

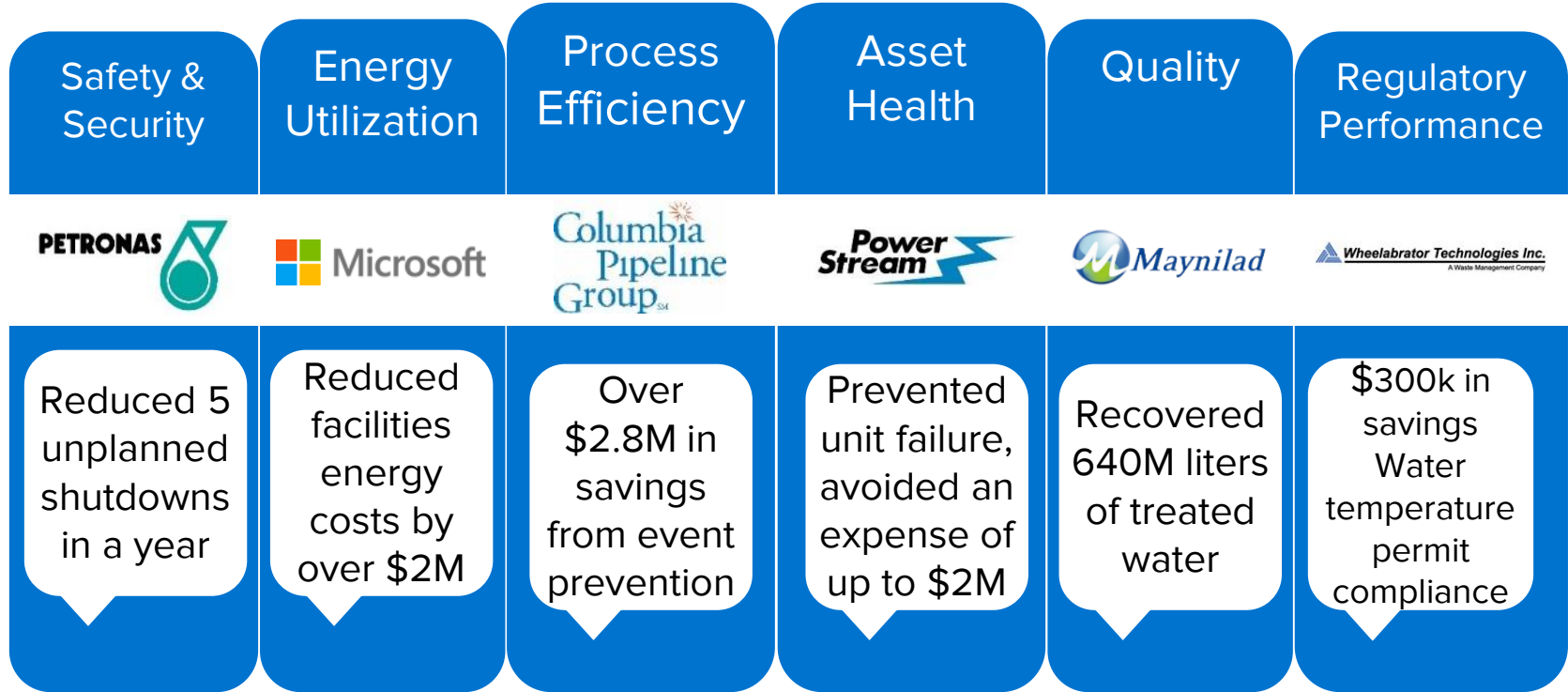
Solving Business Initiatives with the PI System

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November 2, 2016



Business Impacts: Delivering Value at Enterprise Scale



Business Impacts: Delivering Value at Enterprise Scale

Safety &
Security

Energy
Utilization

Process
Efficiency

Asset
Health

Quality

Regulatory
Performance

How do these come together in the PI System?

Reduced 5
unplanned
shutdowns
in a year

Reduced
facilities
energy
costs by
over \$2M

Over
\$2.8M in
savings
from event
prevention

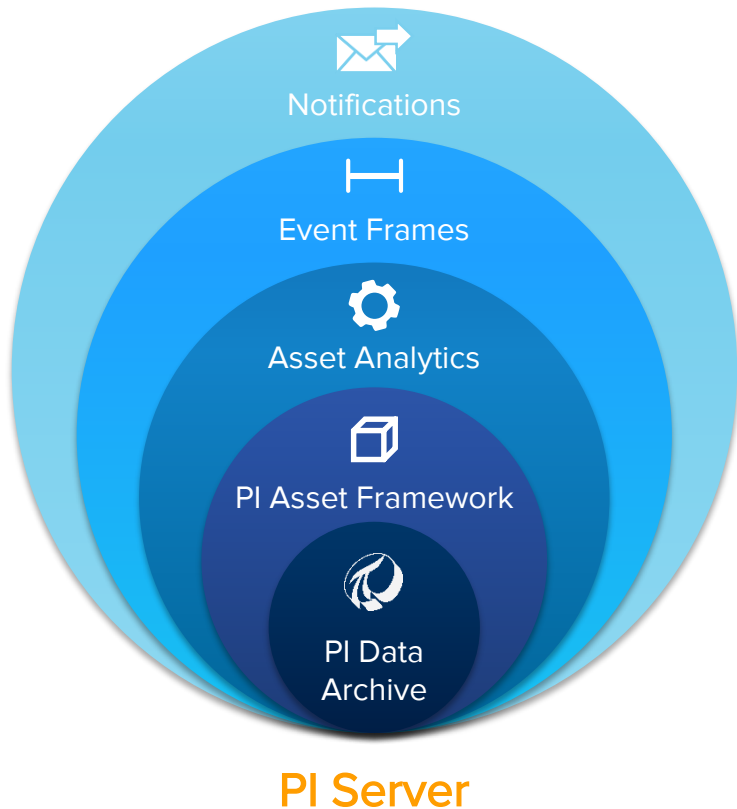
Prevented
unit failure,
avoided an
expense of
up to \$2M

Recovered
640M liters
of treated
water

\$300k in
savings
Water
temperature
permit
compliance



Modern PI Server: Data in context of assets & events



WT27.SI.PV 18



Wind Turbine #27

- 18 rpm
- Springfield
- 8-hour average
- Last curtailment code



Power of planning: From simple notes to real impact

Red-Eye Flight from OSISoft 2014 UC...

1. Typical Network
2. Proliferation
3. Notifications
4. Data Cleaning
5. Misconceptions
6. More...More... More



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- Reliable production estimates
- 35% reduction in energy usage
- Simplified reporting: days to minutes

How do you get started?

Where you want to be



Myth

Get it 100% right

Risk

Run into organizational challenges



Where you are



5 easy steps to plan a successful implementation

Where you want to be

Start small.

Focus on value.

Develop a plan.

Where you are



5 steps to define a plan

Imagine

What do I want?

Performance improvement, Reduced energy use

Detect anomalies

Reduce reaction time

Increase efficiency

Simplify reporting

Lower costs

Focus

Where is the easiest or biggest ROI opportunity?

Problematic equipment, High-value process

Detect anomalies

Transformer voltage variation



Reduce reaction time

Shorten vacuum phase



Increase efficiency



Improve rig drilling

Simplify reporting

Monthly EPA spreadsheet

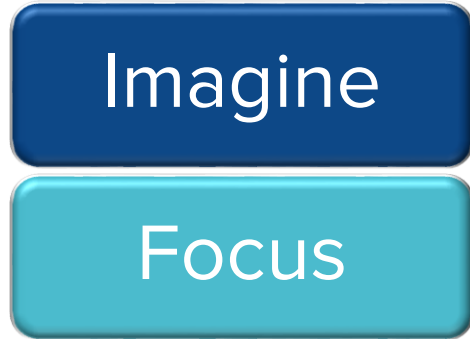


Lower costs



Reduce pump maintenance

Lower costs: Reduce pump maintenance



Elements



Pump 18

Lower costs: Reduce pump maintenance

Imagine

Focus

Elements



Pump 18



“What does that asset look like?”

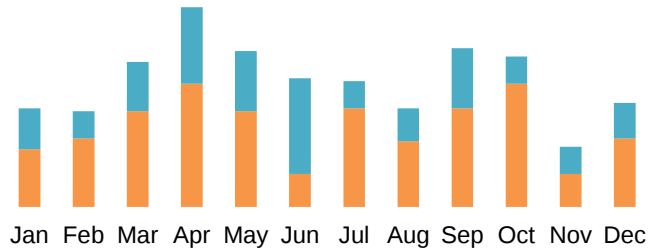
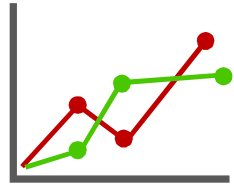
“What tags do I have?”



What do I need for my focused initiative?

Pro-tip

Specify the final visualization, then **reverse engineer** needed data.



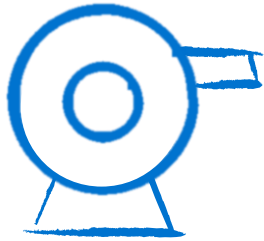
$$[E_f] = \frac{[E_0] - [ES](1 + \frac{[I_f]}{K_I})}{(1 + \frac{[I_f]}{K_I})}$$



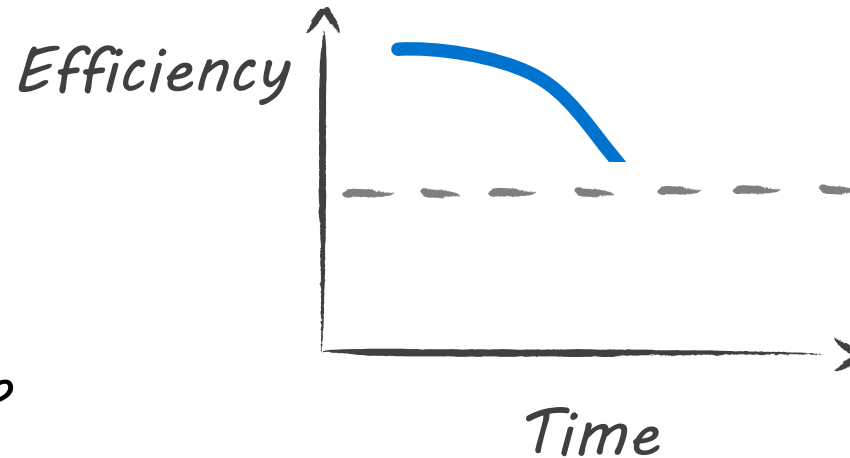
Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



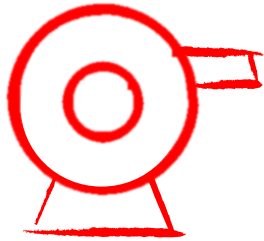
Type: Discharge pump



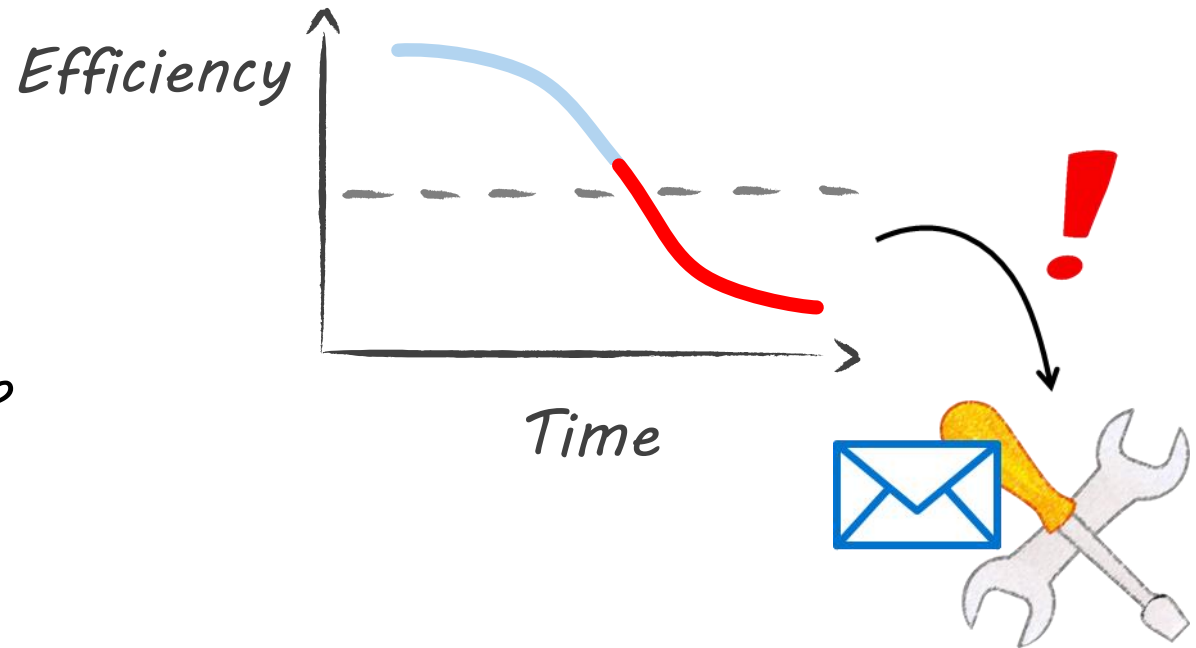
Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



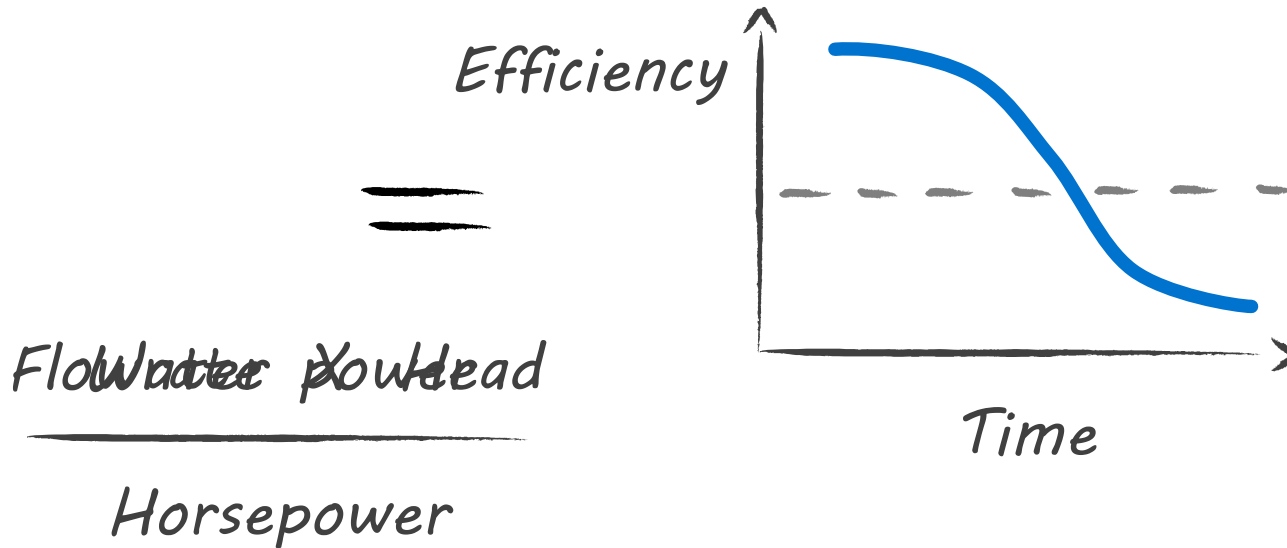
Type: Discharge pump



Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



Specify

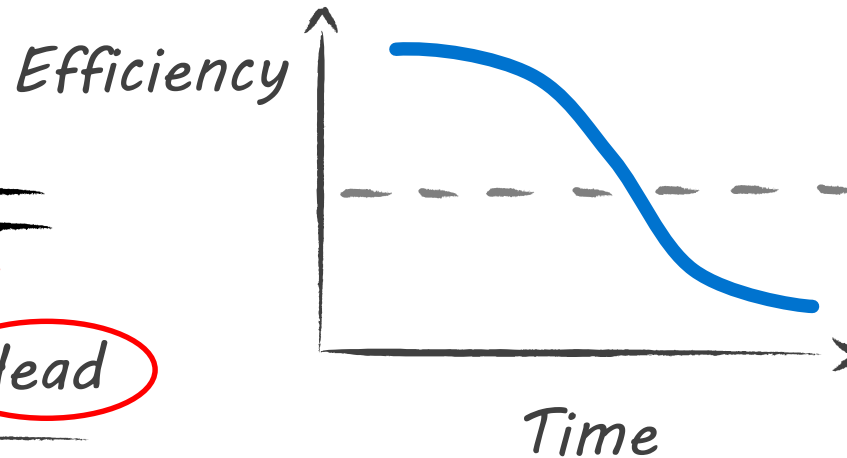
What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports

Find these readings

Flowrate X *Head*

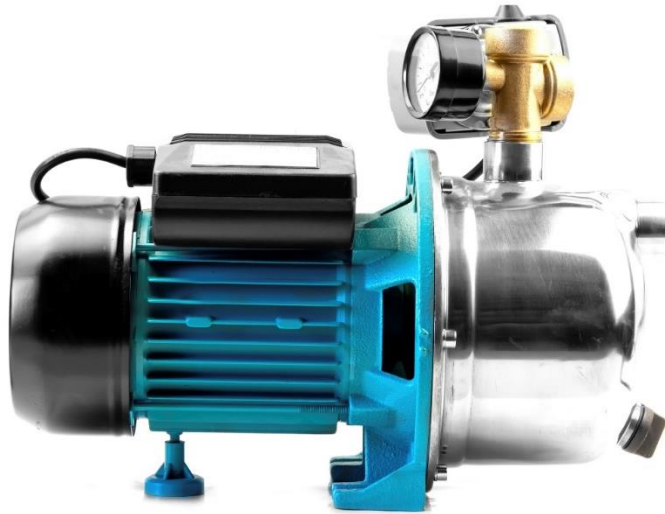
Horsepower



Map

Where does the data come from?

Data sources, Particular assets or processes



Pump operation: ←

- *Flowrate*
- *Head*
- *Other indicators*

Pump specifications: ←

- *Horsepower*
- *Theoretical efficiency*

Design

What should I consider when designing templates?

Making comparisons, preserving simplicity, re-use

Do I have other similar pieces of equipment that I want to compare?

Are there components that I want to compare separately?

Do I look at a tire without the truck?

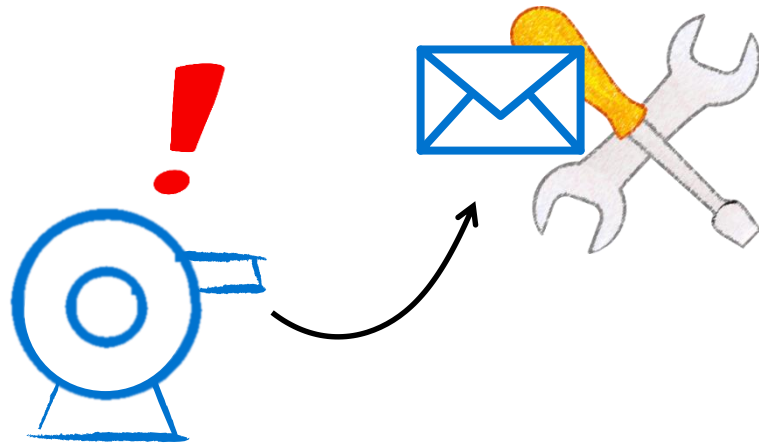
Do I look at a valve without the tank?



Pulling it all together

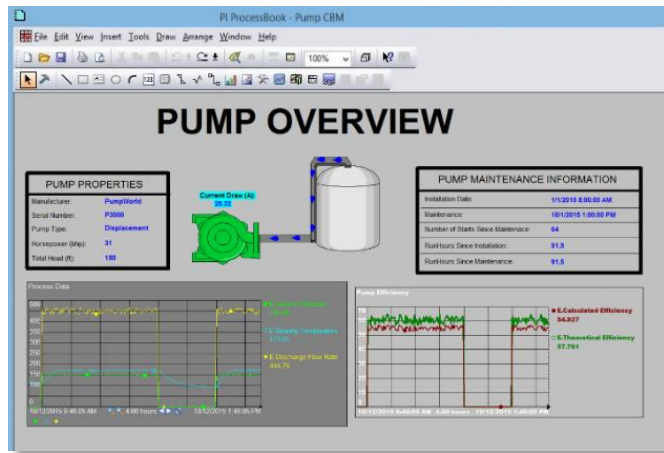
4 simple attributes is all you need to start CBM

<u>Elements</u>	<u>Attributes</u>
 Pump01	 Flow Rate
 Pump02	 Horsepower
	 Theoretical Efficiency
	 Total Head

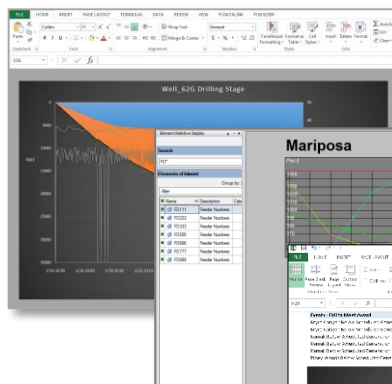


Asset Based PI Example Kits: See initiatives take shape

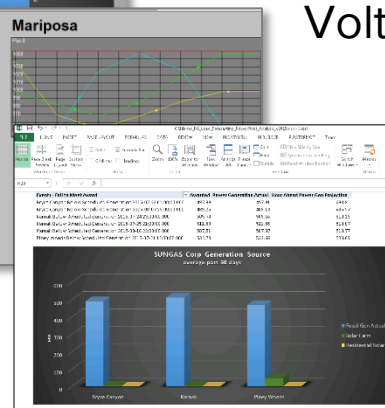
CBM for pumps



Well drilling



Voltage monitoring



Load forecasting

...and more!

Asset Based PI Example Kits are available to everyone on PI Square.

- Search www.pisquare.com > “example kit”



Design

Map

Specify

Focus

Imagine

Where you want to be

- Join us for training tomorrow
- Find us at the pods to discuss your ideas
- Download free example kits

Where you are



Looking for more coaching? Workshops to fit your needs

PI Discovery Workshop

Learn

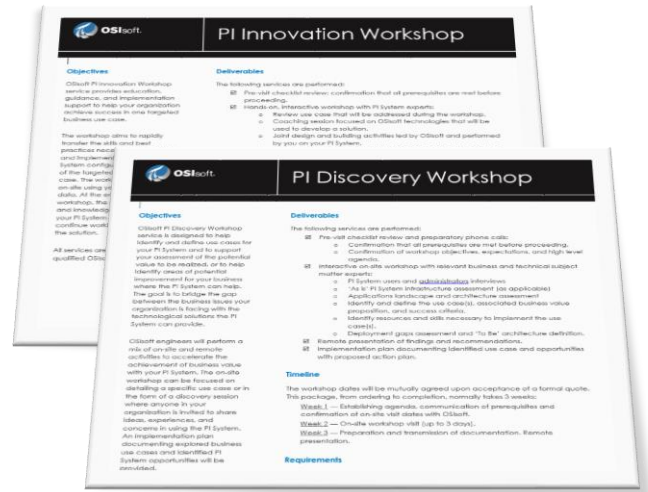
Educate

Explore

PI Innovation Workshop

Enable

Execute



Contact your account
manager for details

On-site workshops (up to 3 days), targeted at your business use case(s) with your experts and ours, and using your data and your PI System.

Contact Information

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Senior Systems Engineer

OSIsoft, LLC

Questions

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



State your
name & company

Please remember to...

Complete the Survey
for this session

OSIsoft. REGIONAL SEMINAR
Safeco Field – Seattle, WA – September 20, 2016

Evaluation Form

Name: _____ Company: _____
Email: _____

Quality of presentations

	Poor	Good	Excellent	N/A
1. Digital Transformation with Today's PI System – OSIsoft	☐	☐	☐	☐
2. PI Coresight 2016: New Vision, New Display Editor, New Look and Feel – OSIsoft	☐	☐	☐	☐
3. Monitoring Health and Performance of Grid-Scale Energy Storage Systems – UniEnergy Technologies	☐	☐	☐	☐
4. Using PI Integrators to Improve the Value of your PI Data – OSIsoft	☐	☐	☐	☐
5. PI Asset Framework Ties Together Enterprise OEE for Clearwater Paper – Clearwater Paper	☐	☐	☐	☐
6. Solving Business Initiatives with the PI System – OSIsoft	☐	☐	☐	☐
7. PI Analytics and Coresight for Business Process Improvement – Arista	☐	☐	☐	☐
8. Seq helps customers get even more value from their OSIsoft PI System – Seq Inc.	☐	☐	☐	☐
9. What's Really Going on with your Beer's Fermentation? – Deschutes Brewery	☐	☐	☐	☐

Quality of seminar

	Poor	Good	Excellent	N/A
1. Presentation topics meeting your needs or interests	☐	☐	☐	☐
2. Time allowed for lunch/breaks/discussions	☐	☐	☐	☐
3. Pace and time allocated to the presentations	☐	☐	☐	☐



Thank You



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