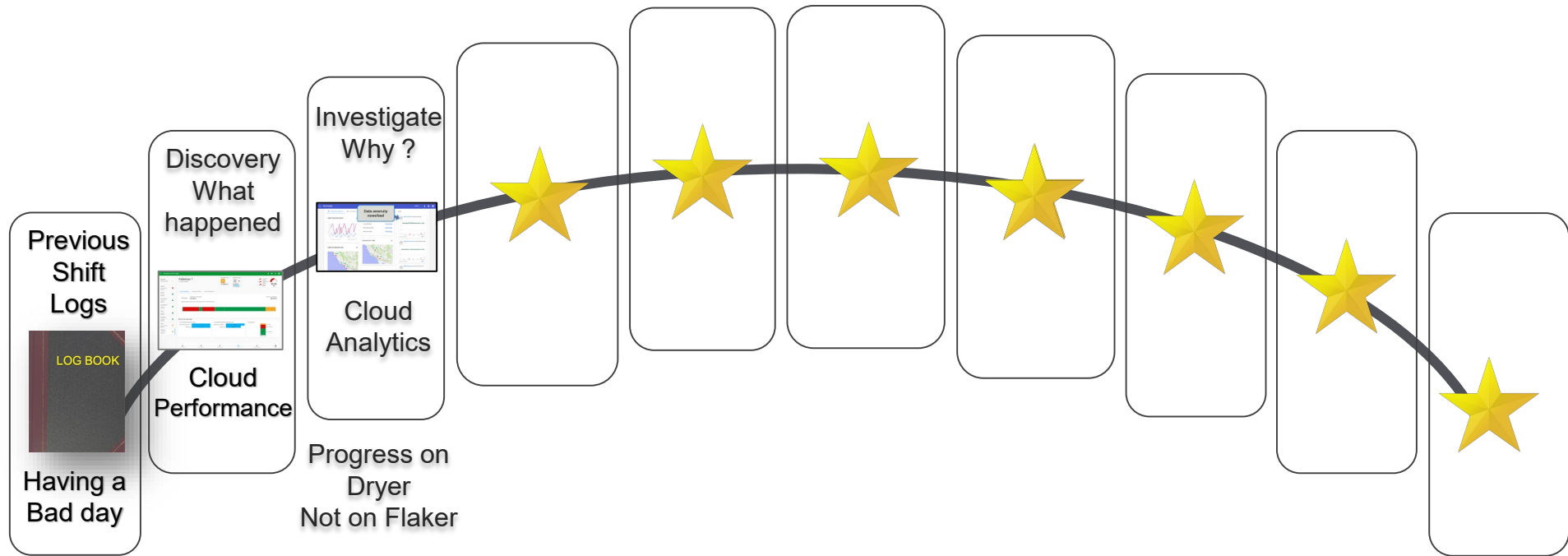
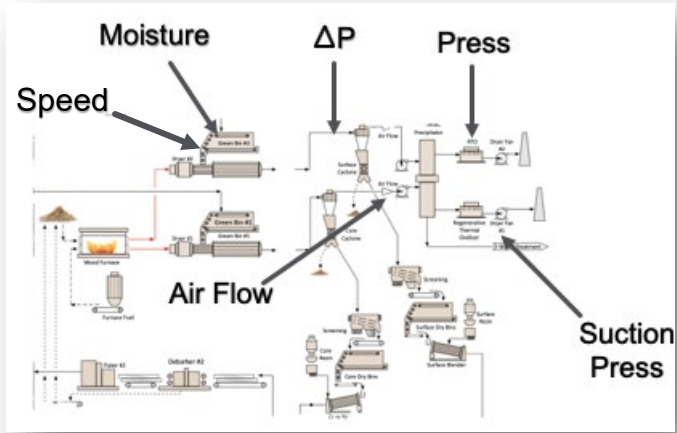


Our journey today – the cadence of the shift

Steps toward being more Digitized



Drive actions based on predictable rules



1

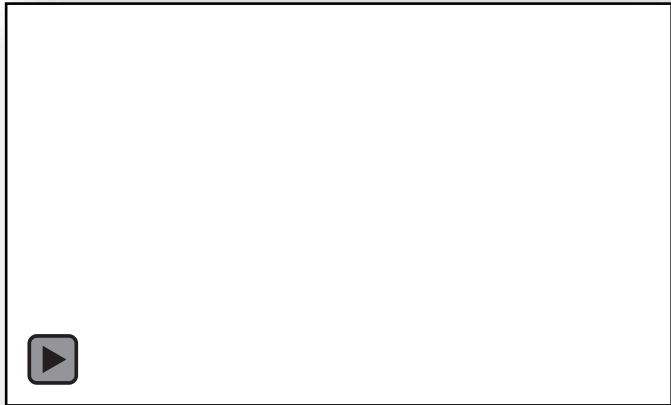
Insight reveals patterns that could be used to predict plugs

2

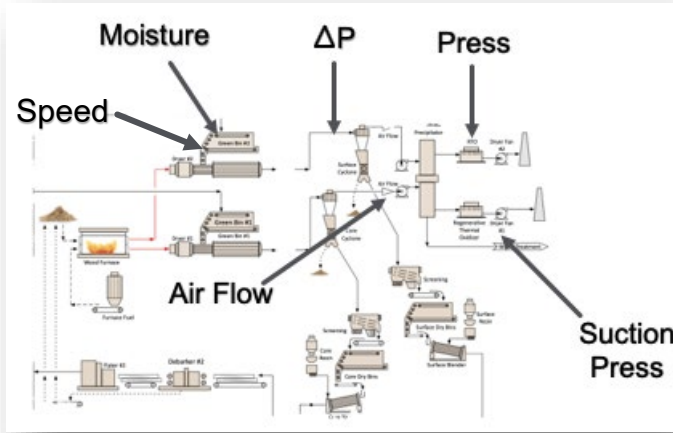
No way to drive actions and workorders for those conditions

3

Our automation systems don't interface to our CMMS to accommodate this.



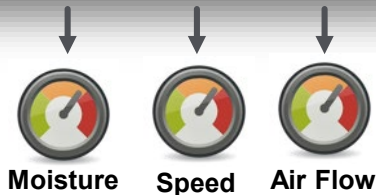
How we're addressing the issue



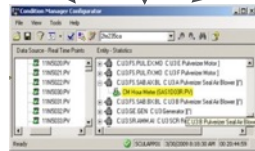
1 A system to build conditional logic that traps for predetermined conditions

2 Send work order directly to our CMMS for resolution before plugging

3 Notify me and others via email of the conditions



Single or multi-variable



Logic



CMMS



Corrective Maintenance



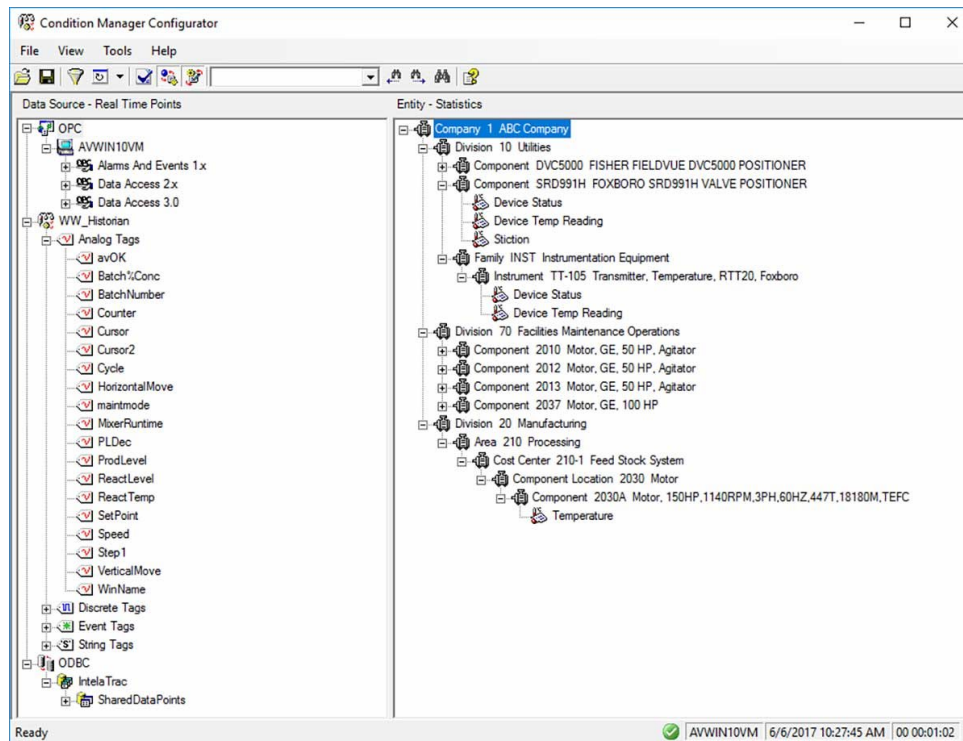
Cloud

Lets take a look



Industry 4.0

Driving Operational Results Through Digitization



1:15A STARTED Clean up @ Green end.
1:30 Core Flaker high vibration ALARM. Called MAINT.
1:30 Core Dryer plug. ALL STOP. Called MAINT.
2:10A Purge Core Dryer. Too many Flakes to purge. More necessary.
2:22A Core Cyclone Clean up.
2:50A Core Dryer BACK online (Down 1:20min).
3:16A Lost environmental. DATA. Called Automation Team.
3:20A Surface Debriker Jam, Removed obstruction / Restarted
3:28A Wellons Furnace Low Temp Alarm: Reset
3:36A Flaker high vibration Alarm. Reset & Called MAINT.

UNPLANNED DT

Equipment Failure



4/15/2019 1:29:35 am

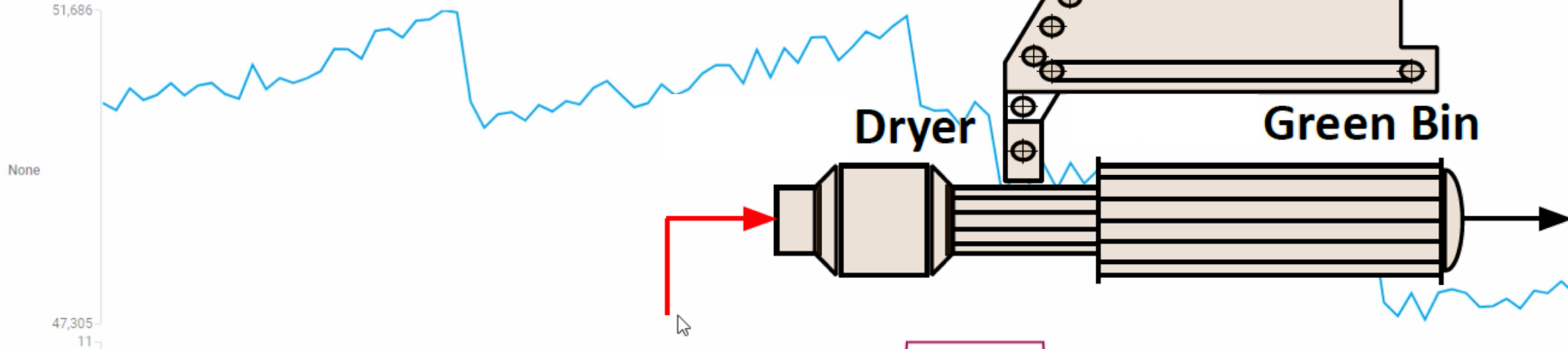
01:17:42

contn. RTO's OK but no DATA
of Belt. No Problems discovered
Core Dryer. Greycon Activated
ed MAINT-
er will be down a while TAM predict
ated uptime TAM

6:55A Core Flaker back online.

Mixed data

< 4/8/2019 12:47:56 am - 4/11/2019 5:04:44 pm >



Detection Rule:

Green Bin speed ≥ 8 inches/min
AND
Airflow In $\geq 48,000$ CFM
AND
Airflow Out $\leq 45,000$ CFM



AirOutflow (None)

Greenbin_LiveBottomSpeed (None)

Lets take a look



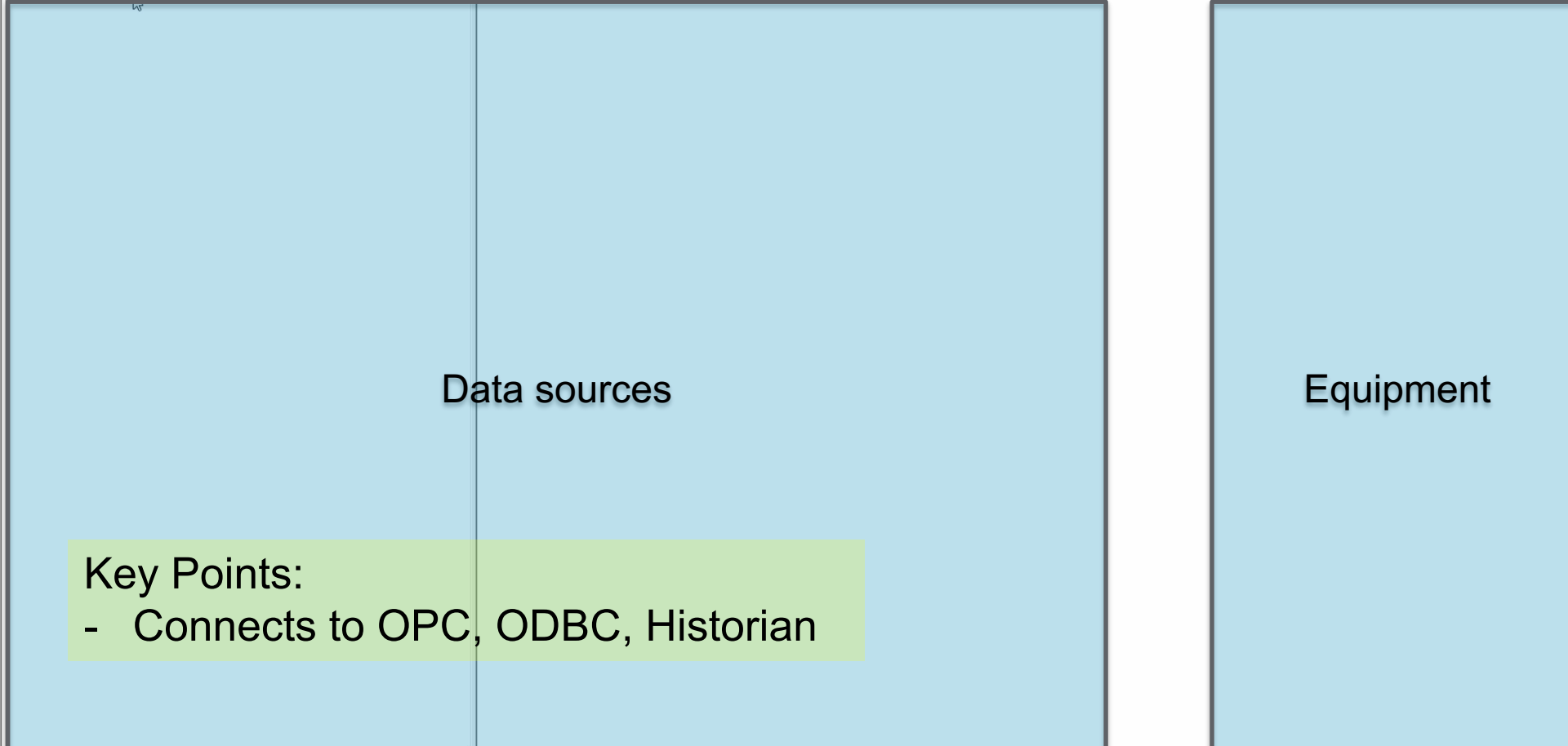
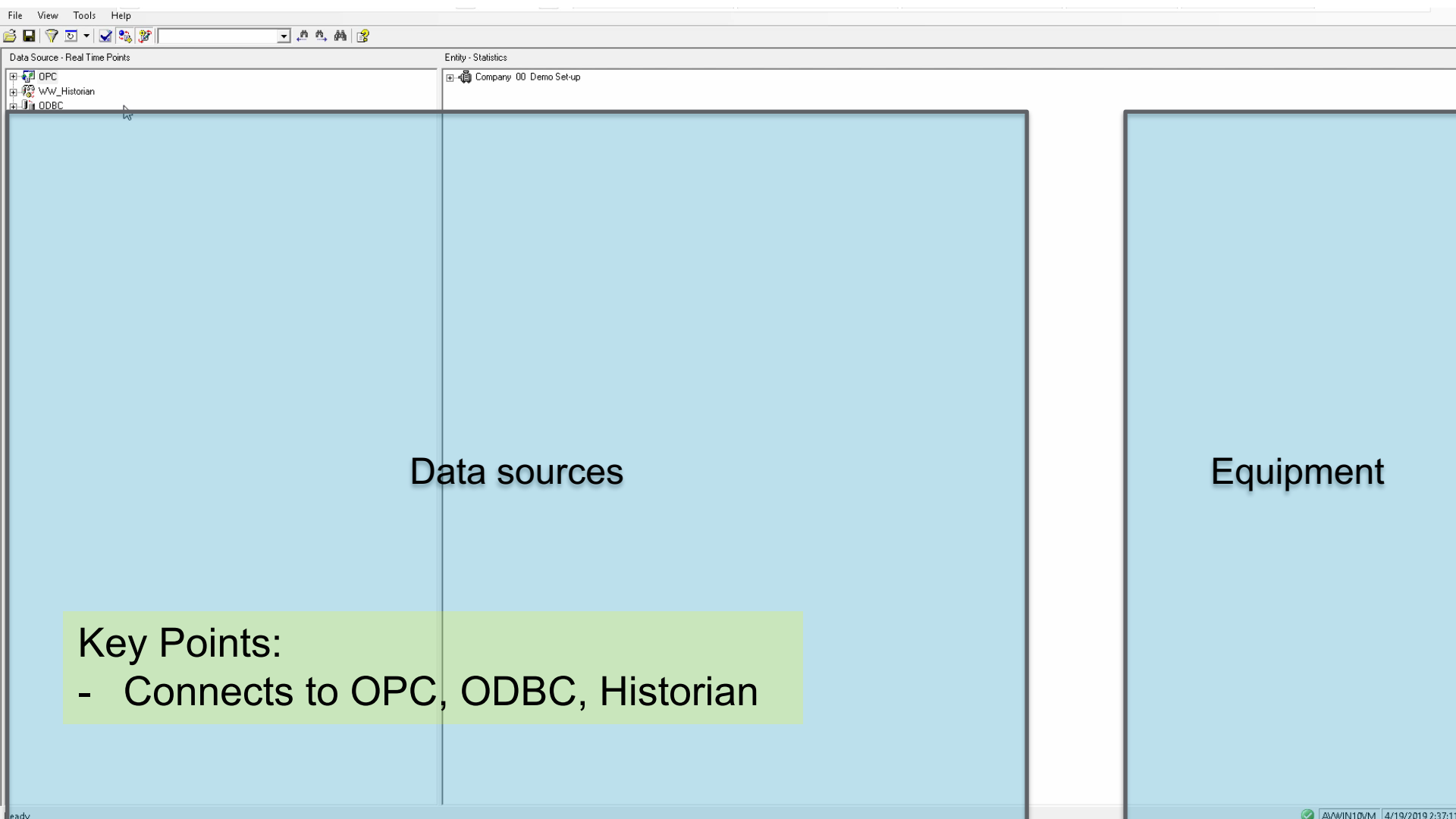
Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2

Quickly configure rules



Data sources

Equipment

Key Points:
- Connects to OPC, ODBC, Historian

Data Source - Real Time Points
Entity - Statistics

The left tree view shows the following structure:

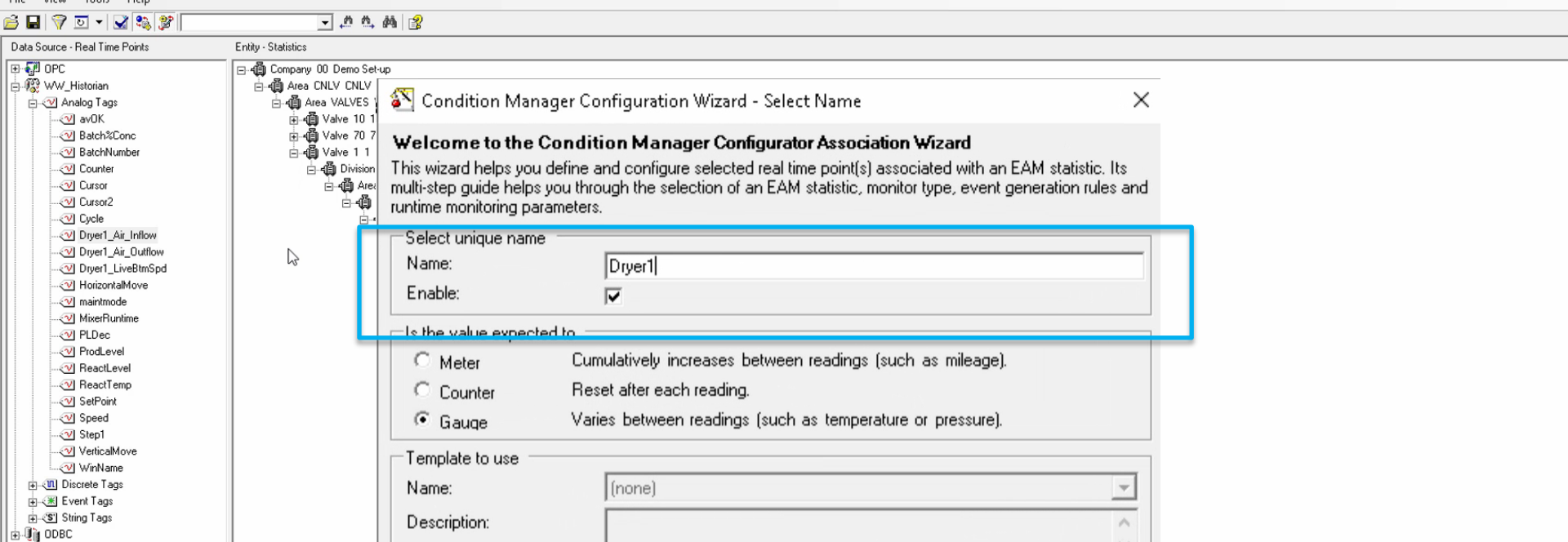
- DPC
 - WW_Historian
 - Analog Tags
 - avOK
 - Batch%Conc
 - BatchNumber
 - Counter
 - Cursor
 - Cursor2
 - Cycle
 - Dryer1_Air_Inflow
 - Dryer1_Air_Outflow
 - Dryer1_LiveBtmSpd
 - HorizontalMove
 - maintmode
 - MixerRuntime
 - PLDec
 - ProdLevel
 - ReactLevel
 - ReactTemp
 - SetPoint
 - Speed
 - Step1
 - VerticalMove
 - WintName
 - Discrete Tags
 - Event Tags
 - String Tags
 - ODBC

The right tree view shows the following structure:

- Company 00 Demo Set-up
 - Area CNLV CNLV
 - Area VALVES VALVES
 - Valve 10 10
 - Valve 70 70
 - Valve 1 1
 - Division 20 Manufacturing
 - Area 210 Processing
 - Cost Centre 210-1 Feed Stock System
 - Component Location 2030 Motor
 - Component 2030A Motor, CEM2555T, 100HP, 1780RPM, 3PH, 60HZ, 404TC, 4484M, 0PSB

Key Points:

- Drag the datapoints involved in the rule onto the piece of equipment



Steps to build rule:
1) Give it a name

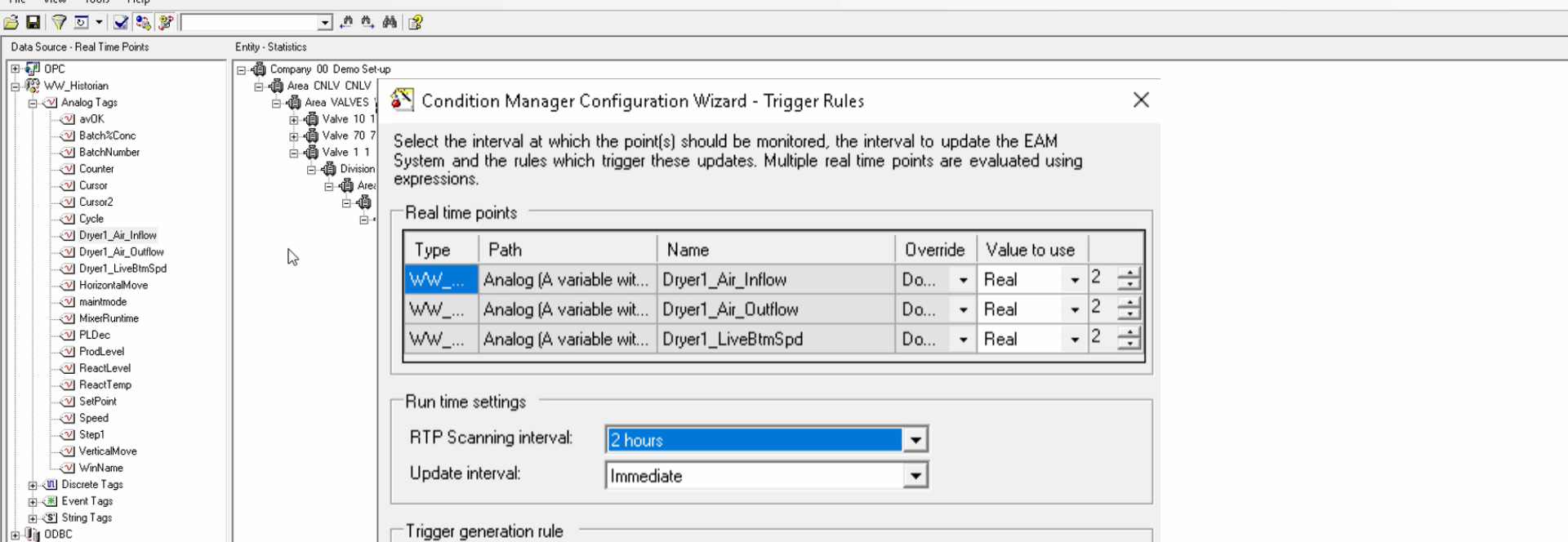
Step 1 of 5

<Back

Next>

Cancel

Finish



Steps to build rule:

- 1) Give it a name
- 2) Enter the formula

Step 3 of 5

<Back

Next>

Cancel

Finish

- OPC
- WW_Historian
- Analog Tags
 - avOK
 - Batch%Conc
 - BatchNumber
 - Counter
 - Cursor
 - Cursor2
 - Cycle
 - Dryer1_Air_Inflow
 - Dryer1_Air_Outflow
 - Dryer1_LiveBtmSpd
 - HorizontalMove
 - mainmode
 - MixerRuntime
 - PLDec
 - ProdLevel
 - ReactLevel
 - ReactTemp
 - SetPoint
 - Speed
 - Step1
 - VerticalMove
 - WinName
- Discrete Tags
- Event Tags
- String Tags
- ODBC

- Company 00 Demo Set-up
 - Area CNLV CNLV
 - Area VALVES
 - Valve 10 1
 - Valve 70 7
 - Valve 1 1
 - Division
 - Area

Condition Manager Configuration Wizard - Simple Expressions Trigger Properties

Specify the run time limits for the condition monitoring of the selected real time point(s), if required. Then select the operation that should be applied on the set of collected data to calculate a value that will be used in the generated statistic.

Simple expression(s)

Real Time Point	Operator	Value	Operator	Value
Dryer1_Air_Inflow	=			
Dryer1_Air_Outflow	=			
Dryer1_LiveBtmSpd	=			

Value rule

Rule name: (Select A Value) 1

Real time point: Dryer1_Air_Inflow

Expression name: (Select A Value) *fx*

i In a Simple Expressions trigger rule, a statistic is created whenever a collected numeric value satisfies any of the defined expression(s) (unless Generate Normal Statistics is selected). Additional actions are included with the statistics if all expressions are satisfied. The 'In' operator expects 'I' delimited values. Binary (e.g. 0b110010100011), octal (e.g. 0o6243), hex (e.g. 0x0CA3) or decimal (e.g. 3235) values may be used for numeric operands.

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2

Quickly configure rules



Trigger useful responses

- OPC
- WW_Historian
- Analog Tags
 - avOK
 - Batch%Conc
 - BatchNumber
 - Counter
 - Cursor
 - Cursor2
 - Cycle
 - Dryer1_Air_Inflow
 - Dryer1_Air_Outflow
 - Dryer1_LiveBtmSpd
 - HorizontalMove
 - maintmode
 - MixerRuntime
 - PLDec
 - ProdLevel
 - ReactLevel
 - ReactTemp
 - SetPoint
 - Speed
 - Step1
 - VerticalMove
 - WinName
- Discrete Tags
- Event Tags
- String Tags
- ODBC

- Company 00 Demo S...
- Area CNLV CNLV
 - Area VALVES
 - Valve 10
 - Valve 70
 - Valve 1 1
 - Division
 - Area

Condition Manager Configuration Wizard - Action Properties

Specify the activities to perform when an action state has been triggered. The same information will be used in all actions to provide context.

Work order/Work request

None Template: [Select A Value] Description: []

Work Order

Work Request

No Standing Work

Equipment activity record

Generate Template: [Select A Value] Description: []

ASB events

Raise events

Email alert

Email alert Address: [] Subject: [] Description: []

Reissue Interval

Interval: [5 minutes]

- OPC
- WW_Historian
 - Analog Tags
 - avOK
 - Batch%Conc
 - BatchNumber
 - Counter
 - Cursor
 - Cursor2
 - Cycle
 - Dryer1_Air_Inflow
 - Dryer1_Air_Outflow
 - Dryer1_LiveBtmSpd
 - HorizontalMove
 - maintmode
 - MixerRuntime
 - PLDec
 - ProdLevel
 - ReactLevel
 - ReactTemp
 - SetPoint
 - Speed
 - Step1
 - VerticalMove
 - WinName
 - Discrete Tags
 - Event Tags
 - String Tags
- ODBC

- Company 00 Demo S...
- Area CNLV CNLV
 - Area VALVES
 - Valve 10
 - Valve 70
 - Valve 1 1
 - Division
 - Area

Condition Manager Configuration Wizard - Action Properties

Specify the activities to perform when an action state has been triggered. The same information will be used in all actions to provide context.

Work order/Work request

None Template: [Select A Value] Description: []

Work Order

Work Request

No Standing Work

Equipment activity record

Generate Template: [Select A Value] Description: []

ASB events

Raise events

Email alert

Email alert Address: [] Subject: [] Description: []

Reissue interval

Interval: 5 minutes

Data Source - Real Time Points

- OPC
- WW_Historian
 - Analog Tags
 - avOK
 - Batch%Conc
 - BatchNumber
 - Counter
 - Cursor
 - Cursor2
 - Cycle
 - Dryer1_Air_Inflow
 - Dryer1_Air_Outflow
 - Dryer1_LiveBtmSpd
 - HorizontalMove
 - maintmode
 - MixerRuntime
 - PLDec
 - ProdLevel
 - ReactLevel
 - ReactTemp
 - SetPoint
 - Speed
 - Step1
 - VerticalMove
 - WinName
 - Discrete Tags
 - Event Tags
 - String Tags
- ODBC

Entity - Statistics

- Company 00 Demo S
- Area CNLV CNLV
 - Area VALVES
 - Valve 10
 - Valve 70
 - Valve 1 1
 - Division
 - Area

Condition Manager Configuration Wizard - Action Properties

Specify the activities to perform when an action state has been triggered. The same information will be used in all actions to provide context.

Work order/Work request

None Template: [Select A Value] Description: []

Work Order

Work Request

No Standing Work

Equipment activity record

Generate Template: [Select A Value] Description: []

ASB events

Raise events

Email alert

Email alert Address: [] Subject: [] Description: []

Reissue Interval

Interval: [5 minutes]

- OPC
- WW_Historian
- Analog Tags
 - avOK
 - Batch%Conc
 - BatchNumber
 - Counter
 - Cursor
 - Cursor2
 - Cycle
 - Dryer1_Air_Inflow
 - Dryer1_Air_Outflow
 - Dryer1_LiveBtmSpd
 - HorizontalMove
 - maintmode
 - MixerRuntime
 - PLDec
 - ProdLevel
 - ReactLevel
 - ReactTemp
 - SetPoint
 - Speed
 - Step1
 - VerticalMove
 - WinName
- Discrete Tags
- Event Tags
- String Tags
- ODBC

Condition Manager Configuration Wizard - Action Properties

Specify the activities to perform when an action state has been triggered. The same information will be used in all actions to provide context.

Work order/Work request

None Template: [Select A Value] Description: []

Work Order

Work Request

No Standing Work

Equipment activity record

Generate Template: [Select A Value] Description: []

ASB events

Raise events

Email alert

Email alert Address: [] Subject: [] Description: []

Reissue Interval

Interval: [5 minutes]

Step 5 of 5

<Back Next > Cancel Finish

Key points:
- It connects to our CMMS!

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2

Quickly configure rules



Trigger useful responses

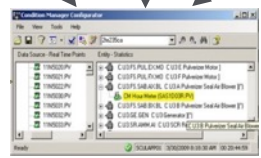
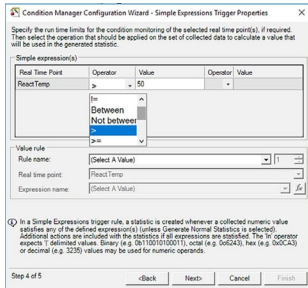


Summary – Digitize w/ Real time Condition Maintenance

Condition Manager

- Unplanned outages represent an average of 5% in lost production. Total impact is often much more significant.
- Over 25% of maintenance done today is unnecessary and can introduce additional failure risks

- 1 Reduces downtime by predicting failure from rules we determine
- 2 Reduce costs of unnecessary maintenance
- 3 Connects to our existing automation systems and Historian



Logic



Corrective Maintenance



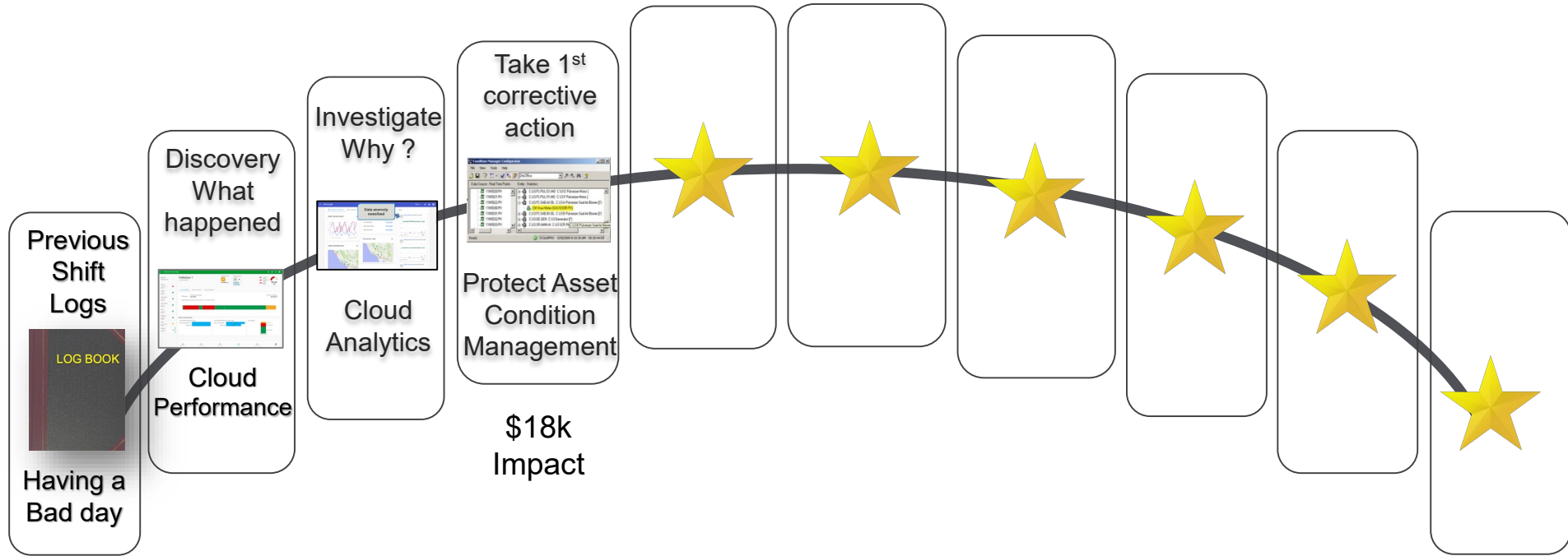
CMMS



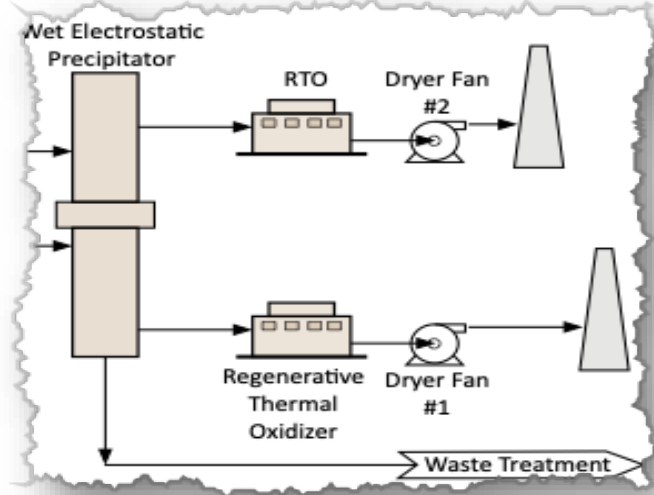
Cloud

Our journey today – the cadence of the shift

Steps toward being more Digitized



Monitor and manage industrial systems

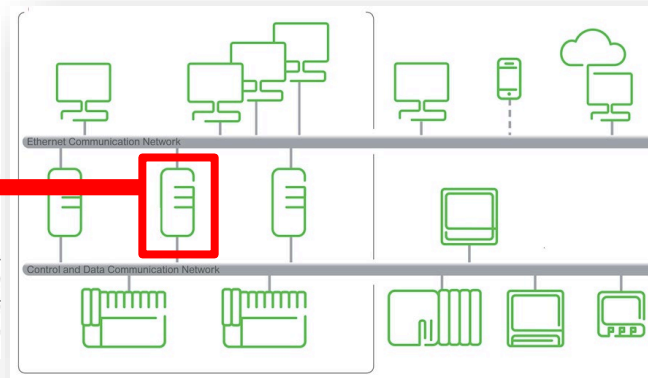


1 We've lost critical environmental data due to failures in server based systems

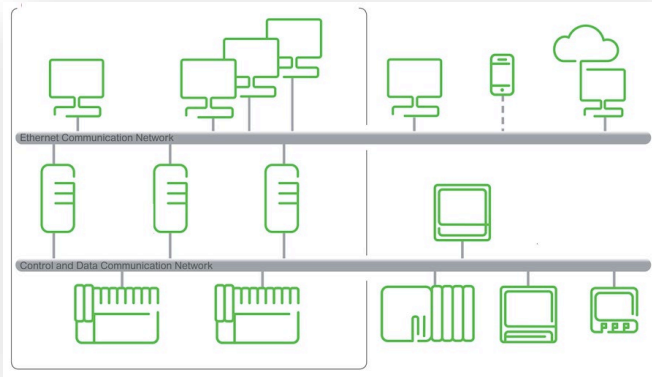
2 While this did not cause downtime, it caused us environmental excursions

3 An excursion may cause a loss of permit

- RTO F^o
- Air flow
- ESP DP
- Stack VOC
- NOX
- Stack F^o



How we're addressing the issue

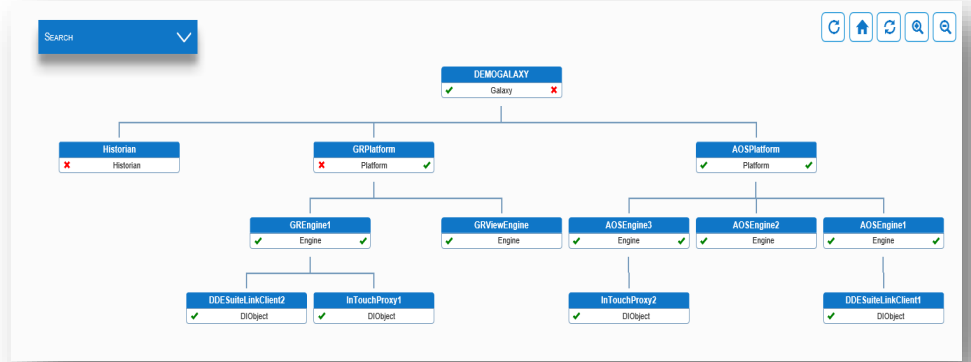


- 1 Prevent loss of critical IT system assets required to run the plant
- 2 Purpose built to monitor hardware, memory, drives, software, applications
- 3 Provide advanced notification of possible failures. Remote monitoring.



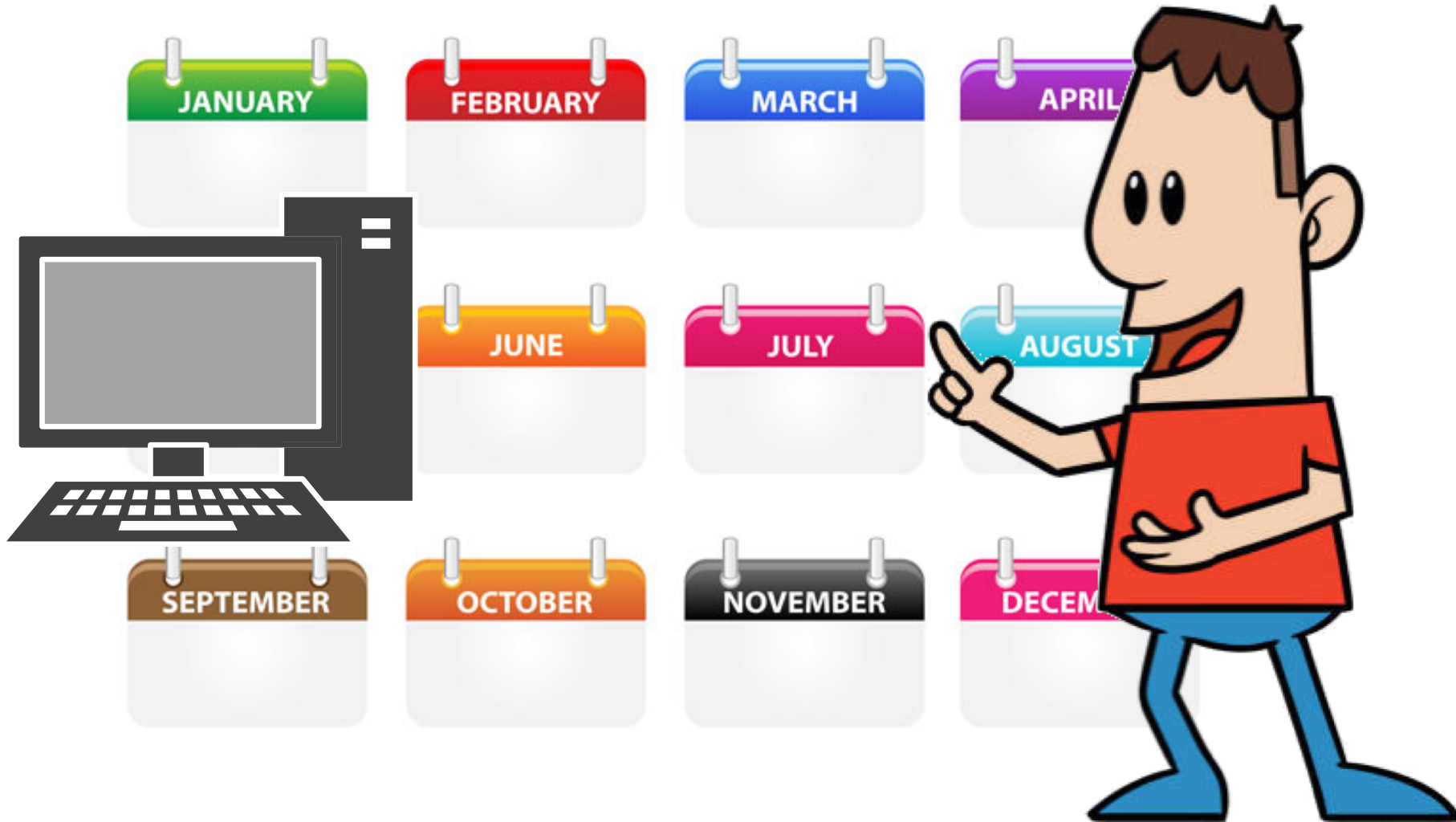
Outsourced

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**



JANUARY

FEBRUARY

MAR

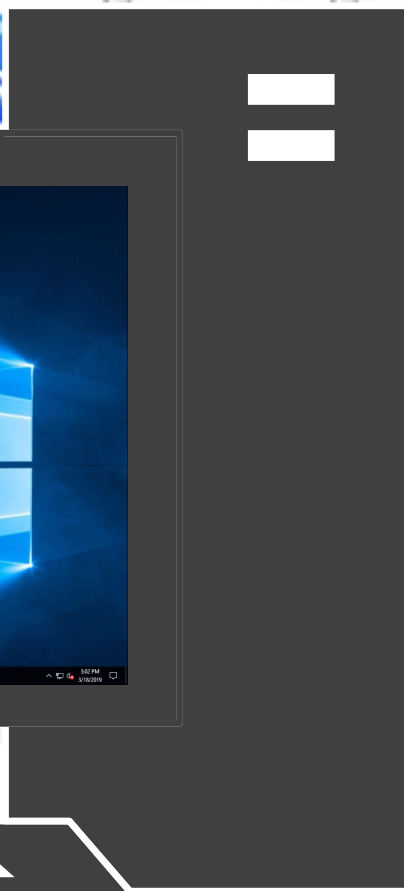
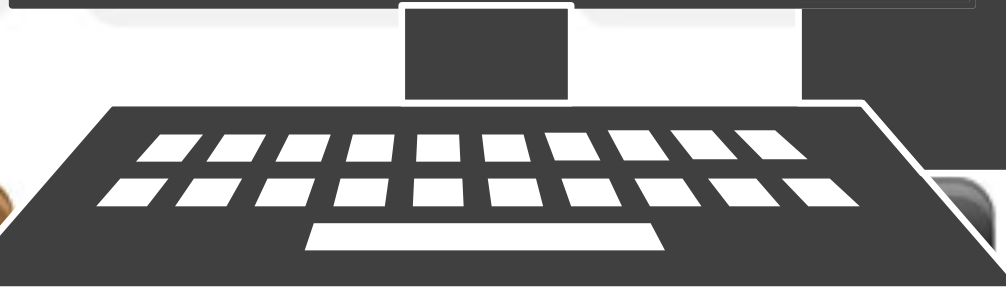
APRIL

MAY

AUGUST

SEPTEMBER

DECEMBER



3:16 p Lost environmental. Data. Called Automation Team.

3:20 p Surface Deflaker Jam, Removed obstruction / Restarted

3:28 p Wellou's Furnace Low Temp Alarm: Reset

3:36 p Flaker high vibration Alarm. Reset & Called Maint.

3:47 p Safety walk started.

3:46 p Still no environmental Data. RTO's ok but no Data

3:55 p Metal Defect on Feeding Belt. No Problems discovered.

4:01 p Multiple Fire Detects. on Core Dryer. Greycon Activated

4:15 p Core Flaker Down. Notified Maint.

4:40 p Maint notified us that Flaker is down a while. TAM predicted

5:00 p Flakers still Down. Proj 7 AM

6:55 p Core Flaker back online.

Production Goal 466, Actual 270

95.5 A Grade, 1.5 Shop

DT20.

7:08. Environmental data Back online.

Shift Handover.



Lets take a look



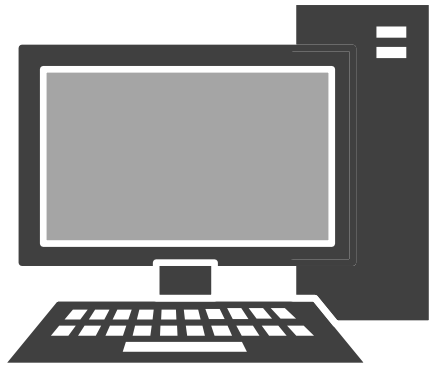
Industry 4.0

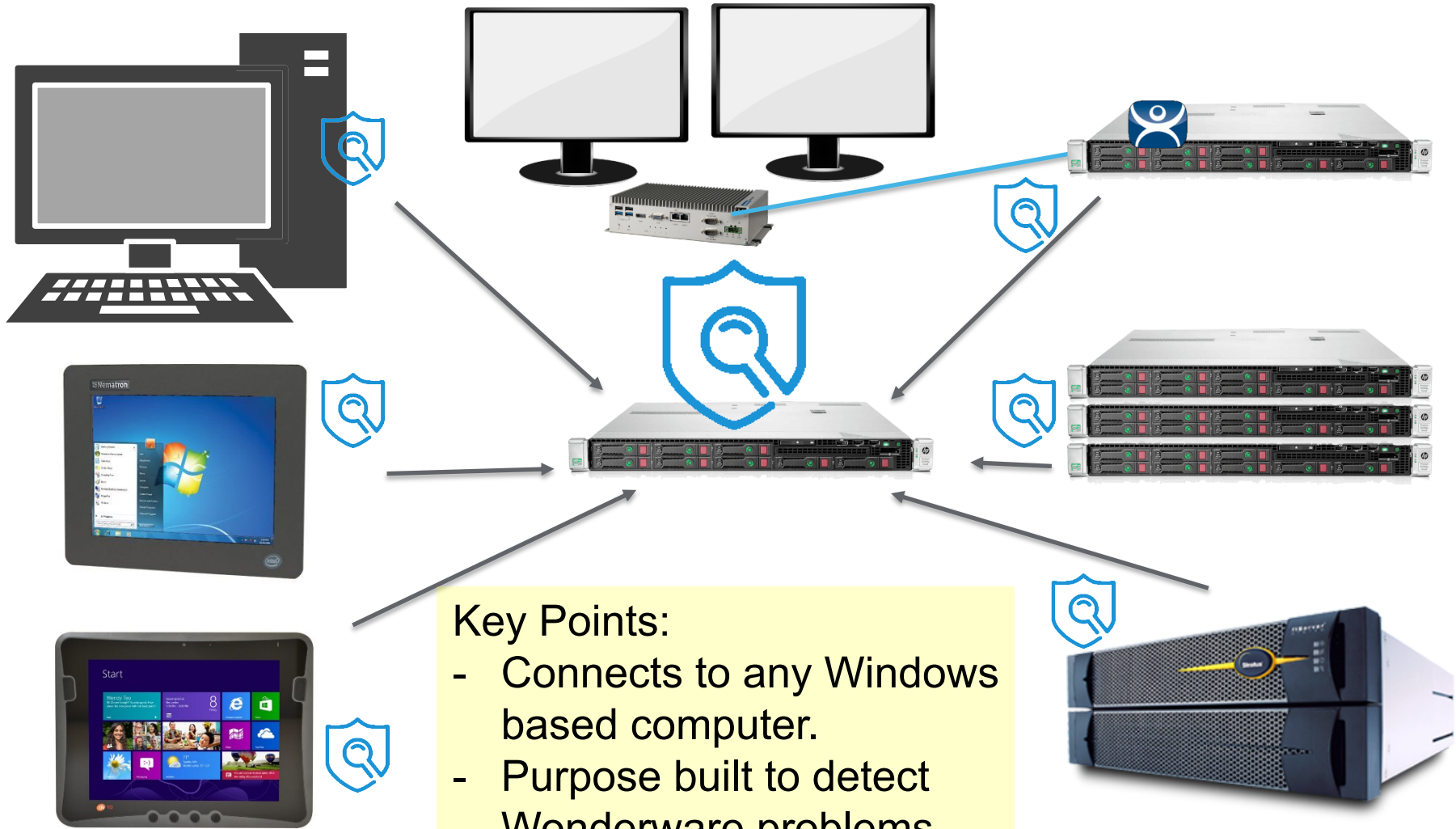
**Driving Operational Results
Through Digitization**

WISH LIST

1
2
3

Automatic monitoring of
industrial computers





Sentinel System Monitor

- Home
- Configuration
- Monitored Machines
- Rules Management
- Alerts
- Reports

Key Points:

Prebuilt dashboard shows alerts for:

- Wonderware specific problems
- Windows OS problems
- General computer health problems

Alert Summary

Total Active Alerts: 3

Total Monitored Machines: 3

0 Total Wonderware Alerts	0 Platform Alerts	0 Engine Alerts	0 Device Integration Alerts
0 Total Wonderware Services Alerts	0 Historian Alerts	0 MES Alerts	0 Galaxy Repository Alerts
0 Total Wonderware Event Log Alerts			
0 Total Windows Alerts	0 Windows Services Alerts	0 Windows Event Logs Alerts	
3 Total Computer Health Alerts	0 Logical Disk Alerts	0 Network Alerts	0 Physical Disk Alerts
	3 Processor Alerts	0 Per Processor Alerts	0 Server Alerts
	0 Terminal Services Alerts	0 SQL Server Alerts	0 Processor Information Alerts

Sentinel System Monitor

- Home
- Configuration
- Monitored Machines
- Rules Management
- Alerts
- Reports

Home

Home

Alert Summary



3
Total Active Alerts



3
Total Monitored Machines



0
Total Wonderware Alerts



0
Platform Alerts



0
Engine Alerts



0
Device Integration Alerts



0
Total Wonderware Services Alerts



0
Historian Alerts



0
MES Alerts



0
Galaxy Repository Alerts



0
Total Wonderware Event Log Alerts



0
Total Windows Alerts



0
Windows Services Alerts



0
Windows Event Logs Alerts



3
Total Computer Health Alerts



0
Logical Disk Alerts



0
Network Alerts



0
Physical Disk Alerts



3
Processor Alerts



0
Per Processor Alerts



0
Server Alerts



0
Terminal Services Alerts



0
SQL Server Alerts














0
Processor Information Alerts




Sentinel System Monitor











- Home
- Configuration
- Monitored Machines
- Rules Management
- Alerts
- Reports

Alert Summary

 3 Total Active Alerts	 3 Total Monitored Machines
---	--

 0 Total Wonderware Alerts	 0 Platform Alerts	 0 Engine Alerts	 0 Device Integration Alerts
 0 Total Wonderware Services Alerts	 0 Historian Alerts	 0 MES Alerts	 0 Galaxy Repository Alerts
 0 Total Wonderware Event Log Alerts			

 0 Total Windows Alerts	 0 Windows Services Alerts	 0 Windows Event Logs Alerts
--	---	---

 3 Total Computer Health Alerts	 0 Logical Disk Alerts	 0 Network Alerts	 0 Physical Disk Alerts
	 3 Processor Alerts	 0 Per Processor Alerts	 0 Server Alerts
	 0 Terminal Services Alerts	 0 SQL Server Alerts	 0 Processor Information Alerts

- Home
- Configuration
- Monitored Machines**
- Rules Management
- Alerts
- Reports

Home

Monitored Machines

Monitored Machines (Refresh to see when the last heart beat was received)

<input type="checkbox"/>	ID	Machine Name	IP Address	Agent Registration	Discovered Date	Agent Install Status	Agent Status	SAIM Status	Agent Version	Last Agent HeartBeat
<input type="checkbox"/>	3	envirocomm	192.168.117.144	Auto	03/18/2019 7:04:09 AM	Completed	Running	Running	1.1.000	03/18/2019 3:05:27 PM
<input type="checkbox"/>	2	dpsp2017u3	192.168.117.138	Auto	03/14/2019 9:17:05 AM	Completed	Running	Running	1.1.000	03/18/2019 3:05:23 PM
<input type="checkbox"/>	1	sentinel	192.168.117.142	Auto	03/14/2019 7:08:45 AM	Completed	Running	Running	1.1.000	03/18/2019 3:05:26 PM

 Rules Management >

 Alerts >

Galaxy Diagram

All Active Alerts (3)

Wonderware Alerts (0) >

Wonderware Services (0) >

Wonderware Event Log (0)

Windows Services (0)

Windows Event Logs (0)




Computer Health (3) >

SQL Table Monitoring (0)

Folders and Files (0)

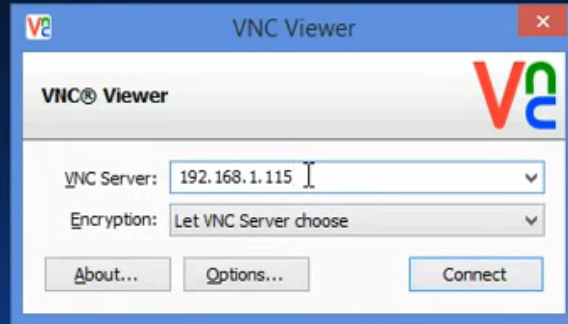
License Server Alerts (0)

Show: All 

<input type="checkbox"/>	Icon	Alert ID	Rule ID	Path	Source	
<input type="checkbox"/>		20032	35	EnviroComm	EnviroComm	(_Total) \Processor(*)\% Processor
<input type="checkbox"/>		20033	35	EnviroComm	EnviroComm	(0) \Processor(*)\% Processor Tim
<input type="checkbox"/>		20034	35	EnviroComm	EnviroComm	(1) \Processor(*)\% Processor Tim

Source	Name	Occurence Count	Age
EnviroComm	(_Total) \Processor(*)\% Processor Time	2	0 days, 0 hours, 6 m
EnviroComm	(0) \Processor(*)\% Processor Time	2	0 days, 0 hours, 6 m
EnviroComm	(1) \Processor(*)\% Processor Time	1	0 days, 0 hours, 5 m





Key Points:

- Video games are bad for production.

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2
3

Automatic monitoring of industrial computers



Ability to configure custom rules

- Home
- Configuration
- Monitored Machines
- Rules Management
 - Create a Rule
 - Rule Overview
- Alerts
- Reports

Rule Overview Manifest was last published to agents on Thursday, Mar 14, 2019 11:22:36 AM

Show: All Current Manifest Version: 4

ID	Rule Name	Category	SubCategory	Default DataProvider	Show
44	License Server Sam Service	Windows Services		Windows Service Data Provider	
43	License Server Core Service	Windows Services		Windows Service Data Provider	
42	License Server Agent Service	Windows Services		Windows Service Data Provider	
41	LMWebService	Windows Services		Windows Service Data Provider	
40	License Server in grace period	License Server Alerts		License Data Provider	
39	Unable to acquire a license	License Server Alerts		License Data Provider	
38	SMC Logger (Filter)	Wonderware Event Log		AZLog Data Provider	
37	Network Interface Ouput Queue Length	Computer Health	Network	Perfmon Data Provider	
36	Processor-PctInterruptTime	Computer Health	Processor	Perfmon Data Provider	
35	Processor-PctProcessorTime	Computer Health	Processor	Perfmon Data Provider	
34	Physical Disk-AvgDiskSecPerWrite	Computer Health	Physical Disk	Perfmon Data Provider	
33	Physical Disk-AvgDiskSecPerRead	Computer Health	Physical Disk	Perfmon Data Provider	
32	Physical Disk-PctFreeSpace	Computer Health	Physical Disk	Perfmon Data Provider	
31	LogicalDisk-PctFreeSpace	Computer Health	Logical Disk	Perfmon Data Provider	

Key Points:

- Add custom rules.
- Build a knowledge base over time.

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2
3

Automatic monitoring of industrial computers



Ability to configure custom rules



Notification before major problems

Sentinel System Monitor

- Home
- Configuration
- Monitored Machines
- Rules Management
- Alerts
- Reports

Home

Alert Summary

3 Total Active Alerts	3 Total Monitored Machines
---------------------------------	--------------------------------------

0 Total Wonderware Alerts	0 Platform Alerts	0 Engine Alerts	0 Device Integration Alerts
-------------------------------------	-----------------------------	---------------------------	---------------------------------------

0 Total Wonderware Services Alerts	0 Historian Alerts	0 MES Alerts	0 Galaxy Repository Alerts
--	------------------------------	------------------------	--------------------------------------

0 Total Wonderware Event Log Alerts

0 Total Windows Alerts	0 Windows Services Alerts	0 Windows Event Logs Alerts
----------------------------------	-------------------------------------	---------------------------------------

3 Total Computer Health Alerts	0 Logical Disk Alerts	0 Network Alerts	0 Physical Disk Alerts
--	---------------------------------	----------------------------	----------------------------------

100% Processor Alerts	0 Per Processor Alerts	0 Server Alerts
---------------------------------	----------------------------------	---------------------------

0 Terminal Services Alerts	0 SQL Server Alerts	0 Processor Information Alerts
--------------------------------------	-------------------------------	--

Key Points:
- Send emails internally, or to Tech Support.

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2
3

Automatic monitoring of industrial computers



Ability to configure custom rules

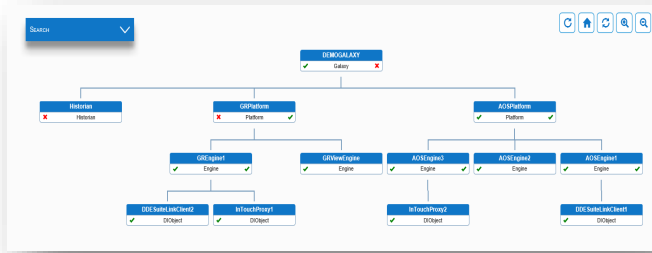


Notification before major problems



Summary – Digitize System Health

Sentinel System Monitor



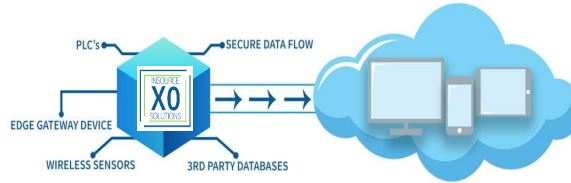
1 Purpose built, centralized monitoring of system health in a single application

2 Early detection of developing performance issues

3 OS, Bare metal, Disk, Memory, Platforms, Applications



ALERTS



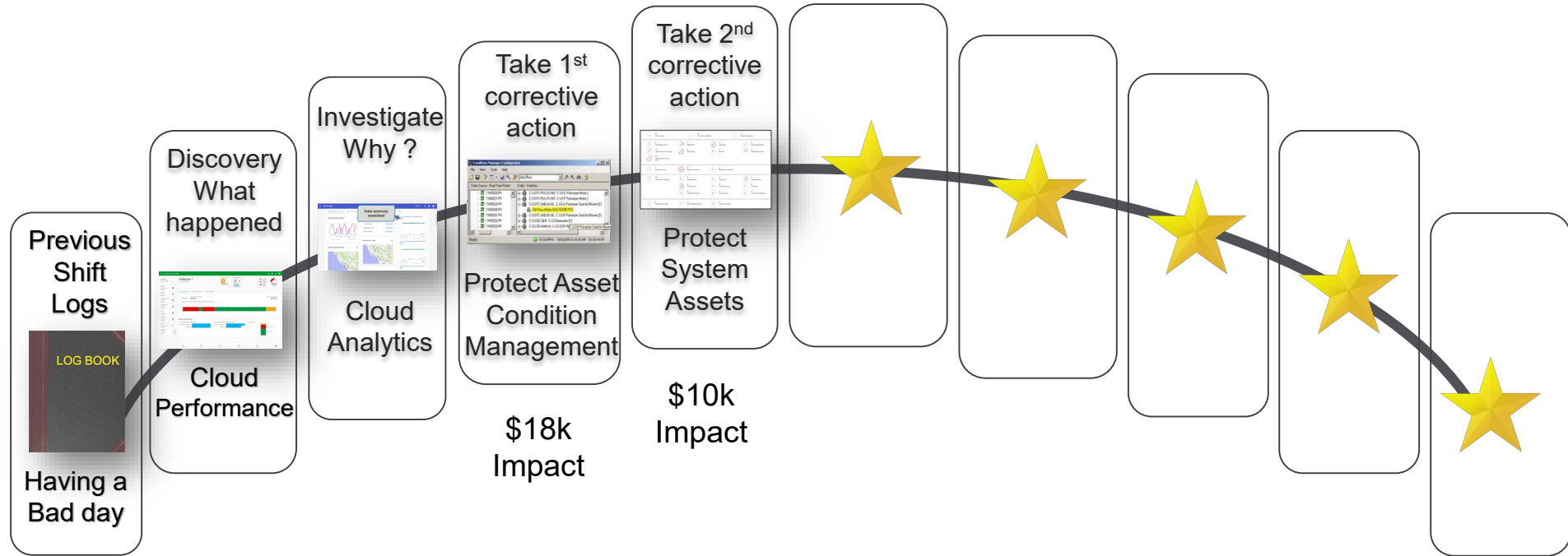
"POWERED BY AVEVA INSIGHT & MICROSOFT AZURE"



Ownership options: Subscription or Perpetual

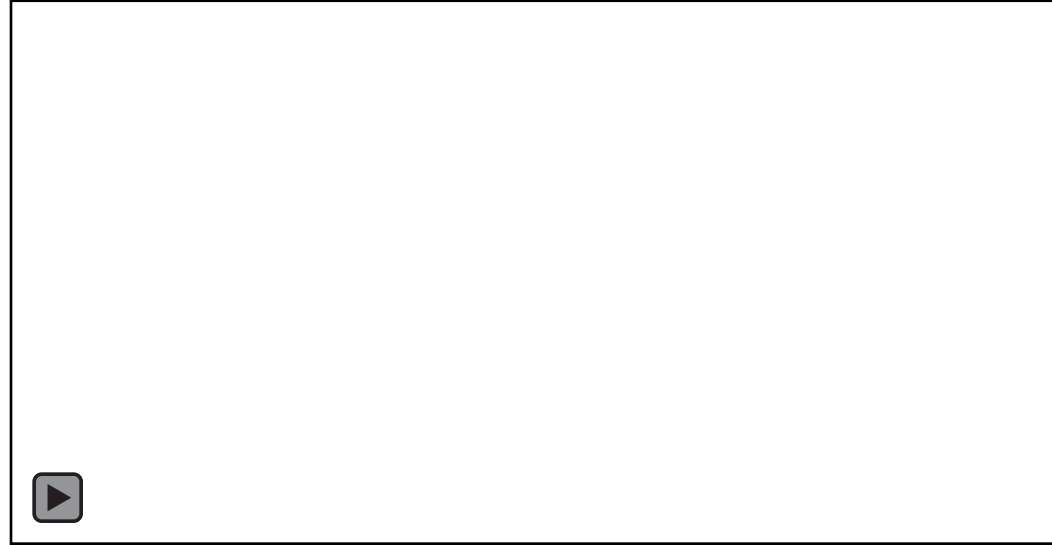
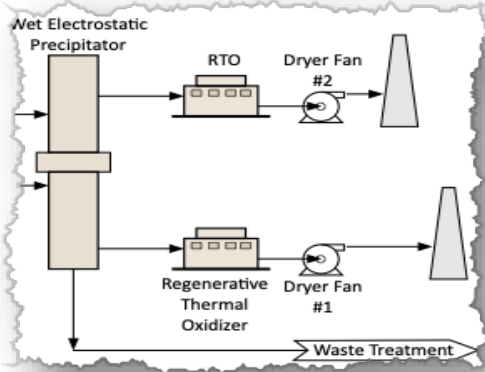
Our journey today – the cadence of the shift

Steps toward being more Digitized

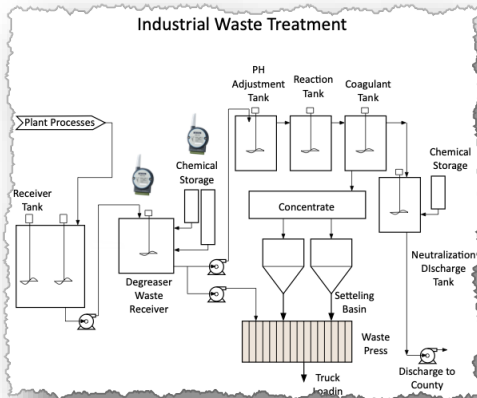


Remote HMI for Operations

Upgrade Old

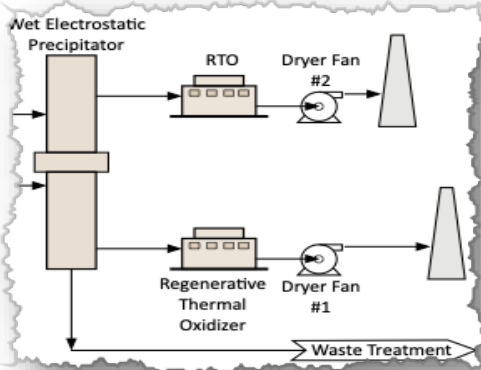


New Installation



How we're addressing the issue

Upgrade Old

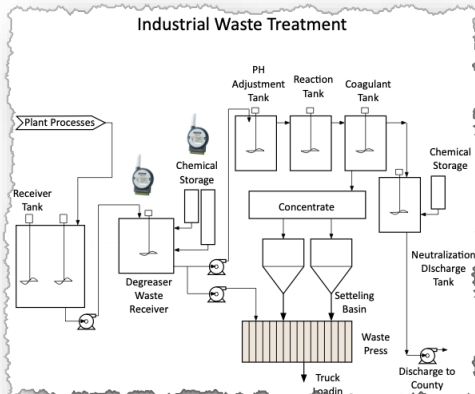


1 HMI platform that will facilitate the needs of Operations and Maintenance (Mobile)

2 Lower cost AND rich functionality that will convert existing PanelMate screens

3 Integrates to our existing and new controls, Historian, and Platforms

Install New



And yes,
mobile required



Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

Summary – Lower cost HMI | Mobile

InTouch Edge

Portability

Single, integrated development environment
 InTouch Edge HMI Development Station

Develop once, Deploy anywhere



SCADA: Full Runtime
 Windows 10 Windows 8 Windows 7 Windows Server 2016 Windows Server 2012 Windows Server 2008 R2



Full Feature HMI: EmbeddedView
 Windows Embedded Standard 7 Windows IoT Windows Embedded 8 Standard



Compact HMI: CEView
 Windows Embedded Compact



IoT Edge Solution: IoTView
 Linux VxWorks



1

Lower cost but very rich functionality

2

Automatically convert PanelView & FactoryTalk™ applications

3

Connects to everything (PLC's, Historian, Platforms)

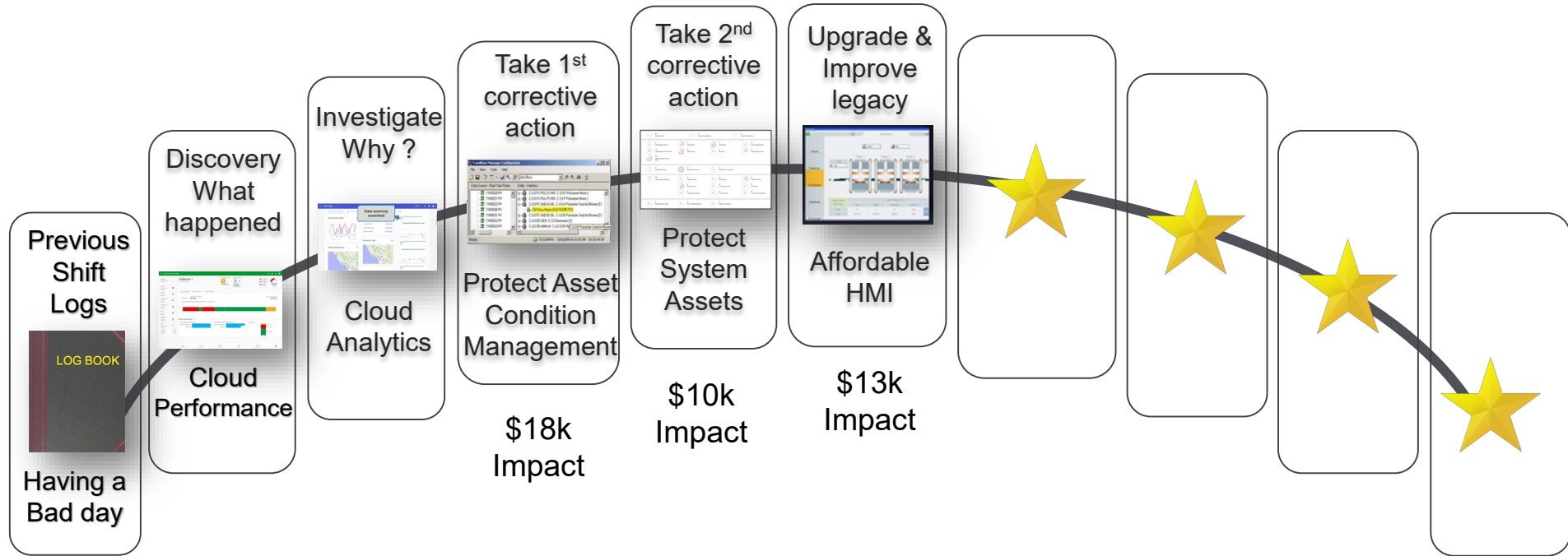
Native Mobile Apps for iOS (Apple Store) and Android (Google)

UNLIMITED Tags
 UNLIMITED Thin Clients
 DEV+RT
 All features included
 Simplex or Redundant

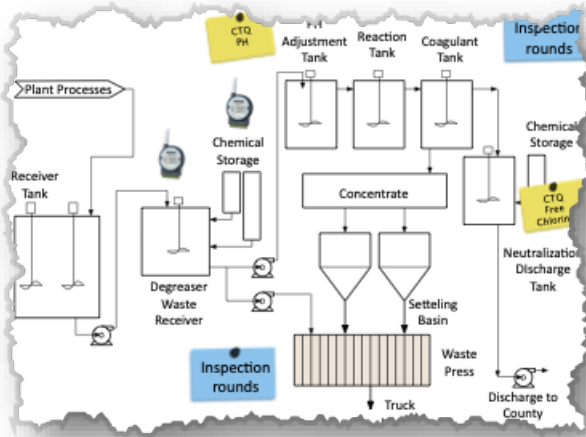


Our journey today – the cadence of the shift

Steps toward being more Digitized



Digitize Rounds – workforce optimization



- Operations
- Maintenance
- Safety

Receiver Pump



Write it down

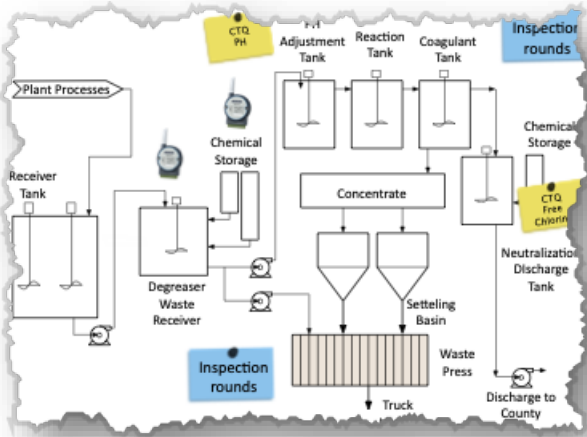


Collect it



Enter into Excel

How we're addressing the issue



1

Digitize more of our people activities.
Accurate, Complete, Searchable

2

Enforcement, Accountability, & Auditing
built in.

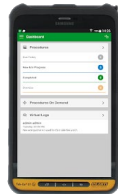
3

Mobile through wireless and non-wireless
areas.



- Operations
- Maintenance
- Safety

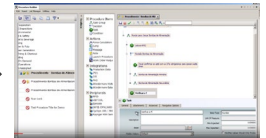
No Clipboard



Digital storage



Analytics

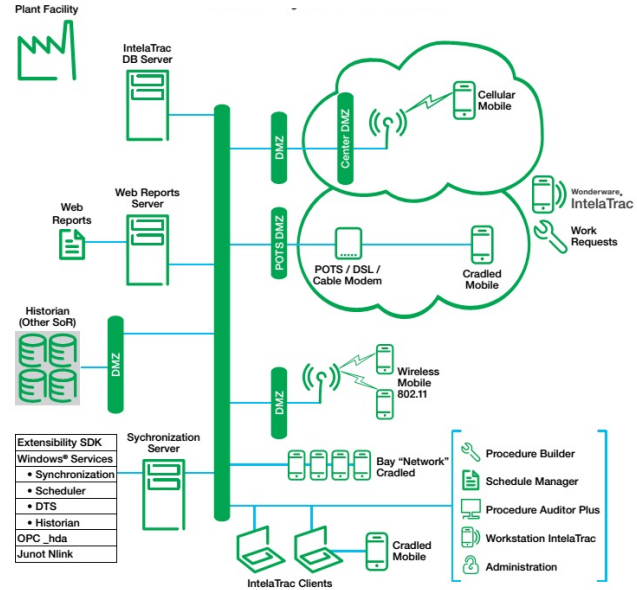


Lets take a look



Industry 4.0

Driving Operational Results
Through Digitization



11:30A Clean up work started.

11:42A Press Alarm, Low Thermal Oil, Adjusted setpoint

12:31A Refill Resin hopper. Truck Late.

12:31 Started inspection Rounds @ WWTP. Looking seal on Pump. Notified MAINT.

12:45 Moisture check on Flaker millfeed 1.19

12:48A Low Air Flow on

1:00A Sander Trip. M

1:15A Started Clean up

1:30 Core Flaker high

1:30 Core Dryer Plug

2:10A Purge Core Dryer

2:22A Core Cyclone Cle

2:50A Core Dryer Bac

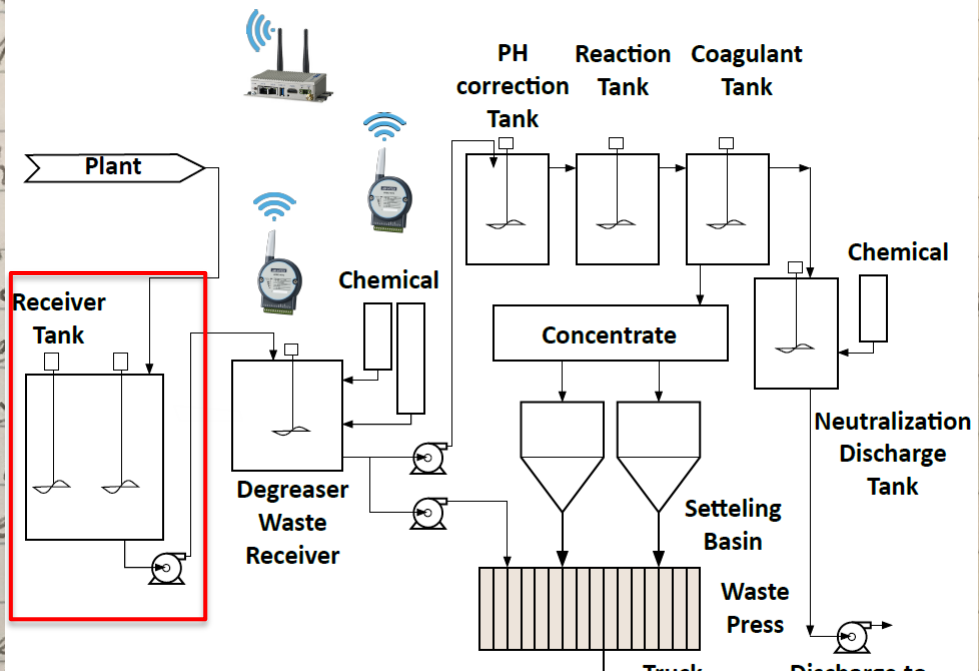
3:16A Lost environmen

3:20A Surface Debraker

3:28A Wellon's Furnace

3:36A Flaker high Vib

Industrial Waste Treatment



InSource Manufacturing

Operator: _____ Date: _____
Time: _____

Receiver

Pump:

Vibration Level:	Low	High	
Noise Level:	Low	High	
Seal Leaks:	No leak	Small Leak	Large Leak

Receiver

Tank:

Tank Leak:	No Leak	Leaking
Odor:	No odor	Has odor

Signature

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2
3

Replace paper inspection rounds

- Content Management
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
 - Workstation
 - Workstation IntelTrac
 - Review
 - Auditor Plus
 - Reporting
 - Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - ArchestrA Logger
 - Change Password
 - Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
 - Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Procedure Builder

Board Pressing

Flaking

Waste Water

- Operation Inspection Procedure
 - Change DP_001 Pump Oil
 - Line 1 Equipment Check
 - Safety Rounds**
 - Vibration Check

History

- Procedure Items**
- Task Group
 - Decision
 - Task
 - Condition
- Actions**
- Work Order Request
 - Note
 - Launch Procedure
 - Message
 - Jump
 - Force Calculation
- Integrations**
- Wonderware Online
 - Wonderware Historian
 - Wonderware Galaxy
 - IntelTrac Tag
- Peripherals**
- RFID
 - VIBTOOL
 - RailCar
 - Barcode
 - SKF@ CMVL3600-IS MCD I
 - Cyclops 100 / 390 Temper
 - Raynger MX4 Series Temp
 - TPI 9080 Vibration Analyze
 - NFC

Safety Rounds

Task Group

Decision

Task

Condition

Actions

- Work Order Request
- Note
- Launch Procedure
- Message
- Jump
- Force Calculation

Integrations

- Wonderware Online
- Wonderware Historian
- Wonderware Galaxy
- IntelTrac Tag

Peripherals

- RFID
- VIBTOOL
- RailCar
- Barcode
- SKF@ CMVL3600-IS MCD I
- Cyclops 100 / 390 Temper
- Raynger MX4 Series Temp
- TPI 9080 Vibration Analyze
- NFC

Procedure Revision

General | Advanced

Title: Safety Rounds

Revision:

Description: Safety rounds are to be performed weekly on the Waste Water systems.

Revision Notes:

Categories: Operation Inspection Procedure

Tag List

Properties

Activate Windows
Go to System in Control Panel to activate Windows.

Zoom

Wonderware
by Schneider Electric

- Content Management
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
 - Workstation
 - Workstation IntelTrac
 - Review
 - Auditor Plus
 - Reporting
 - Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - Archestra Logger
 - Change Password
 - Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
 - Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Procedure Builder

File Edit Insert List Manager Utilities Help

Board Pressing
Flaking
Waste Water
Operation Inspection Procedure

- Change DP_001 Pump Oil
- Line 1 Equipment Check
- Safety Rounds**
- Vibration Check

History

- Toolbox
- Procedure Items
 - Task Group
 - Decision
 - Task
 - Condition
 - Actions
 - Work Order Request
 - Note
 - Launch Procedure
 - Message
 - Jump
 - Force Calculation
 - Integrations
 - Wonderware Online
 - Wonderware Historian
 - Wonderware Galaxy
 - IntelTrac Tag
 - Peripherals
 - RFID
 - VIBTOOL
 - RailCar
 - Barcode
 - SKF@ CMVL3600-IS MCD I
 - Cyclops 100 / 390 Temper
 - Raynger MX4 Series Temp
 - TPI 9080 Vibration Analyze
 - NFC

Safety Rounds

Task Group
Decision
Task
Condition

Work Order Request
Note
Launch Procedure
Message
Jump
Force Calculation

Wonderware Online
Wonderware Historian
Wonderware Galaxy
IntelTrac Tag

RFID
VIBTOOL
RailCar
Barcode
SKF@ CMVL3600-IS MCD I
Cyclops 100 / 390 Temper
Raynger MX4 Series Temp
TPI 9080 Vibration Analyze
NFC

Procedure Revision

General Advanced

Title: Safety Rounds Revision:

Description: Safety rounds are to be performed weekly on the Waste Water systems. Revision Notes:

Operation Inspection Procedure
Categories: + X

Tag List

Activate Windows
Go to System in Control Panel

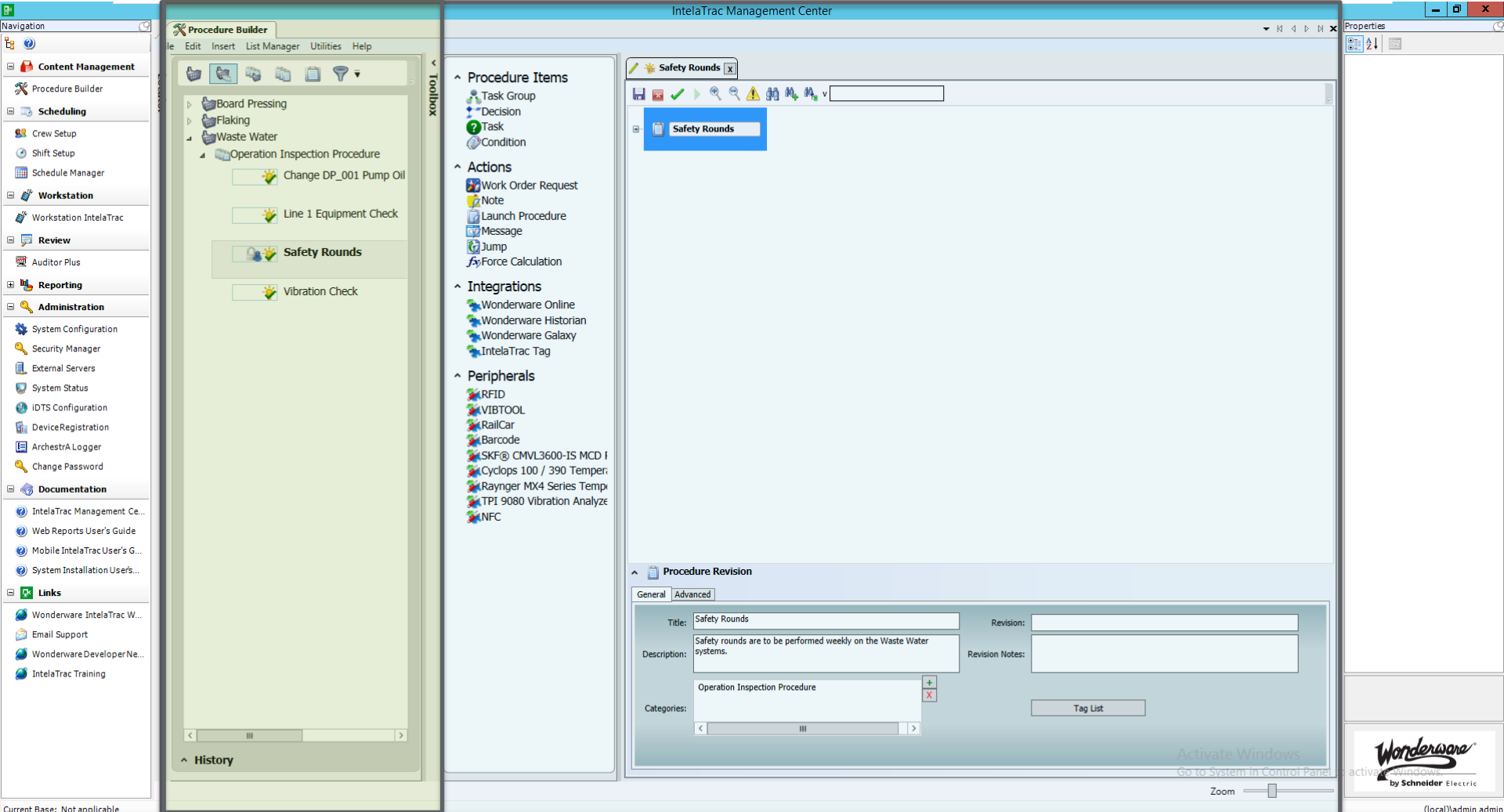
Zoom

Properties

Wonderware
by Schneider Electric

(local)\admin admin

2:46 PM
4/26/2019



- Navigation
- Content Management
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
 - Workstation
 - Workstation IntelTrac
 - Review
 - Auditor Plus
 - Reporting
 - Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - Archestra Logger
 - Change Password
 - Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
 - Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Procedure Builder

File Edit Insert List Manager Utilities Help

Toolbox

- Board Pressing
- Flaking
- Waste Water
 - Operation Inspection Procedure
 - Change DP_001 Pump Oil
 - Line 1 Equipment Check
 - Safety Rounds**
 - Vibration Check

History

- Procedure Items
- Task Group
 - Decision
 - Task
 - Condition
- Actions
- Work Order Request
 - Note
 - Launch Procedure
 - Message
 - Jump
 - Force Calculation
- Integrations
- Wonderware Online
 - Wonderware Historian
 - Wonderware Galaxy
 - IntelTrac Tag
- Peripherals
- RFID
 - VIBTOOL
 - RailCar
 - Barcode
 - SKF@ CMVL3600-IS MCD I
 - Cyclops 100 / 390 Temper
 - Raynger MX4 Series Temp
 - TPI 9080 Vibration Analyze
 - NFC

Safety Rounds

Task Group Decision Task Condition

Work Order Request Note Launch Procedure Message Jump Force Calculation

Wonderware Online Wonderware Historian Wonderware Galaxy IntelTrac Tag

RFID VIBTOOL RailCar Barcode SKF@ CMVL3600-IS MCD I Cyclops 100 / 390 Temper Raynger MX4 Series Temp TPI 9080 Vibration Analyze NFC

Procedure Revision

General Advanced

Title: Safety Rounds Revision:

Description: Safety rounds are to be performed weekly on the Waste Water systems. Revision Notes:

Operation Inspection Procedure Categories: Tag List

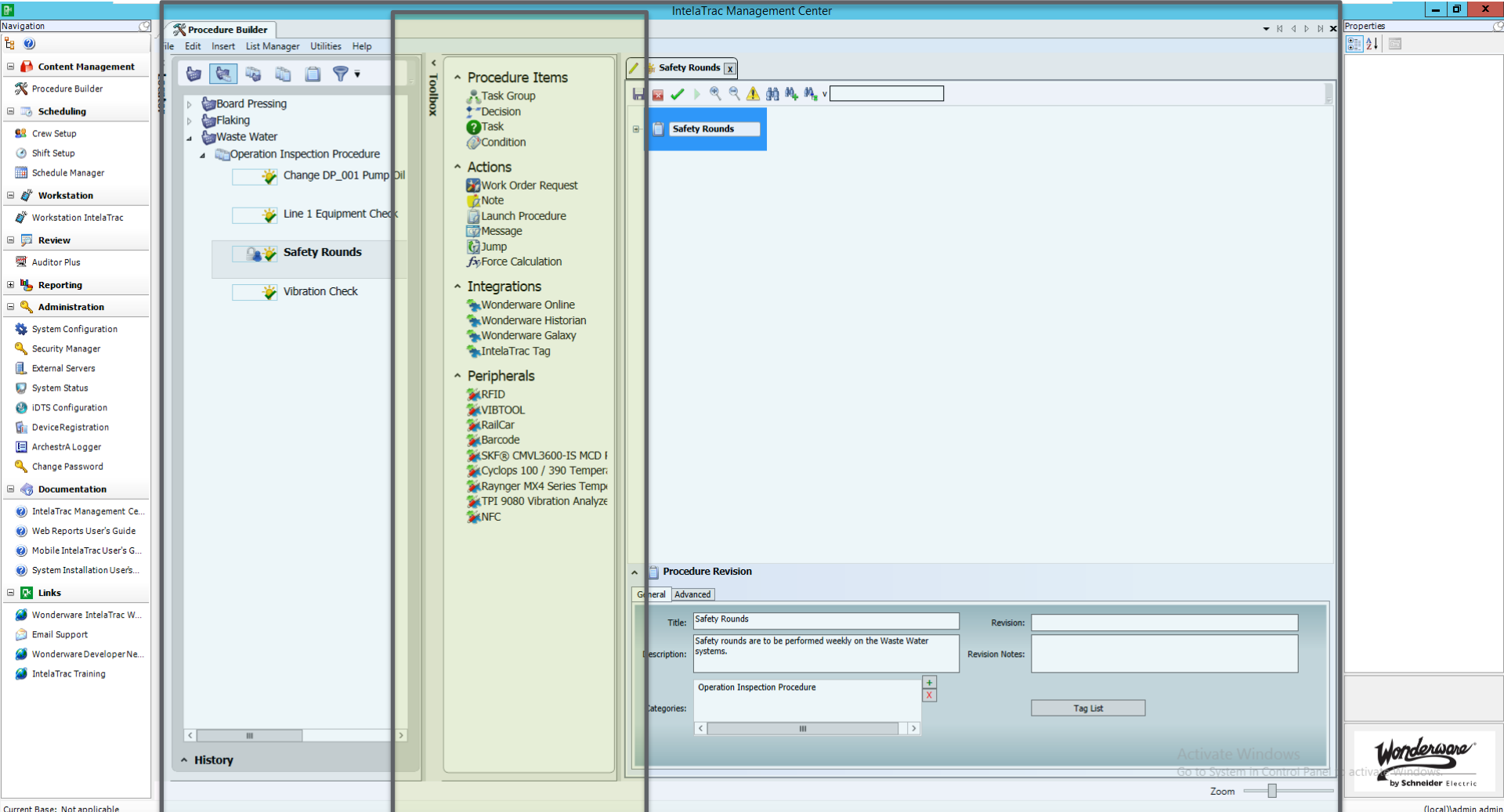
Activate Windows Go to System in Control Panel

Zoom

Properties

Wonderware
by Schneider Electric

(local)\admin admin 2:46 PM 4/26/2019



- Navigation
- Content Management
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
 - Workstation
 - Workstation IntelTrac
 - Review
 - Auditor Plus
 - Reporting
 - Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - Archestra Logger
 - Change Password
 - Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
 - Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Procedure Builder

File Edit Insert List Manager Utilities Help

Board Pressing

Flaking

Waste Water

Operation Inspection Procedure

- Change DP_001 Pump Oil
- Line 1 Equipment Check
- Safety Rounds**
- Vibration Check

History

Toolbox

- Procedure Items
 - Task Group
 - Decision
 - Task
 - Condition
- Actions
 - Work Order Request
 - Note
 - Launch Procedure
 - Message
 - Jump
 - Force Calculation
- Integrations
 - Wonderware Online
 - Wonderware Historian
 - Wonderware Galaxy
 - IntelTrac Tag
- Peripherals
 - RFID
 - VIBTOOL
 - RailCar
 - Barcode
 - SKF@ CMVL3600-IS MCD I
 - Cyclops 100 / 390 Temper
 - Raynger MX4 Series Temp
 - TPI 9080 Vibration Analyze
 - NFC

IntelTrac Management Center

Safety Rounds

Safety Rounds

Procedure Revision

General Advanced

Title: Safety Rounds

Revision:

Description: Safety rounds are to be performed weekly on the Waste Water systems.

Revision Notes:

Categories: Operation Inspection Procedure

Tag List

Activate Windows
Go to System in Control Panel

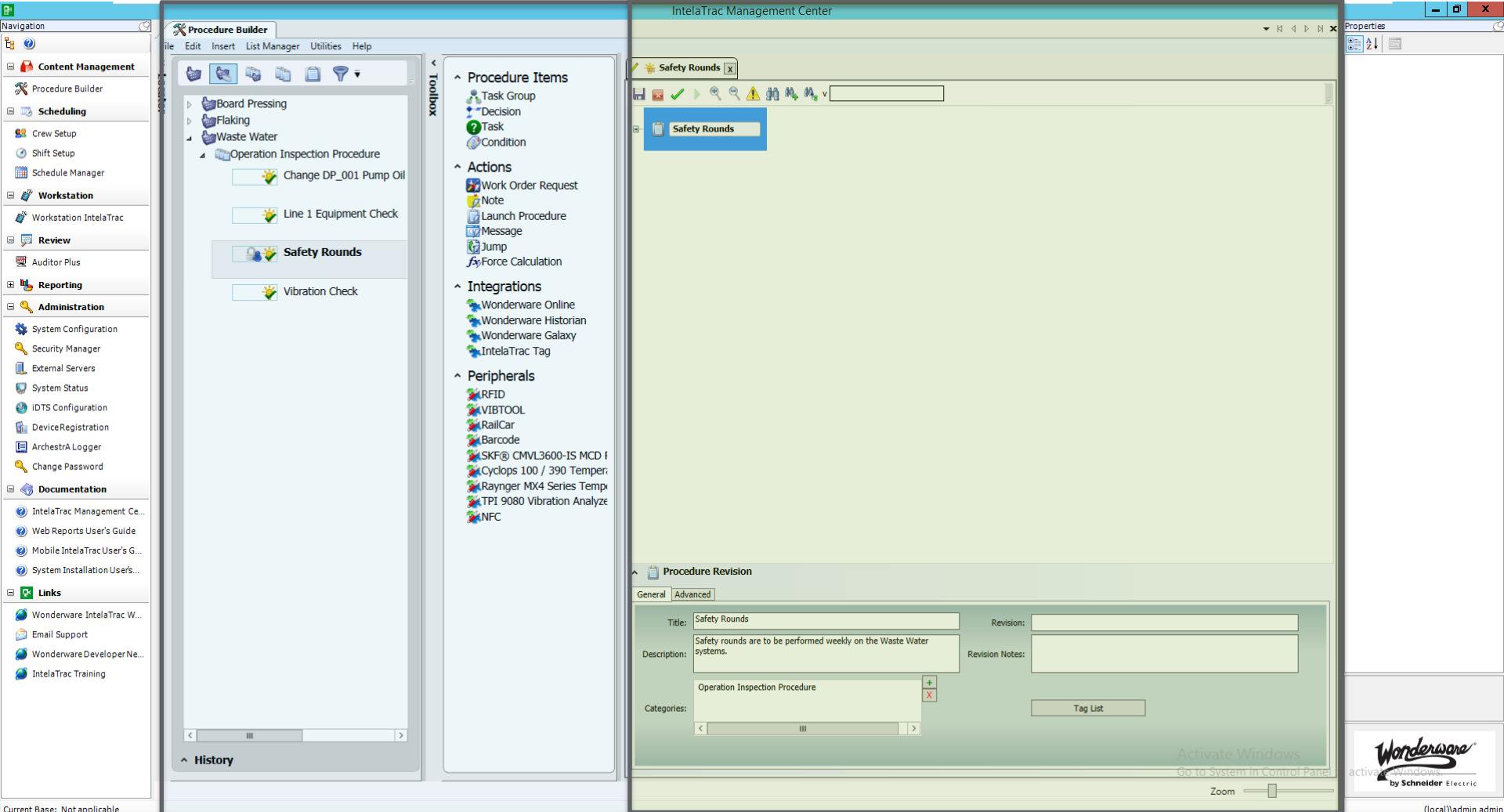
Zoom

Properties

Wonderware
by Schneider Electric

(local)\admin

2:46 PM
4/26/2019



Activate Windows
Go to System in Control Panel

Zoom

Toolbox

Procedure Items

- Task Group
- Decision
- Task
- Condition

Actions

- Work Order Request
- Note
- Launch Procedure
- Message
- Jump
- Force Calculation

Integrations

- Wonderware Online
- Wonderware Historian
- Wonderware Galaxy
- IntelaTrac Tag

Peripherals

Key Points:

- Easily recreate existing rounds
- Go beyond, restricting options, or add conditional logic and decision trees

Operator: _____ Date: _____
Time: _____

Receiver Pump:
Vibration Level: Low High
Noise Level: Low High
Seal Leaks: No leak Small Leak Large Leak

Receiver Tank:
Tank Leak: No Leak Leaking
Odor: No odor Has odor

Signature _____

Key Points:
Utilize peripherals to read data

Navigation

- Content Management
 - Procedure Builder
 - Scheduling
 - Workstation IntelTrac
 - Review
 - Reporting
 - Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - ArchestrA Logger
 - Change Password
 - Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
 - Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Procedure Builder

File Edit Insert List Manager Utilities Help

Locator

- Board Pressing
 - Board Pressing
 - Operation Inspection Procedure
 - Line 1 Equipment Check
 - Safety Rounds
 - Vibration Check

History

Toolbox

- Procedure Items
 - Task Group
 - Decision
 - Task
 - Condition
- Actions
 - Work Order Request
 - Note
 - Launch Procedure
 - Message
 - Jump
 - Force Calculation
- Integrations
 - Wonderware Online
 - Wonderware Historian
 - Wonderware Galaxy
 - IntelTrac Tag
- Peripherals
 - RFID
 - VIBTOOL
 - RailCar
 - Barcode
 - SKF@ CMVL3600-IS MCD f
 - Cyclops 100 / 390 Temper
 - Raynger MX4 Series Temp
 - TPI 9080 Vibration Analyze
 - NFC

Safety Rounds

- Receiver Pump Health
- Vibration Level
- Noise Level
- Seal Leaks
- Tank Checks

Procedure Revision

General Advanced

Title: Safety Rounds Revision:

Description: Safety rounds are to be performed weekly on the Waste Water systems. Revision Notes:

Categories: Operation Inspection Procedure

Tag List

Properties

Wonderware
by Schneider Electric

(local)\admin admin 3:02 PM 3/21/2019

- Navigation
- Content Management
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
- Workstation
 - Workstation IntelTrac
- Review
- Auditor Plus
- Reporting
- Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - ArchestraA Logger
 - Change Password
- Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
- Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Procedure Builder | Schedule Manager | Schedule Manager

File Edit List Manager View Filter Help

Today This Week This Month

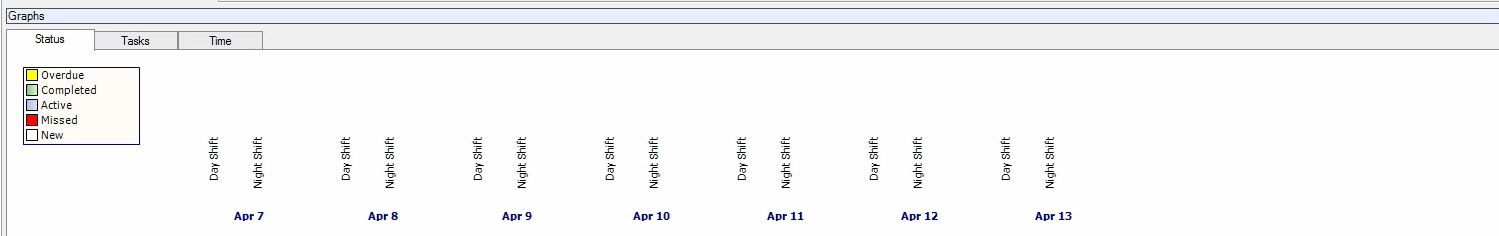
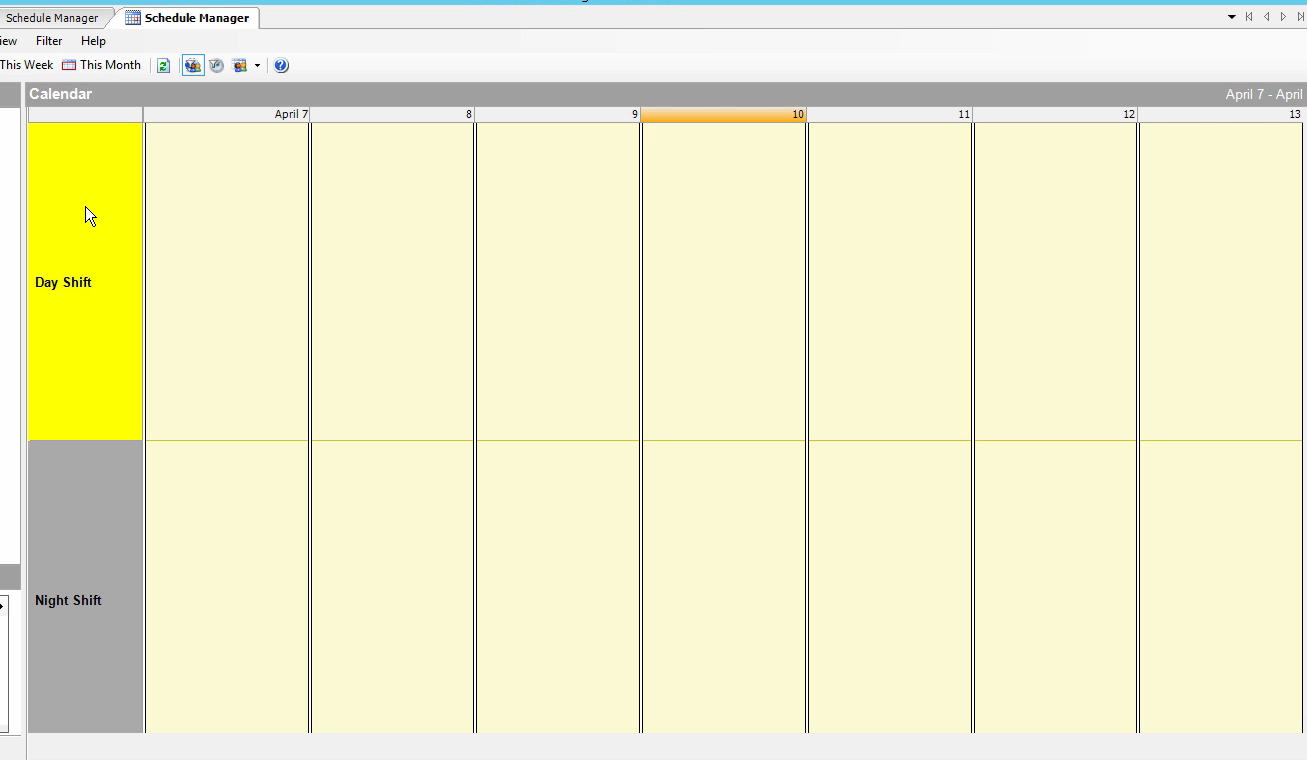
Procedures

- Change DP_001 Pump Oil
- Line 1 Equipment Check
- Safety Rounds
- Vibration Check

Range Selector

April 2019

S	M	T	W	T	F	S
14	31	1	2	3	4	5
15	7	8	9	10	11	12
16	14	15	16	17	18	19
17	21	22	23	24	25	27
18	28	29	30	1	2	3
19	5	6	7	8	9	11



Properties

Procedure Details

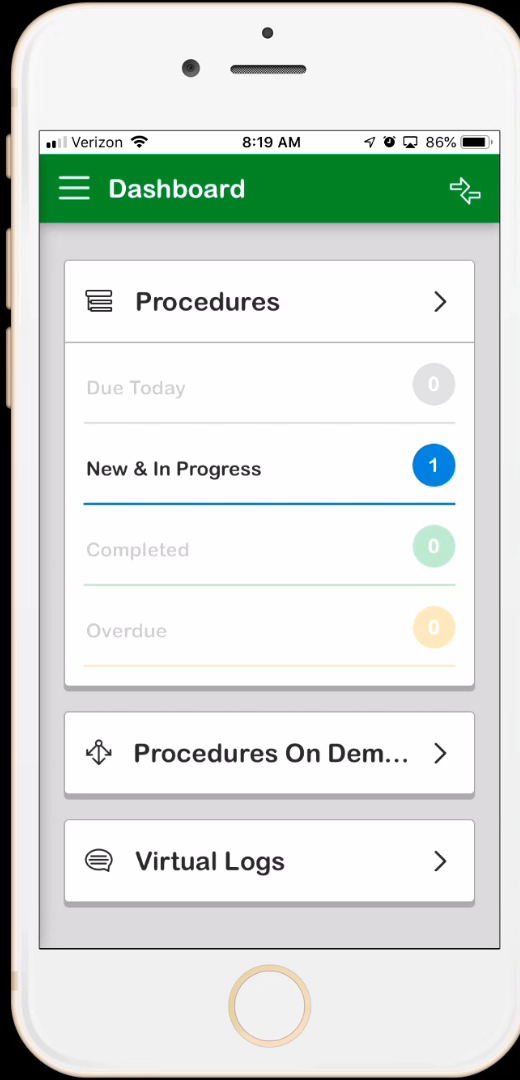
Name: Safety Rounds
 Description: Safety rounds are to be
 Estimated T: 00:00:00 hours
 Number of 1 S

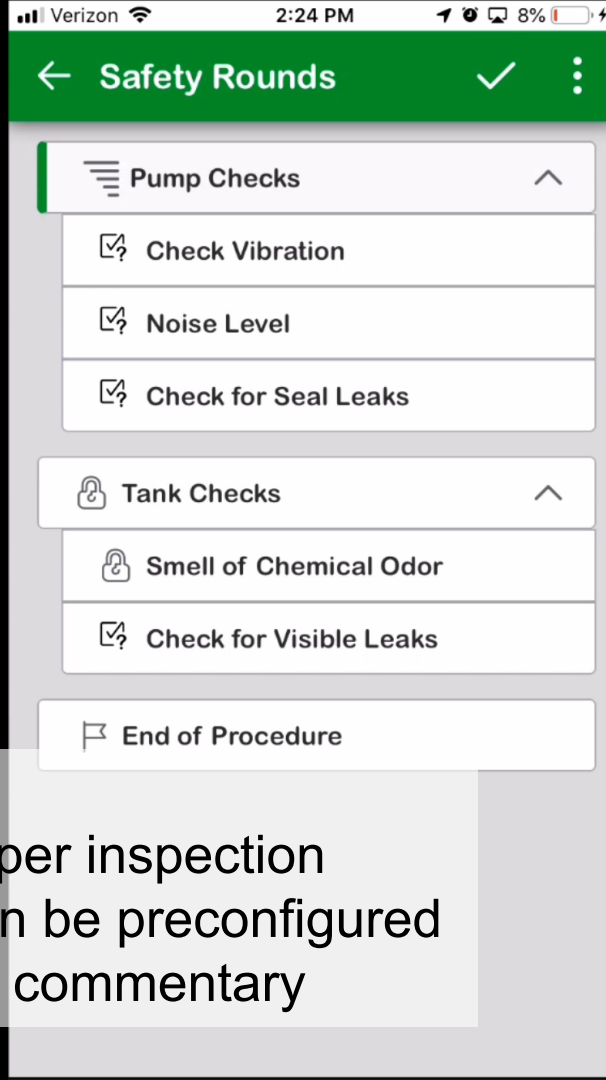
Status: Future
 State: New
 Date Compl:
 On Demand: No
 Actual Time:
 Tasks Comp: 0 of 5
 User:
 Handheld:
 General Scheduling Info
 Expected St: 4/11/2019 6:00 AM
 Expected En: 4/11/2019 6:00 PM
 Recurring: Yes
 Schedule Pa: Shift-Based: Daily
 Schedule To: User - admin, admin (ac
 Advanced Scheduling Info
 Early Pickup:
 Latency:
 Overdue By: 4/12/2019 6:00 AM
 Locked: No
 Required: No
 Notes
 Reason Cod:
 Reason Des:
 Notes:
 Last Modifi:
 Last Modifi:

Name:
 Name given to the procedure

Key Points:

- Works on Tablets, or IOS/Android devices.
- Synchronize to download updates, and upload completed rounds.





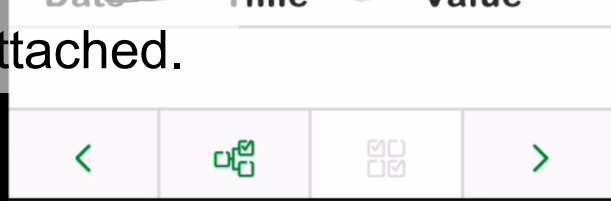
Key Points:

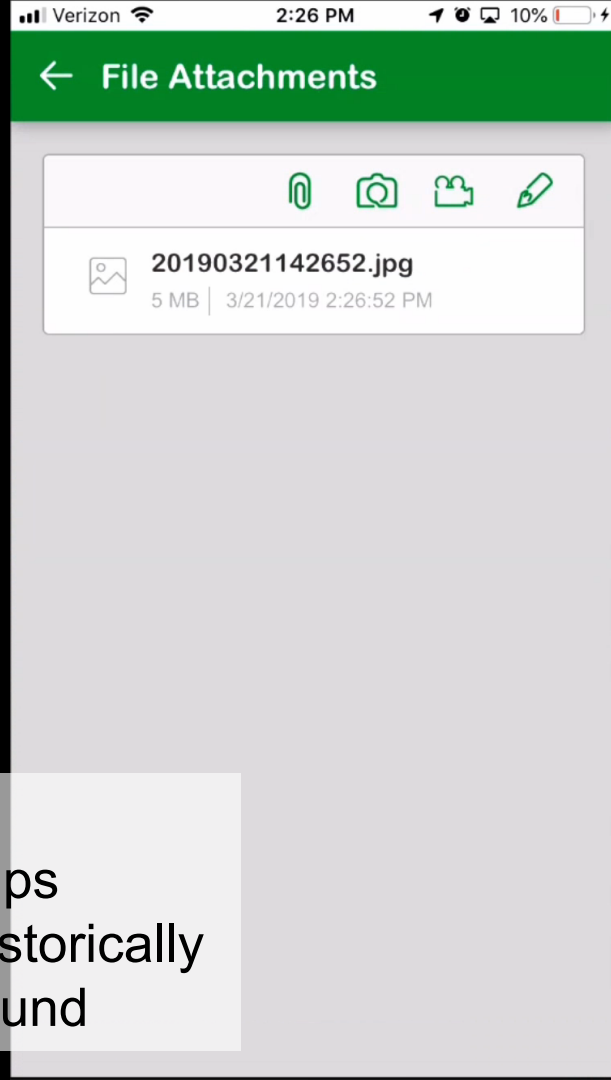
- Have recreated the paper inspection
- Allowed responses can be preconfigured
- Notes allow additional commentary



Key Points:

- Photos can also be attached.





Key Points:

- Godzilla collects pumps
- Pictures are saved historically with the inspection round

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

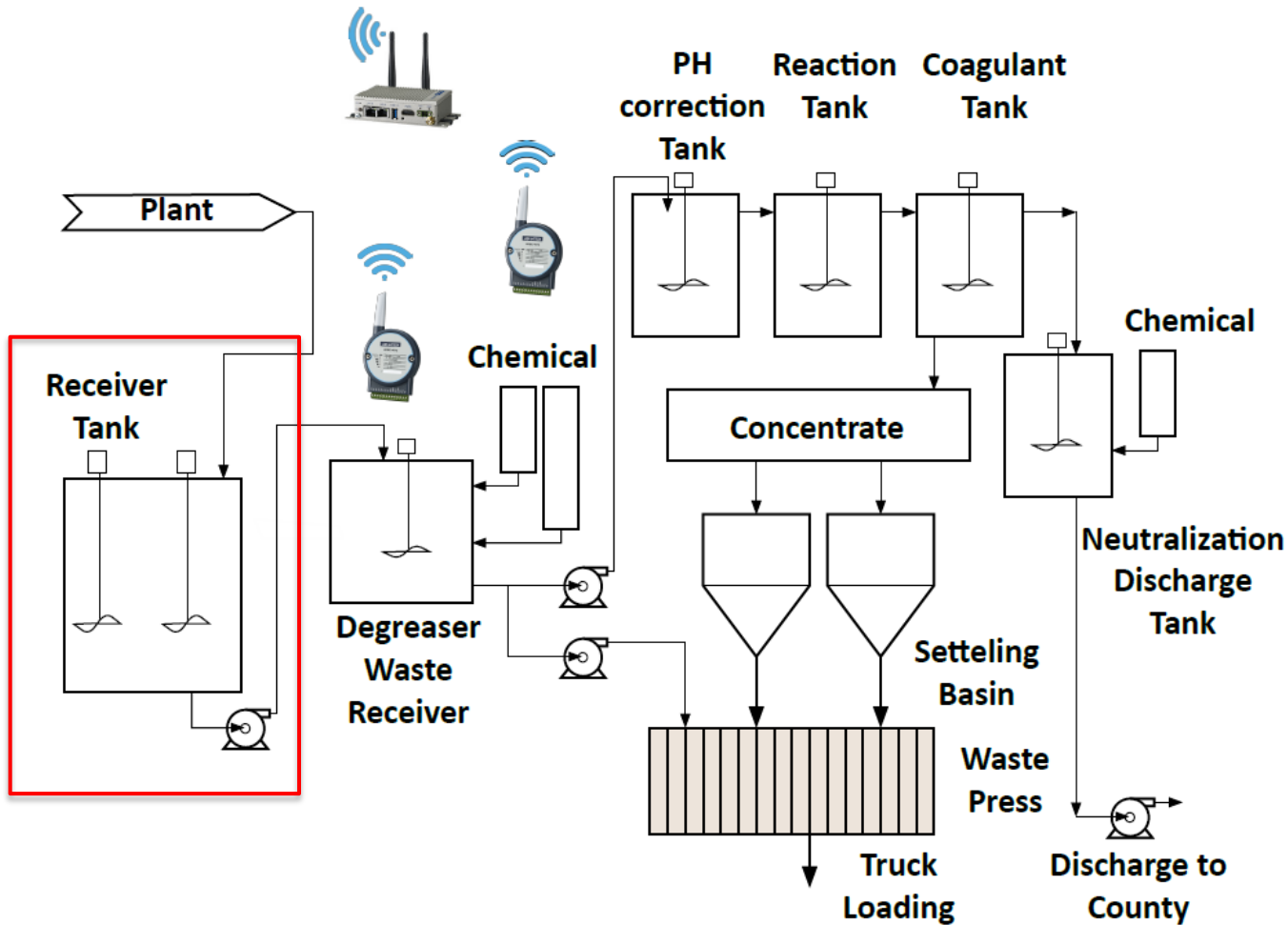
1
2
3

Replace paper inspection rounds



Ensure tests are done at correct
equipment

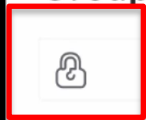
Industrial Waste Treatment





← Safety Rounds ✓ ⋮

Group: Tank Checks



See Detail

Asset: Waste Water Receive...

In Service

Histo



otes

Show s



Date Time Value

Lets take a look



Industry 4.0

Driving Operational Results
Through Digitization

WISH LIST

1
2
3

Replace paper inspection rounds



Ensure tests are done at correct
equipment



Allow auditing of the results

Auditor Plus

File View Tools Help

Report: Completed/In Progress Get Data

Start Date: 04/03/2019 End Date: 04/10/2019

Filters

- Base
 - Board Pressing
 - Flaking
 - Waste Water
- Shift
- Categories
- Filters
- Counts
- Severity

Navigation

- Content Management
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
 - Workstation
 - Workstation IntelTrac
 - Review
 - Auditor Plus
 - Reporting
 - Administration
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - IDTS Configuration
 - Device Registration
 - ArchestrA Logger
 - Change Password
 - Documentation
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
 - Links
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Properties



- Navigation
- Content Management**
 - Procedure Builder
 - Scheduling
 - Crew Setup
 - Shift Setup
 - Schedule Manager
 - Workstation
 - Workstation IntelTrac
 - Review
 - Auditor Plus
- Reporting**
- Administration**
 - System Configuration
 - Security Manager
 - External Servers
 - System Status
 - iDTS Configuration
 - DeviceRegistration
 - ArchestrA Logger
 - Change Password
- Documentation**
 - IntelTrac Management Ce...
 - Web Reports User's Guide
 - Mobile IntelTrac User's G...
 - System Installation User's...
- Links**
 - Wonderware IntelTrac W...
 - Email Support
 - Wonderware Developer Ne...
 - IntelTrac Training

Auditor Plus

File View Tools Help

Report: Completed/In Progress Get Data

Start Date: 04/03/2018 End Date: 04/10/2019

Filters

- Base
 - Board Pressing
 - Flaking
 - Waste Water
- Shift
- Categories
- Filters
- Counts
- Severity

group By area Drag a field here to group by that field

Base	Status	In Progress	On Demand	Procedure	Approved Date/Time	Approver	Highest Severity	Data Filter Count	Σ Expected Tasks	Σ Answered Tasks	Σ Missed Task	Σ Extra Tasks	Σ % Expected	Σ Scheduled To	Completed By
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	3	0	3	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	6	3	3	0	50.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	0	5	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	1	4	0	20.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	0	5	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	6	1	5	0	16.67%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	6	0	6	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	6	0	6	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	0	5	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	2	3	0	40.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	2	3	0	40.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	0	5	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	0	5	0	0.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	3	3	0	0	100.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	3	3	0	0	100.00%	admin, admin
Waste Water	COMPLETE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Safety Rounds			Normal		0	5	2	3	0	40.00%	admin, admin

Lets take a look



Industry 4.0

**Driving Operational Results
Through Digitization**

WISH LIST

1
2
3

Replace paper inspection rounds



Ensure tests are done at correct
equipment



Allow auditing of the results



Summary – Digitization by Optimizing workforce activities

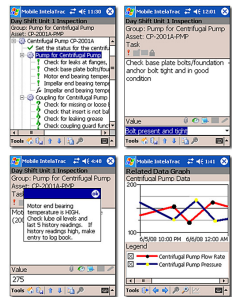
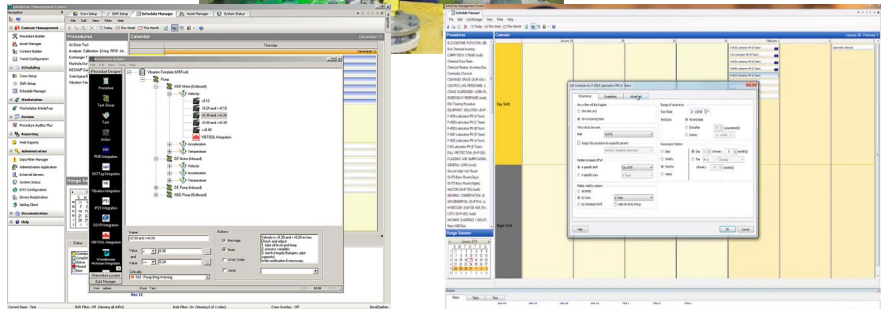
Wonderware Mobile



1 Digitizes rounds:
Operators | Maintenance | Safety | others

2 Provides Enforcement, Accountability, & Auditing capabilities

3 Data is Secure, Accurate, Searchable, Reportable



The most important Wonderware Mobile features

Extremely Important
 Very Important
 Important
 Not Important

