

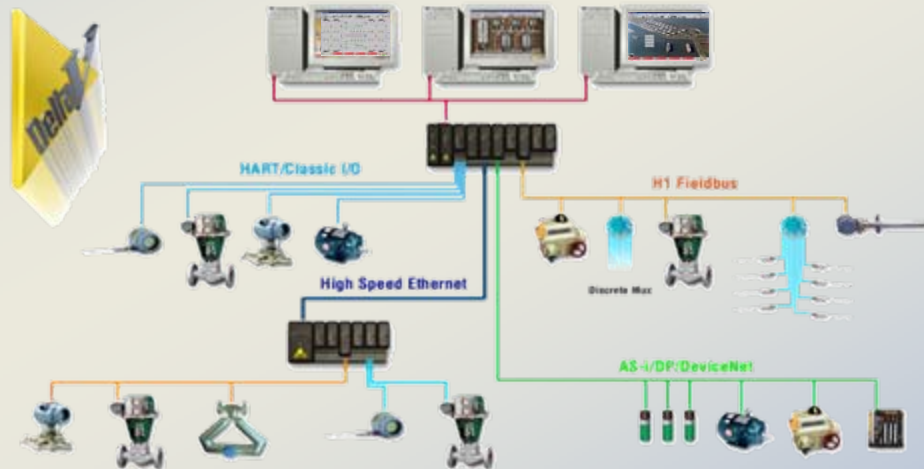


OSIsoft® VALUE NOW, VALUE OVER TIME



“Smart Solutions”

The result of our partnership



By: Bas Mutsaers
Business Systems Manager (MES)
Emerson Melbourne
0447587091

Honeywell

TDC3000
TDC 2000
Scan3000
PHD

Emerson

DeltaV (+Batch)
RS3
CHIP/PROVOX
Daniel's Metering

Siemens

Teleperm M/ME
Teleperm XP
WinCC
PCS7
SICOMP

Yokogawa

Centum CS 3000
Exapapi
ExaOPC
ACG
DAQLogger
ExaQuantum
FAST TOOLS

ABB

Bailey Infi90
Bailey system6
Advant
Procontic DP 800

Others

ReIDB
Batch fl
DAP PI Server
Custom Interfaces
Intellution FIX
SAP
Maximo
WILAB
APS
Wonderware Intouch
Phoenix Contact Interbus
RTAP
Bentley Nevada,
GE Cimplicity – OPC
PLC's incl. Schlumberger &
Chessels.
LIMS
Operator Logbook

Citect

Citect Scada

Aspentech

InfoPlus 21
SETCON

Foxboro

Fox I/A51 Unix
I/A 70 NT

EMERSON
Process Management

Ready to Execute !

- 7 Excellence Centers (all World Area's)
- Knowledge of many PLC, Scada and DCS systems
- Experience executing OSIsoft projects WW
- Wide Application Experience
- Specialist Industry Experience
- ERP background
- OSIsoft Certified Engineers and support
- ICT background & good Programming Skills
- In house Training Facilities
- In house Test Environment



S88 / S95

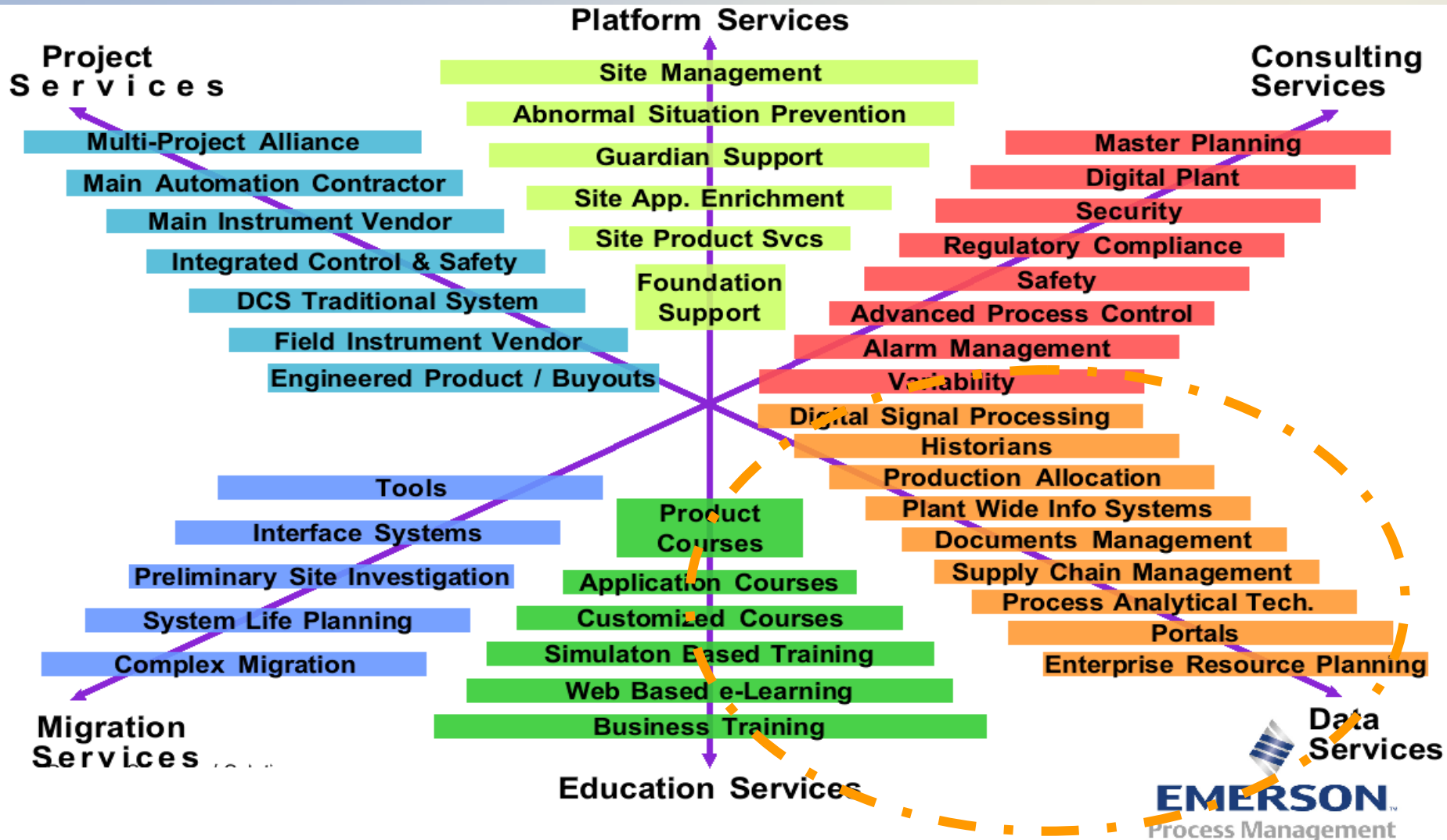


21CFR Part 11.com

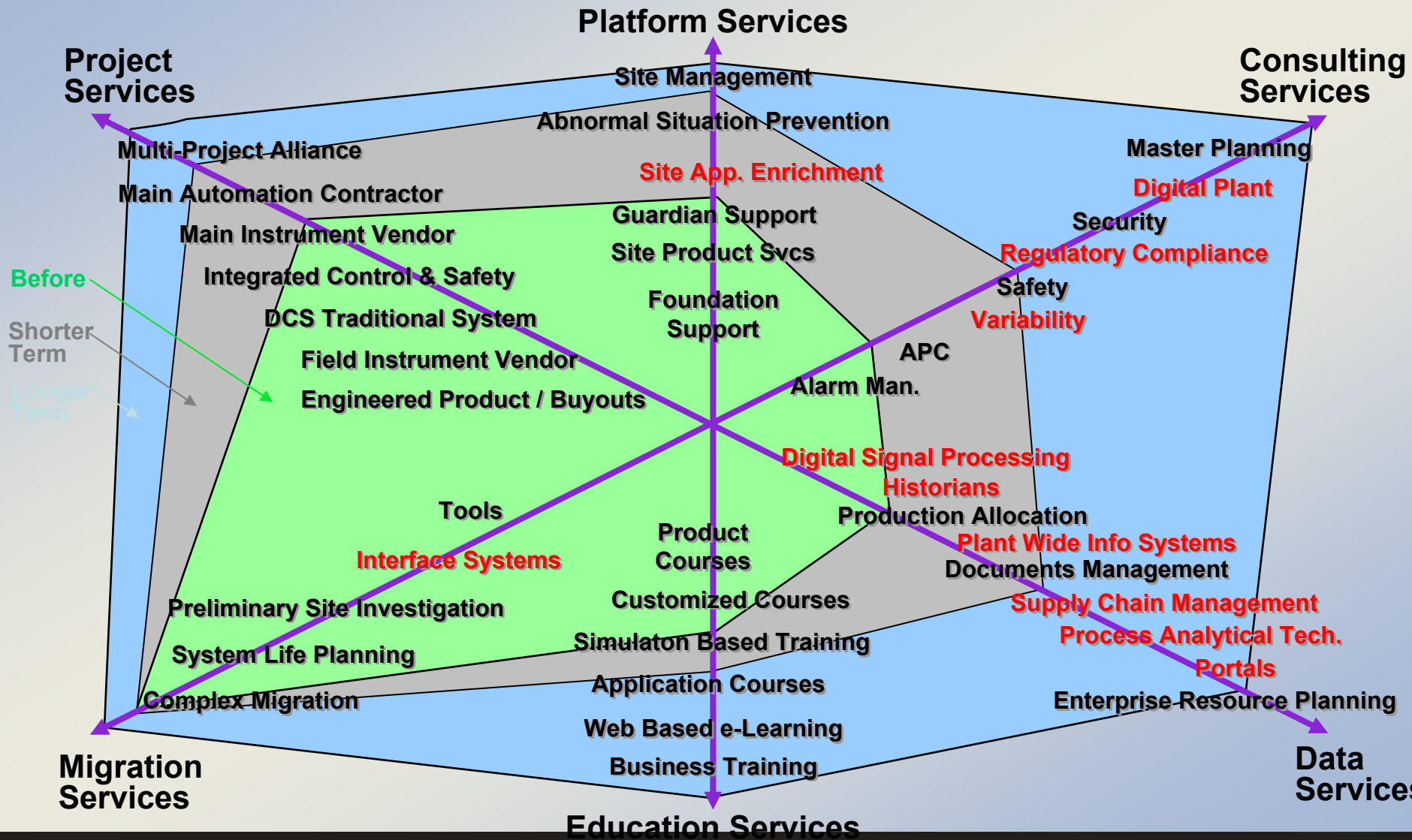


Manufacturing Execution Systems Association

Emerson Solutions Services

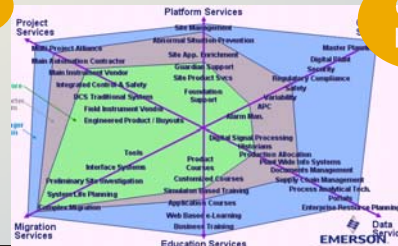


Data Services Ambition..with OSI



Adding Value to Process Data

Data	Information	Knowledge	Wisdom
<u>GT</u> Power = 6MW Fuel Flow = 2 Te/hr Exh. Temp = 570°C	<u>GT</u> Heatrate = 3.2 Comp. Eff. = 78%	<u>GT</u> Cost losses = \$12/hr Eff. = 98% of design Power = 95% design	<u>GT</u> Wash cost = \$720 Payback in 60 hrs
<u>Compressor</u> Flow = 100 Te/hr Inlet Temp = 35°C Exit Temp = 140°C	<u>Compressor</u> Poly. Eff. = 72%	<u>Compressor</u> Lost Throughput = \$250/hr Eff. = 88% of design	<u>Compressor</u> Wash cost = \$2000 Payback in 8 hrs
<u>Turbine</u> Steam = 100 Te/hr Power Out = 7MW Exh. Temp = 270°C	<u>Turbine</u> Therm Eff. = 75% Heatrate = 4.3	<u>Turbine</u> Cost losses = \$6/hr Eff. = 93% of design Power = 94% design	<u>Turbine</u> Cost overhaul \$4500 Payback in 1500 hrs



24/7 Support

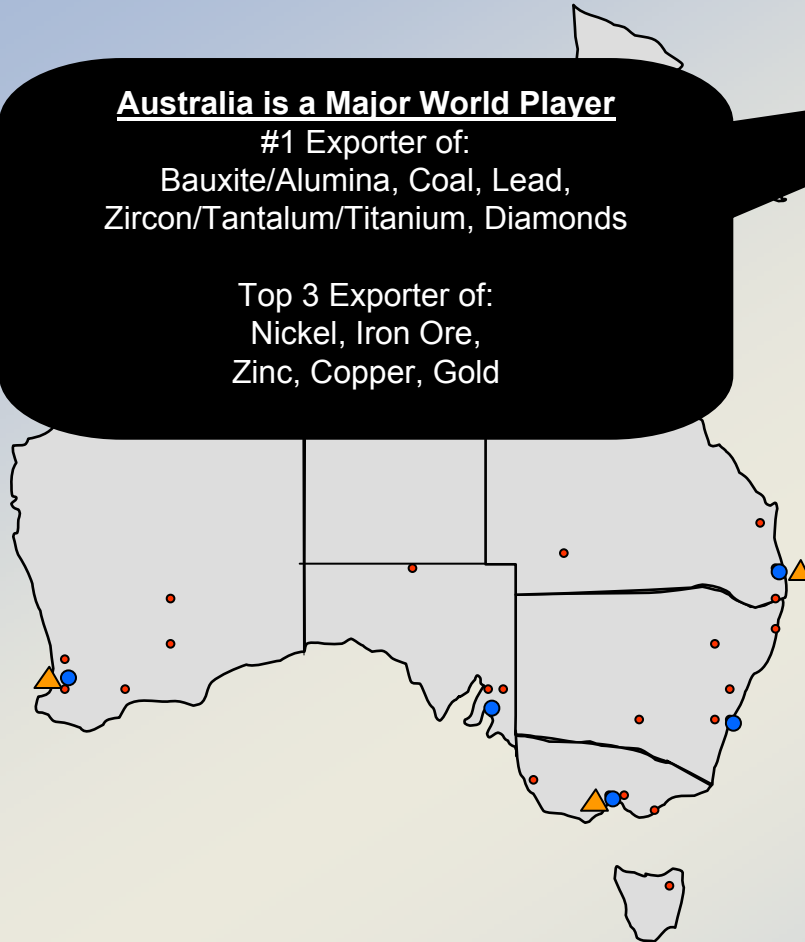
Australia is export based->
Need for **Supply Chain Integration**

Australia is a Major World Player

#1 Exporter of:
Bauxite/Alumina, Coal, Lead,
Zircon/Tantalum/Titanium, Diamonds

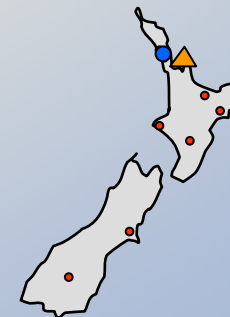
Top 3 Exporter of:
Nickel, Iron Ore,
Zinc, Copper, Gold

- Support centres
- Large Customer sites
- ▲ Project centres



5-7 flying hours

7-9 flying hours
4 time zones



Major Sales, Project Execution, and Support Locations Worldwide

North America

Albany
Atlanta
Beaumont
Boston
Charlotte
Chicago
Cincinnati
Cleveland
Denver
Detroit
Houston
LaHabra
Indianapolis
Kansas City
Los Angeles
Louisville
Marshalltown
Memphis
Minneapolis
New Orleans
New York
Philadelphia
Pittsburgh
Richmond
St. Louis
Salt Lake City
San Francisco
Tampa
Tulsa
Wichita



South America

Europe

Asia

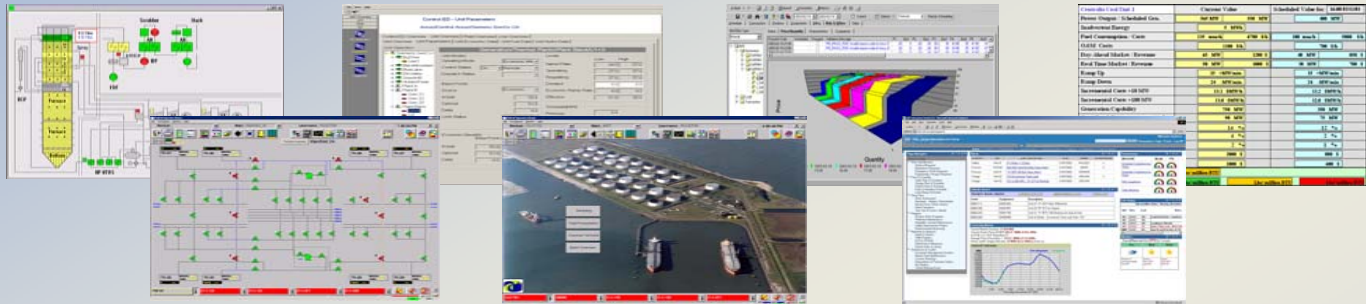
Africa

Middle East



Concept MESA Model

TOOLS

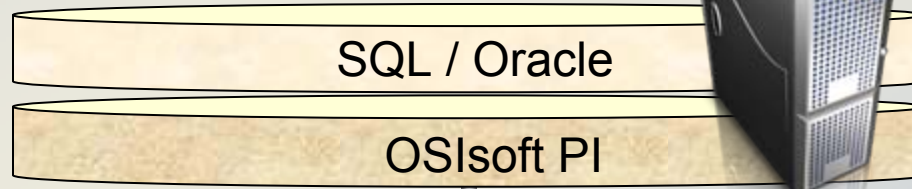


Office Network

Many interfaces

RULES

Σ business rules



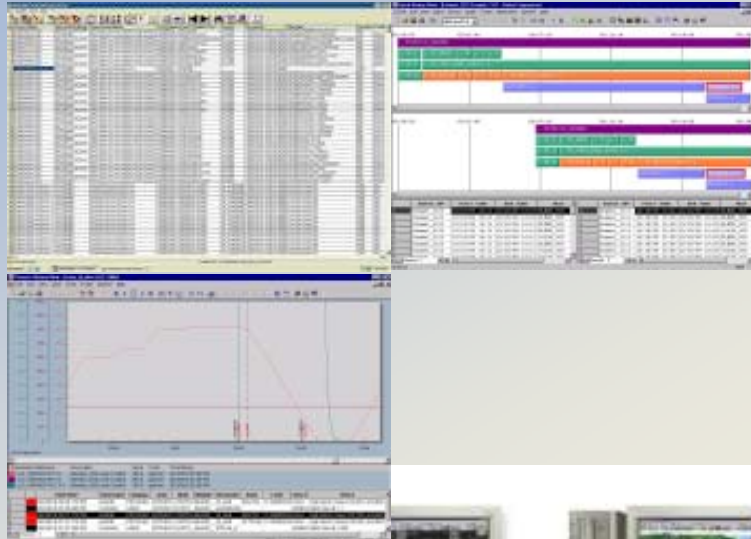
DATA

500+ interfaces

Control Network



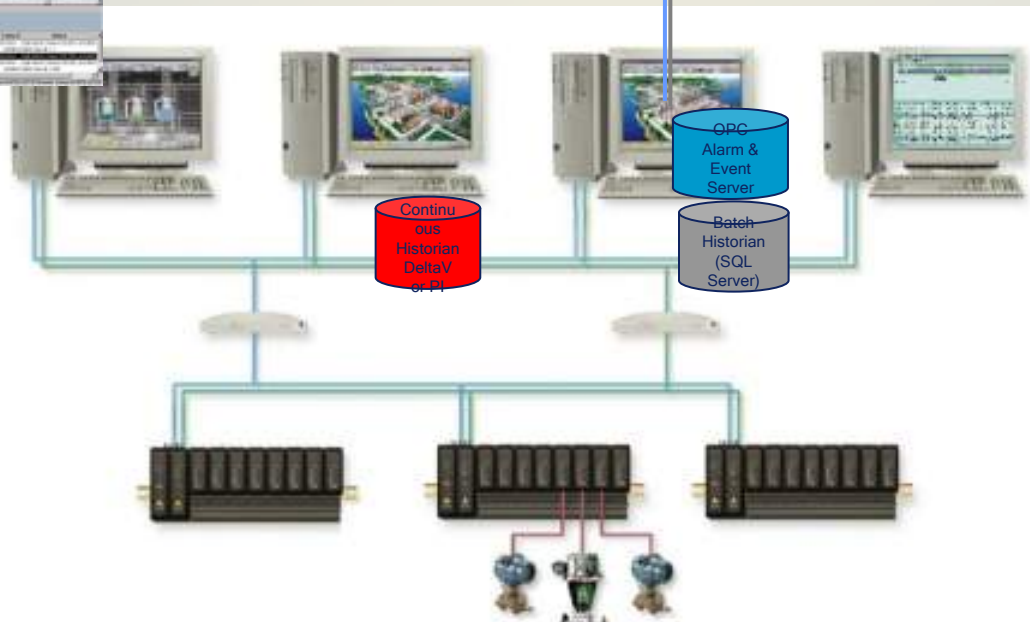
Standard DeltaV Clients



OSIsoft PI Clients
PI ProcessBook, PI DataLink,
PI ActiveView, PI RtPortal



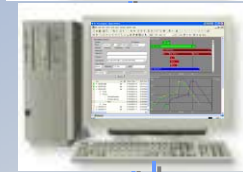
PI Enterprise
Server



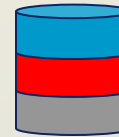
PI Enterprise Server Connection



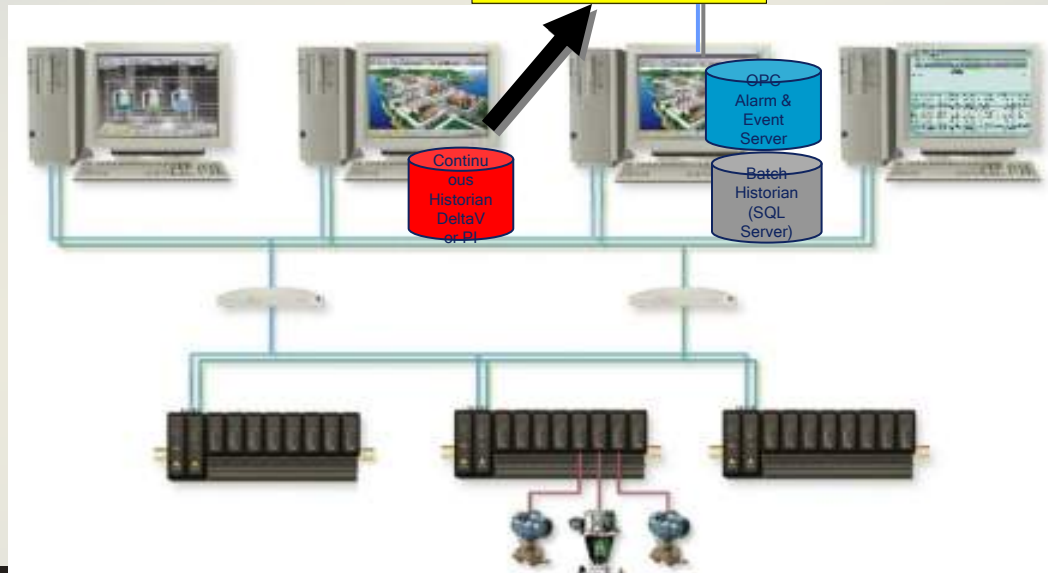
OSIsoft PI Clients
PI ProcessBook, PI DataLink,
PI ActiveView, PI RtPortal



PI Enterprise
Server



PI Protocol
Converter
DeltaV OPC
History Server



If more questions see file:
PIProtocolConverter20060213[1]
for functions interface

Clients work on both DeltaV and PI

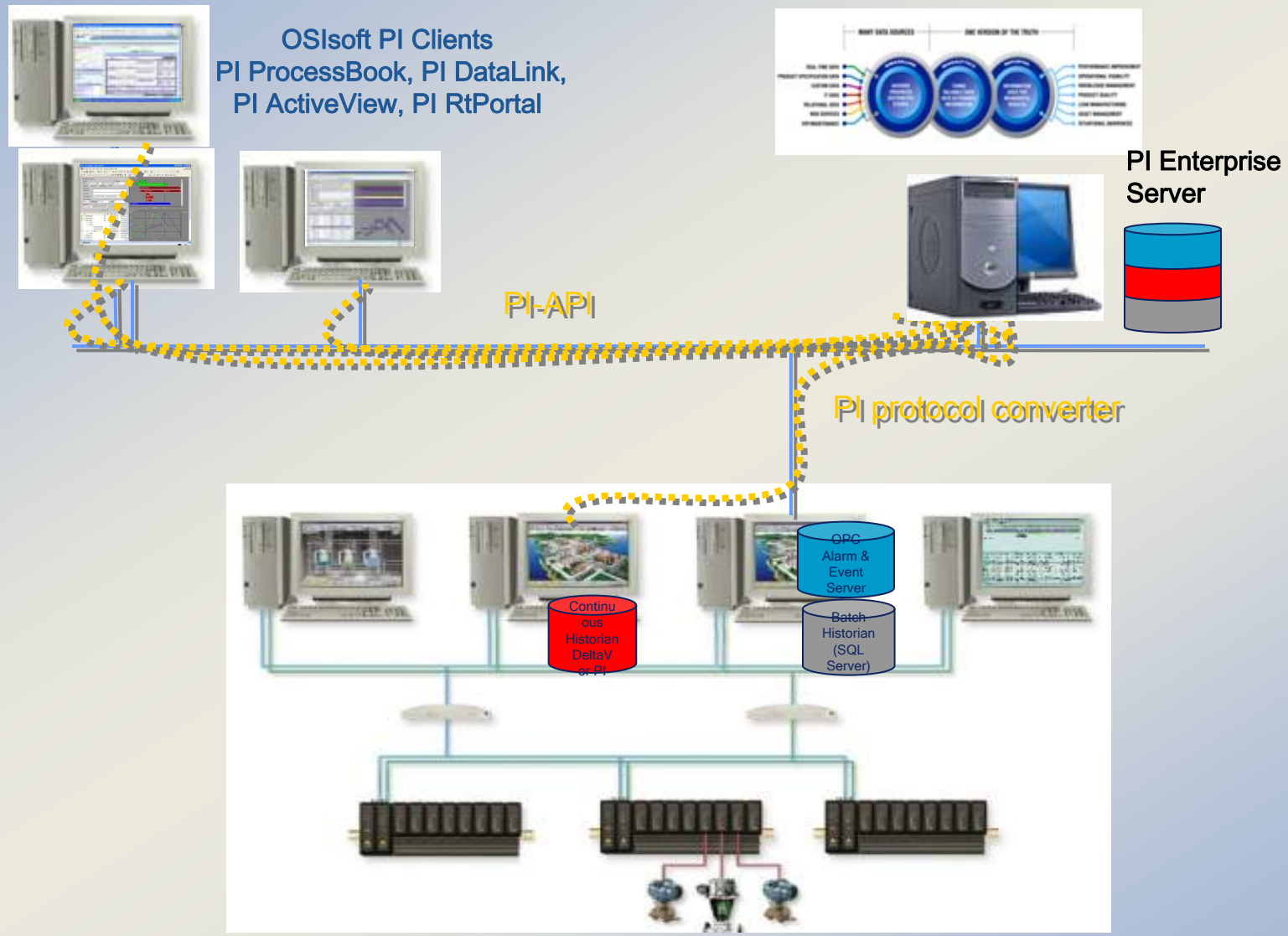
- OSIsoft provides PI Protocol Converter at no charge upon signing of OSIsoft software license agreement (SLA)
- Order from Emerson@osisoft.com or contact your sales person

<http://store.osisoft.com/DeltaV-Addons>

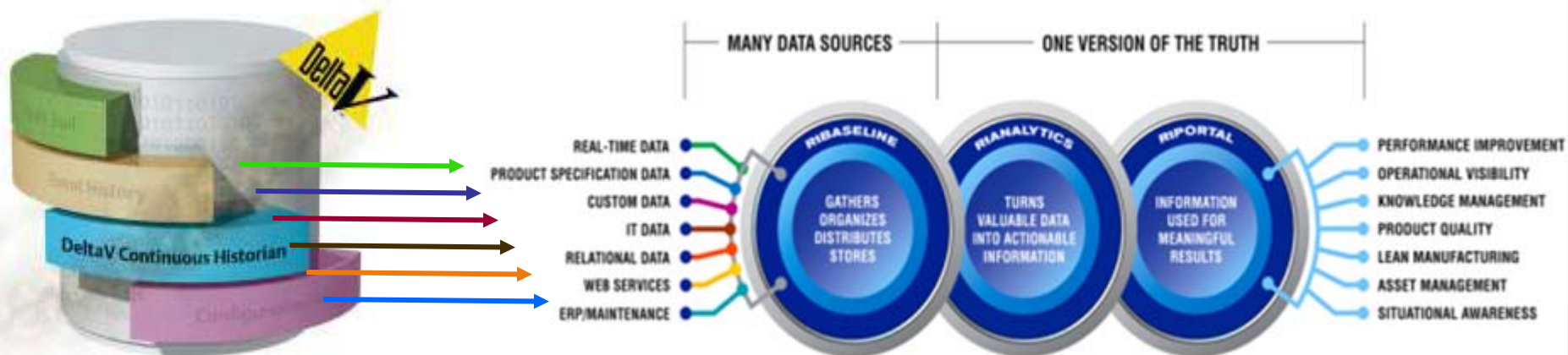
The image displays four overlapping brochures for DeltaV add-ons, each featuring the OSIsoft logo and a description of the product. The brochures are:

- PI DataLink for Emerson DeltaV:** Focuses on data integration and connectivity.
- PI ProcessBook for Emerson DeltaV:** Focuses on process management and documentation.
- PI ActiveView for Emerson DeltaV:** Focuses on real-time monitoring and visualization.
- RtPortal for Emerson DeltaV:** Focuses on real-time data access and reporting.

PI Enterprise Server Connection

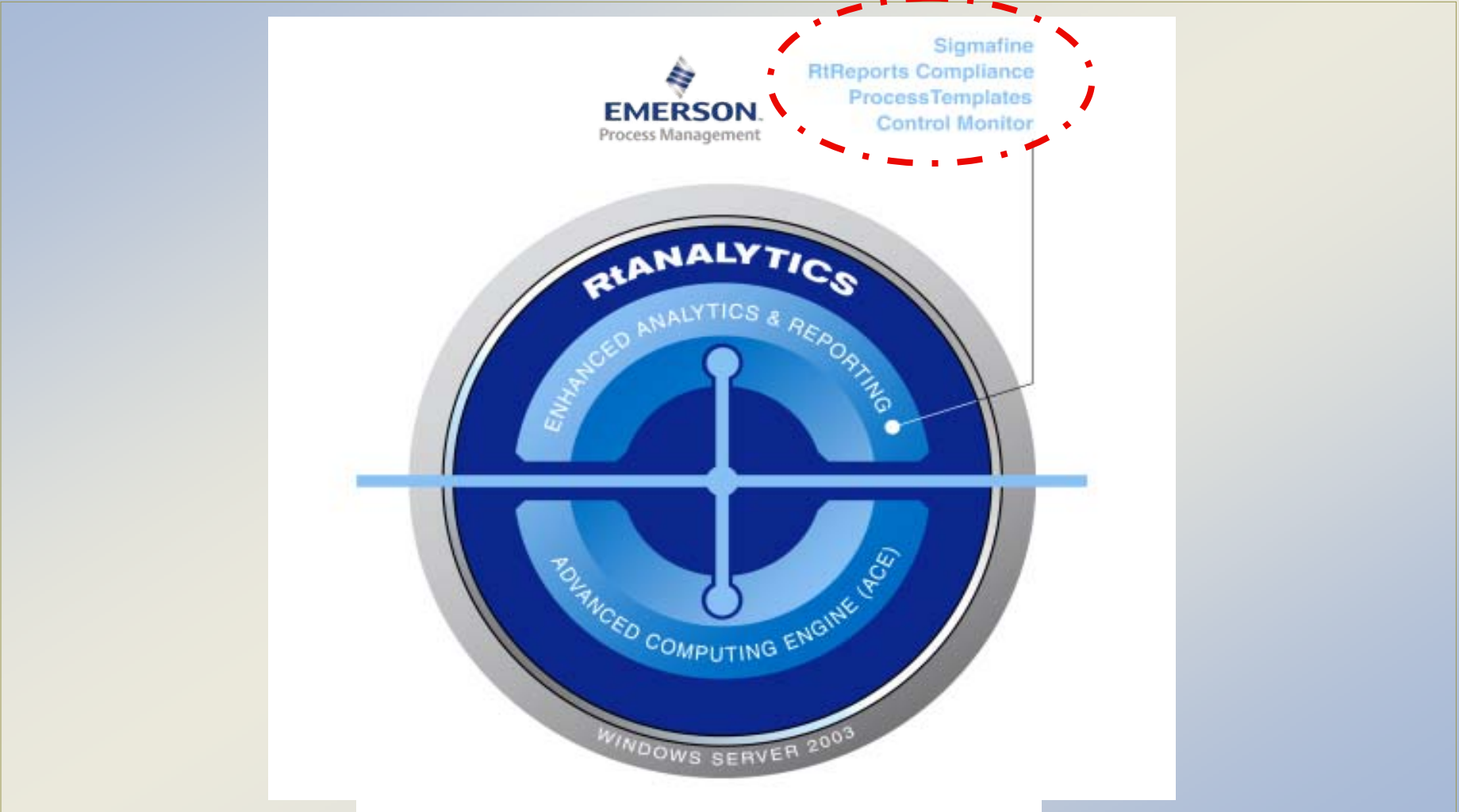


DeltaV + OSIsoft PI System



The PI Protocol Converter for DeltaV

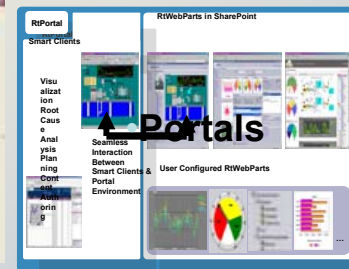
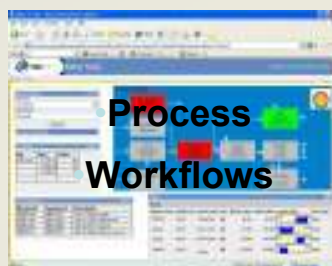
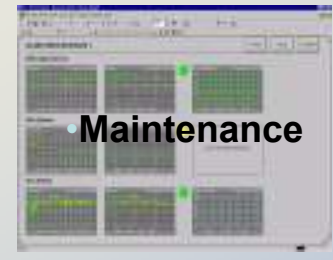
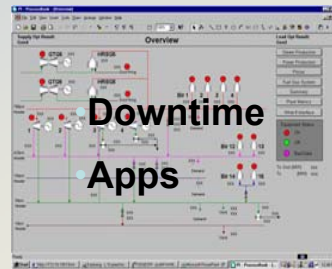
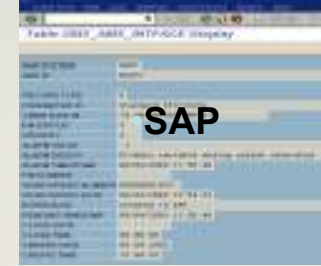
We've worked WW with ALL RtAnalytics products



We've worked WW with ALL RtPortal products

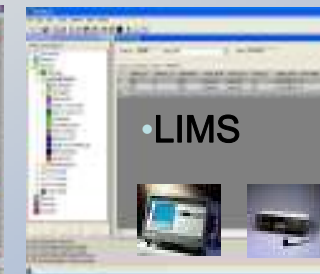
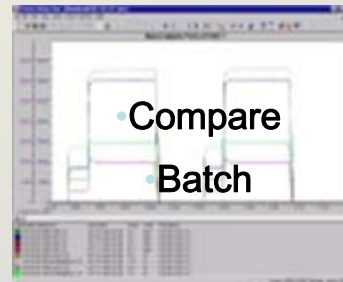
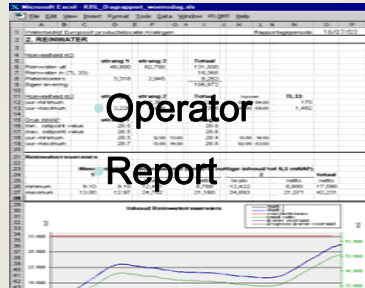
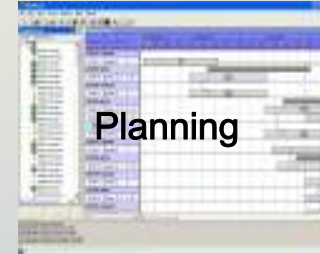
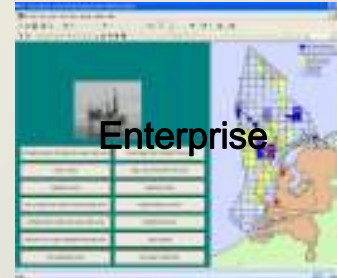
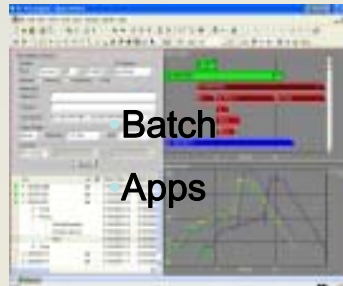
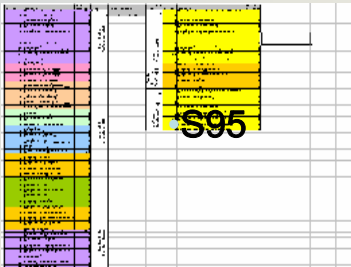
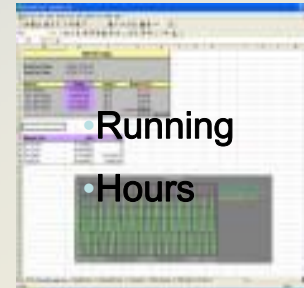
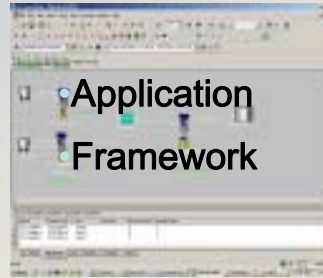
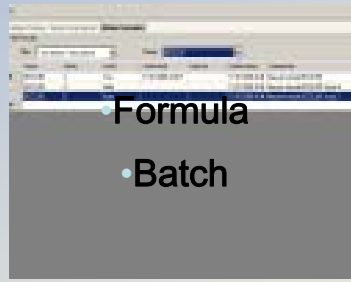
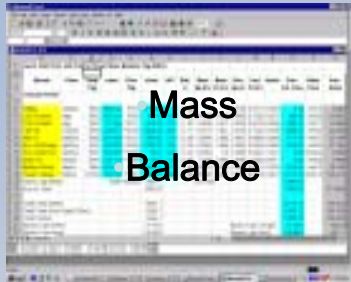


PI System Solution Experience



Please come to our OSI-PlantWeb Cruiser Demo to discuss

More PI System Solution Experience



Please come to our OSI-PlantWeb Cruiser Demo to discuss

Partnership With OSIsoft

OSIsoft.
PLATINUM
PARTNER



Emerson : OSI Strategic Global Business Partner

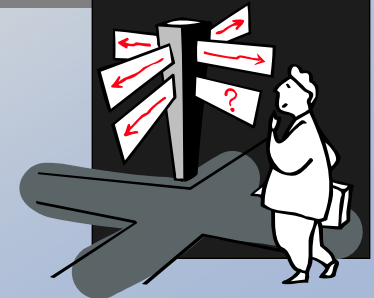
Our partnership with Emerson delivers superior value to our common customers through integrated development.

We are recognized as strategic global partner for your Services

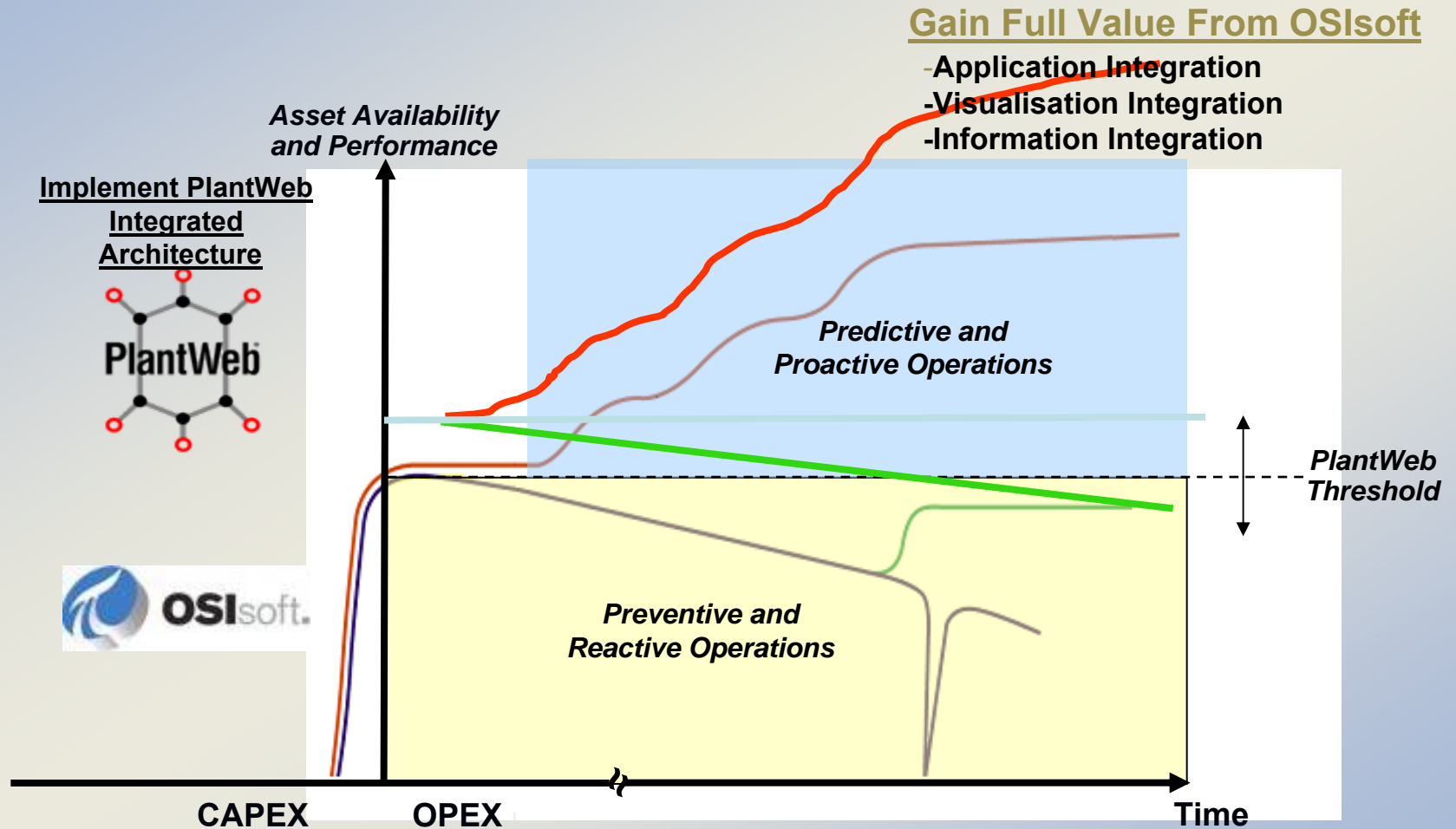
PLATINUM Value Added Reseller (VAR)



Best Partner ?
Stop looking.

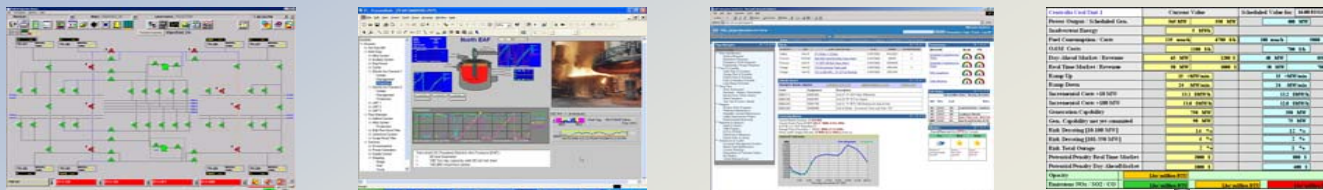


Even more Value with PI System



SmartProcess™ Suite XML and SOA Platform integration

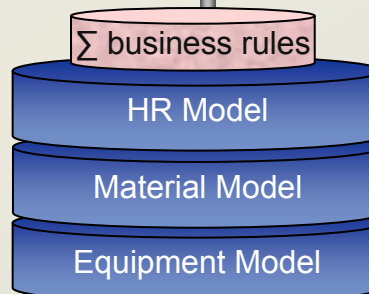
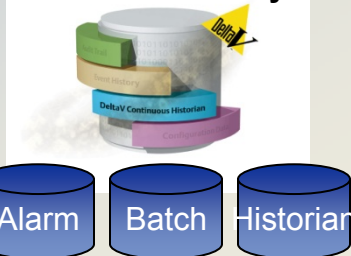
TOOLS



Office Network

RULES

SOA Gateway

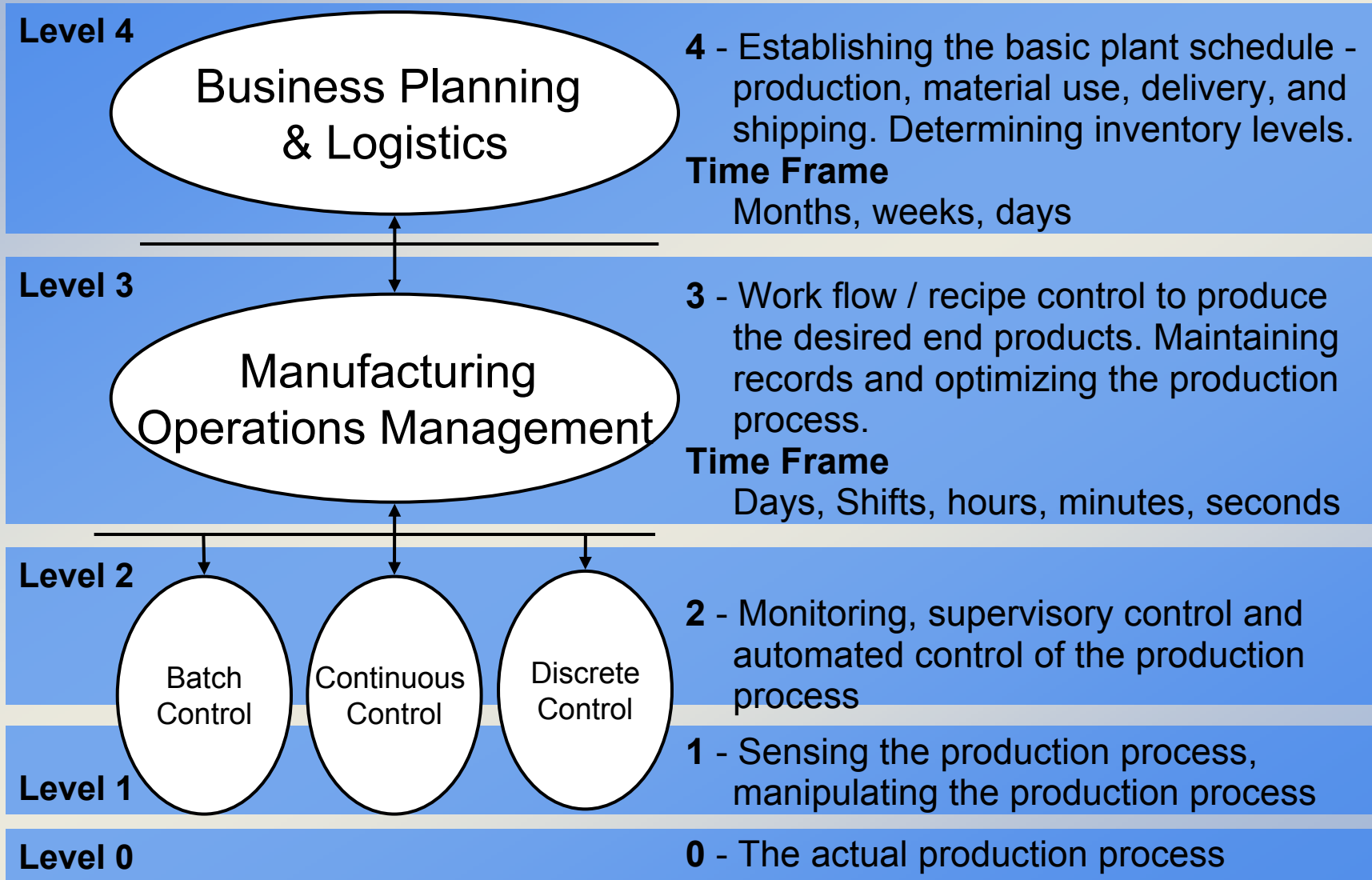


DATA

Control Network



ISA 95 View of Enterprise Levels



Produce to Order & a need for a flexible plant ?

ISA 95 Has described all operational processes and our model reports **CAPABILITY**

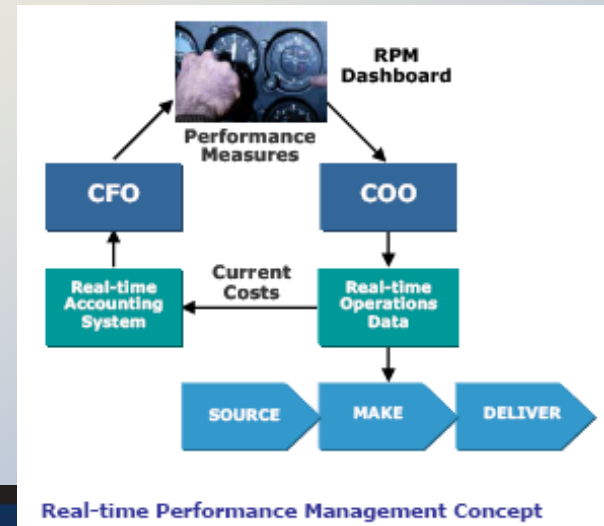
With **ERP Systems** Operations manages the desired **CAPACITY** by planning

Management wants to have insight into **CAPABILITY** to manage desired **CAPACITY** & **Constraints** will need to be optimized...real time

People
Material
Equipment

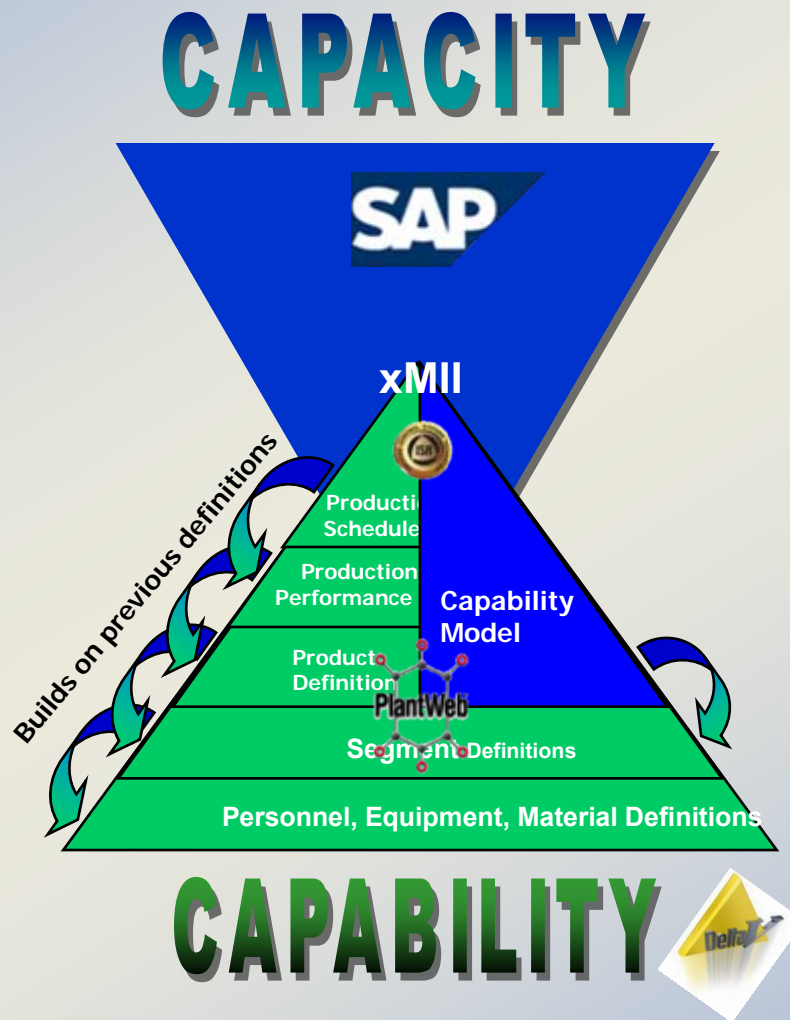


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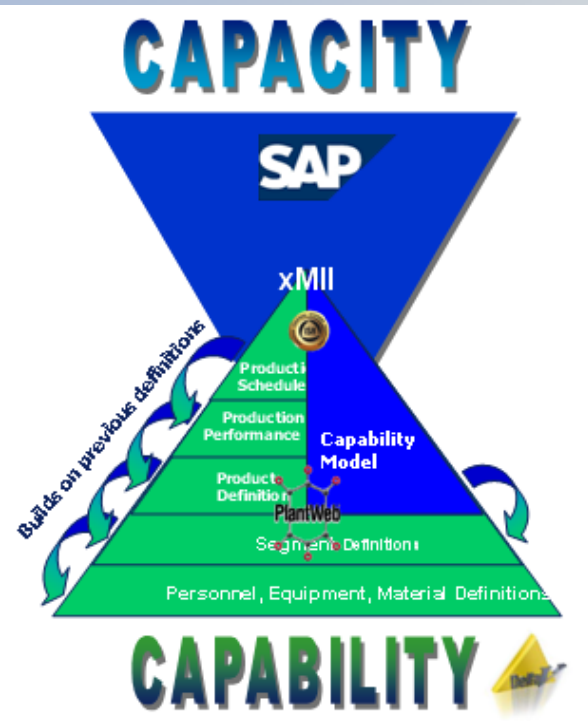


Required for industry: SAP Integration

Identify and improve High Cost Area's



OEE -> Compare SAP Target with your Operational KPI's



$$\text{OEE} = \text{Availability \%} * \text{Performance \%} * \text{Quality \%}$$

OEE =

92

*

97

*

99

OEE =

96

*

94

*

97

$$\text{OEE} = \text{Availability \%} * \text{Performance \%} * \text{Quality \%}$$

People



Material



Equipment



PART OF OUR DEMO

OPC Health Information of a "Smart Plant"

Questionable FF / Hart / Wireless

COUPLING HEALTH 19.4813 %

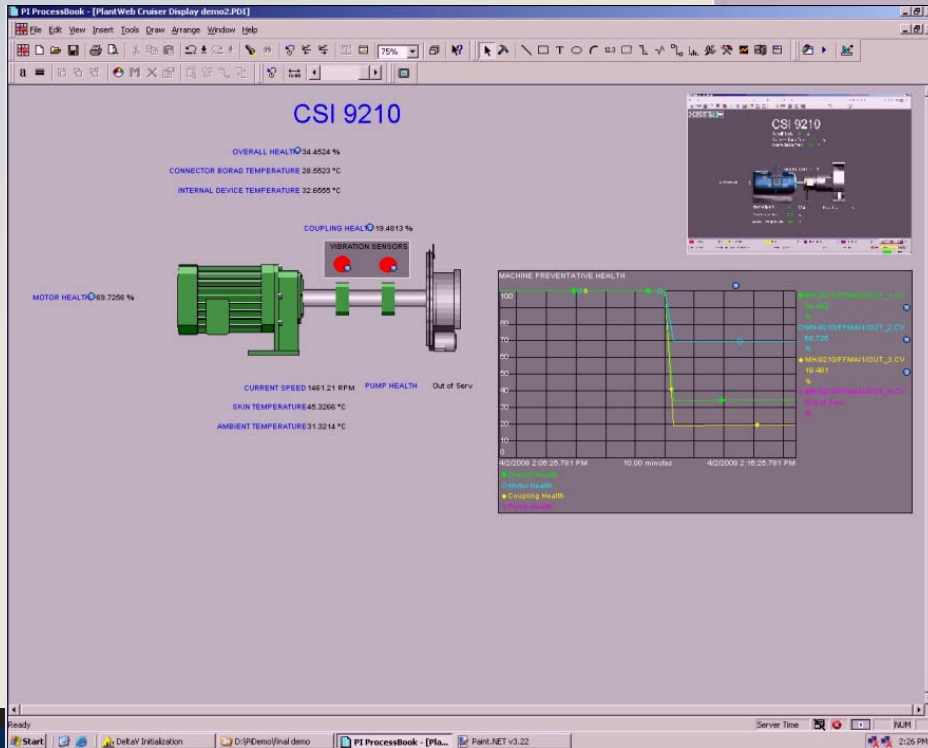
OVERALL HEALTH 34.4524 %

CONNECTOR BORAD TEMPERATURE 28.5523 °C

INTERNAL DEVICE TEMPERATURE 32.6555 °C

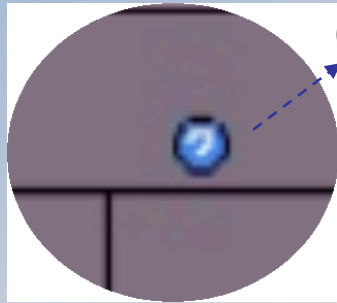
COUPLING HEALTH 19.4813 %

VIBRATION SENSORS

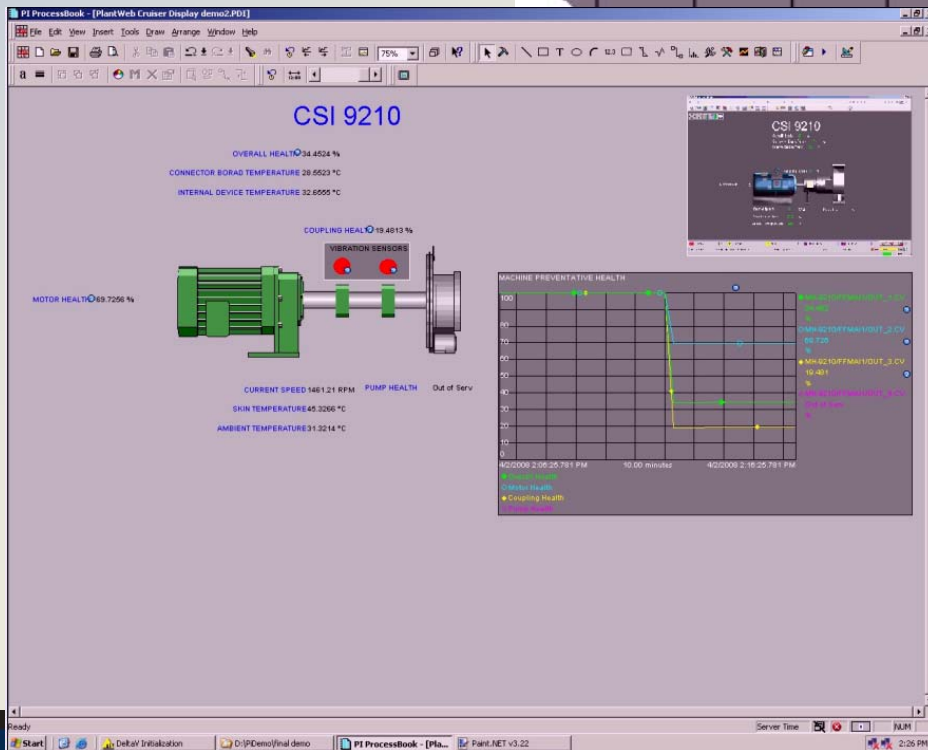
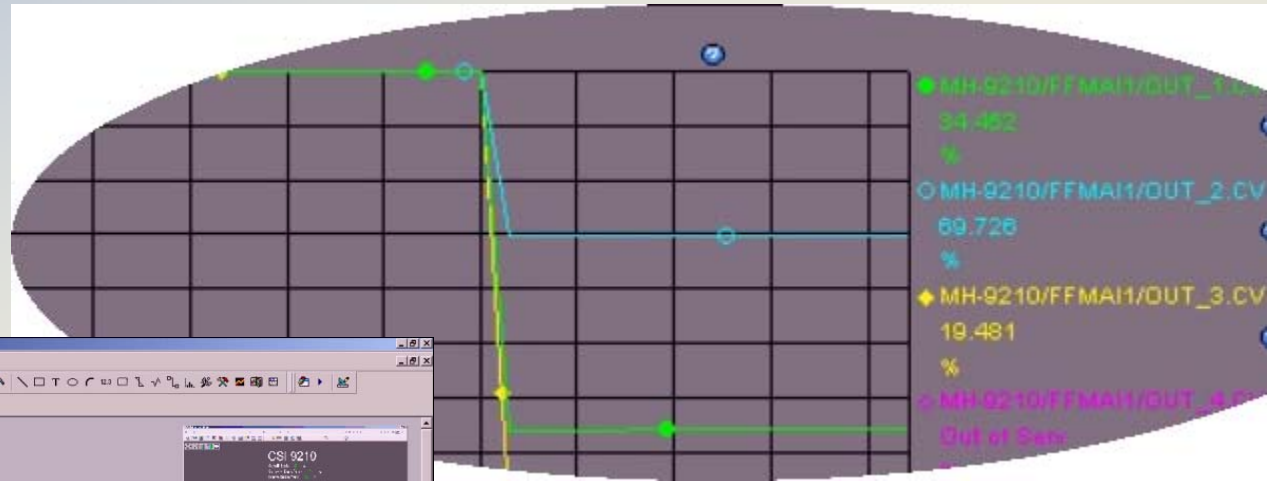


New Release 3.1 PB

Processbook includes OPC Health Information of a "Smart Plant"

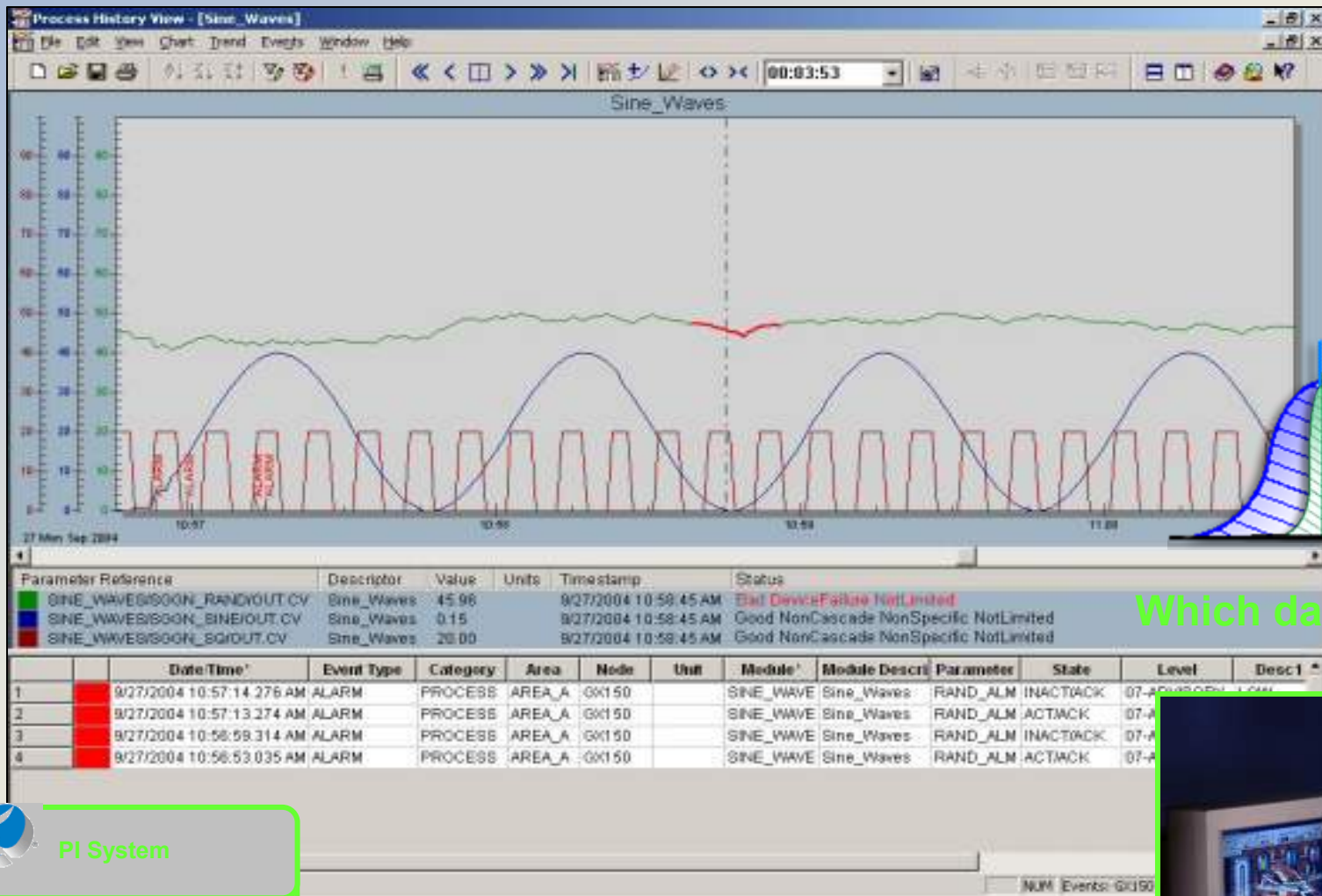


Questionable FF / Hart / Wireless



New Release 3.1 PB

Smart Status Information Powered by PlantWeb



Which data do I use ?

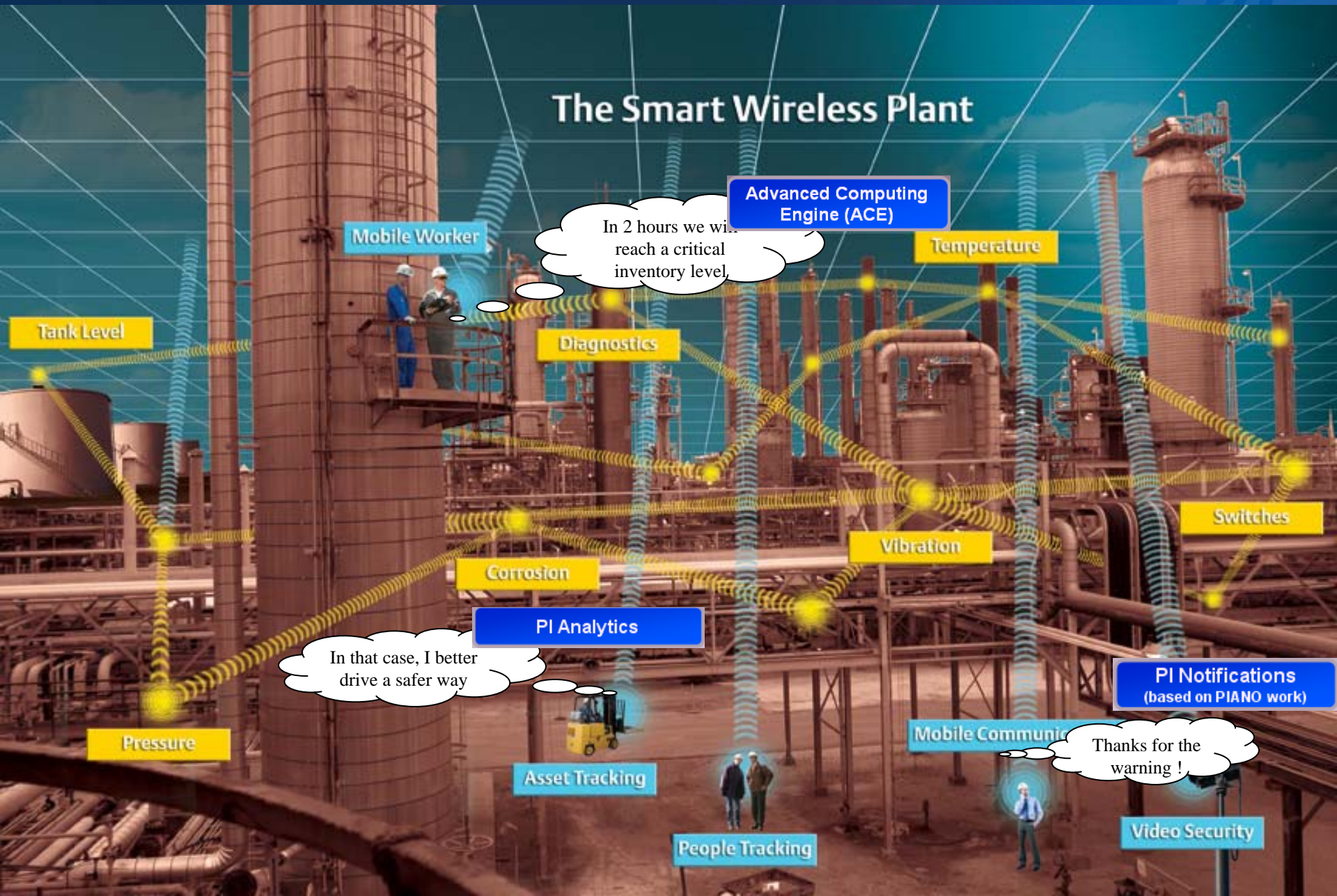


PI System

Quality Sample OFF SPEC
 Too much energy usage \$\$
 MODEL Alarm
 High vibration Warning \$\$
 Awaiting Confirmation \$\$

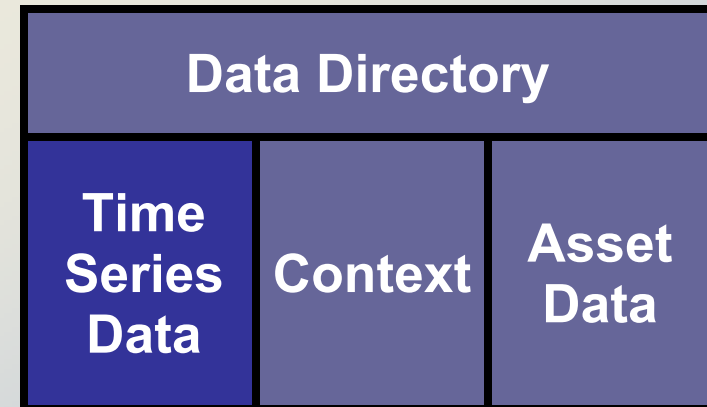
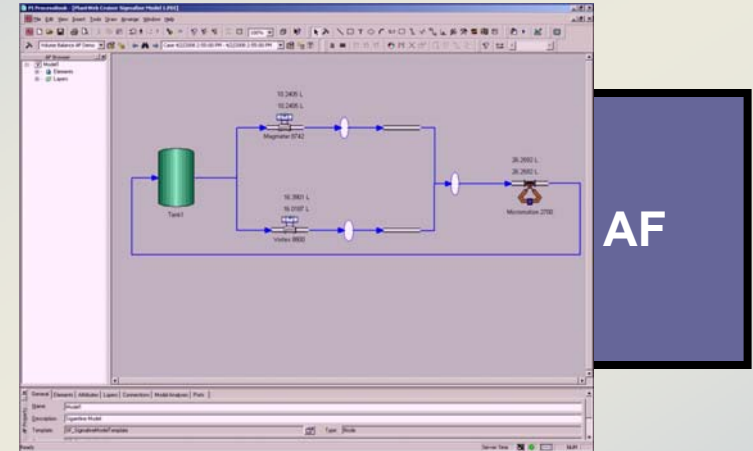


Creating wisdom for operations



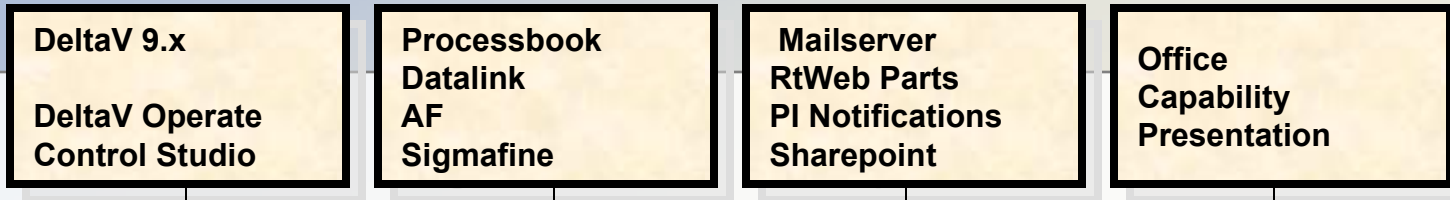
Want to see AF live ?

- It starts with the PI System
- Builds on the Analysis Framework and Module Database
 - Ongoing “Foundation” initiative with Emerson Asset Structure
 - Ongoing “PIANO” initiative reacting on Health Alerts from “smart” equipment (e.g. FF/Hart)

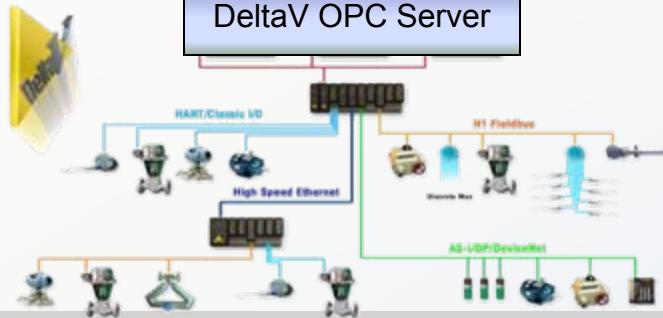
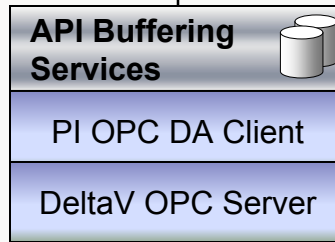
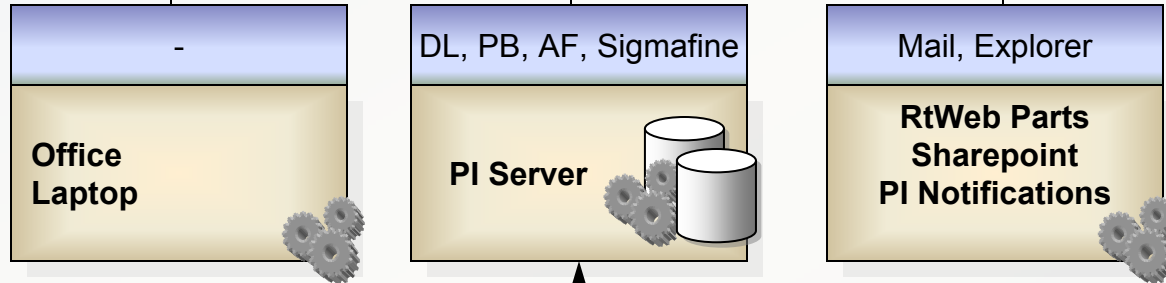


Cruser to PI: Architecture

Users



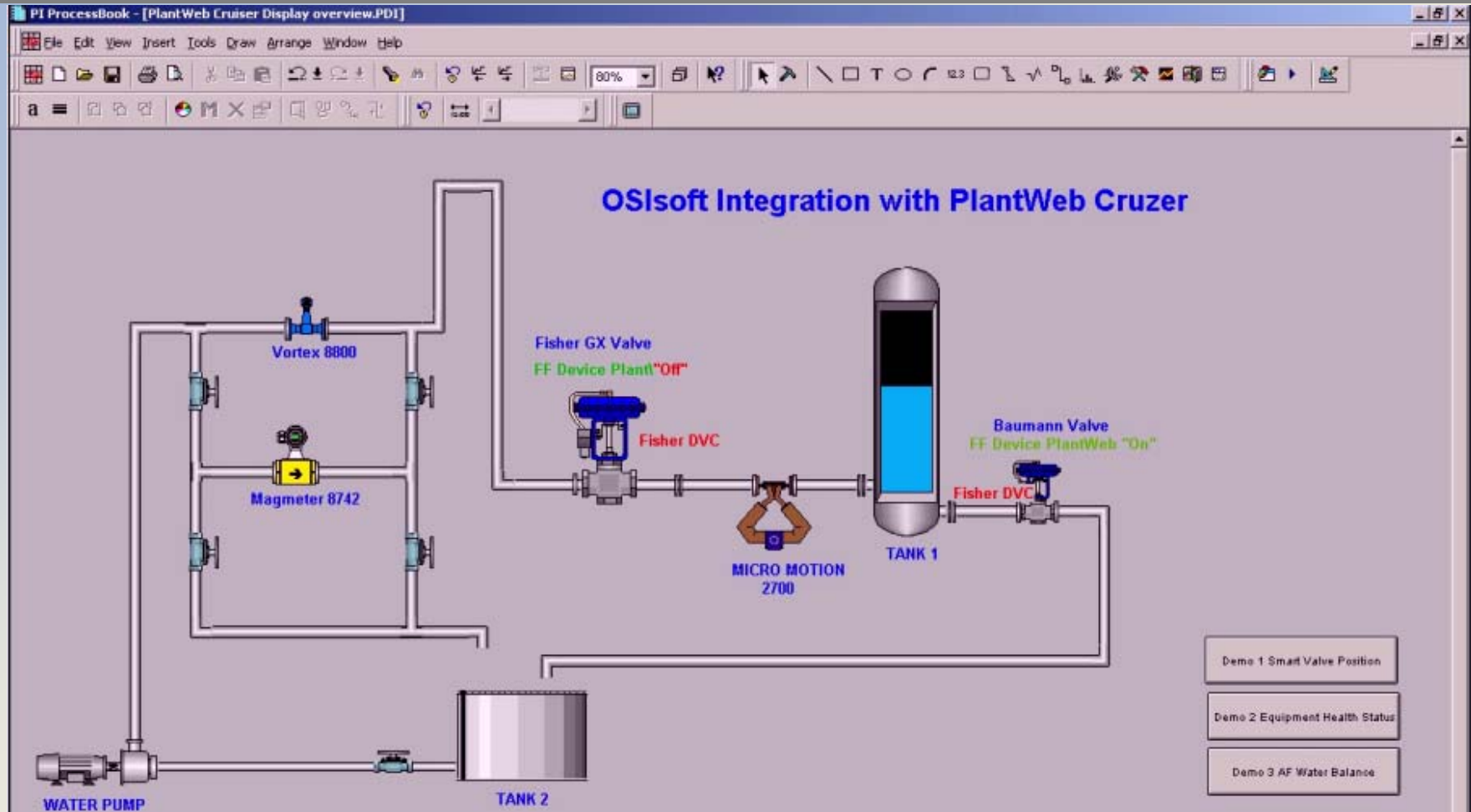
"Under the Hood"



Other SW & versions:

- PI server 3.4.275.38
- SQL server 2005 Express
- Sharepoint MOS 2007
- PI Notifications 1.0.777
- RtWebparts 2.0
- Datalink 3.1.6
- Processbook 3.0.15.7
- AF 2.0
- PI OPC 2.3.7.0
- Sigmafine 4.4.2.1475

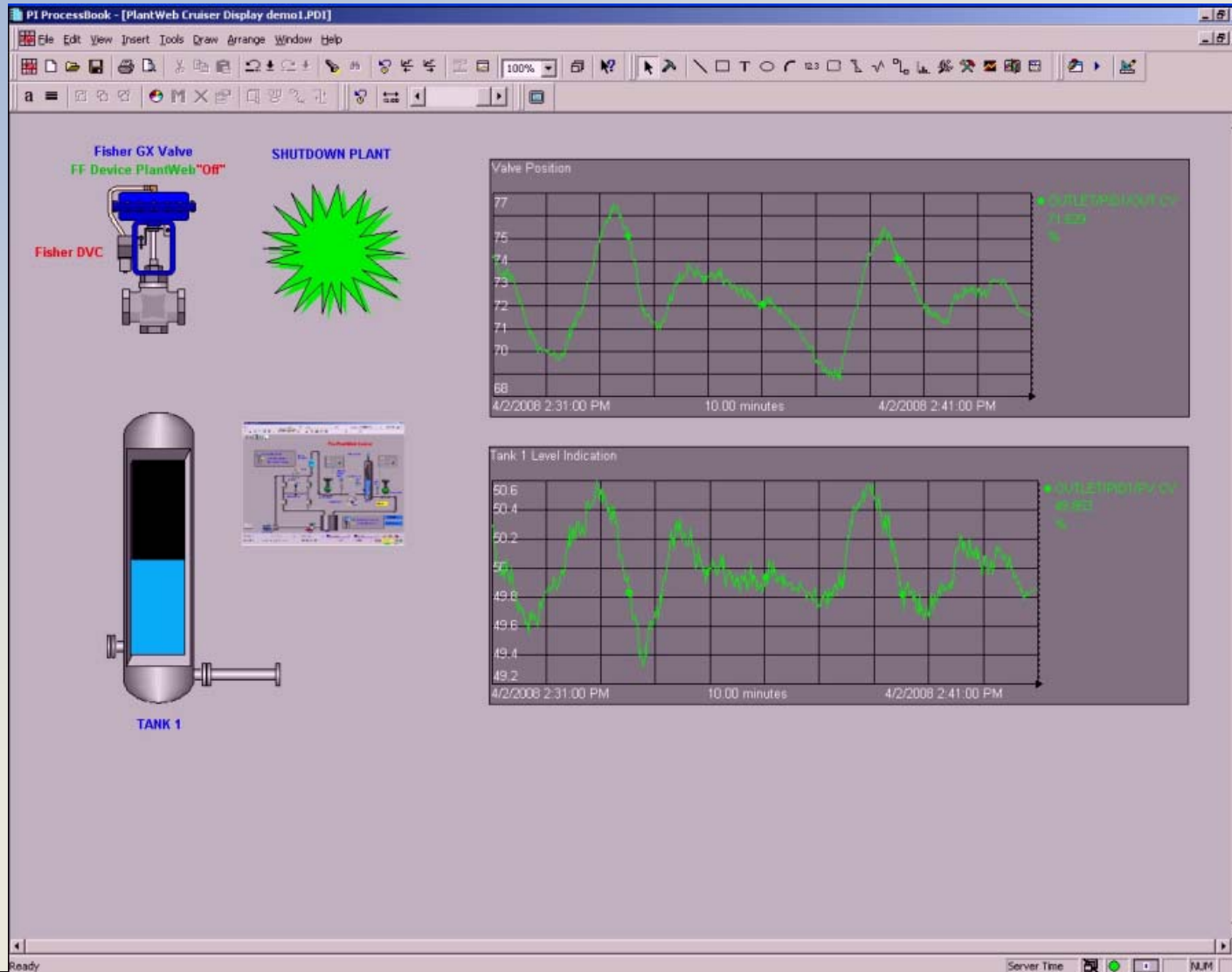
Cruiser Process explained



Scenario 1 Description

- What are we showing
 - 1) We show a **valve failure** of a “non-Smart-valve” due to the loss of the feedback of the valve-positioner. Resulting in a **Plant Shutdown**.
 - 2) Show the same feedback fault for a “Smart-valve”.
In this case it will keep controlling the valve position but will raise a PlantWeb Health Alert. Result is **NO Plant Shutdown**.
- Value from OSIsoft
 - Showing the **Health Status Alerts** of the Emerson OPC server with the **new release of PB** shows the real equipment health. It is by choice to include only healthy data into your equations etc.
 - **PI Notifications** can be used to trigger the right people in your organization.
- Value from Emerson
 - The industry standards Hart, FF and Wireless are only transporting the equipment information. PlantWeb adds the smarts to prevent this shutdown.

First scenario: Demo 1



Demo 1 From DeltaV Historian

DeltaV InSight

File View Options Applications Help

PID1 Input Output Control Learn Now All Modules All Assets 15 minutes

Modules Overview On-Demand Tuning Adaptive Tuning Models Viewing Learning Setup Simulate

PW_Cruiser
 AREA_A
 FLC_1
 INLET
 PID1
 OUTLET
 PIC-1
 PID_1
 BOILERS

7 Mon Apr 2008

Parameter Reference	Descriptor	Value	Units	Timestamp
INLET/PID1/MODE.ACTUAL	MODE	AUTO		4/7/2008 10:55:04 AM
* INLET/PID1/OUT	OUT	7.89	%	4/7/2008 10:55:04 AM
INLET/PID1/PV	PV	2.75	m3/hr	4/7/2008 10:55:04 AM
INLET/PID1/SP	SP	3.21	m3/hr	4/7/2008 10:55:04 AM

Test Process

Ultimate gain: 0.00
 Ultimate period: 0.00 Sec
 Process dead time: 0.00 Sec
 Process Gain: 0.00
 Process time constant: 0.00 Sec

Integrating process: Default Process
 Step size: 3
 Status: Waiting to test process.

Tuning Calculation

Process type: Typical - PI
 Desired Response: Normal

Recommended Settings

Gain: 0.25
 Reset: 1.74 Sec
 Rate: 0.00 Sec

Controller

Output: 0.0
 PV: 7.3
 SP: 3.2
 Mode: AUTO/AUTO

Gain: 0.25
 Reset: 1.74
 Rate: 0.00

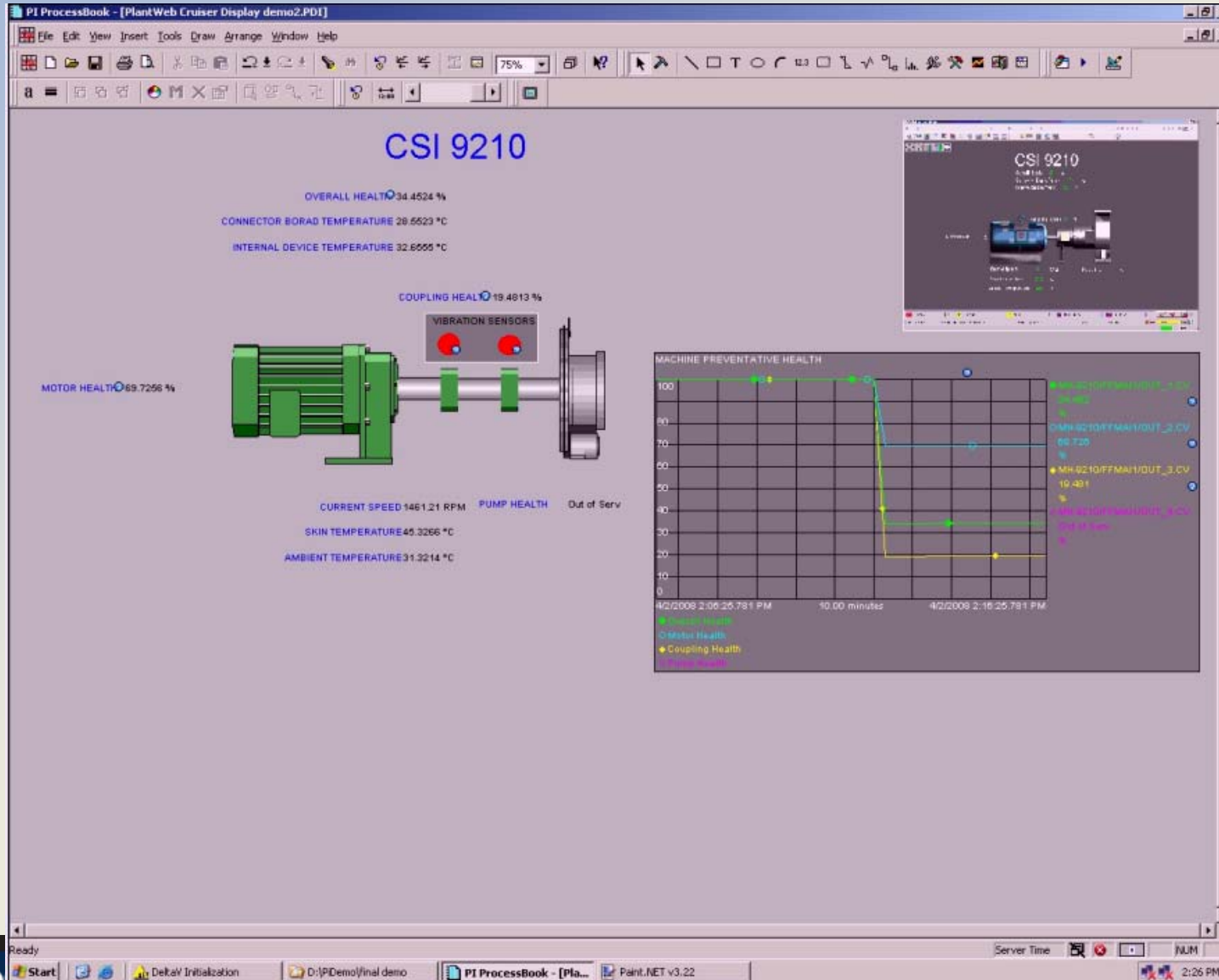
Inspect
 Tune

Historian: DWINST CAN-CONFIGURE All IM

Scenario 2 Description

- What are we showing
 - We show a physical imbalance of rotating equipment that results in a (preventive and predictive) Health Alert.
 - We show that PlantWeb raises a Smart Health Alert for triggering maintenance (or Operations if a more critical alert is caused) but again does **NOT cause a Plant Shutdown.**
- Value from OSIsoft
 - **Health Status Alerts** can trigger **PI Notifications.**
 - **RtWeb Parts** can show equipment overview to 3rd Pty
- Value from Emerson
 - Proper configuration of Alerts will help prevent failures of your critical equipment. With PlantWeb Alerts **unplanned DOWNTIME can be prevented.**

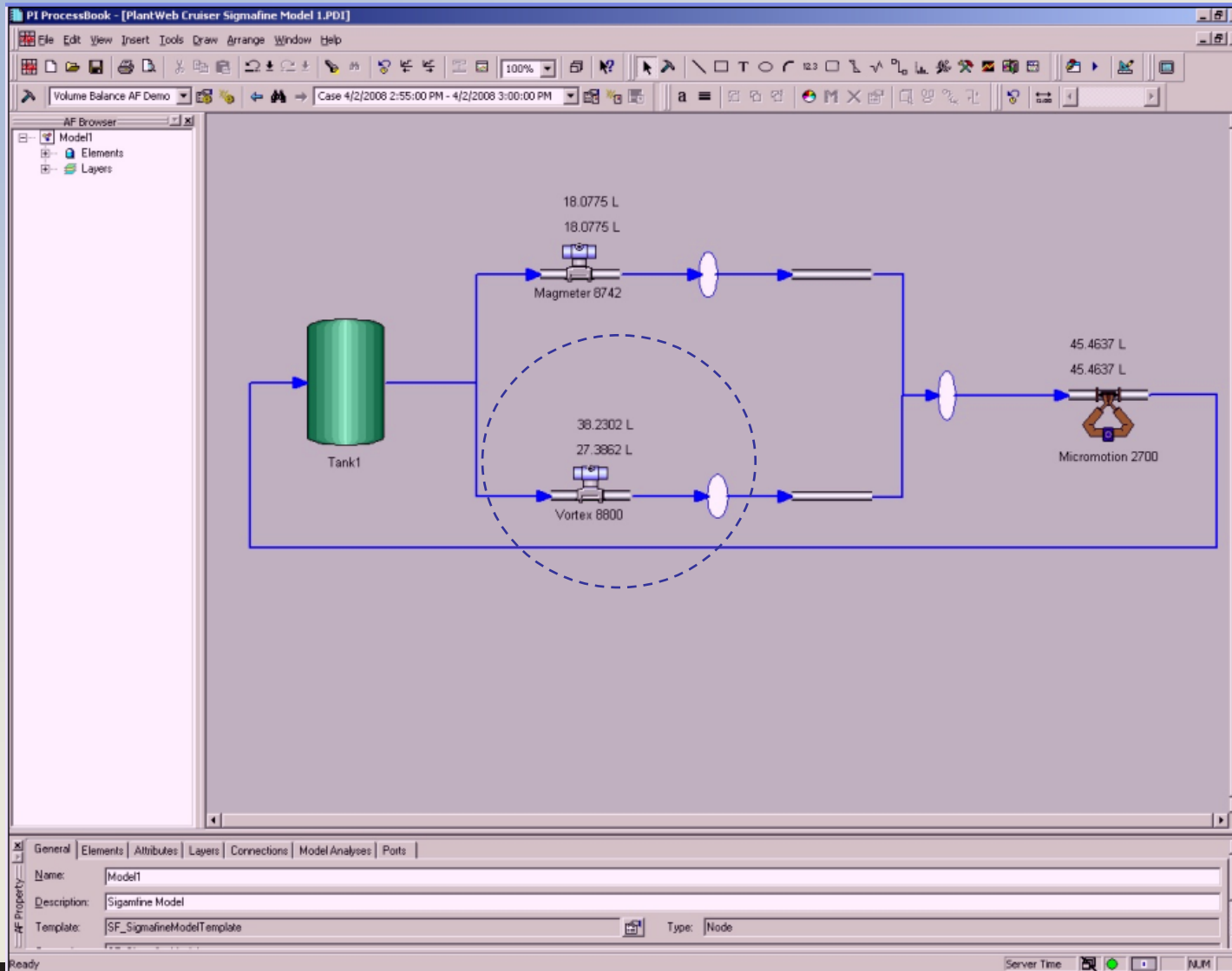
Equipment



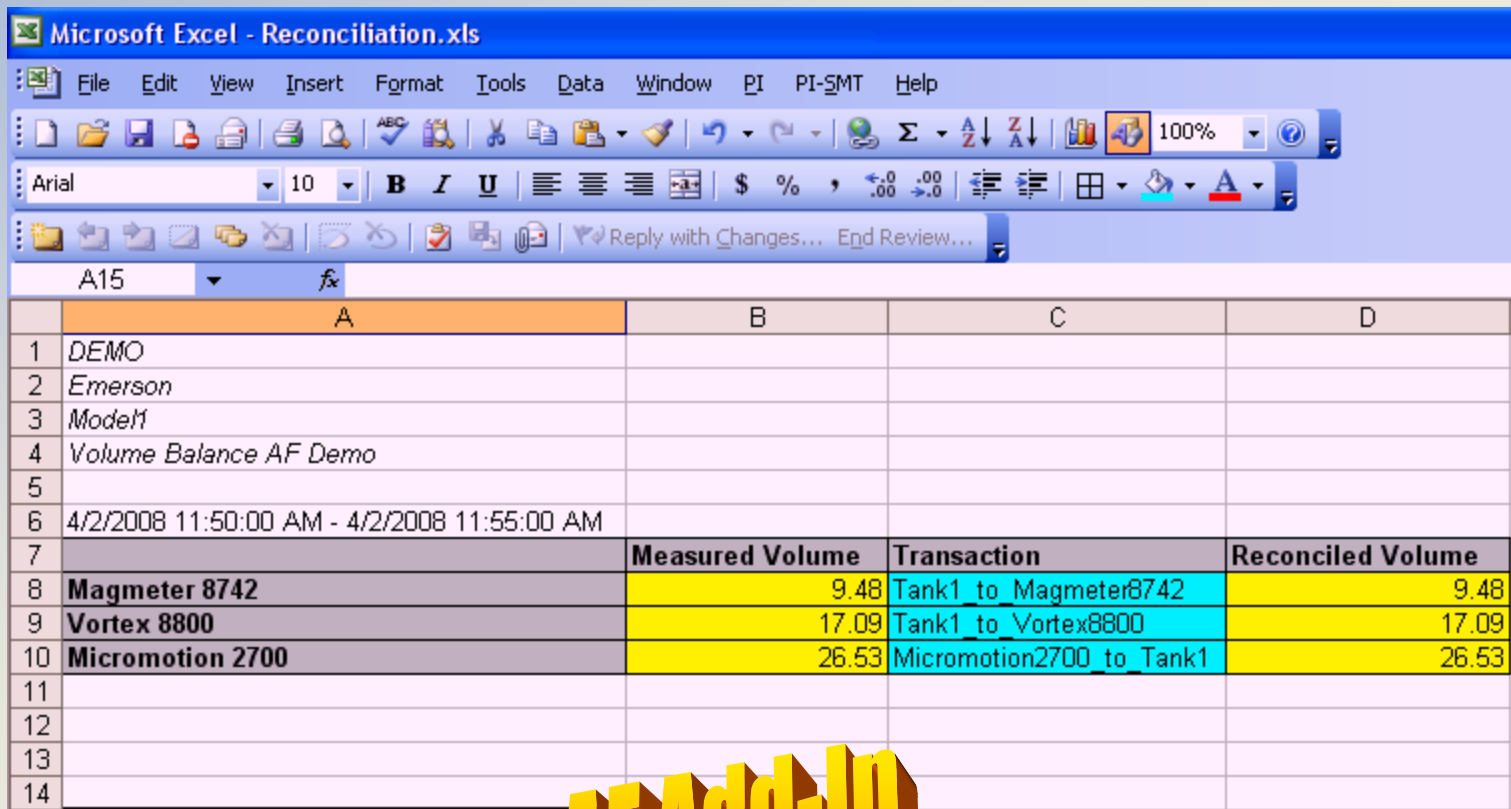
Scenario 3 Description

- What are we showing
 - We show a mass flow imbalance of “The Plant” with a real Sigmafine model of the plant using life data.
- Value from OSIsoft
 - Using AF and Sigmafine a accurate Mass Balance and reconciliation can be created and UOM can be translated for one version of truth.
 - Imbalance can trigger any of the OSIsoft clients or give **direct feedback to your operations** via bi-directional OPC server interface.
 - RtAlerts (PI Notifications) can trigger any device/system to prevent financial losses or environmental impact.
- Value from Emerson
 - Accurate robust metering solutions will give the lowest possible imbalance. 3 different accurate measuring devices are shown.
 - **Losses** or Imbalances are visible to operations when using the PlantWeb “Smarts”
 - Proper configuration of Alerts and Alarms will help you **prevent losses and prevent environmental impact.**

Demo 3 Out of balance



Excel



The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Reconciliation.xls". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, Window, PI, PI-SMT, and Help. The toolbar contains various icons for file operations, editing, and formatting. The active cell is A15. The spreadsheet data is as follows:

	A	B	C	D
1	DEMO			
2	Emerson			
3	Model1			
4	Volume Balance AF Demo			
5				
6	4/2/2008 11:50:00 AM - 4/2/2008 11:55:00 AM			
7		Measured Volume	Transaction	Reconciled Volume
8	Magmeter 8742	9.48	Tank1 to Magmeter8742	9.48
9	Vortex 8800	17.09	Tank1 to Vortex8800	17.09
10	Micromotion 2700	26.53	Micromotion2700 to Tank1	26.53
11				
12				
13				
14				

AF Add-In

Conclusions Partnership



Using the “Smarts” of OSIsoft and Emerson you can

- Manage large amounts of real-time data
- Scale across a site and / or the Enterprise
- Accelerate decision-making
- Visualize, Collaborate on a Standard and open Platform

With our open systems you can

- Improve your uptime and production of each Asset
- Measure Health & Status information
- Optimize production
- Report and improve on your KPI's
- Prioritize your work (orders)

In-Process-Health* are important for Operations

* Health as part of a movement or Batch instead of only part of a unit





Emerson

A proven partner with global reach

Strong Company



Strong Technology



Ability to Add Value



MES & PI System Capability



EMERSON.
Process Management