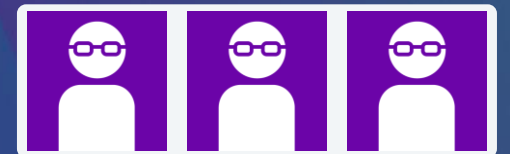


OCTOBER 26, 2023

Configuring Advanced Reports with AVEVA Reports for Operations

Richard Kaye – VP, Business Development - Ocean Data Systems

Brian Leonard – Product Manager, Operations Control - AVEVA



AVEVA



Richard Kaye

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Agenda

- Solution overview
- Integration with plant & process data
- Plant information challenges solved
- Call to action
- Demo – let's get reporting!

AVEVA Reports for Operations is...

...Complex reporting, simplified!

Open & Direct Connectivity

- Real-time connectivity - SCADA, HMI, PLCs
- Direct connectivity to process Historians
- Connectivity to “other” data sources & databases (Excel, CSV, MS SQL Server, MySQL Oracle, ...)

Automated and Flexible

- Auto-generate reports on schedules and event-triggers
- Output to PDF, Excel, CSV, XML and Web
Send reports to Local and Network drives, FTP, Email, Print, and Web browsers

Easy-to-use

- Quick learning curve
- No software development skills required to design reports
- Reusable Templates

Industry-Ready – modules for:

- Batch reporting & Life Sciences
- SPC
- Alarm analytics (ISA 18.2)
- Energy usage and accounting...



Access to ALL your Data is Key!

Over 120 Drivers
Included!

- ▷ Arc Informatique
- ▷ Aspentech
- ▷ AVEVA
- ▷ BSCADA
- ▷ Emerson
- ▷ Eurotherm
- ▷ General Electric
- ▷ Geo SCADA
- ▷ Internal
- ▷ Loytec
- ▷ Mitsubishi
- ▷ Open communication protocols
- ▷ Remote
- ▷ Rockwell Automation
- ▷ Schneider
- ▷ Siemens
- ▷ StreamX for ACC
- ▷ Trihedral
- ▷ Wizcon
- ▷ YOKOGAWA

- ▶ AVEVA
 - ▶ Alarm DB Logger (historical alarms / events database)
 - ▶ Application Server (real-time values)
 - ▶ Edge (historical alarms / events in a database)
 - ▶ Edge (historical values in a database)
 - ▶ Edge (historical values in a database, legacy versions)
 - ▶ Edge (real-time values)
 - ▶ Edge (real-time values, legacy versions)
 - ▶ Gateway OPC (real-time values)
 - ▶ Historian (alarms / events)
 - ▶ Historian (historical values)
 - ▶ Historian alarms ODBC driver
 - ▶ InSight (historical values in cloud database)
 - ▶ InSight Performance (historical values)
 - ▶ InTouch HMI (historical alarms / events - ALG files)
 - ▶ InTouch HMI (real time values - local or remote through Gateway)
 - ▶ InTouch HMI historical values (.LGH)
 - ▶ Mobile Operator (historical values)
 - ▶ PI Asset Framework (SDK v2018 SP3) historical values
 - ▶ PI Asset Framework (SDK v2018 SP3) real-time values
 - ▶ PI Asset Framework historical values
 - ▶ PI Asset Framework real-time values
 - ▶ PI historical values
 - ▶ PI historical values (Web API)
 - ▶ Plant SCADA DBF historical values
 - ▶ Plant SCADA Historian historical alarms
 - ▶ Plant SCADA Historian historical values
 - ▶ Plant SCADA historical messages
 - ▶ Plant SCADA historical values
 - ▶ Plant SCADA real-time alarms
 - ▶ Plant SCADA real-time values



It's All About
Context!

All the Calculations & Statistics you Need

- General Functions
 - First Value
 - Timestamp of First Value
 - Last Value
 - Timestamp of Last Value
 - Current Value
 - Maximum
 - Timestamp of Maximum Value
 - Minimum
 - Timestamp of Minimum Value
 - Integral
 - Average
 - Weighted Average
 - Sum
 - Standard Deviation
 - Standard Deviation Sample Based
 - Difference
- Advanced Functions
 - Logged Value Counter
 - Duration in the interval (hours)
 - Counter
 - Mean Kinetic Temperature
 - Advanced Mean Kinetic Temperature
 - Largest
 - Smallest
 - F0
 - Percentile

- Performance Analysis Functions
 - ON Counter
 - OFF Counter
 - ON/OFF Counter
 - Running Time
 - Down Time
 - System availability
- Energy Management Functions
 - Produced Energy
 - Produced Emission
- Batch Functions
 - Batch ID
 - Batch Start Time
 - Batch End Time
 - Batch Duration
- Setpoint Analysis Functions
 - Start time of stable period
 - End time of stable period
 - Duration of stable period
 - Setpoint stability result
 - Counter of stable periods
 - Rate of change before entering stability zone
 - Rate of change after exiting stability zone

- Alarm Analysis Functions
 - Counter of alarms
 - Timestamp of First alarm
 - Timestamp of Last alarm
 - Alarm Maximum Duration
 - Alarm Minimum Duration
 - Alarm Maximum Response Time
 - Alarm Minimum Response Time
 - Average Alarm Rate
 - Minimum Alarm Rate
 - Maximum Alarm Rate
 - Peak Alarm Timestamp
 - Lowest alarm rate timestamp
 - Count of short-duration alarms
 - Count of long-duration alarms
 - Count of periods per alarm rate
- Direct SQL Query
 - SQL Query
- Pulse Analysis Functions
 - Number of Pulses
 - Peak Maximum Value
 - Peak Minimum Value

- SPC Functions
 - SPC Mean
 - SPC XGA
 - SPC RA
 - SPC SA
 - SPC UCL XRA
 - SPC LCL XRA
 - SPC UCL XSA
 - SPC LCL XSA
 - SPC UCL RA
 - SPC LCL RA
 - SPC UCL SA
 - SPC LCL SA
 - SPC CP
 - SPC CPK
 - SPC -Sigma1
 - SPC +Sigma1
 - SPC -Sigma2
 - SPC +Sigma2
 - SPC -Sigma3
 - SPC +Sigma3
 - Nelson Rules Violation
- Manual Input

Rich Library of Statistical and Aggregation Functions



Reports for Every Industry

Batch & CIP reports

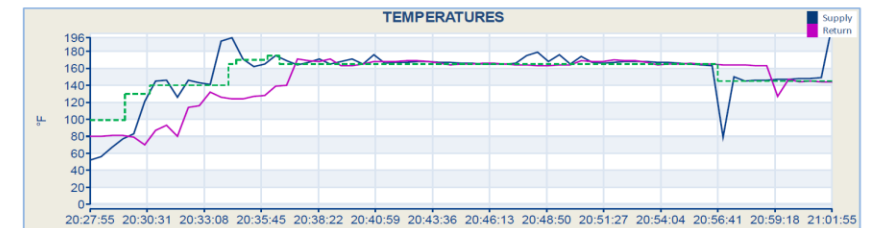
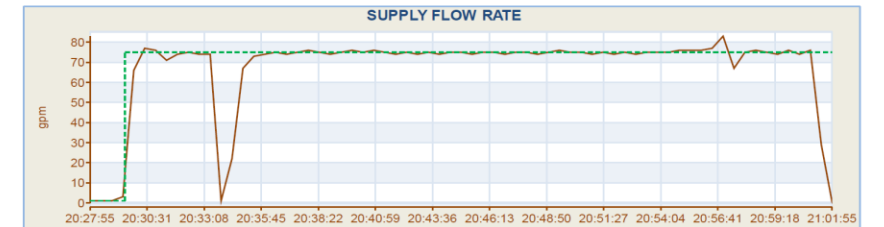
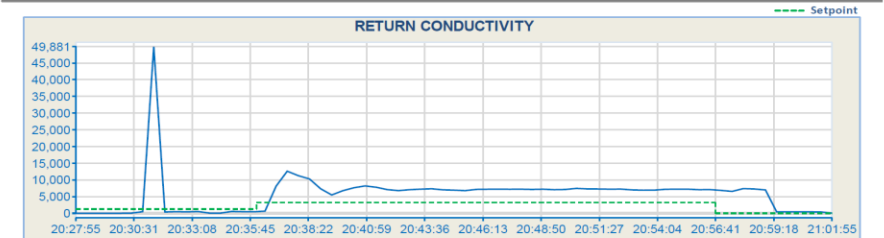


CIP 1 Report

CIP1_Raw Whey In Line Make Room

Start Time:	05/04/2023 20:27:55	Circuit Name:	Raw Whey In Line Make Room #1
End Time:	05/04/2023 21:01:55	Circuit #:	13
Duration:	0:34:00		

CIP SUMMARY			
	Min	Max	Avg
Return Conductivity	13	49,881	5,669.62
Supply Flow (gpm)	0	83	66.78
Supply Temperature (°F)	52	211	154.96
Return Temperature (°F)	70	171	147.23



Generated on: 05/04/2023 21:02:07

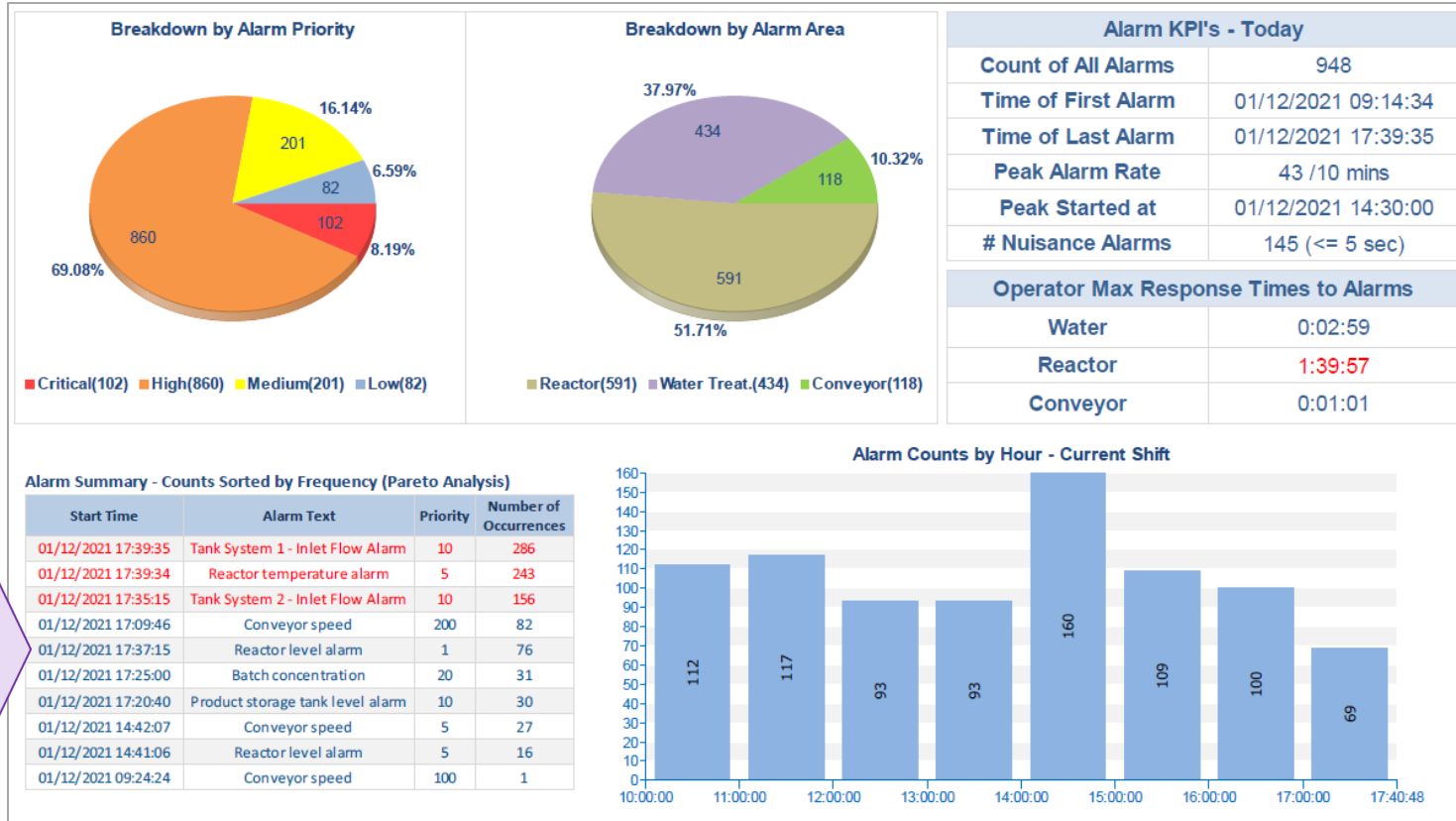
1

Reports for Every Industry

- Batch & CIP reports
- Alarm and Event reporting and analysis

Alarm Functions & KPIs

- Counter of alarms
- T/S of first alarm
- T/S of last alarm
- Alarm max duration
- Alarm min duration
- Max response time
- Min response time
- Average alarm rate
- Minimum alarm rate
- Maximum alarm rate
- Peak rate timestamp
- Lowest rate timestamp
- Count of short-duration alarms
- Count of long-duration alarms
- Count of periods per alarm rate



Reports for Every Industry

- Batch & CIP reports
- Alarm and Event reporting and analysis
- Energy accounting and reporting

Cost Definition Dialog

Cost Name

Description

Calendar period
Calendar periods

From

To

Ignore year

Tariff

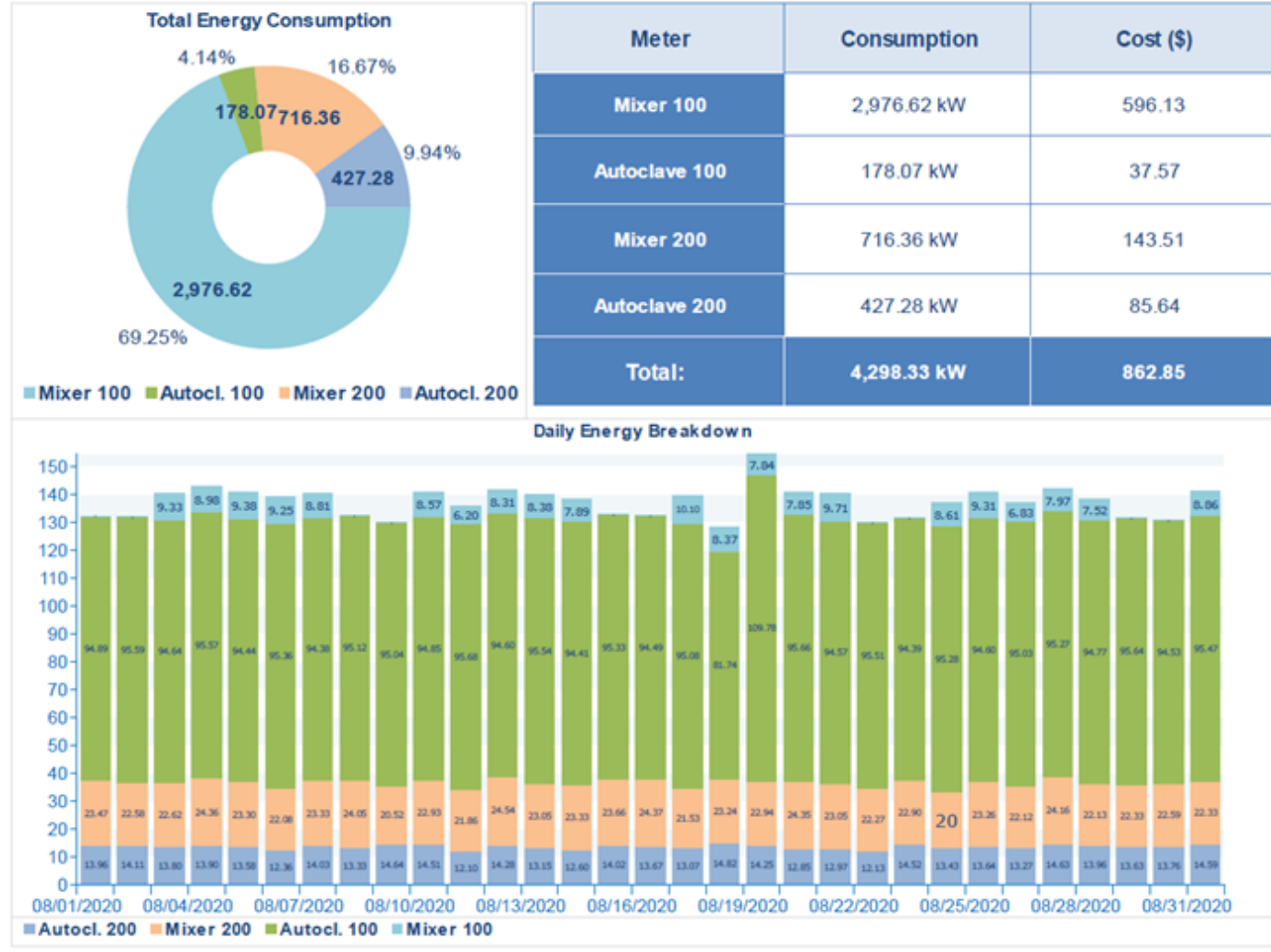
Tariff name

Mon Tue Wed Thu Fri Sat Sun

From	To	Tariff	Tariff name	
1/1/2020 00:00:00	12/31/2020 06:00:00	0.195	Night1	+
1/1/2020 06:00:00	12/31/2020 22:00:00	0.211	DayWDays	-
1/1/2020 22:00:00	12/31/2020 23:59:59	0.195	Night2	
1/1/2020 00:00:00	12/31/2020 23:59:59	0.195	Weekend	

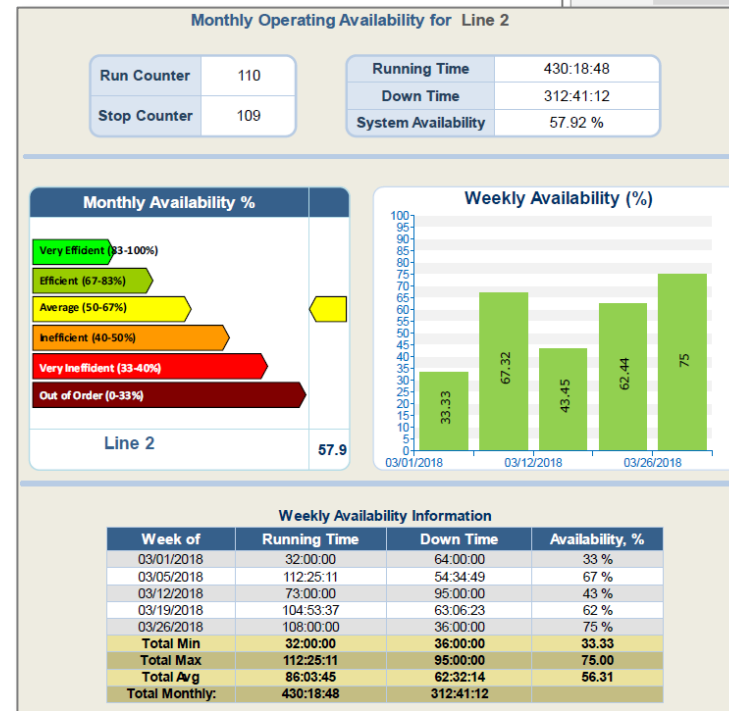
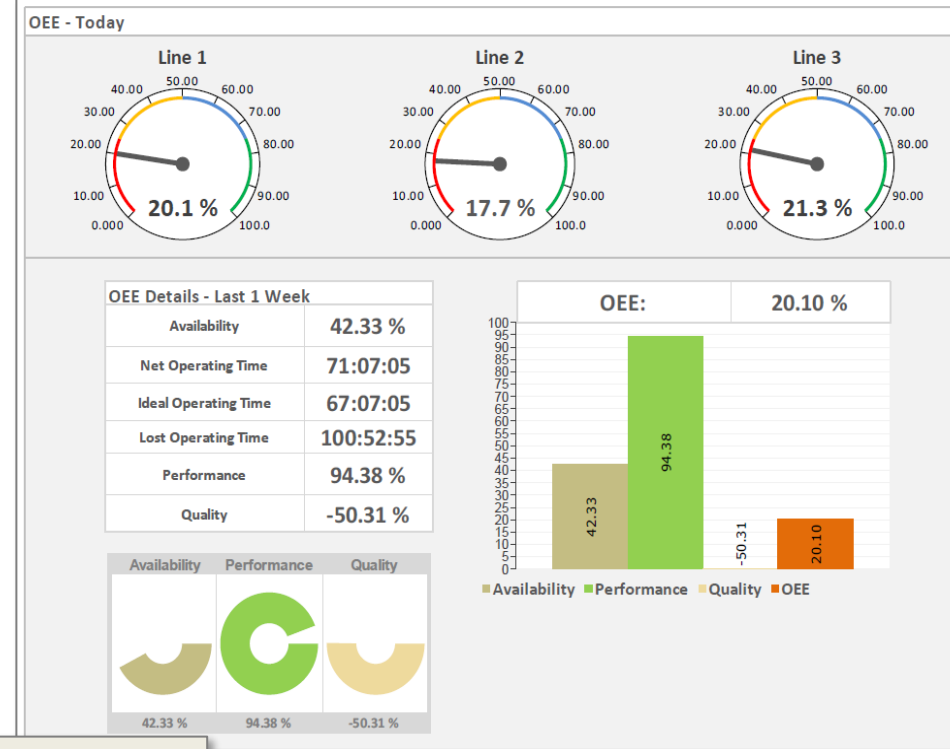
Monthly Energy Consumption

Generated On: 09/24/2020 17:00:45



Reports for Every Industry

- ❑ Batch & CIP reports
- ❑ Alarm and Event reporting and analysis
- ❑ Energy accounting and reporting
- ❑ Equipment performance and utilization reports & dashboards



Reports for Every Industry

- ❑ Batch & CIP reports
- ❑ Alarm and Event reporting and analysis
- ❑ Energy accounting and reporting
- ❑ Equipment performance and utilization reports & dashboards
- ❑ SPC - Statistical Process Control

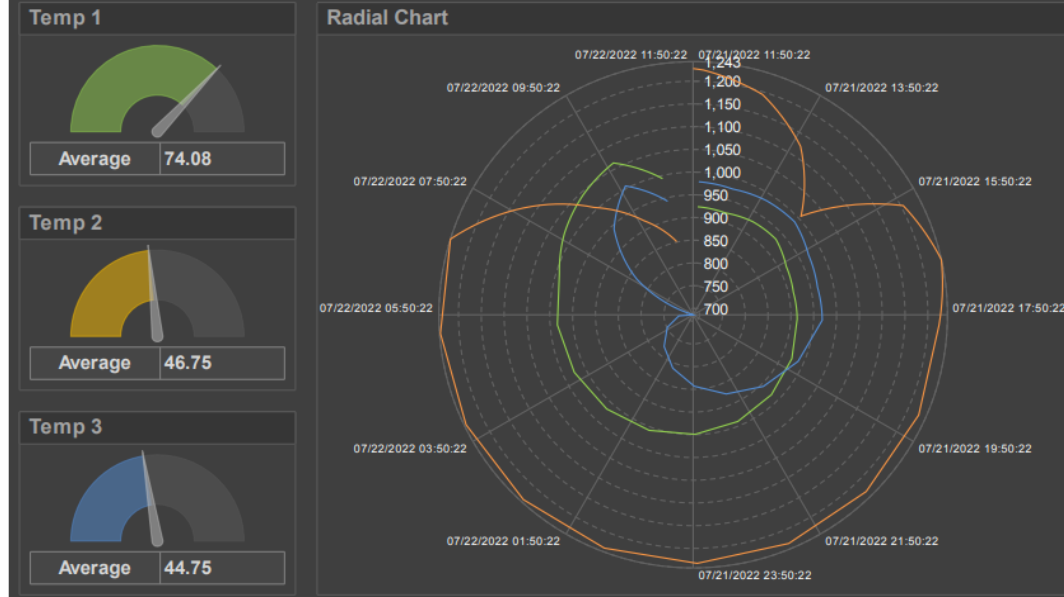


Reports for Every Industry

- ❑ Batch & CIP reports
- ❑ Alarm and Event reporting and analysis
- ❑ Energy accounting and reporting
- ❑ Equipment performance and utilization reports & dashboards
- ❑ SPC - Statistical Process Control
- ❑ Environmental compliance reports – water, CEM, air quality, etc.

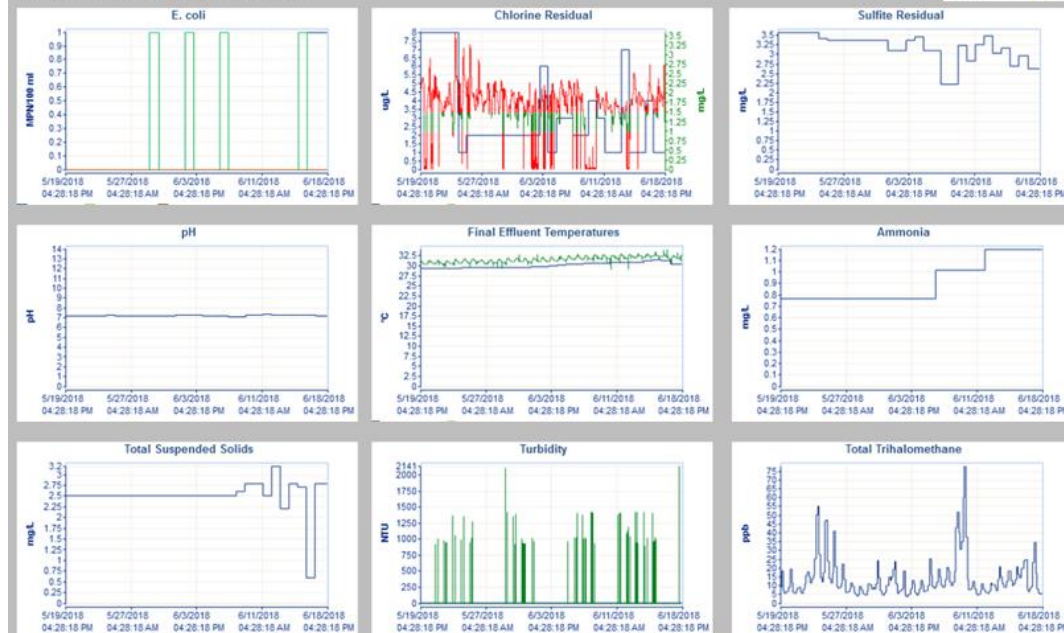
Temperature Zones (°C)

AVEVA



DISINFECTION DASHBOARD

AVEVA

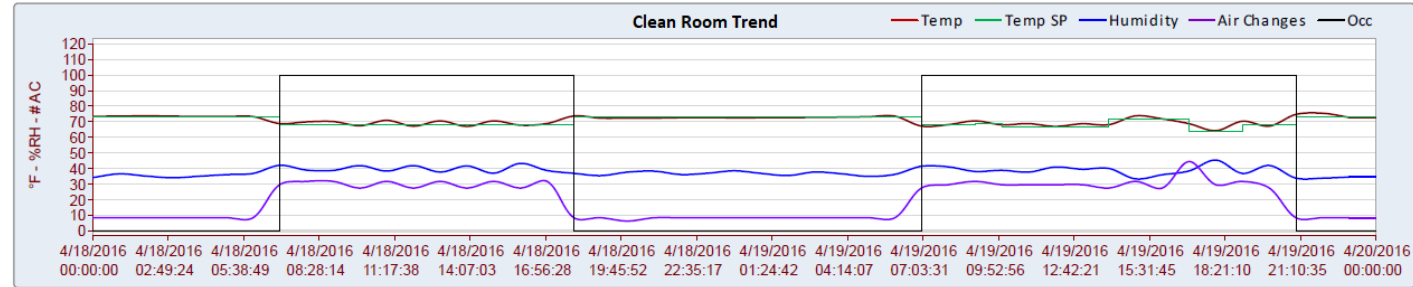


Reports for Every Industry

- ❑ Batch & CIP reports
- ❑ Alarm and Event reporting and analysis
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- ❑ Equipment performance and utilization reports & dashboards
- ❑ SPC - Statistical Process Control
- ❑ Environmental compliance reports – water, CEM, air quality
- ❑ Building management reporting

Global Semiconductor Clean Room 102 Occupancy Report

Data Collected from 04/18/2016 00:00 to 04/20/2016 00:00, per Hour



! = Range Exceeded

Clean Room Data									
Date & Time	Temperature	Temperature Setpoint	Humidity	Air Changes	Tracking	Occupancy	Motion-1	Motion-2	Supply Air Flow
	58 - 85 °F	°F	20 - 60 %RH	Lo SP: 20	+/-	Yes/No	Yes/No	Yes/No	CFM
04/18/2016 00:00 AM	73.5	73.0	34.2	8	Positive	No	No	No	763
04/18/2016 01:00 AM	73.6	73.0	36.6	8	Positive	No	No	No	784
04/18/2016 02:00 AM	73.8	73.0	35.2	8	Positive	No	No	No	784
04/18/2016 03:00 AM	73.6	73.0	34.1	8	Positive	No	No	No	763
04/18/2016 04:00 AM	73.4	73.0	35.1	8	Positive	No	No	No	784
04/18/2016 05:00 AM	73.4	73.0	36.1	8	Positive	No	Yes	No	763
04/18/2016 06:00 AM	73.3	73.0	36.9	8	Positive	No	No	No	826
04/18/2016 07:00 AM	68.9	68.0	42.1	30	Positive	Yes	No	No	2,755
04/18/2016 08:00 AM	69.9	68.0	39.0	32	Positive	Yes	No	No	2,839
04/18/2016 09:00 AM	70.2	68.0	38.8	32	Positive	Yes	No	No	2,861
04/18/2016 10:00 AM	67.5	68.0	41.9	28	Positive	Yes	No	No	2,521
04/18/2016 11:00 AM	70.9	68.0	38.4	32	Positive	Yes	No	No	2,882
04/18/2016 12:00 PM	67.2	68.0	41.9	28	Positive	Yes	No	No	2,458
04/18/2016 13:00 PM	70.6	68.0	37.8	32	Positive	Yes	No	No	2,882
04/18/2016 14:00 PM	67.1	68.0	45.7	28	Positive	Yes	No	No	2,437
04/18/2016 15:00 PM	70.6	68.0	37.1	32	Positive	Yes	Yes	Yes	2,839
04/18/2016 16:00 PM	67.9	68.0	43.3	28	Positive	Yes	No	No	2,564
04/18/2016 17:00 PM	68.9	68.0	38.8	32	Positive	Yes	No	No	2,818
04/18/2016 18:00 PM	73.7	73.0	37.0	8	Positive	No	No	No	805

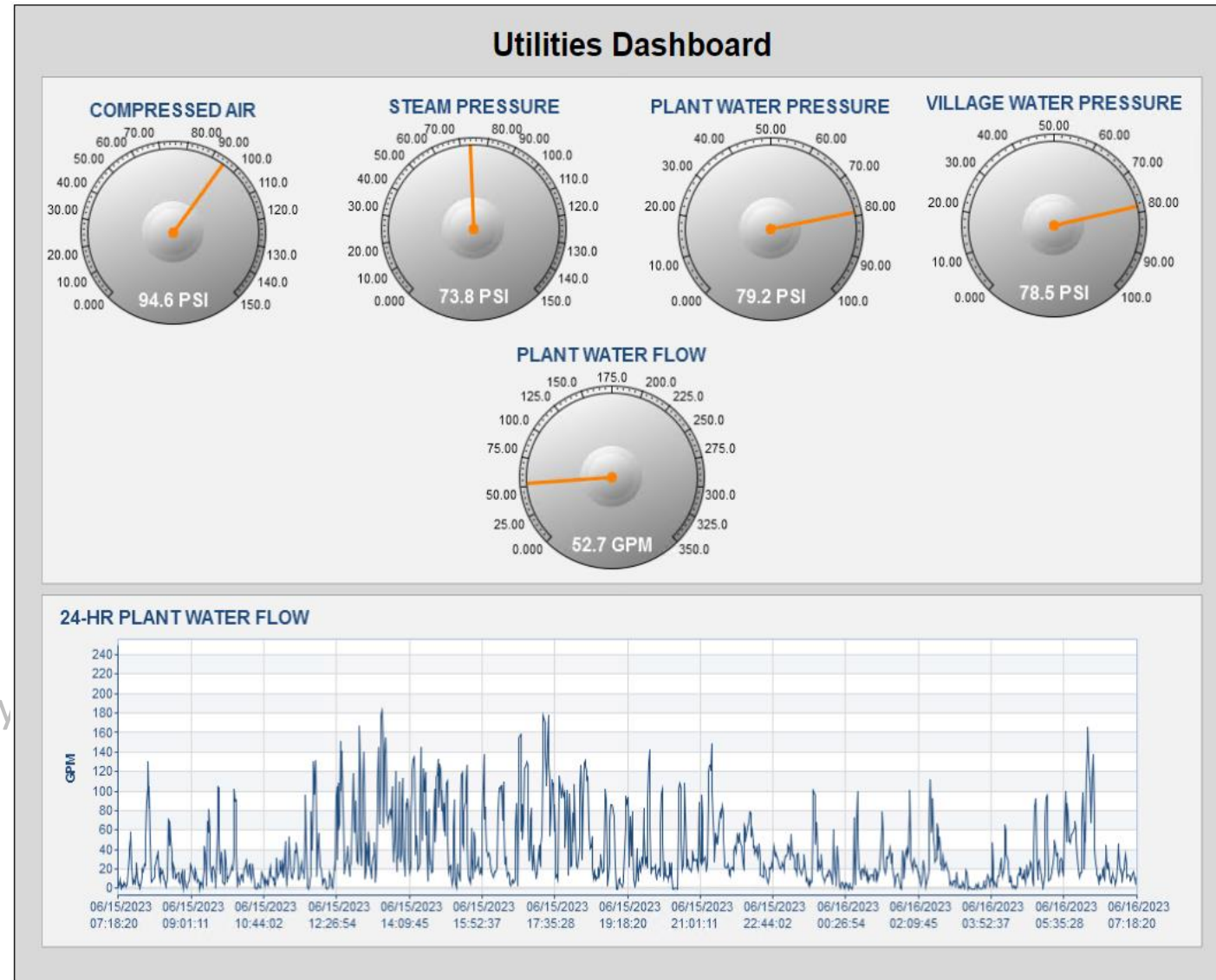
Report Analytics			
	Temp.	Humidity	Air Changes
Min:	64.3	33.4	6
Max:	75.5	45.5	44

Report Created on 09/22/2016 07:45:41 AM

1 of 2

Reports for Every Industry

- ❑ Batch & CIP reports
- ❑ Alarm and Event reporting and analysis
- ❑ Energy accounting and reporting
- ❑ Equipment performance and utilization reports & dashboards
- ❑ SPC - Statistical Process Control
- ❑ Environmental compliance reports – water, CEM, air quality
- ❑ Building management reporting
- ❑ Plant Utilities



Reports for Every Industry

- ❑ Batch & CIP reports
- ❑ Alarm and Event reporting and analysis
- ❑ Energy accounting and reporting
- ❑ Equipment performance and utilization reports & dashboards
- ❑ SPC - Statistical Process Control
- ❑ Environmental compliance reports – water, CEM, air quality, etc.
- ❑ Building management reporting
- ❑ Plant Utilities
- ❑ And more...!

Home Connectivity Project Web Elements Tools Runtime SPC Custom Objects Dashboard

Clipboard Copy Paste Cut Report template Page template Insert New Page Project

Font Arial (European) 10 Text Alignment Drawing Alignment Rulers and Grid

Report Designer Studio Logger Studio

List of Reports

- Project Reports List
 - 1-Welcome-Demo
 - Alarm Reports
 - Batch reports
 - Demo Reports
 - Ad Hoc Trend
 - Energy Profile Compar
 - Line 1-3 Dashboard
 - Monthly Pumpage Re
 - OEE Dashboard
 - Oil and Gas Report
 - Oven Temperature Zor
 - Pump Runtime Analys
 - Pump Station Daily Re
 - Report Production
 - ReportInfo
 - Sales KPI Report
 - SPC Report - Tube Thi
 - Web Widgets
 - OEE, Performance and Ma

Communication Configuration Wizard

Select Data Source Type

- Arc Informatique
- Aspentech
- AVEVA**
- Citect
- Emerson
- Eurotherm
- General Electric
- Geo SCADA
- InduSoft
- Internal
- Loytec
- Mitsubishi
- Open communication protocols
- OSIsoft
- Remote
- Rockwell Automation
- Schneider
- Siemens
- StreamX for ACC
- Trihedral
- Wizcon
- YOKOGAWA

Configure driver for selected source

Driver Logical Name

Driver user description

Configure

Defined Drivers List

- Driver Logical Name
- AF_DA
- AF_HDA
- AVEVA_WORLD
- Adv_Alarms
- Alarm_Logs
- BatchData
- Buildings
- DailyProfile
- Demo_Data
- DreamReport
- Energy
- Event_Logs
- Hist_1mCyclic
- Hist_1sCyclic

Description Provides access to AVEVA Historian via SQL Server

Driver connection string:

Use values with all qualities

Export to XML Import from ...

OK Cancel Show this Wizard on creating new project

Call to Action

Download AVEVA Reports...

<https://softwaresupportsp.aveva.com/#/producthub>

The screenshot shows the AVEVA software support portal interface. At the top, the AVEVA logo is displayed on the left, and navigation icons (home, user, mail, @, person, help) are on the right. Below the header is a search bar with a dropdown menu set to 'All' and a search icon. The main content area features a section titled 'AVEVA Reports for Operations' with a sub-section for 'Version 2023' and 'Release Date 21 Oct 2022'. Below this is a table listing two download files.

File Name	File Type	Size	Hash
AVEVA_ReportsOperations_2023.iso	ISO	1.33 GB	SHA1 : 490D2DA7D39140C3E5F0C5069DB5643E015FF7DA SHA256 : 1862157C811AA673DDEEE8492C4DBCF47A33AA57527A83D5CA0CCE847DB843FC MD5 : 4076F21C378D57401DE9C54935FBD0D5
AVEVA_ReportsOperations_2023.zip	ZIP	1.32 GB	SHA1 : 13BF4B4AA5F7E1B1E28470C0D2604E2E12FE7FFD SHA256 : 400E7D46E99A96EC5F08BF7C82189917AAE54892FB3A467E23F73826FBDD95F7 MD5 : 4C3E3139F4F3BB91A7FD058F5116DA6A

And maximize the ROI on your
Automation Infrastructure
with
Insightful Reports & Dashboards

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!

This presentation may include predictions, estimates, intentions, beliefs and other statements that are or may be construed as being forward-looking. While these forward-looking statements represent our current judgment on what the future holds, they are subject to risks and uncertainties that could result in actual outcomes differing materially from those projected in these statements. No statement contained herein constitutes a commitment by AVEVA to perform any particular action or to deliver any particular product or product features. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect our opinions only as of the date of this presentation.

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.

 [linkedin.com/company/aveva](https://www.linkedin.com/company/aveva)

 [@avevagroup](https://twitter.com/avevagroup)

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.

Learn more at www.aveva.com