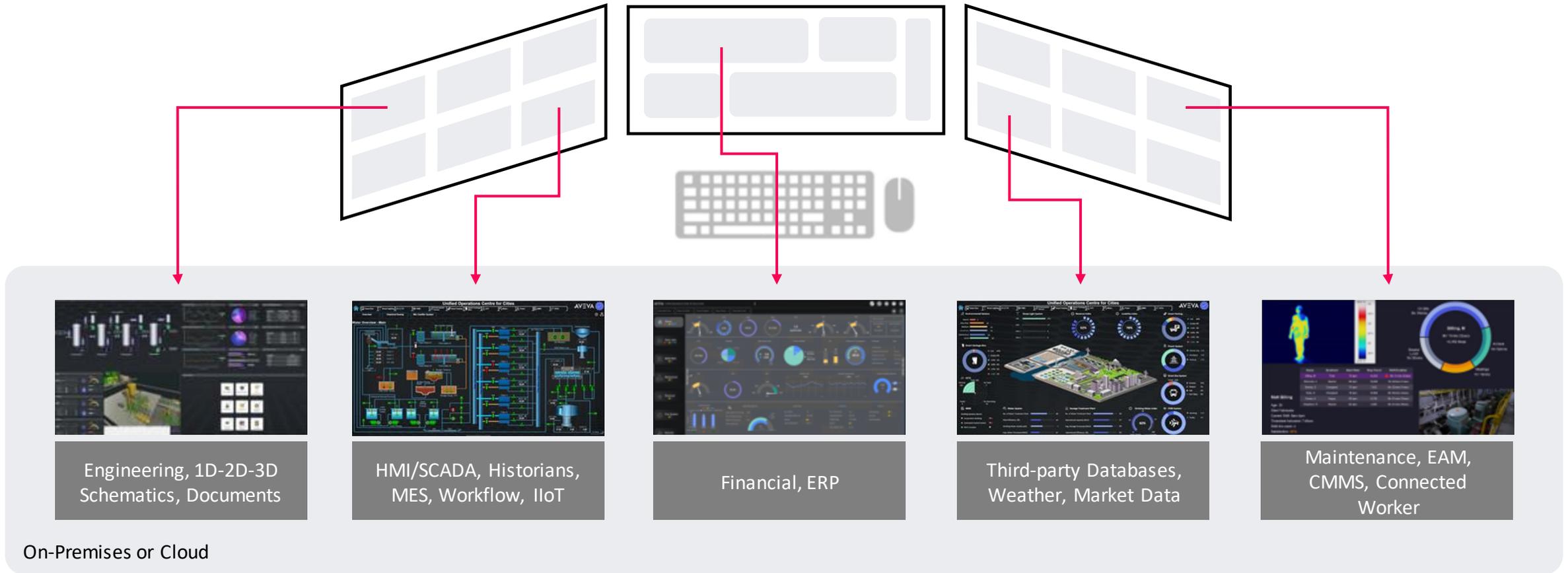
Building blocks of AVEVA Unified Operations Center

Industry templates provides a base structure that you can customize

Industry content

Extensible capability

AVEVA Operations and Control software

Industry starter application template

- Industry specific graphics
- Content library and KPI calculations
- Configuration and user types
- Layout framework, navigation, scripting

Features and capability

- Extensions and enhancements
- Third-party integrations
- UI/UX style guidelines
- Standards and asset model

AVEVA Operations Control - Enterprise

- Platform and visualization
- Communication drivers
- Historical archive and reporting
- Analytics – Collaboration – Workflow
- Development and integration tools

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Industry templates accelerate AVEVA Unified Operations Center

General Availability
- Smart Cities
- Data Centers
- Water
- Renewables
- Mining

Early Access
- Midstream

Conceptual
- Marine
- Consumer Products

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Enterprise ▾ | Concentrator ▾ | DownTime

Duration | **Current Month**

| I ▼	M... ▼	Start Time ▼	End Time ▼	Capture Lo... ▼	Location ▼	Cause Location	Cause ▼	Equipm
17465	Downtime	2022-10-19T16:29:22Z		Flotation	ACME.Copper Mine.Concentration.Processing.Flotation.Downtime	ACME.Copper Mine.Concentration.Processing.Flotation.Electrical Services.MC161 - MCC	Comms or Data Cable Fault	MC161
17462	Downtime	2022-10-19T16:22:16Z	2022-10-19T16:24:18Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Mining.Crushed Ore Stockyard	Low Stockpile Volume	COS
17461	Downtime	2022-10-19T16:19:14Z	2022-10-19T16:29:22Z	Thickening	ACME.Copper Mine.Concentration.Processing.Thickening.Downtime			
17456	Downtime	2022-10-19T16:16:12Z	2022-10-19T16:19:14Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Mining.Crushed Ore Stockyard	Low Stockpile Volume	COS
17452	Downtime	2022-10-19T16:04:04Z	2022-10-19T16:10:08Z	Flotation	ACME.Copper Mine.Concentration.Processing.Flotation.Downtime	ACME.Copper Mine.Concentration.Processing.Flotation.Electrical Services.MC161 - MCC	Comms or Data Cable Fault	MC161
17453	Downtime	2022-10-19T16:04:04Z	2022-10-19T16:06:02Z	Crushing	ACME.Copper Mine.Mining.Crushing.Downtime	ACME.Copper Mine.Mining.Crushing.Conveyors.CV002 - Discharge Conveyor.Motor	High Speed Coupling Failure	CV002
17450	Downtime	2022-10-19T16:00:01Z	2022-10-19T16:02:03Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.ML001 - Sag Mill 1	Planned Rate Restriction	ML001
17447	Downtime	2022-10-19T15:50:55Z	2022-10-19T15:52:56Z	Crushing	ACME.Copper Mine.Mining.Crushing.Downtime	ACME.Copper Mine.Mining.ROM Stockyard	Low Stockpile Volume	ROM
17444	Downtime	2022-10-19T15:48:54Z	2022-10-19T15:53:57Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.ML001 - Sag Mill 1	Planned Rate Restriction	ML001
17440	Downtime	2022-10-19T15:41:49Z	2022-10-19T15:45:52Z	Grinding	ACME.Copper Mine.Concentration.Gr	centration.Grinding.Milling.ML001 - Sag Mill 1	Planned Rate Restriction	ML001
17434	Downtime	2022-10-19T15:35:44Z	2022-10-19T15:41:49Z	Grinding	ACME.Copper Mine.Concentration.Gr	centration.Grinding.Milling.CH016 - Chute Mill Feed	Worn	CH016
17430	Downtime	2022-10-19T15:31:42Z	2022-10-19T15:33:43Z	Grinding	ACME.Copper Mine.Concentration.Gr	centration.Grinding.Milling.CH016 - Chute Mill Feed	Worn	CH016
17426	Downtime	2022-10-19T15:28:41Z	2022-10-19T15:37:46Z	Flotation	ACME.Copper Mine.Concentration.Processing.Flotation.Downtime	ACME.Copper Mine.Concentration.Processing.Flotation.Electrical Services.MC161 - MCC	Comms or Data Cable Fault	MC161
17423	Downtime	2022-10-19T15:21:35Z	2022-10-19T15:23:36Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Mining.Crushed Ore Stockyard	Low Stockpile Volume	COS
17422	Downtime	2022-10-19T15:18:33Z	2022-10-19T15:28:41Z	Thickening	ACME.Copper Mine.Concentration.Processing.Thickening.Downtime			
17417	Downtime	2022-10-19T15:15:31Z	2022-10-19T15:18:33Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Mining.Crushed Ore Stockyard	Low Stockpile Volume	COS
17413	Downtime	2022-10-19T15:03:23Z	2022-10-19T15:09:27Z	Flotation	ACME.Copper Mine.Concentration.Processing.Flotation.Downtime	ACME.Copper Mine.Concentration.Processing.Flotation.Electrical Services.MC161 - MCC	Comms or Data Cable Fault	MC161
17414	Downtime	2022-10-19T15:03:23Z	2022-10-19T15:05:24Z	Crushing	ACME.Copper Mine.Mining.Crushing.Downtime	ACME.Copper Mine.Mining.Crushing.Conveyors.CV002 - Discharge Conveyor.Motor	High Speed Coupling Failure	CV002
17411	Downtime	2022-10-19T14:59:20Z	2022-10-19T15:01:22Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.ML001 - Sag Mill 1	Planned Rate Restriction	ML001
17408	Downtime	2022-10-19T14:50:14Z	2022-10-19T14:52:16Z	Crushing	ACME.Copper Mine.Mining.Crushing.Downtime	ACME.Copper Mine.Mining.ROM Stockyard	Low Stockpile Volume	ROM
17405	Downtime	2022-10-19T14:48:13Z	2022-10-19T14:53:16Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.ML001 - Sag Mill 1	Planned Rate Restriction	ML001
17401	Downtime	2022-10-19T14:41:08Z	2022-10-19T14:45:11Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.ML001 - Sag Mill 1	Planned Rate Restriction	ML001
17395	Downtime	2022-10-19T14:35:04Z	2022-10-19T14:41:08Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.CH016 - Chute Mill Feed	Worn	CH016
17391	Downtime	2022-10-19T14:31:01Z	2022-10-19T14:33:02Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Concentration.Grinding.Milling.CH016 - Chute Mill Feed	Worn	CH016
17387	Downtime	2022-10-19T14:28:00Z	2022-10-19T14:37:05Z	Flotation	ACME.Copper Mine.Concentration.Processing.Flotation.Downtime	ACME.Copper Mine.Concentration.Processing.Flotation.Electrical Services.MC161 - MCC	Comms or Data Cable Fault	MC161
17384	Downtime	2022-10-19T14:20:54Z	2022-10-19T14:22:56Z	Grinding	ACME.Copper Mine.Concentration.Grinding.Downtime	ACME.Copper Mine.Mining.Crushed Ore Stockyard	Low Stockpile Volume	COS

Sample Asset Model

|◄ ◄ 1 2 3 4 5 ► ►| 1 - 50 of 244 items

Enterprise ▾ > Middleton ▾ > Truck Management ▾ > Truck 101

Duration: Current Shift

Truck 101 — Loading

Fleet **84** | Model Code **48** | Hour Meter **85**

SPEED & ENGINE

15.1 — Speed (Km/hr)
18.9 — RPM X 1000
1.0 — Load (%)
452 — Oil Pressure (Psi)

UTILIZATION

Running Time(Hr) **15**
Idle Time(Hr) **25**
Down Time(Hr) **03**
Utilization (%) **89**

TEMPERATURES

77 °C — Before Coolant
74 °C — After Coolant
80 °C — Trans Oil
44 °C — Inlet Mainfold
489 °C — Left Exhaust
452 °C

LOCATION

Middleton General Store Fuel
Middleton
Google — Map data ©2022 | Terms of Use

PAYLOAD

279 — Payload(t)
19.9 — Avg. Load Speed (Km/hr)
22.6 — Avg. Empty Speed (Km/hr)

FUEL & EMISSION

▲ 19 % | ▼ -13 %
50.6 KL — Fuel | 133 t — Emission
Previously
49.6 KL — Fuel | 138 t — Emission

BRAKES

Right RR **73.6** | Left RR **75.3**
Right FT **74.6** | Left FT **74.6**
10/19/2022 1:58:19 PM | 10/19/2022 9:58:19 PM
↻ ◀ 8h ▶ Now

Right F
2817.4 kPa | 2729.8
Left Front **2955.0 kPa** | Right Fr **3016.6 k**
10/19/2022 1:58:21 PM | 10/19/2022 9:58:21 PM
◀ 8h ▶ Now

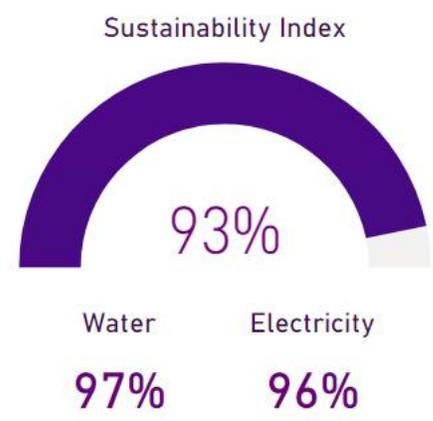| EventName	Asset	StartTime
2022-10-10 04:00.Exhaust Delta Alerts.Truck 101	Exhaust Delta Alerts	10/10/2022 4:0
2022-10-19 11:00.Exhaust Delta Alerts.Truck 101	Exhaust Delta Alerts	10/19/2022 11
Truck Cycle Time.Truck 101.2022-10-19 13:47:00.000	Truck Cycle Time	10/19/2022 1:4
Truck Cycle Time.Truck 101.2022-10-19 14:08:10.000	Truck Cycle Time	10/19/2022 2:0
Truck Cycle Time.Truck 101.2022-10-19 14:09:30.000	Truck Cycle Time	10/19/2022 2:0
Truck Cycle Time.Truck 101.2022-10-19 14:10:10.000	Truck Cycle Time	10/19/2022 2:1
Truck Cycle Time.Truck 101.2022-10-19 14:10:30.000	Truck Cycle Time	10/19/2022 2:1
Truck Cycle Time.Truck 101.2022-10-19 14:25:40.000	Truck Cycle Time	10/19/2022 2:2
Truck Cycle Time.Truck 101.2022-10-19 14:28:30.000	Truck Cycle Time	10/19/2022 2:2
Truck Cycle Time.Truck 101.2022-10-19 14:30:50.000	Truck Cycle Time	10/19/2022 2:3
Truck Cycle Time.Truck 101.2022-10-19 14:52:20.000	Truck Cycle Time	10/19/2022 2:5
Truck Cycle Time.Truck 101.2022-10-19 14:53:30.000	Truck Cycle Time	10/19/2022 2:5
Truck Cycle Time.Truck 101.2022-10-19 14:54:10.000	Truck Cycle Time	10/19/2022 2:5
Truck Cycle Time.Truck 101.2022-10-19 14:54:30.000	Truck Cycle Time	10/19/2022 2:5
Truck Cycle Time.Truck 101.2022-10-19 15:10:10.000	Truck Cycle Time	10/19/2022 3:1
Truck Cycle Time.Truck 101.2022-10-19 15:13:00.000	Truck Cycle Time	10/19/2022 3:1
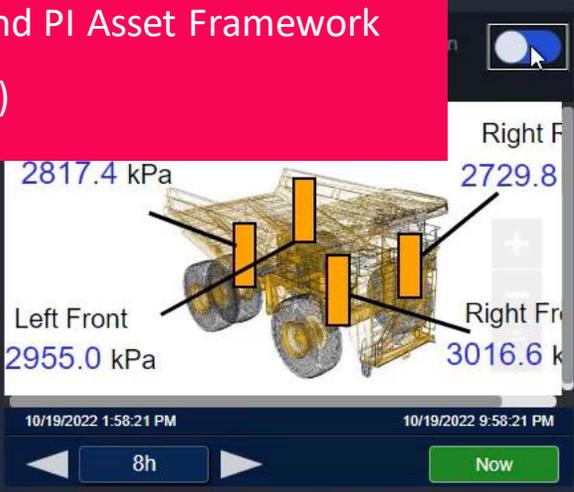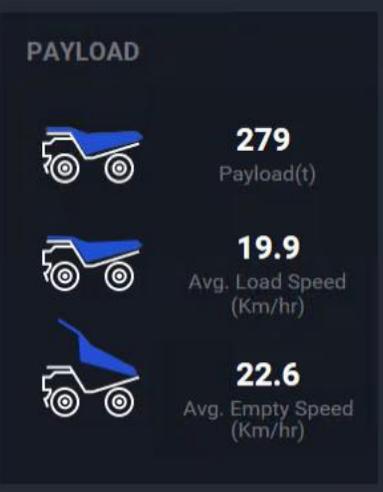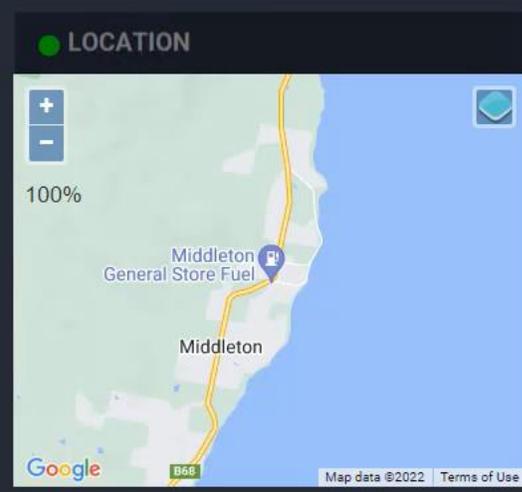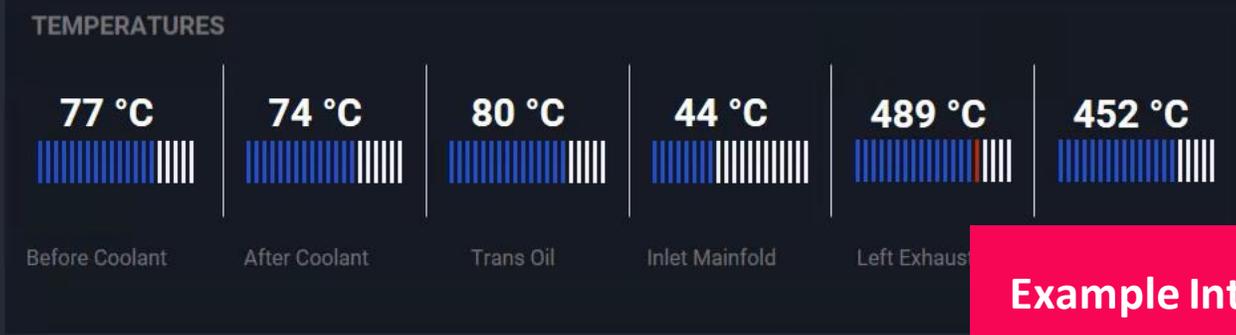
Example Integrations

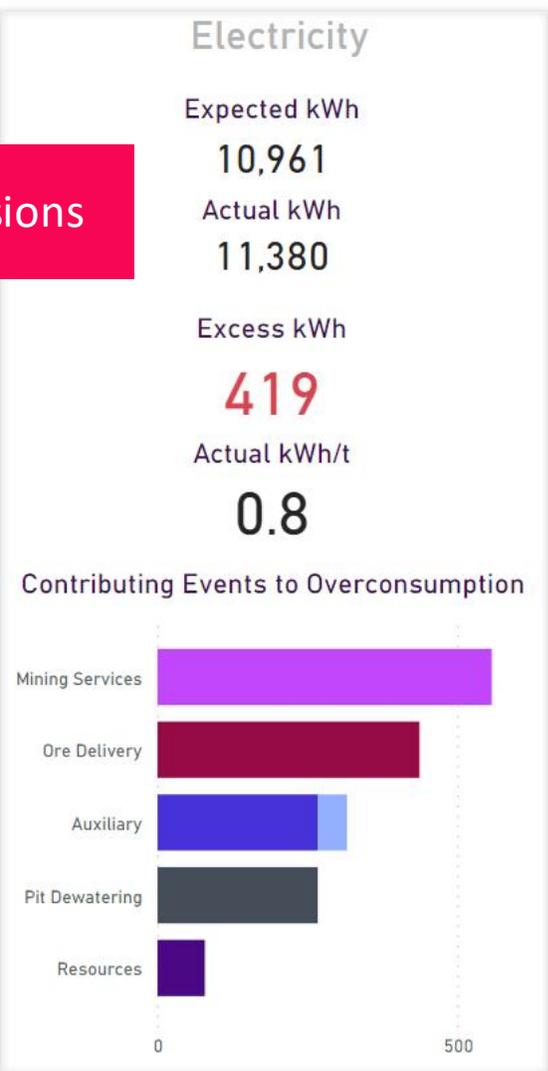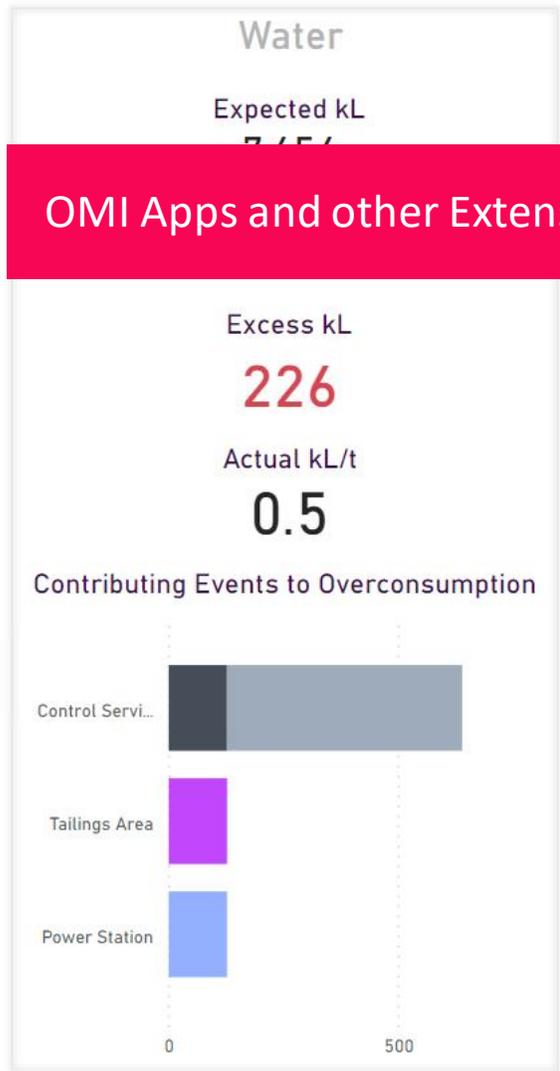- AVEVA PI System and PI Asset Framework
- Web Sources (REST)

Dark

Duration **Current Month**

Sustainability Overview - Current Day

Sustainability Index

93%

Water	Electricity
97%	96%

Greenhouse

Actual CH4 (t)	Actual CO2 (t)
2,276	5,690

Actual SF4 (t)	Actual N20 (t)
1,138	3,414

Water

Expected kL

OMI Apps and other Extensions

Excess kL

226

Actual kL/t

0.5

Contributing Events to Overconsumption

Control Servi...
Tailings Area
Power Station

Electricity

Expected kWh

10,961

Actual kWh

11,380

Excess kWh

419

Actual kWh/t

0.8

Contributing Events to Overconsumption

Mining Services
Ore Delivery
Auxiliary
Pit Dewatering
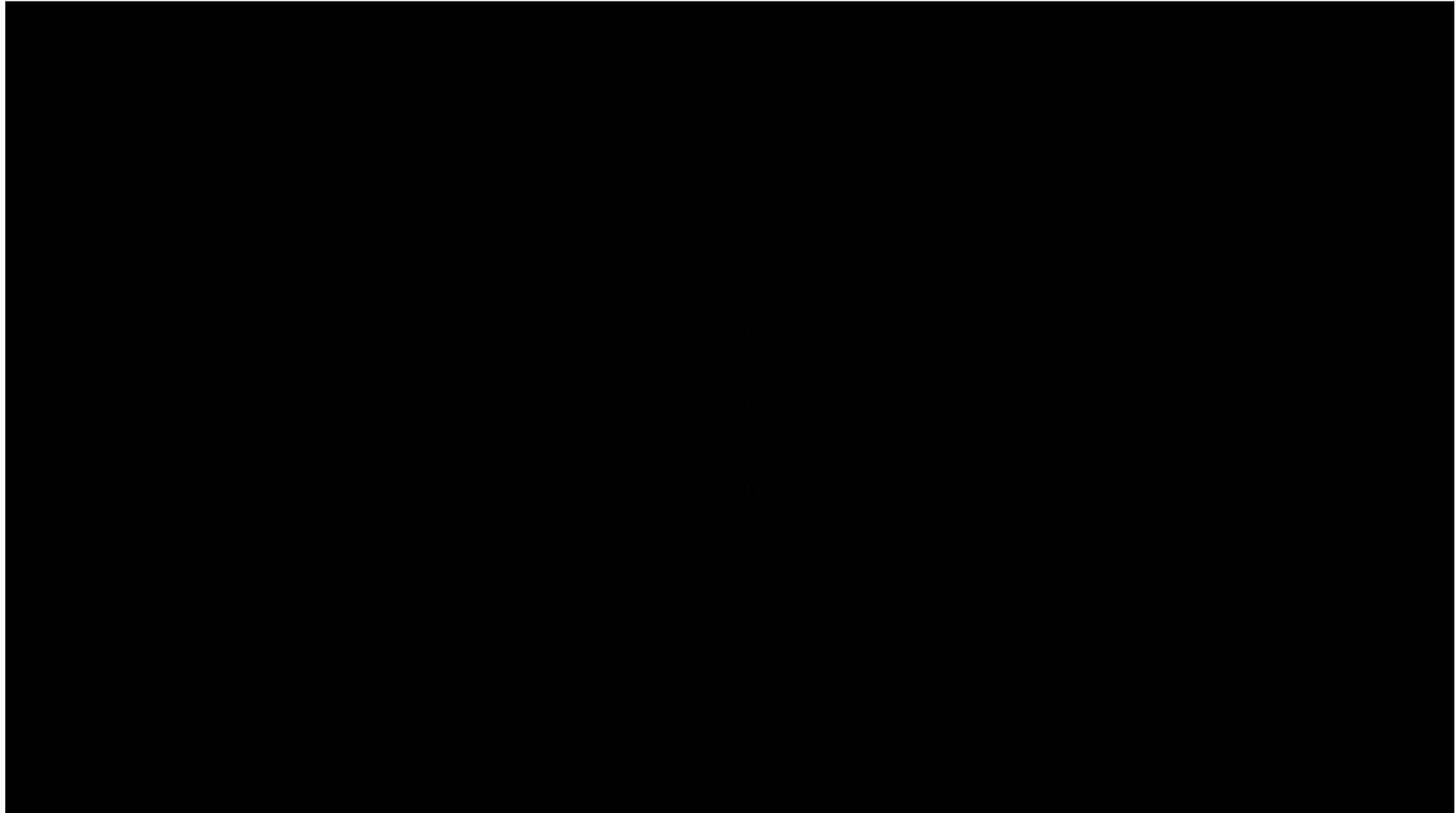Resources

Sustainability Overview
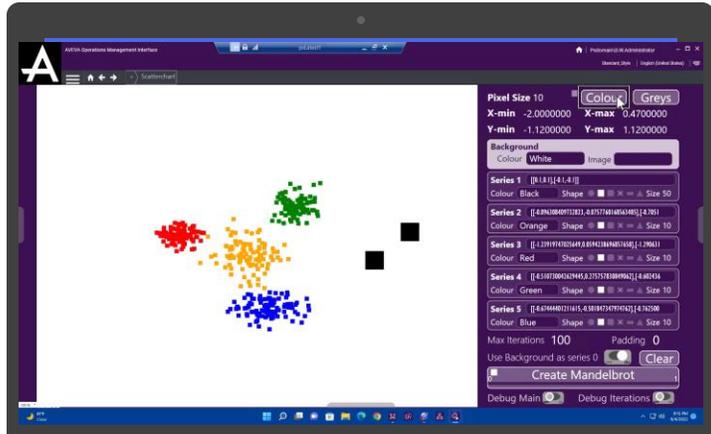
Sankey Diagram OMI App
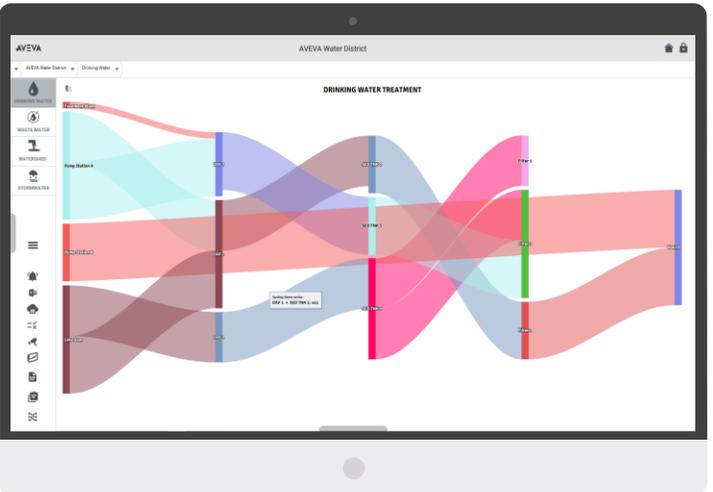
Sankey Diagrams

Visualize energy, financial, and material paths, on a regional or national level to locate the most important contributions to a flow.
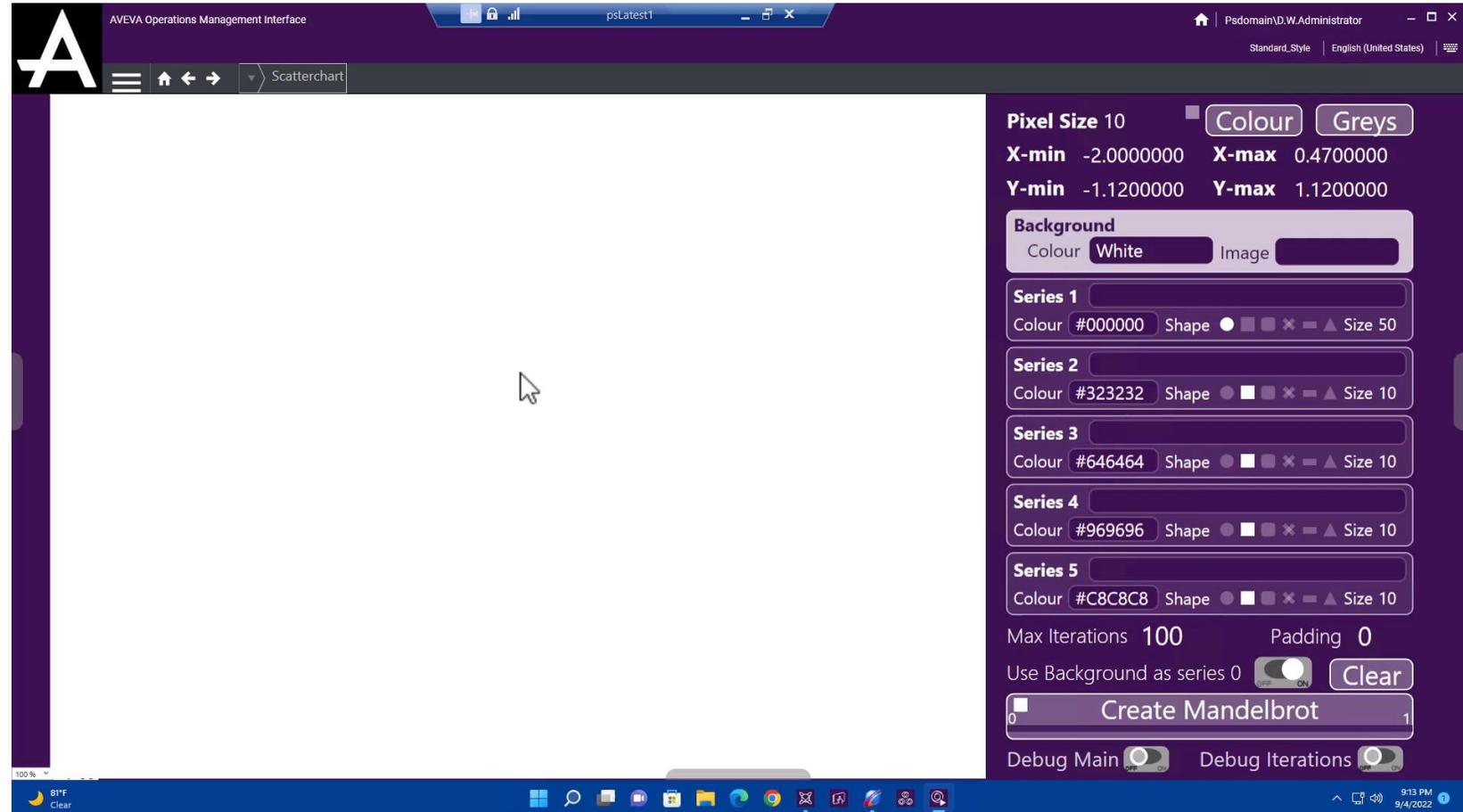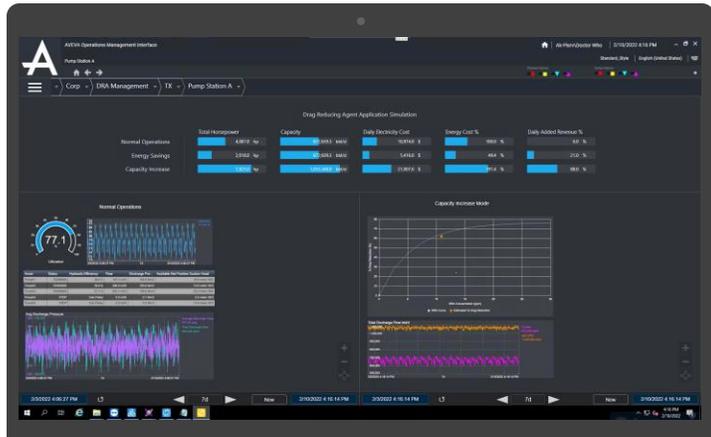
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Scatter Chart Widget

Scatter Chart

Plot values for two to three variables in a set of data to suggest various kinds of correlations between the data points.

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OMI App for Microsoft Power BI

Microsoft Power BI

Show Power BI reports with dynamically configure dashboards based on the current context or configuration of the application.

JANUARY 2022

AVEVA™ OMI App for Microsoft Power BI

AVEVA

AVEVA PI Vision OMI App

AVEVA PI Vision

Integrate existing AVEVA PI Vision dashboards, benefiting from navigational context between selected content.
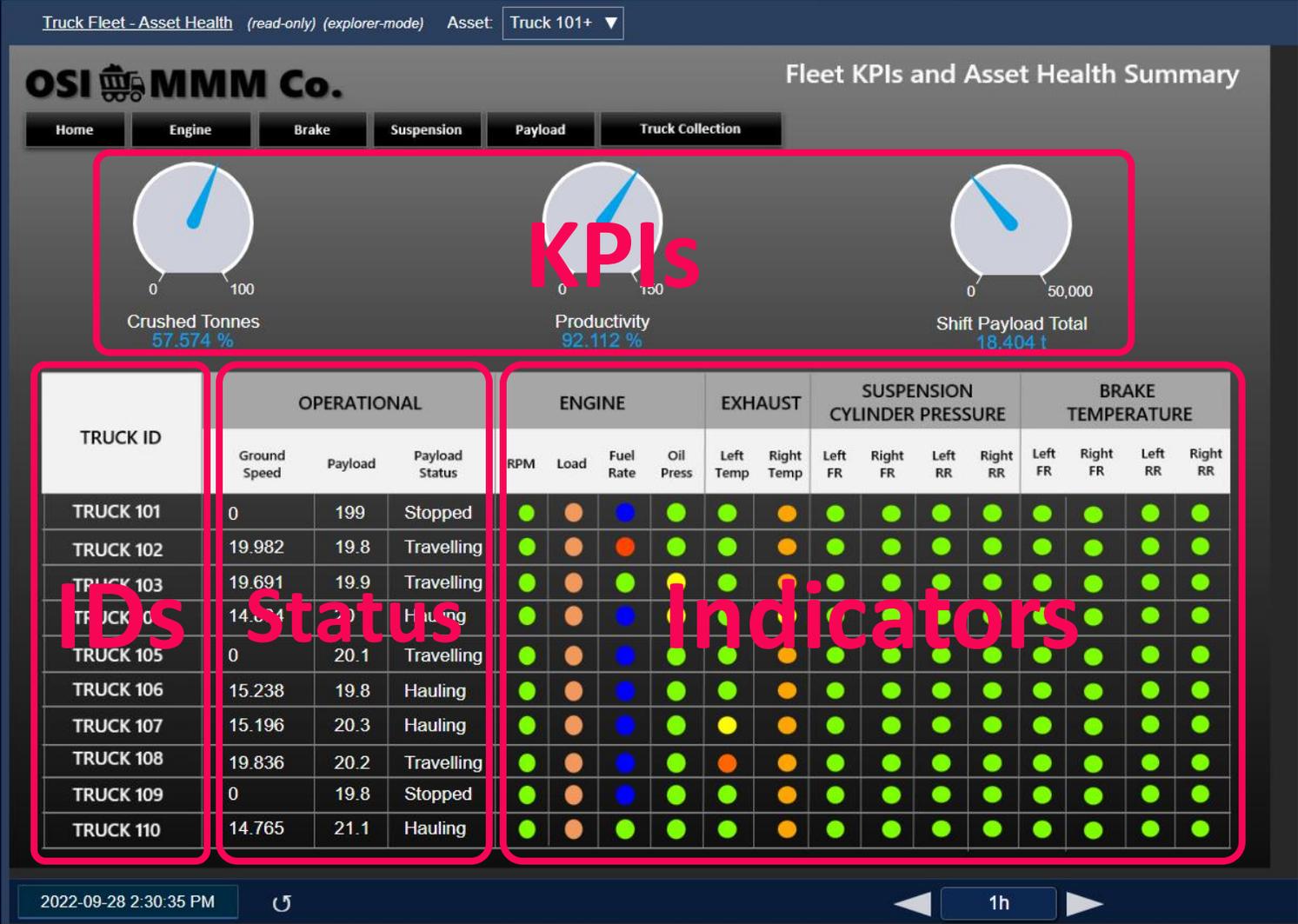
FEBRUARY 2022

AVEVA™ PI Vision OMI App

The new App that provides PI Vision content in context inside Operations Management Interface (OMI)
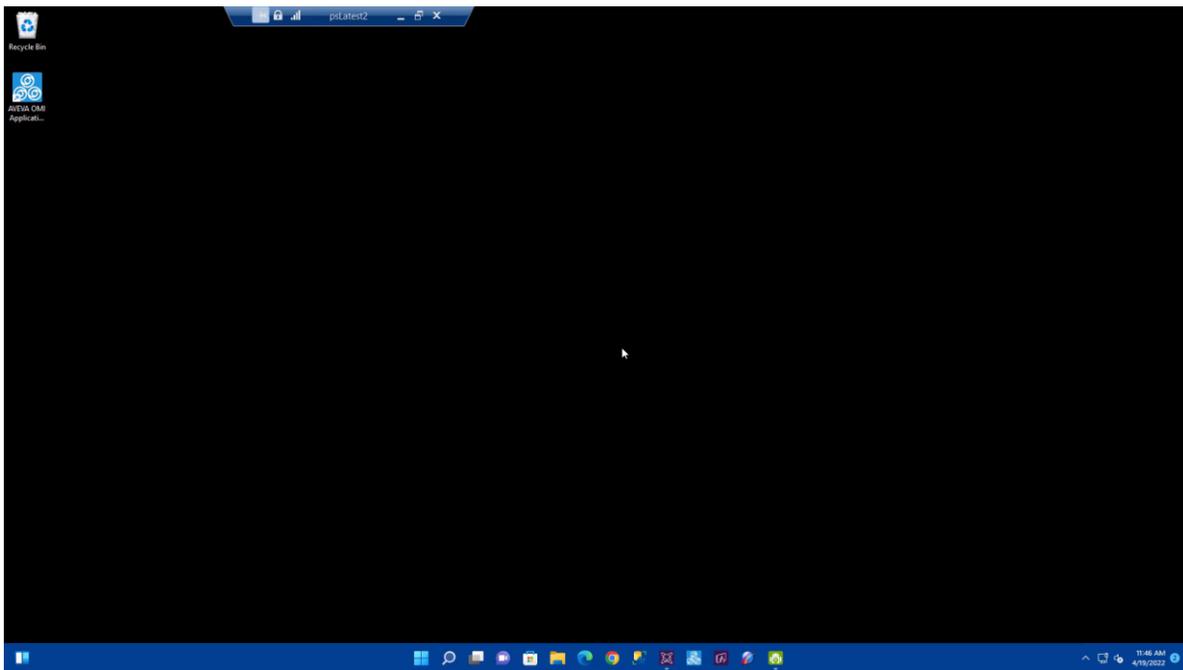
Leveraging PI data
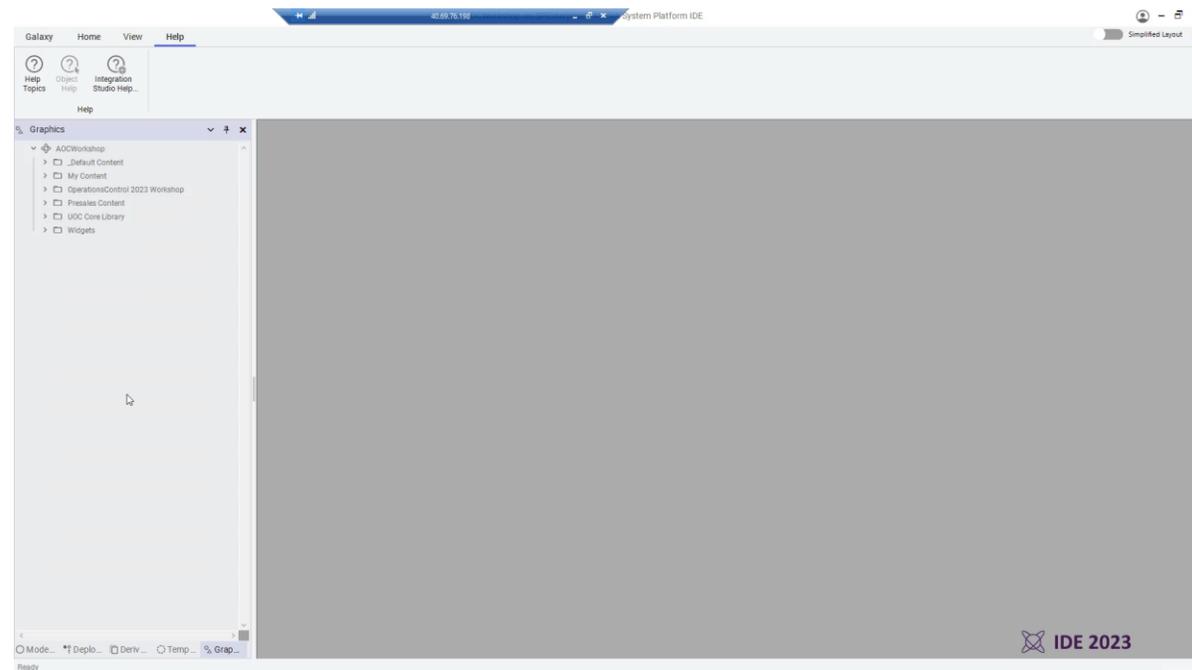
- TBD

Leveraging PI data

- TBD

AVEVA OMI web client with Workspaces

OMI web client

Access pre-defined OMI displays and graphics from a web browser on any device.

Workspaces

New workspaces features allow you to create ad-hoc runtime displays directly in the browser.
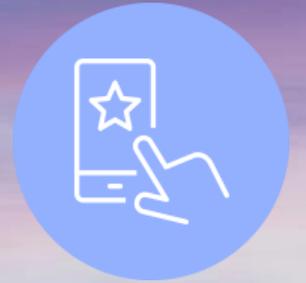
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Questions?

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!

AVEVA

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The Company shall not be obliged to disclose any revision to these forward-looking statements to reflect events or circumstances occurring after the date on which they are made or to reflect the occurrence of future events.

AVEVA

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@avevagroup

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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