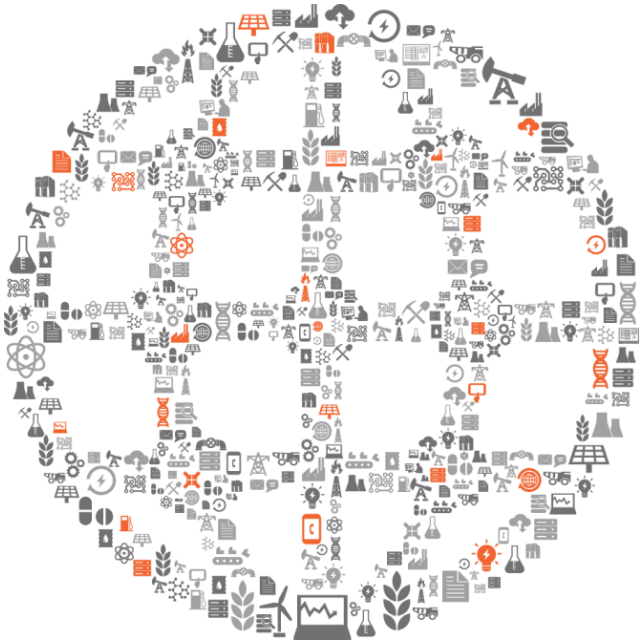


OSIsoft.

REGIONAL SEMINAR

The Power of Data

THRIVING IN A WORLD OF CHANGE

Gaining and Sharing Insights Across the Enterprise from Anywhere

Presented by **Todd McQuiston, Customer Support Engineer**

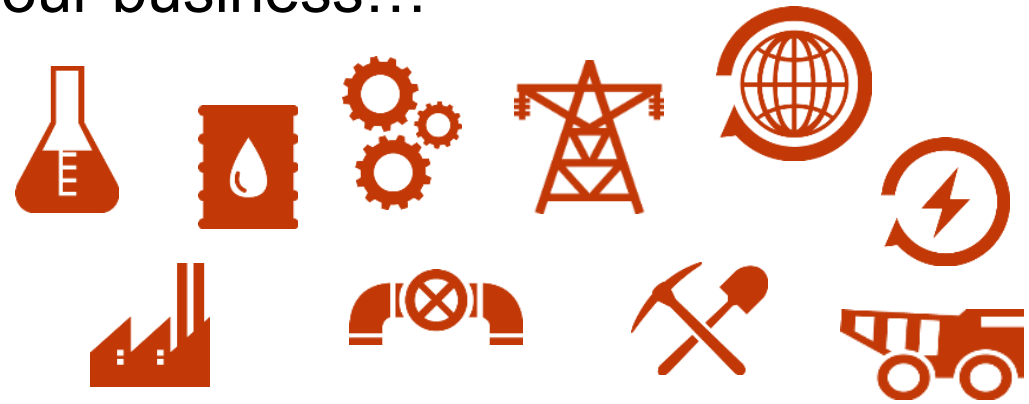
Data-driven Decisions

A recent **study at MIT** showed that organizations **relying on data** to make decisions **performed** at rates 4-6 % **higher** than their peers.*

**Erik Brynjolfsson, MIT Professor*

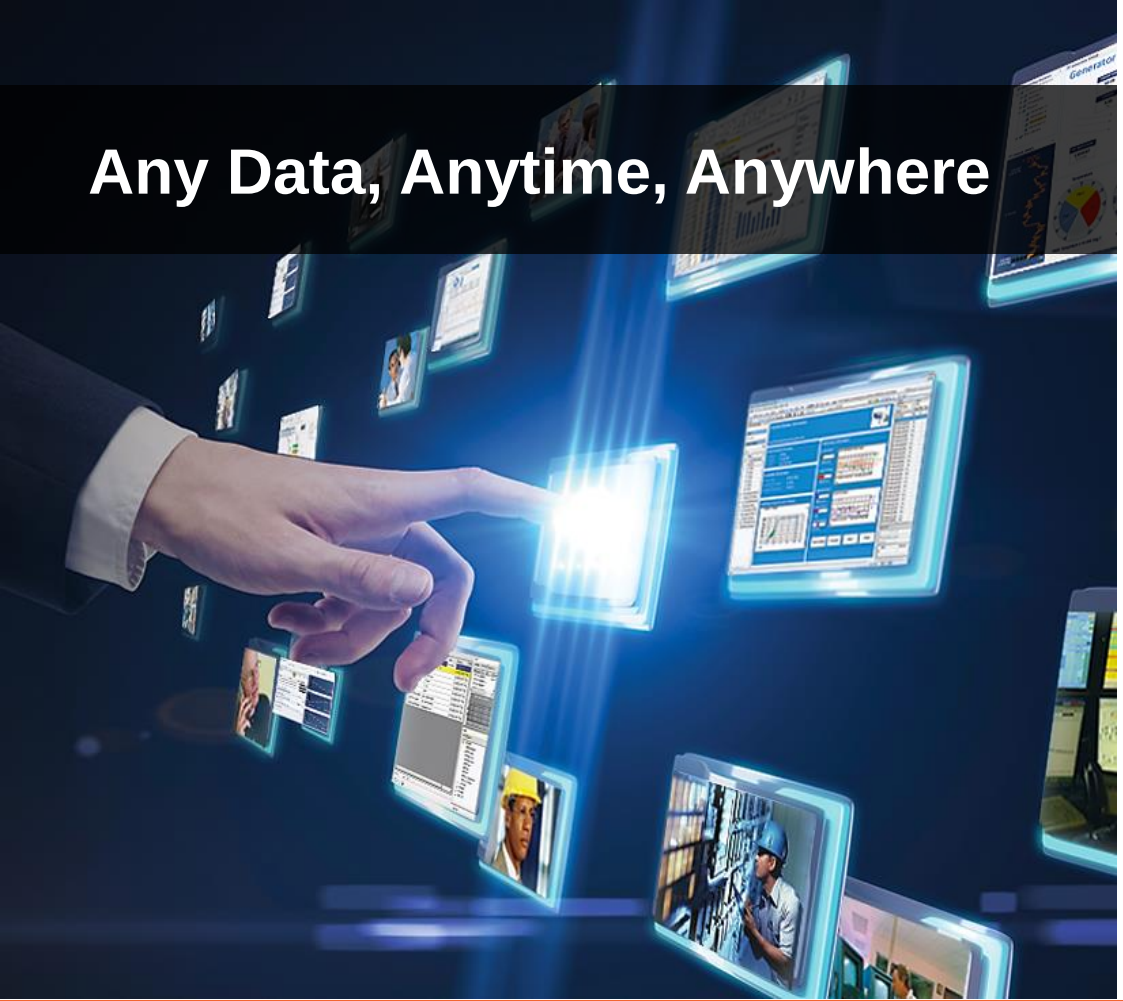
Sharing Insights Across the Enterprise

Operational **insights** are discovered frequently throughout your business…



…but is everyone able to **share** their discoveries **quickly**, **easily** and **effectively**?

Any Data, Anytime, Anywhere



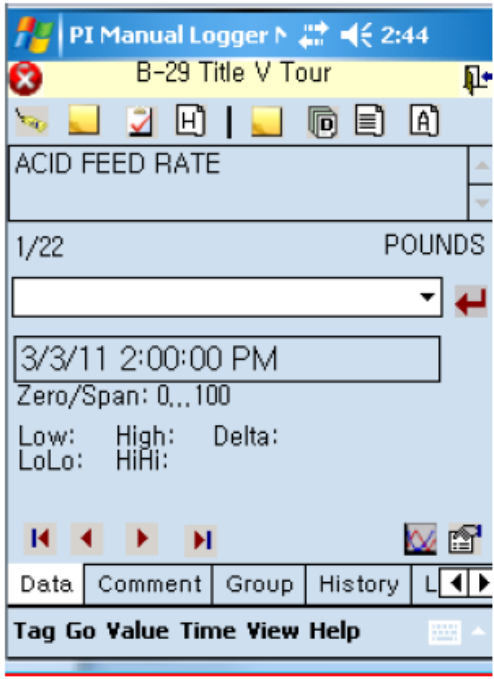
PI Visualization Suite

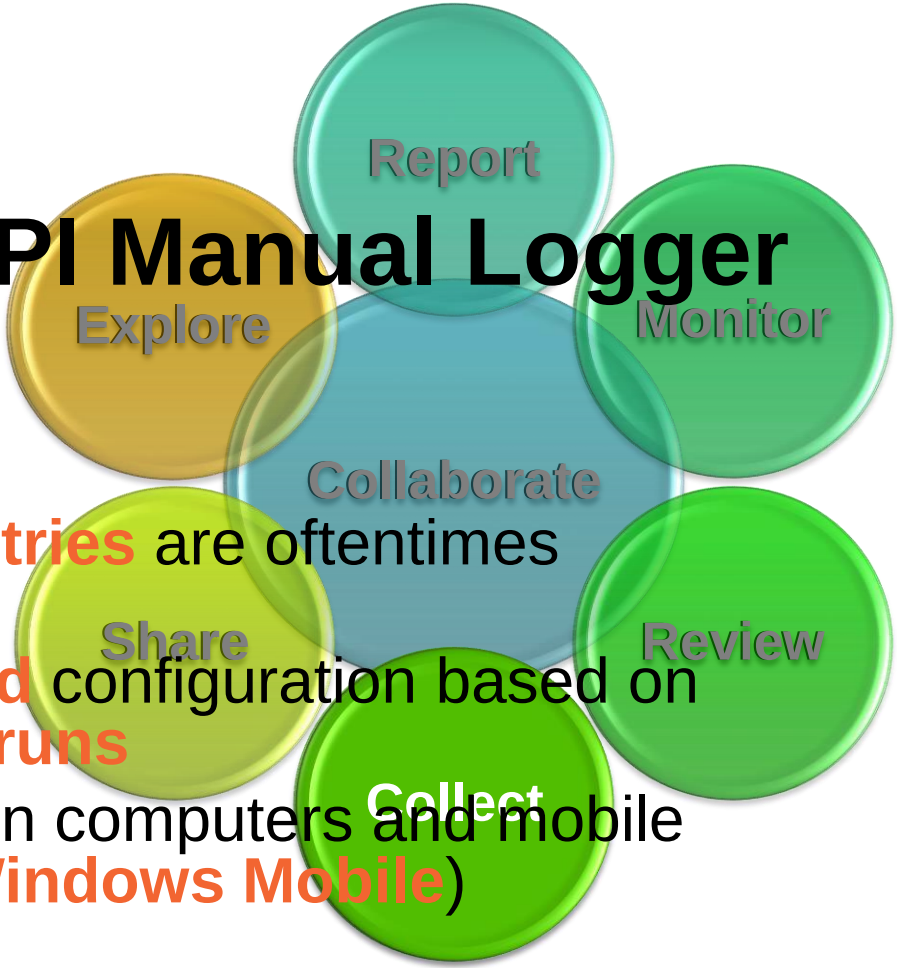
- Gives **every tool** at your fingertips
- To **fit your needs**
- And facilitate **enterprise-wide collaboration**

The PI System Client Tools

- **PI Coresight** for ad hoc analysis and collaboration with mobility
- **PI ProcessBook** for display building and monitoring
- **PI DataLink** for analysis and reporting
- **PI WebParts** for enterprise-wide collaboration
- **PI Manual Logger** for manual data collection

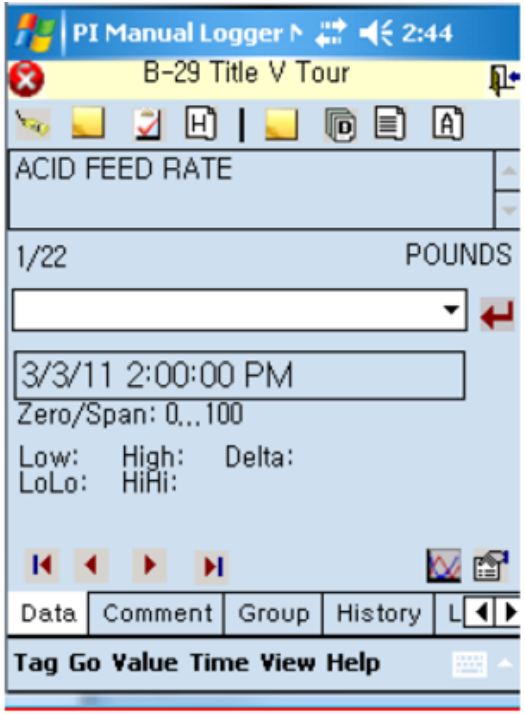
PI Manual Logger

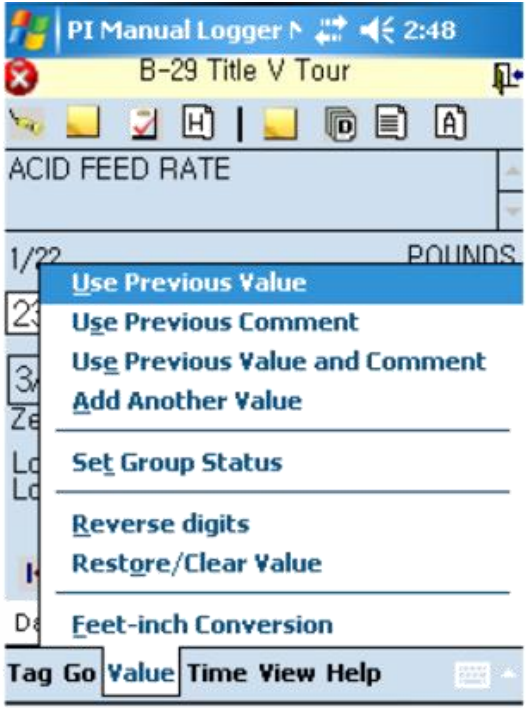




- **Manual entries** are oftentimes crucial
- **Centralized** configuration based on **tours** and **runs**
- Available on computers and mobile devices (**Windows Mobile**)

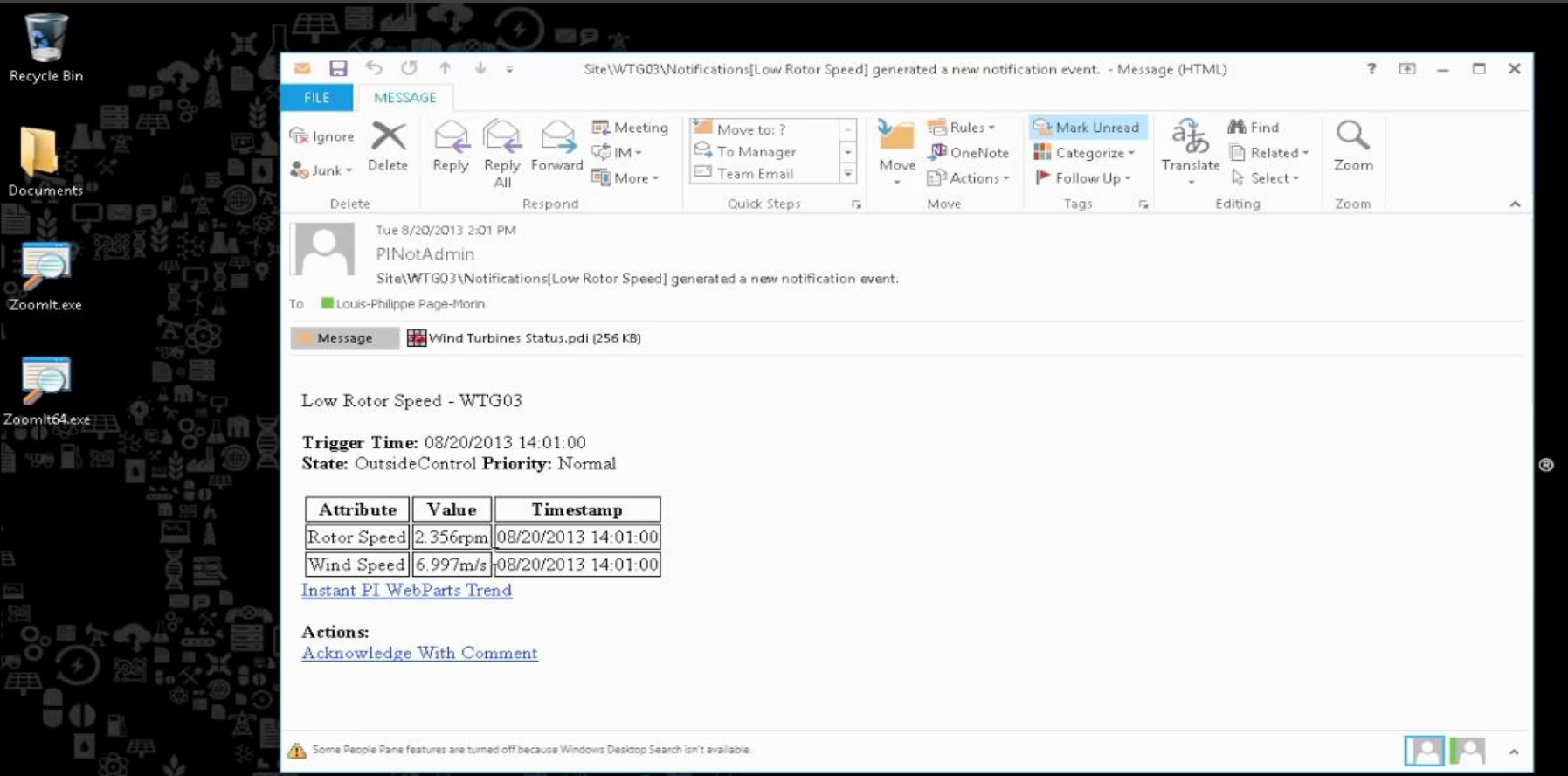
Case Study – Eastman Chemical

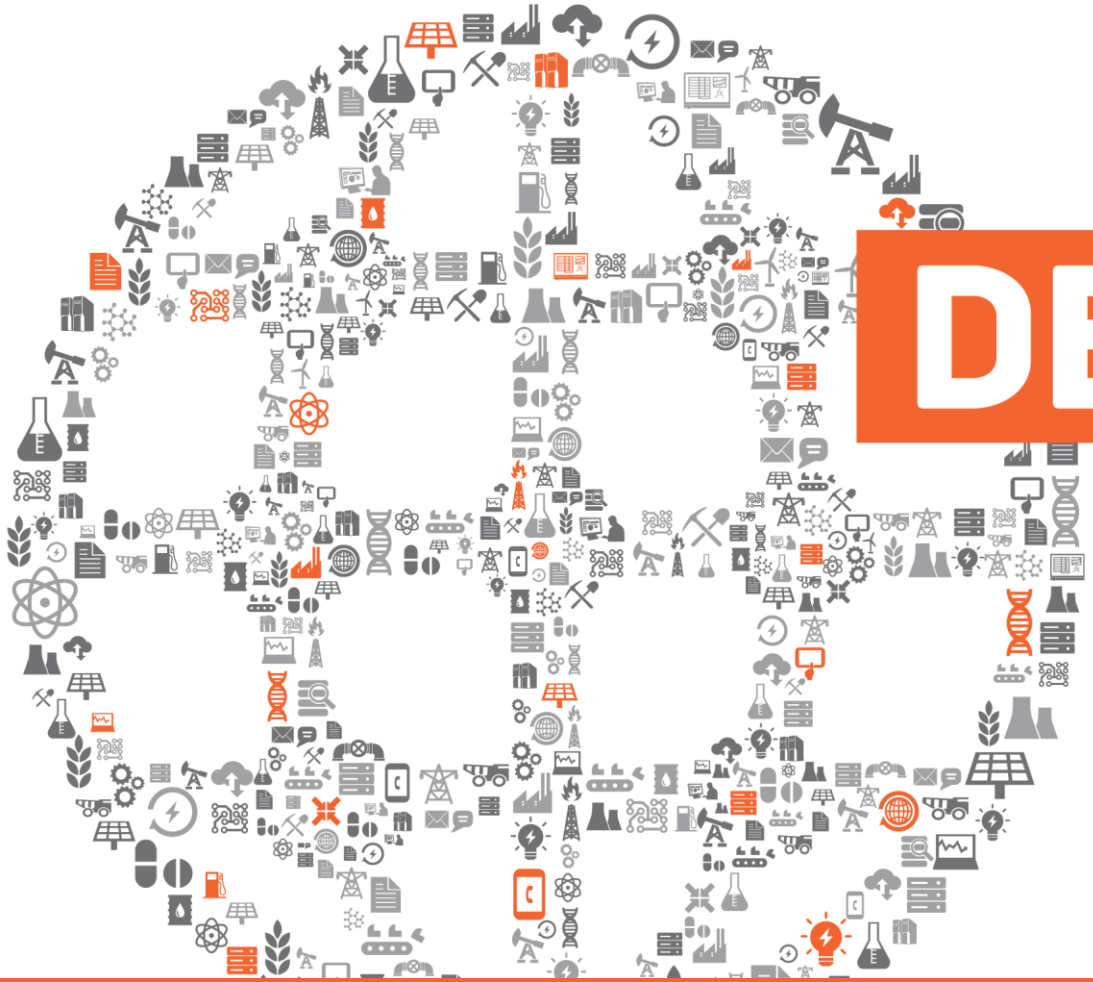




DEMO

PI Notifications and Visualization Tools

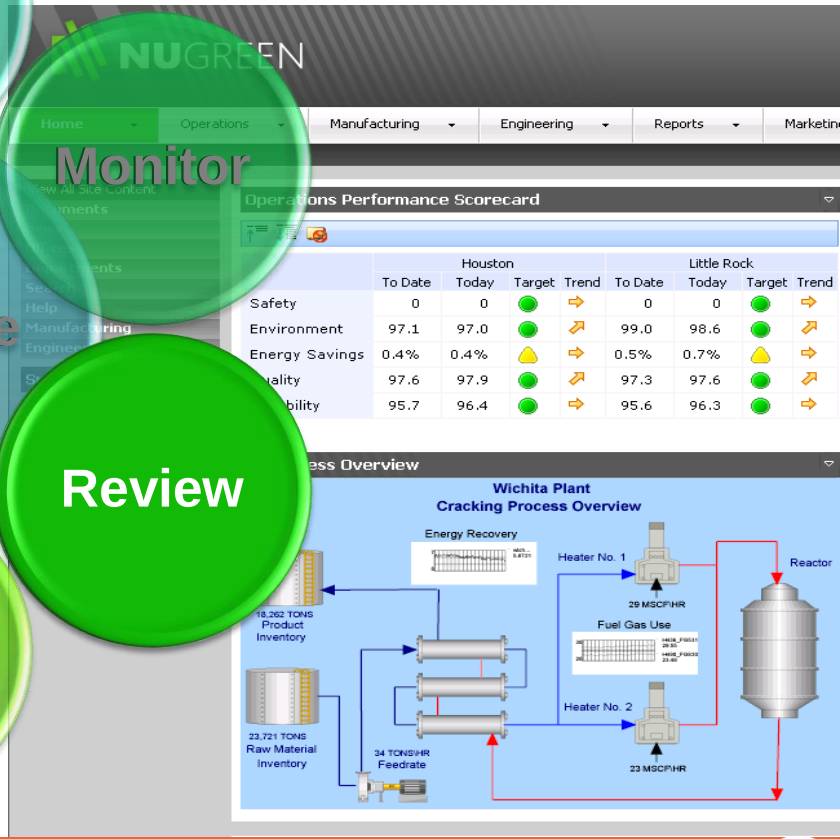




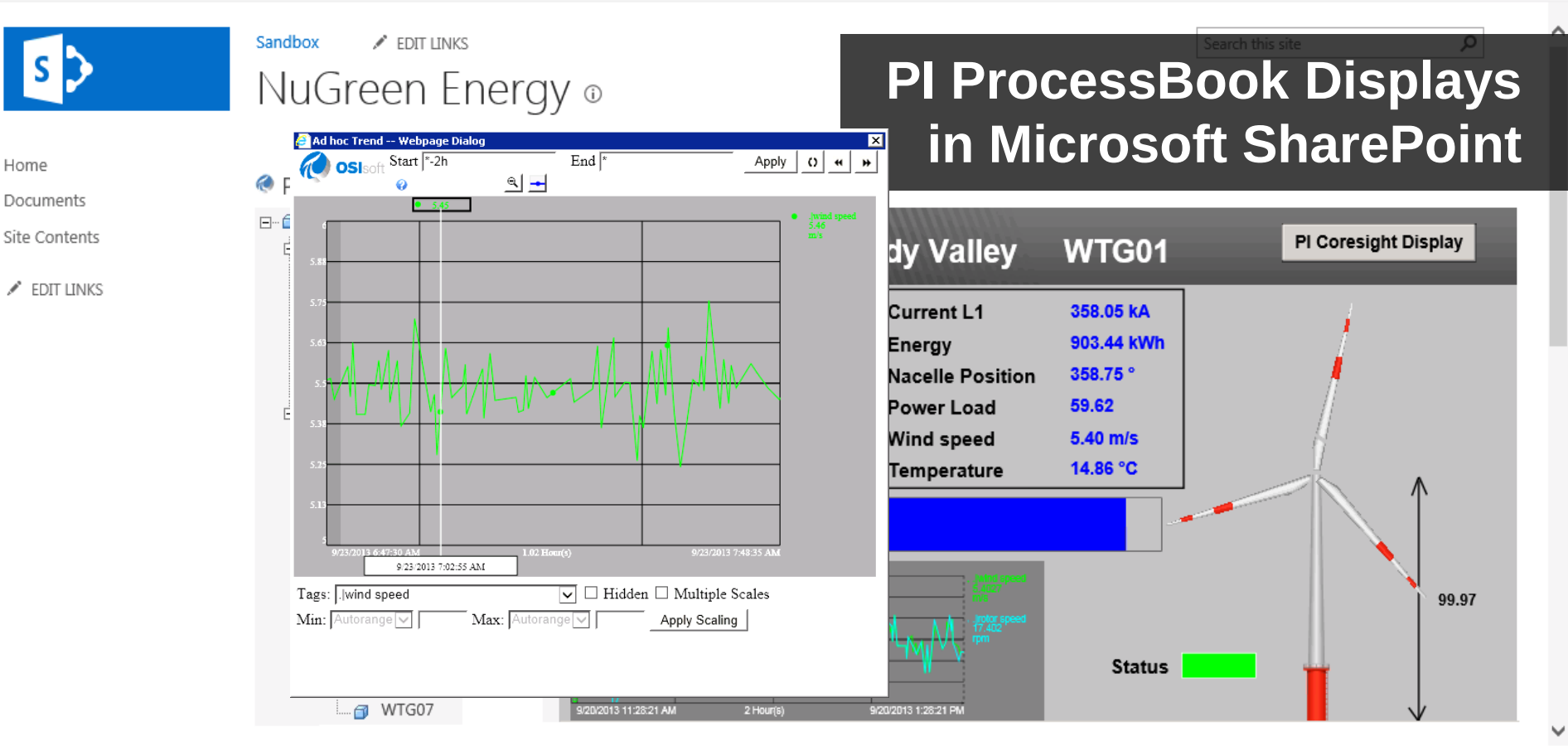
DEMO

PI WebParts

- Interactive w… **Microsoft S…**
- Allow **real-t…** …ization of operationa…
- **Share** displays and reports to a wider audience



PI ProcessBook Displays in Microsoft SharePoint



PI DataLink Reports in Microsoft SharePoint

Sandbox EDIT LINKS

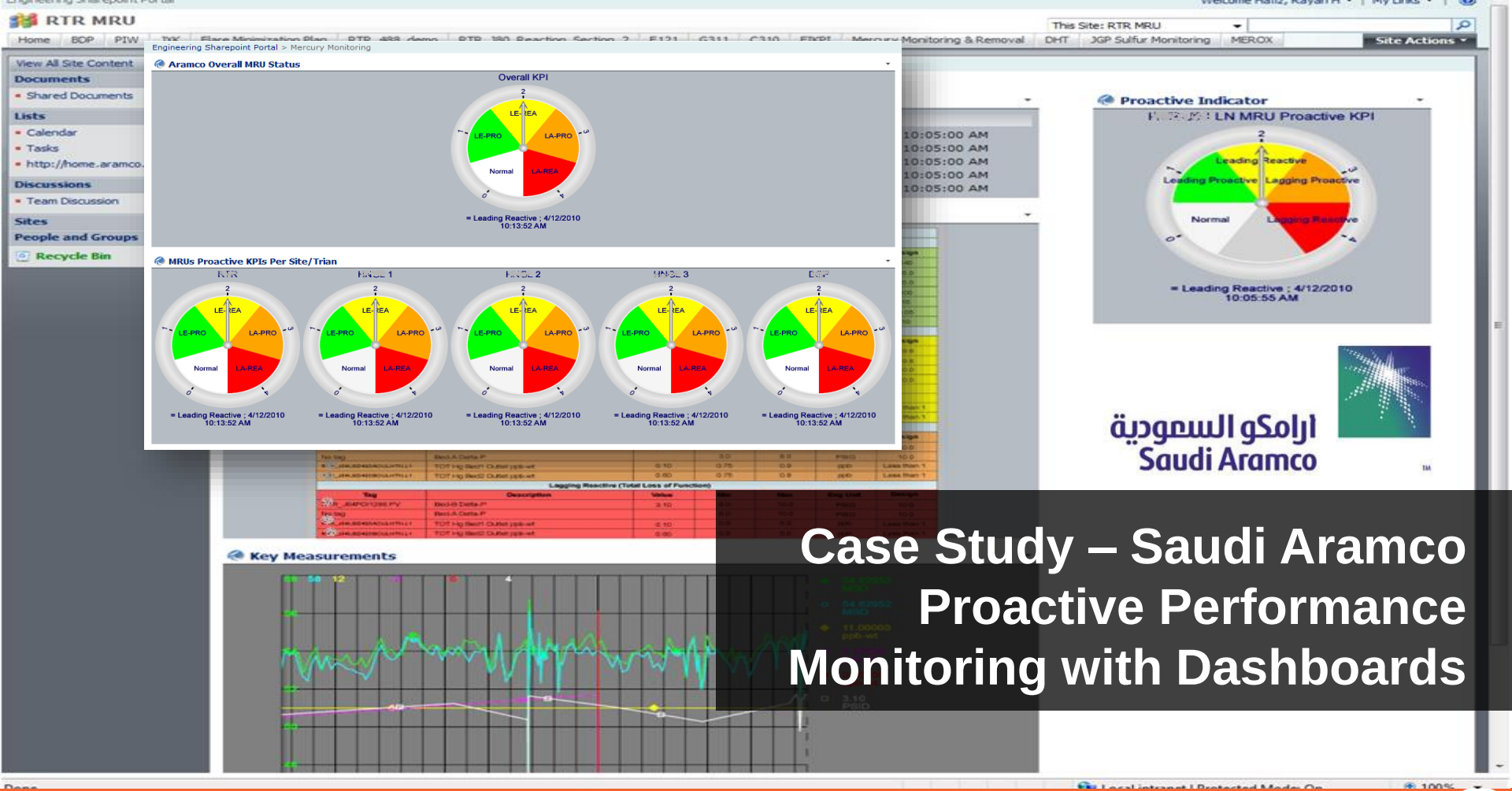
NuGreen Energy

Home
Documents
Site Contents
EDIT LINKS

Excel Web Access - Wind Turbines Daily Report_RS2013_DLES

FILE OPEN IN EXCEL DATA FIND

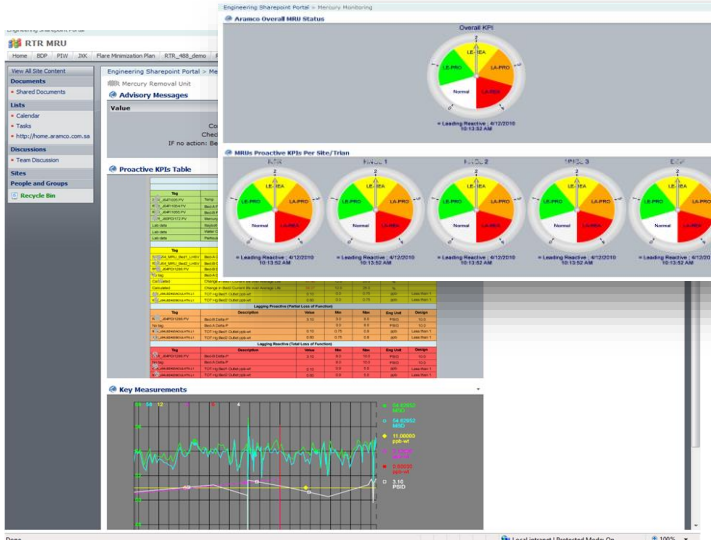
	A	B	C	D	E	F	G	H
1	NUGREEN	Wind Turbines Daily Report						
2								
3	From	Wind Farm		Windy Valley		Wind Turbine	WTG01	
4	September 22, 2013	Turbine				Environmental Conditions		
5	To	Model		1.5s		Wind Speed	5.53	m/s
6	September 23, 2013	Nominal Power		1.5	MW	Outside Temperature		
8		Energy	Rotor Speed	Nacelle Position	Current L1	Previous Values		
9		kWh	rpm	°	kA	Wind Speed	Outside Temperature	
10								
11	12:00 AM	905.73	17.50	163.34	360.14	5.42	14.98	
12	1:00 AM	905.29	17.50	164.28	360.05	5.50	15.03	
13	2:00 AM	905.70	17.51	144.69	360.13	5.45	15.09	
14	3:00 AM	906.06	17.51	161.13	360.17	5.40	15.14	
15	4:00 AM	907.02	17.52	225.30	360.37	5.56	15.20	
16	5:00 AM	905.36	17.50	158.31	360.07	5.38	15.24	
17	6:00 AM	906.21	17.51	138.86	360.22	5.50	15.23	



Case Study – Saudi Aramco Proactive Performance Monitoring with Dashboards

Proactive Performance Monitoring with Dashboards

Saudi Aramco needed a proactive solution to monitor and improve performance. After implementing **PI WebParts**, the impact on **performance improvement** meant multiple millions of dollars in additional revenue.



Rayan Hafiz

Saudi Arabian Oil Company

OSIsoft UC 2010

Business Challenge

- The process is **not fully monitored**
- Final products **selling prices are highly sensitive** to mercury levels in the process and need to be **better monitored**

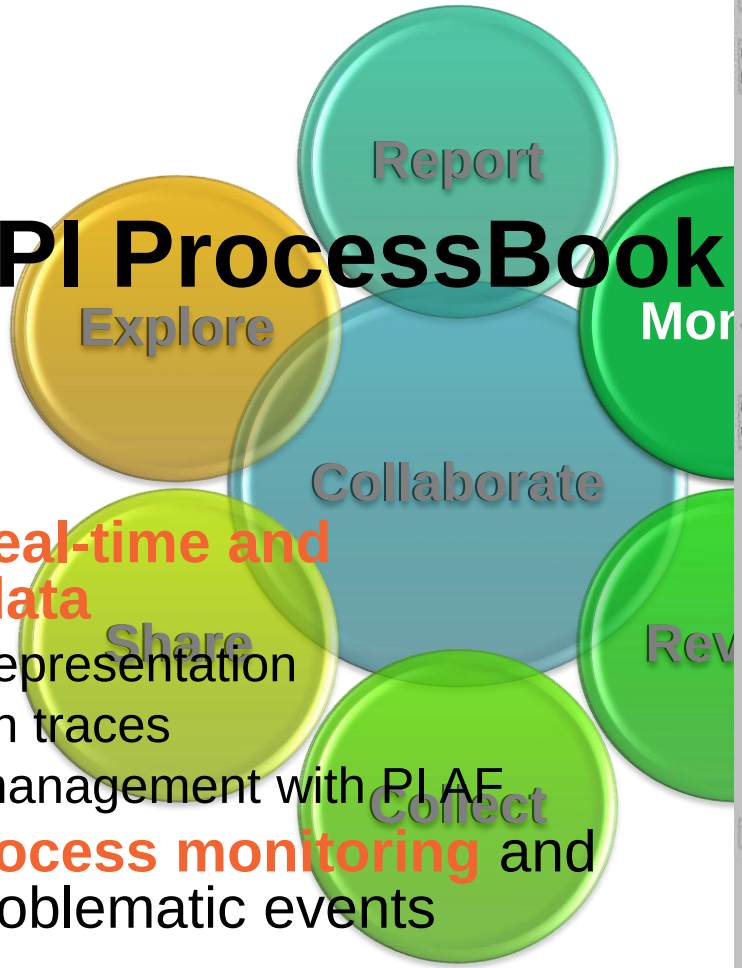
Solution

- PI WebParts to **see into the process from anywhere**
- **Dashboards and KPI** screens to fully monitor the process
- **Predictive model** to prevent problems in the process

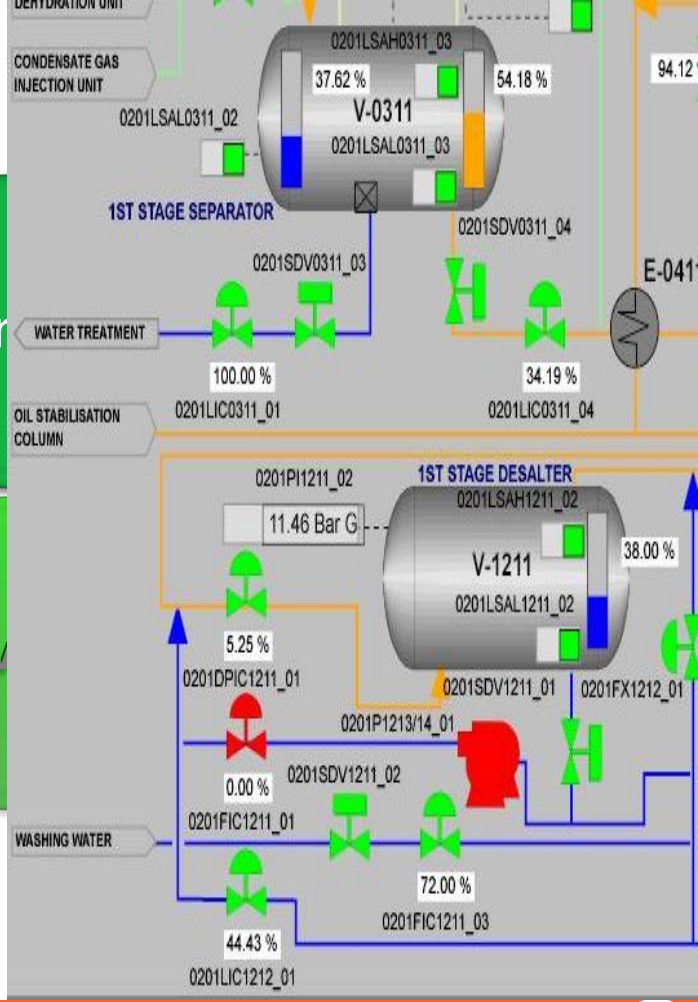
Results and Benefits

- **Complete monitoring** and management with proactive tools
- **Solutions template** could be used for other applications
- The OSIsoft tools **removed layers of complication**

PI ProcessBook

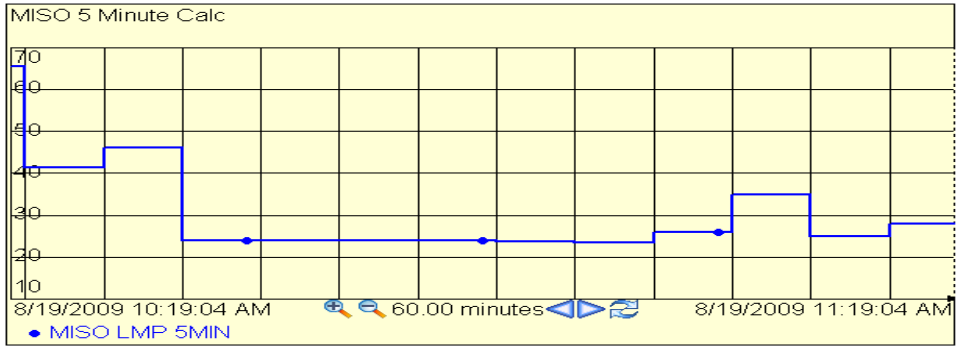


- Display of **real-time and historical data**
  - Process representation
  - **Trend** with traces
  - Context management with PI AF
- Allow for **process monitoring** and review of problematic events



Demand Response Overview

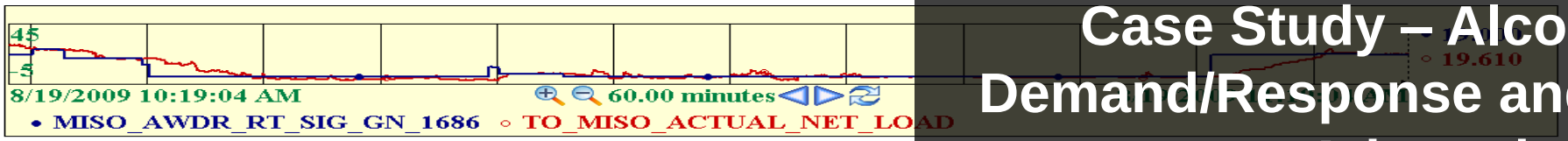
	Real Energy	Regulation	Spin Reserve
Cleared	19	18	00
Deployed	19	00	00



TOTAL POT LINE LOAD: 455.39 MW

OCB 1500	91.3
OCB 1502	90.8
OCB 1503	92.8
OCB 1504	90.4
GCS 3805	00.0
GCS 3806	90.0
GCS 3800	00.0

Current Average Price	28.50 dollars
5-MIN LMP Price	28.05 dollars
Last Hour LMP Price	31.75 dollars



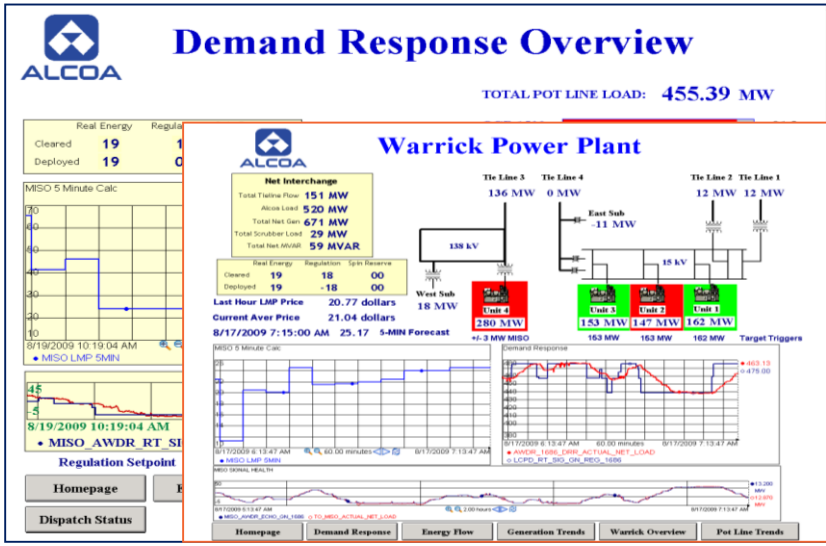
Homepage | Energy Flow | WPP Switchyard | Generation Trends | Warrick Overview | Pot Line Trends | Dispatch Status

Case Study – Alcoa Demand/Response and Adaptation

Industrial Scale Demand/Response

- **Warrick** is Alcoa's Largest Operating US Aluminum Smelter
- **330,000 MT** capacity/year
- **Energy is 30-40%** of Aluminum Production Costs
- Generate power for Smelter & Rigid Packaging

Brian Helms
Power Markets Coordinator
Alcoa Power Generation



Business Challenge

- Worldwide commodities **price competition**
- Older (**1960s**) facility
- Business took a major hit due to **economic downturn**
- Needed to find a way to **sustain the business**

Solution

- **PI System for energy regulation**: sell generated electricity to **Midwest ISO**
- **Monitor Midwest ISO** for energy demand notifications
- Submit **forecasted load data** from the PI System

Results and Benefits

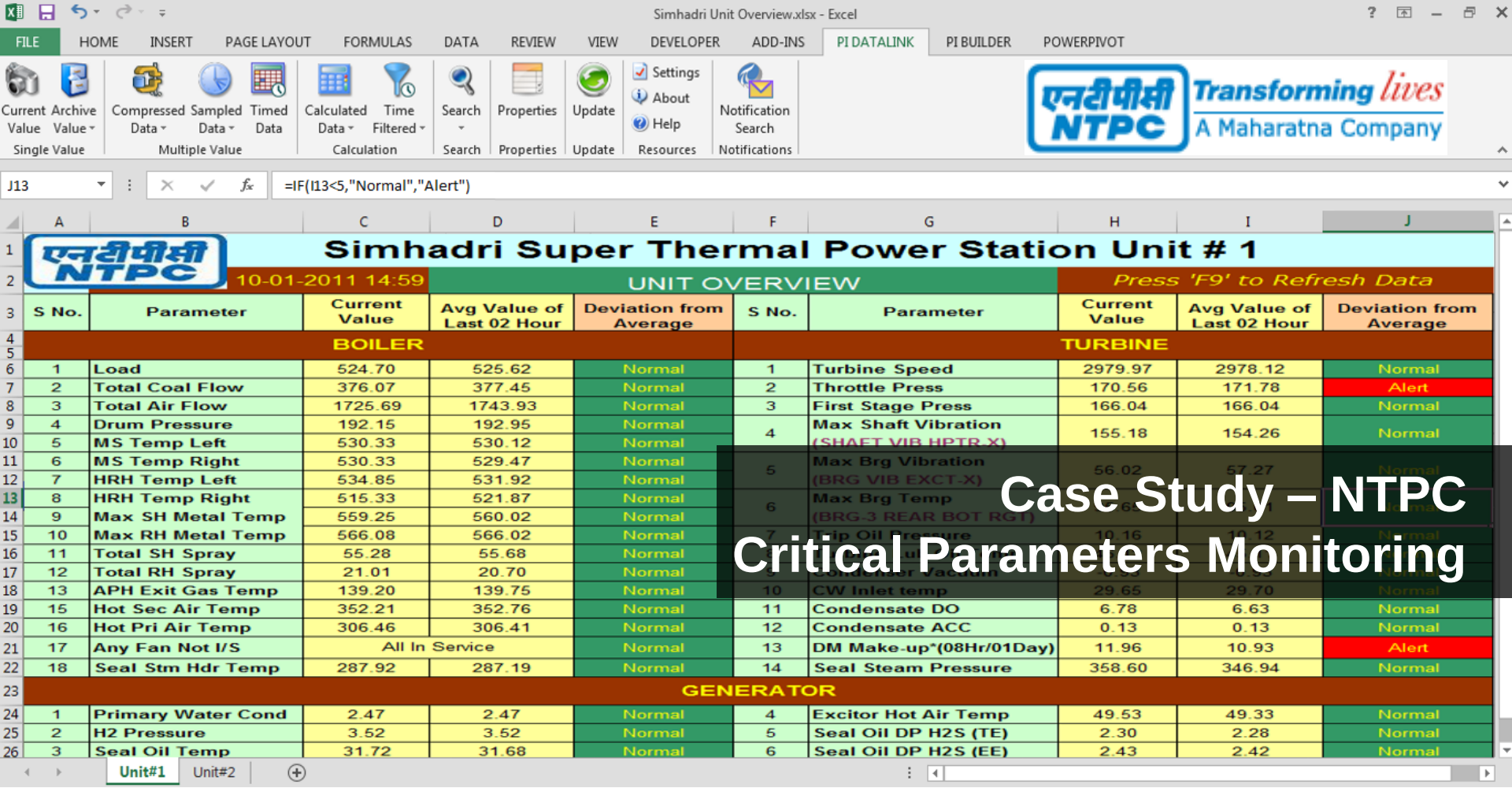
- Project **payback was in 4 months** (cost $700,000)
- System **runs efficiently**
- Money help to **sustain the aluminum business**
- Revenues now **above competition**

PI DataLink

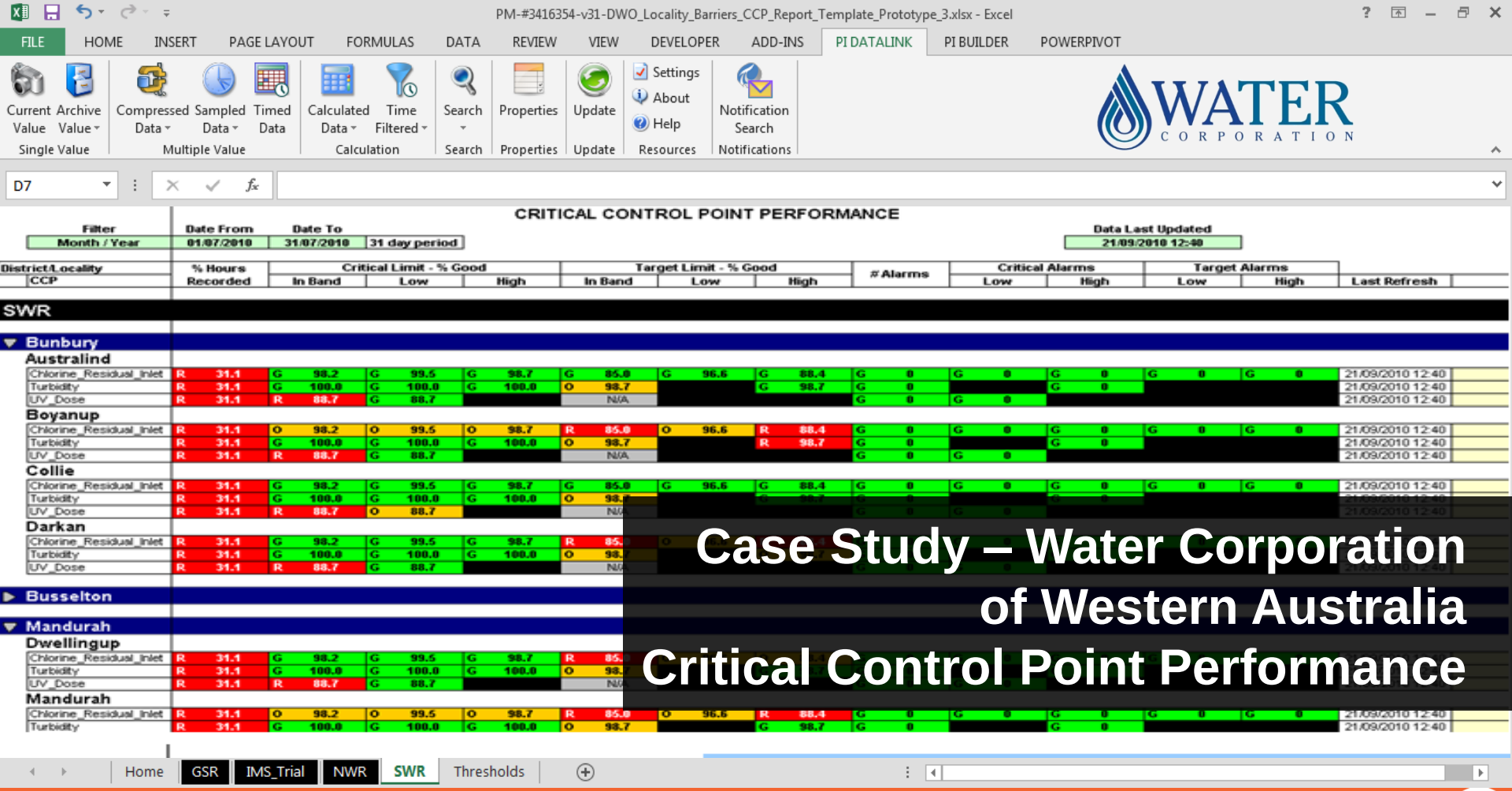
Excel

	A	B	C	D
1	Début	5/27/2010 13:40		
2	Fin	5/28/2010 13:40		
3				
4	**Date**	**BA:CONC.1**	**BA:LEVEL.1**	**BA:TEMP.1**
5	27-May-10 13:51:28	43.80355835	0.69	5.41
6	27-May-10 13:51:58	0	0.00	0.00
7	27-May-10 14:07:28	5.801473618	12.40	10.64
8	27-May-10 14:19:58	18.39671898	21.03	20.03
9	27-May-10 14:45:58	25.30208397	39.79	45.05
10	27-May-10 14:55:28	40.00126648	33.46	28.58
11	27-May-10 15:12:28	42.83501053	0.65	0.83
12	27-May-10 15:12:58	0	0.00	0.89
13	27-May-10 15:27:28	5.907530308	10.27	10.69
14	27-May-10 15:42:28	20.59512711	22.60	20.78
15	27-May-10 16:06:58	27.59270096	37.20	42.05
16	27-May-10 16:13:28	39.76164246	35.06	27.03
17	27-May-10 16:33:28	43.08703995	0.53	0.92
18	27-May-10 16:33:58	0	0.60	0.98
19	27-May-10 16:50:58	6.635637283	13.87	13.76
20	27-May-10 17:06:58	19.4419651	24.95	20.57

- Allows **summary calculations** and **filtering** of the data
- Enhances PI System Data with access to **Microsoft Excel reporting** features



Case Study – NTPC Critical Parameters Monitoring



Case Study – Water Corporation of Western Australia Critical Control Point Performance

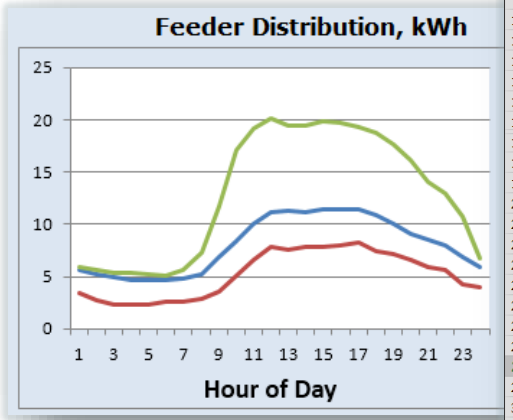
PI DataLink 2013 & Microsoft Excel 2013

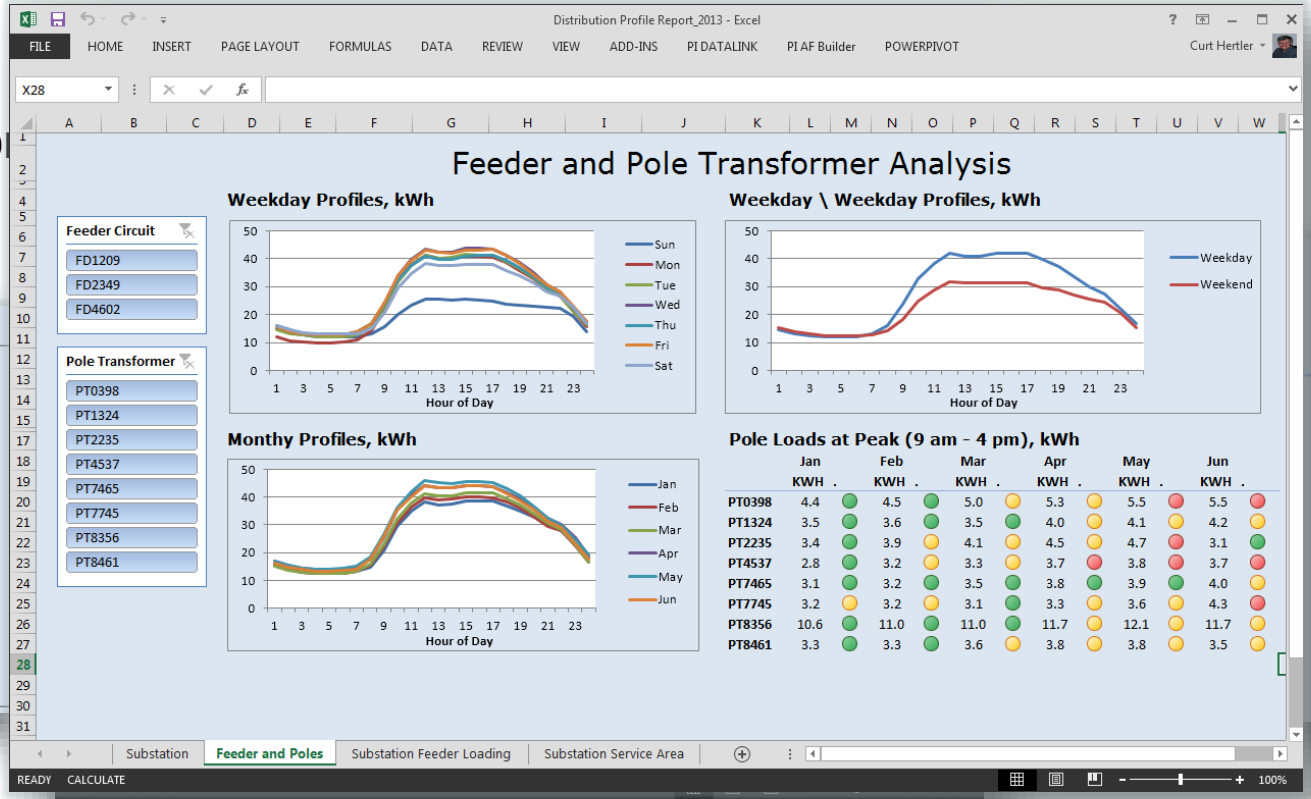
- **PI DataLink 2013**
  - **PI AF** support with the new **PI System Search** engine
- **Microsoft Excel 2013**
  - Business Intelligence (BI) tools are integrated
  - Microsoft **PowerPivot**
  - Microsoft **Power View**

Demand Profiling and Grid Analysis

Excel

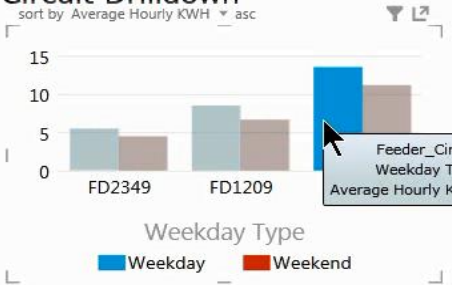
Substation





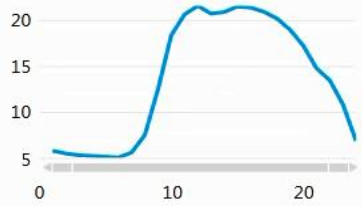
Bighorn Basin Substation Service Area

Circuit Drilldown



Area Meters

Distribution Profile



Service Profile

PI Coresight

Explore

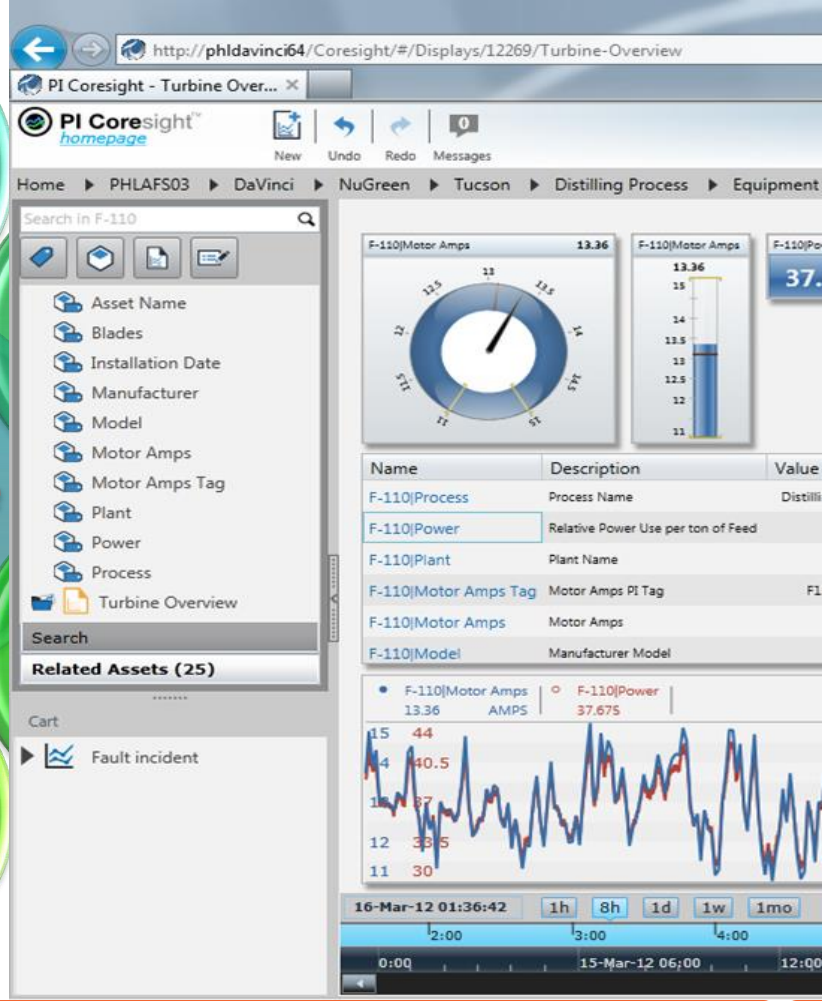
Report

Collaborate

Share

Collect

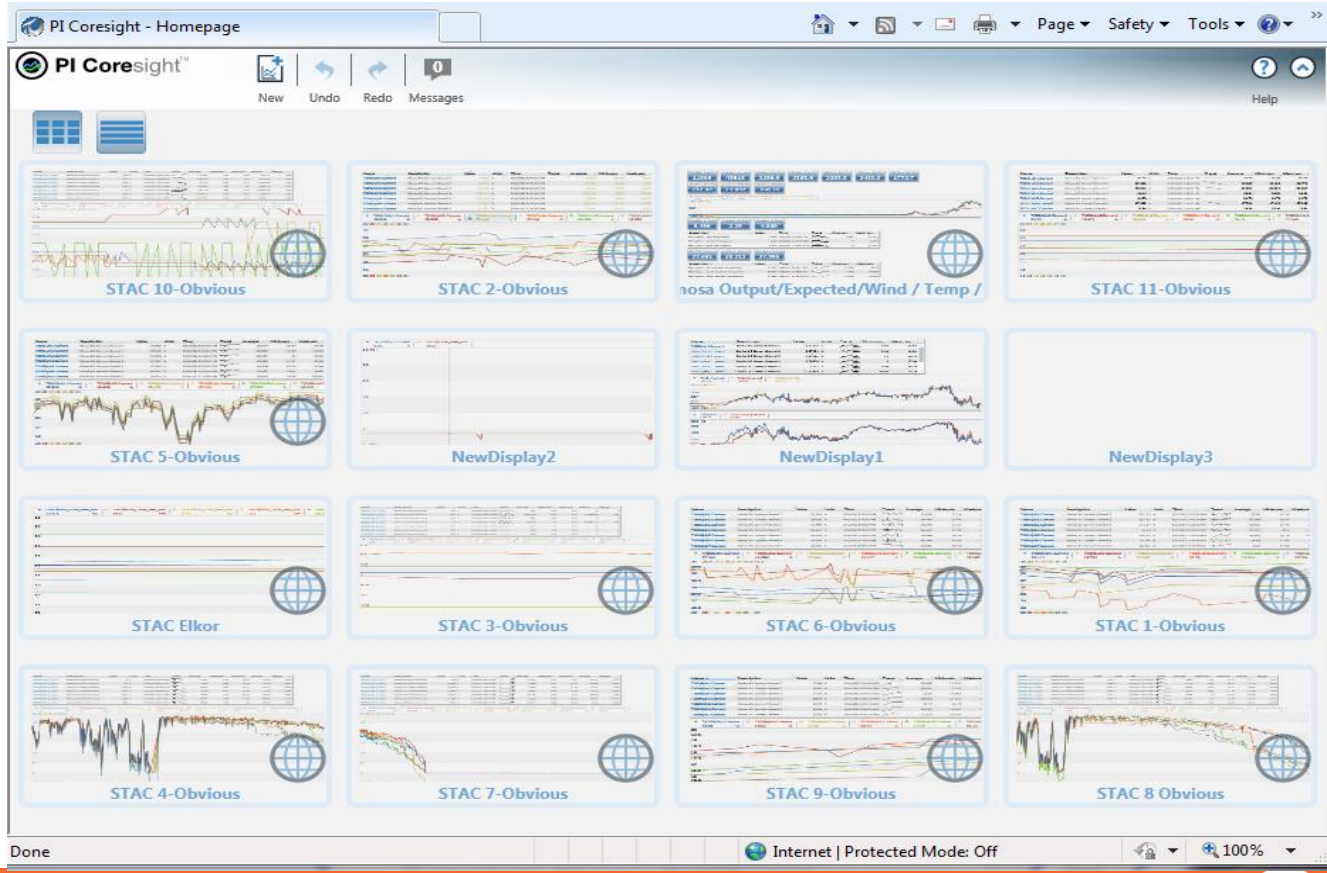
- **Modern** Web based visualization tool
- Facilitates **ad hoc analysis**
- **Instantaneous learning**
- Software with a **fast release cycle** to fit your needs
- **No client-side installation**



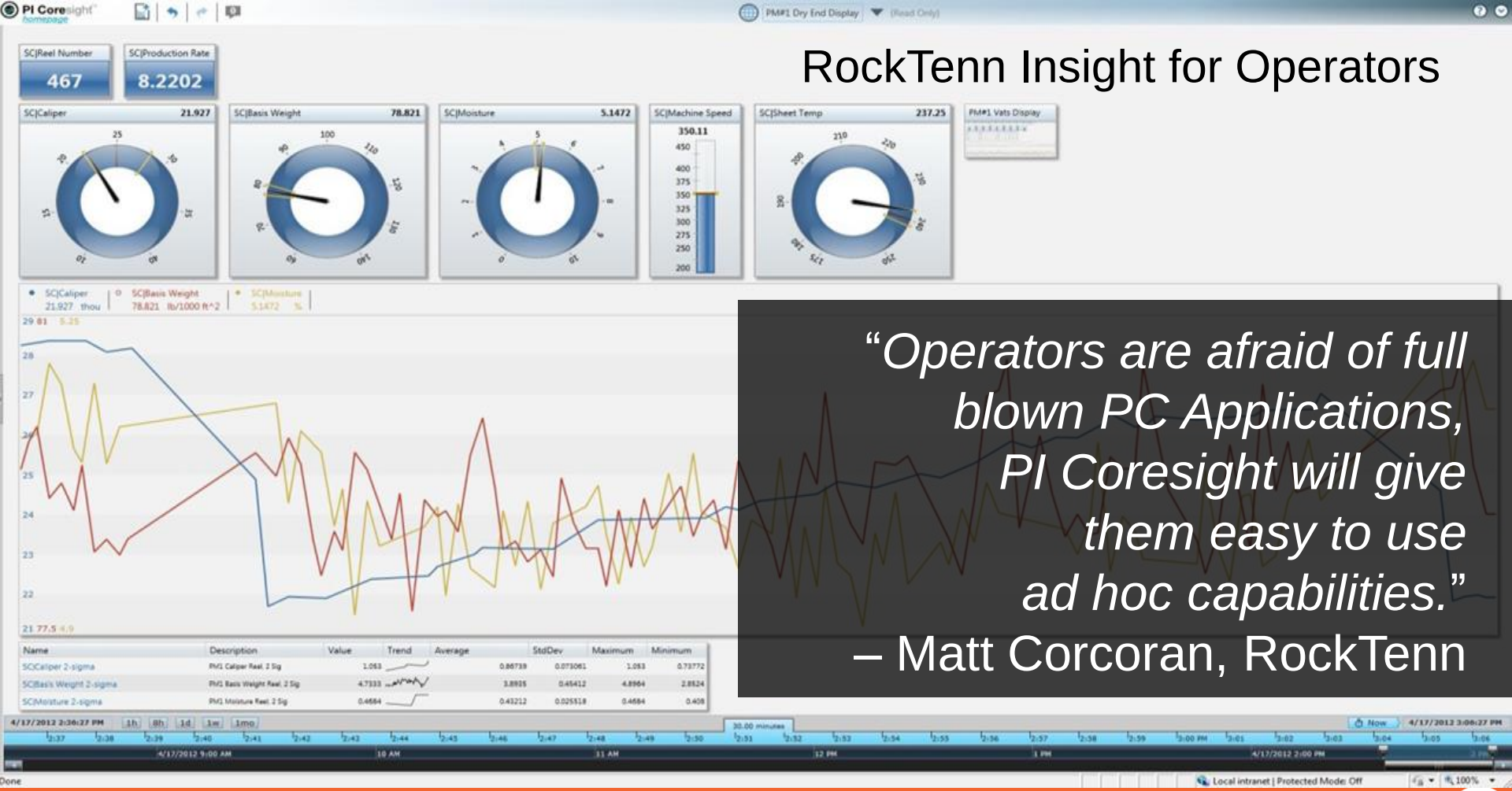
Benefits of PI Coresight at AMONIX

POWERING THE FUTURE NOW™

- **Minimal learning curve**
- Rapid trend analysis
- Leveraging PI AF structure and data



RockTenn Insight for Operators



"Operators are afraid of full blown PC Applications, PI Coresight will give them easy to use ad hoc capabilities."

– Matt Corcoran, RockTenn

Visualization and Mobility

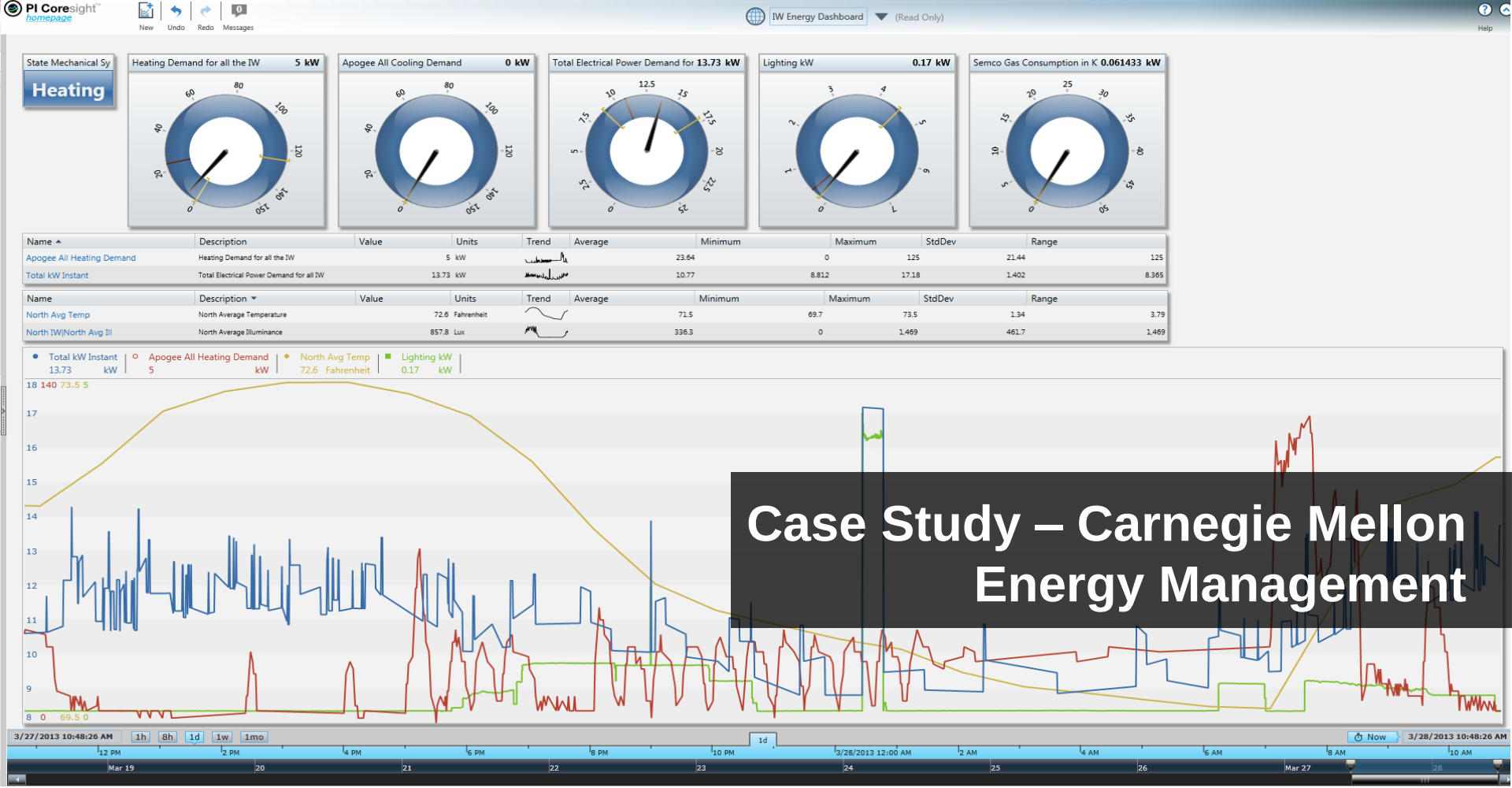
Your needs are evolving:

- **Remote** access
- Access at **any time**
- **Self-service** usage

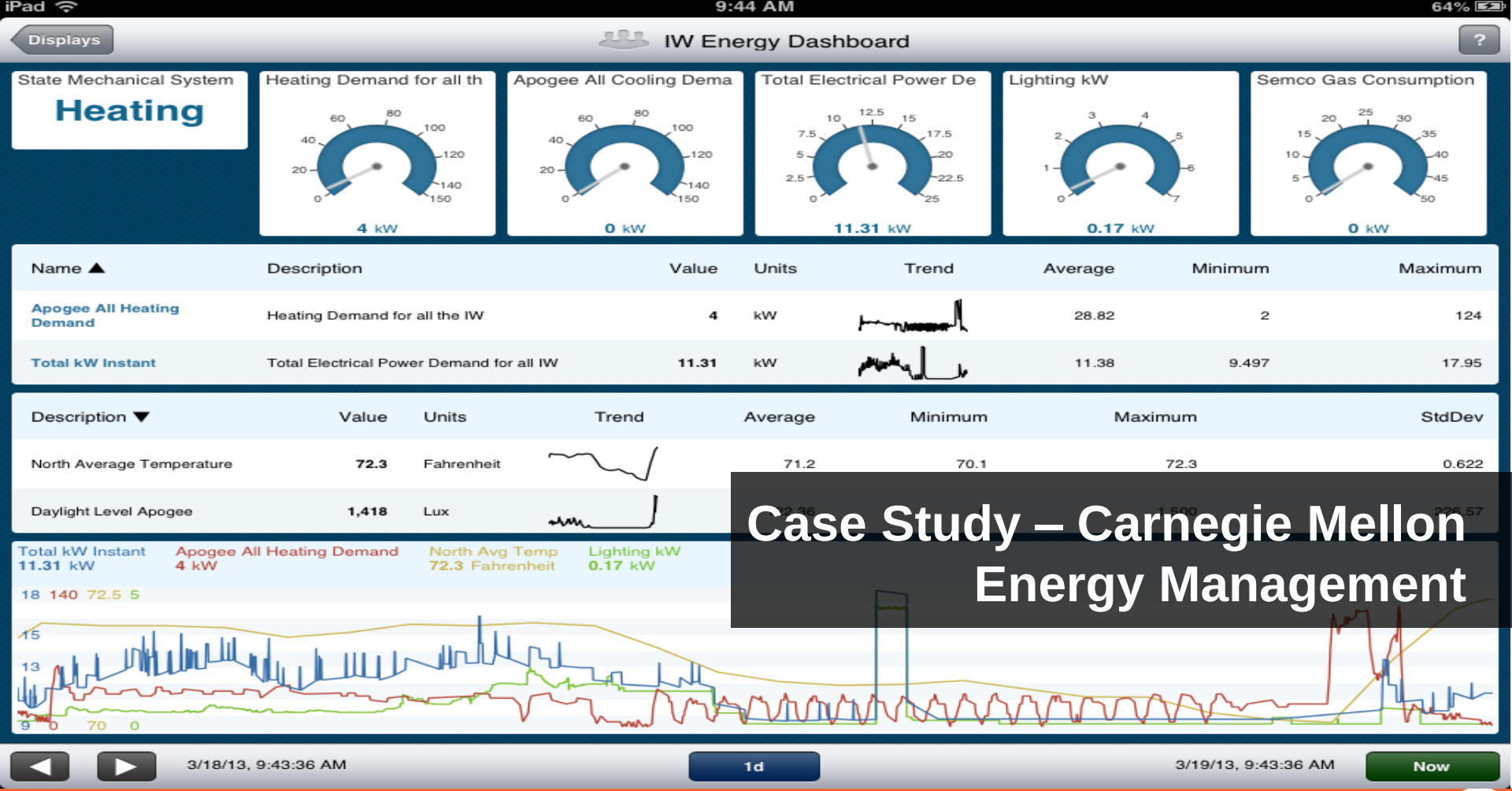
Mobility and the PI System

- Mobile **PI Coresight** application for the **iPad** and the **iPhone** now available!
  - Native application
  - Free download on the Apple App Store™
  - Test it now with **sample data**

Available on the App Store

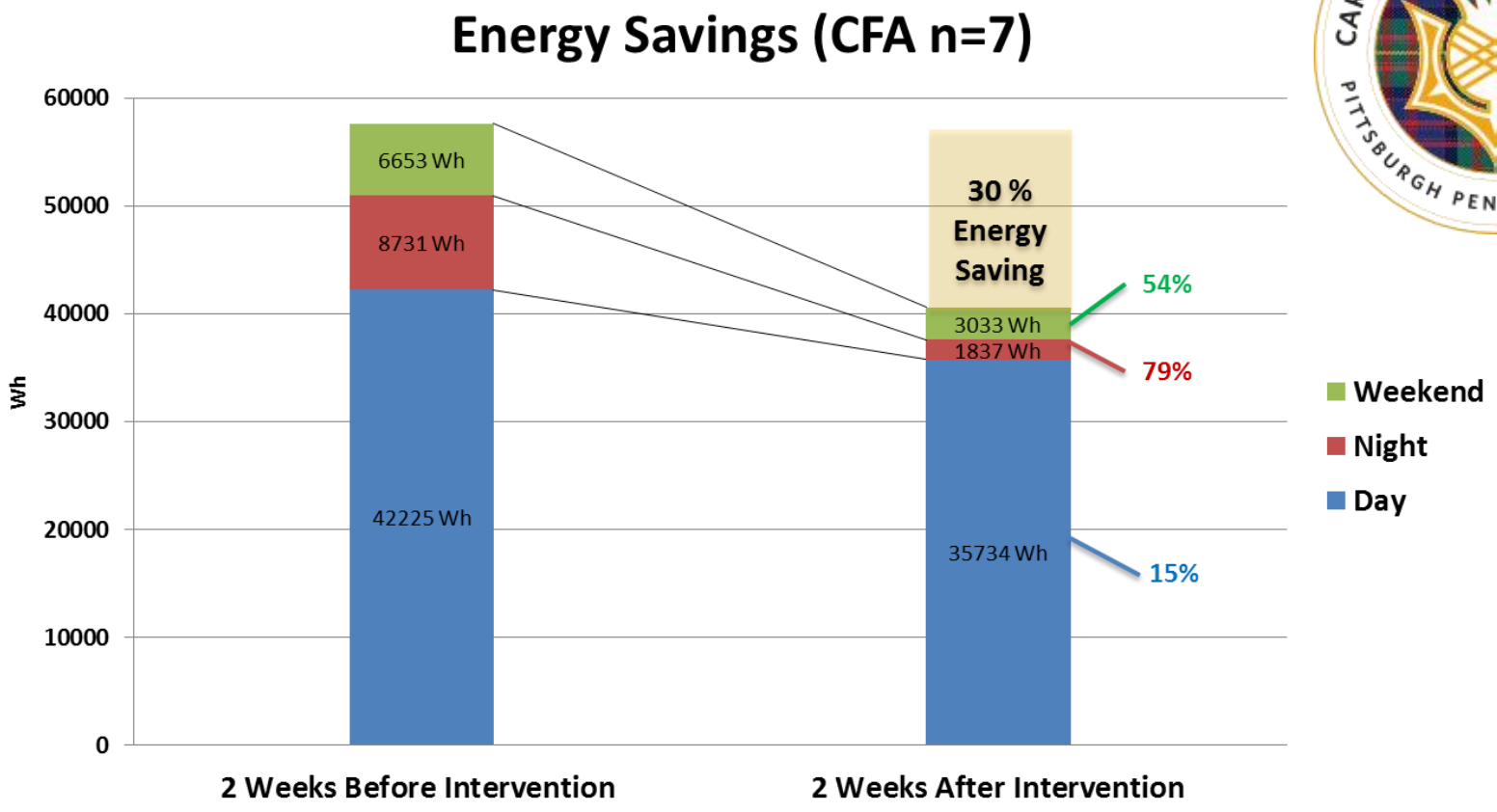


Case Study – Carnegie Mellon Energy Management



Case Study – Carnegie Mellon Energy Management

Case Study – Energy Management



Support for iPad and iPhone

Support the Devices you Use

How can you tell now what every team member will use…

tomorrow…

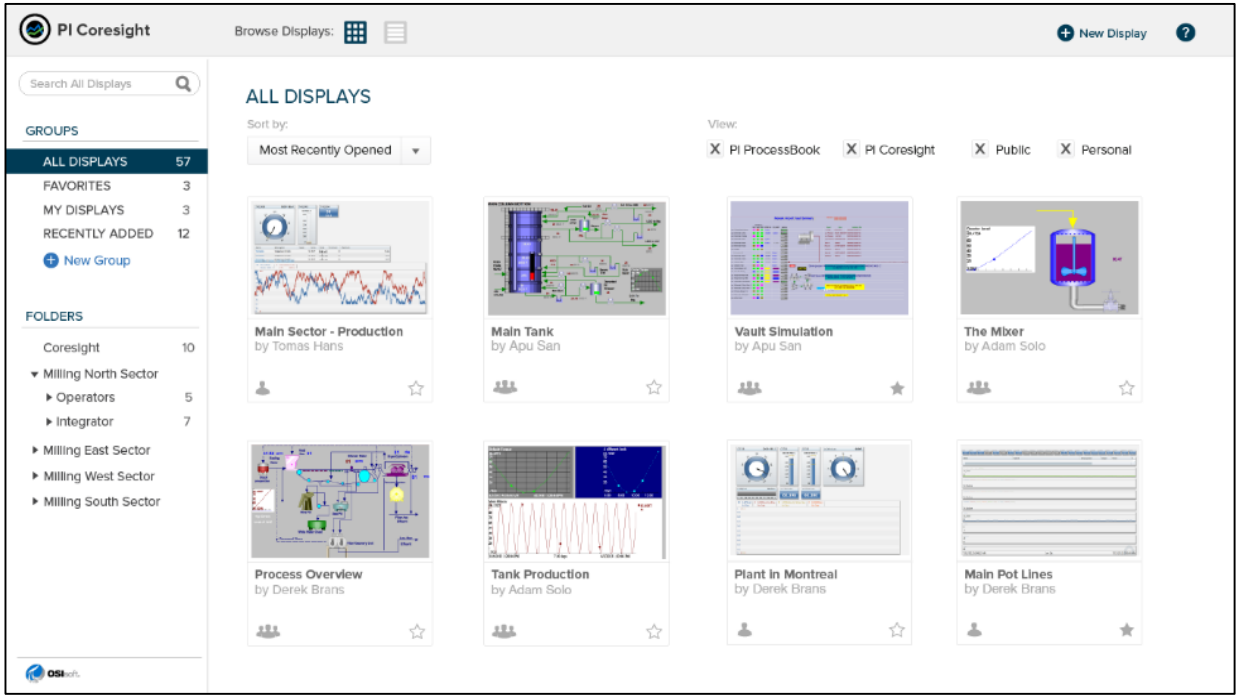
next week…

especially next year!

Collect Data with Different Devices

- Browser interface is device agnostic
- Simplified screen
- Android phone & tablet
- iPhone and iPad
- Any modern browser (**HTML5** support)

View PI ProcessBook Content on Different Devices



- **Browse PI ProcessBook displays** the same way as PI Coresight
- Any modern browser (**HTML5** support)

PI Visualization Suite Benefits

- Access to the data in the format you want **reduces the time to insight**
- Access to the data when and where you want **facilitates collaboration and sharing of insights**
- **All** visualization tools to **any** user gives **the right tool** for the job **at the right time**

Questions

Please wait for the **microphone** before asking your questions

State your **name & company**

THANK YOU

Brought to you by

OSIsoft.

Todd McQuiston

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Customer Support Engineer

OSIsoft