

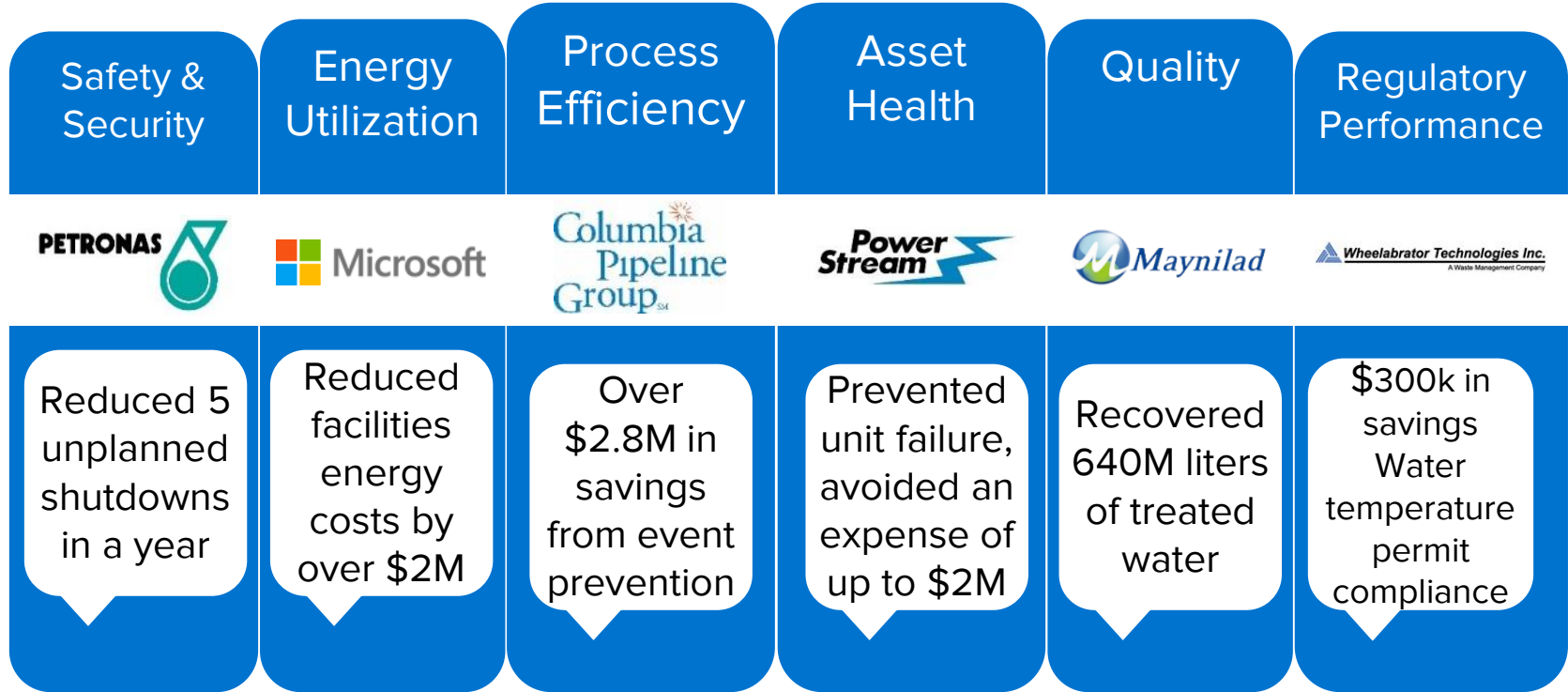
Addressing Business Initiatives with the PI System

John Maytum, Sr. Systems Engineer

20th September 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

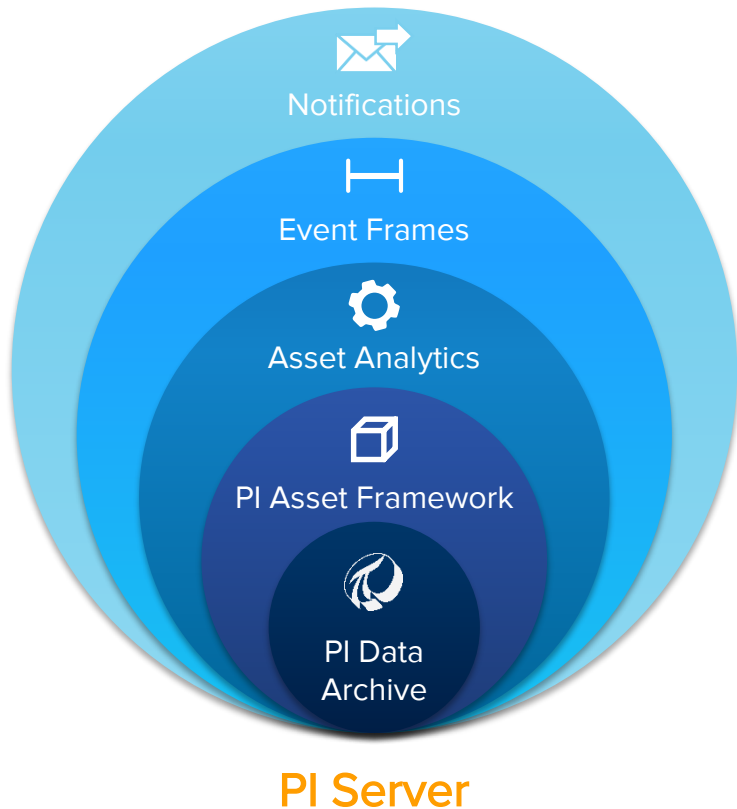
Prevented
unit failure,
avoided an
expense of
up to \$2M

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



USERS CONFERENCE 2015

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Rick Smith, Manufacturing Process Information Mgr.
International Paper

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



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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?”



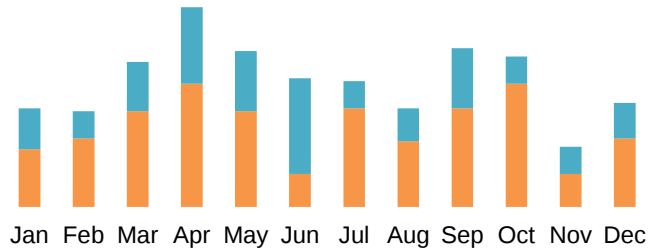
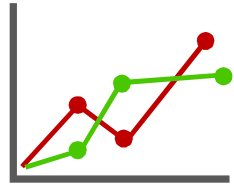
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What do I need for my focused initiative?

Pro-tip

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



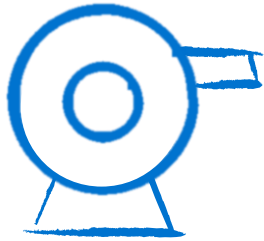
$$[E_f] = \frac{[E_0] - [ES](1 + \frac{[I_f]}{K_I})}{(1 + \frac{[I_f]}{K_I})}$$



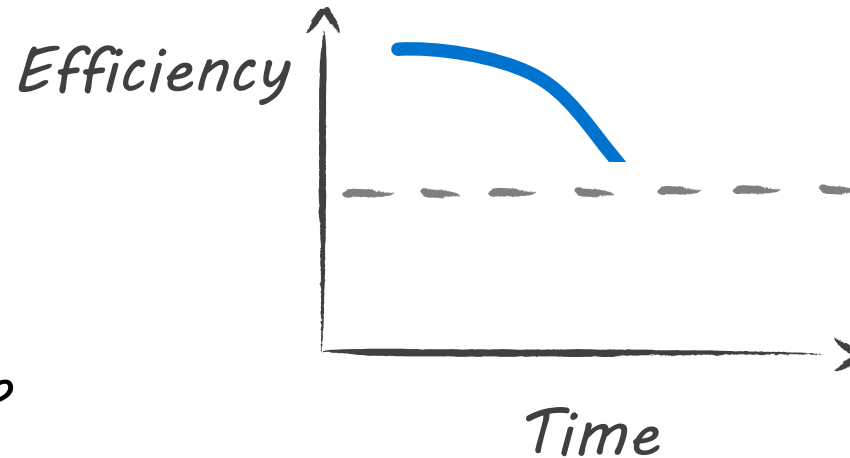
Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



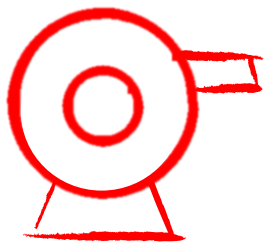
Type: Discharge pump



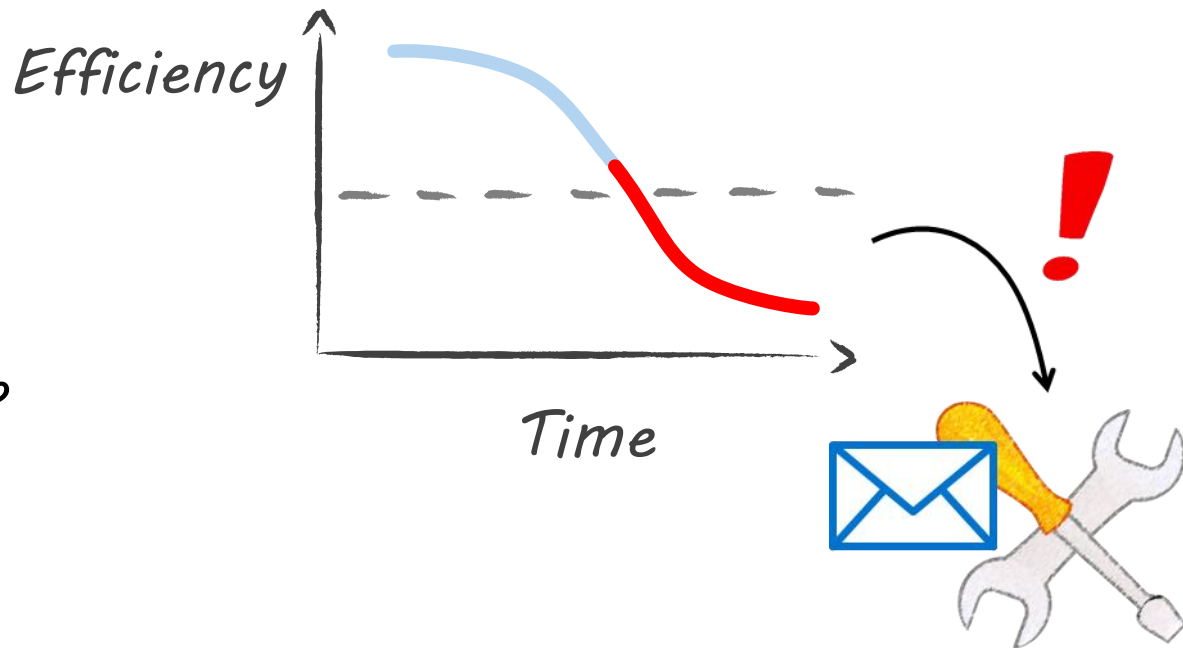
Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



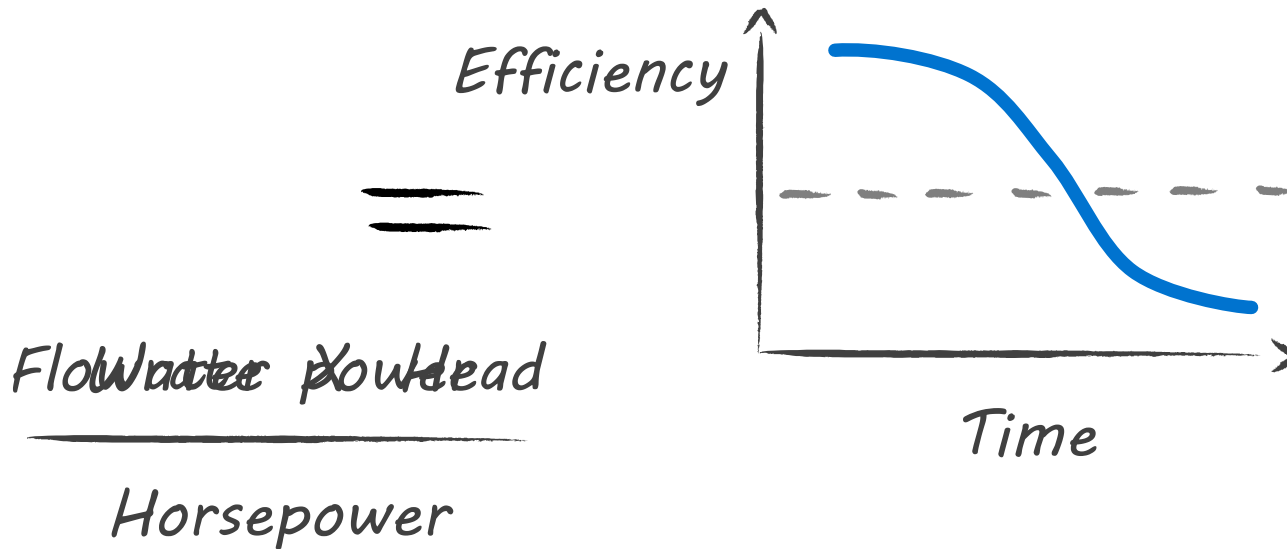
Type: Discharge pump



Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



Specify

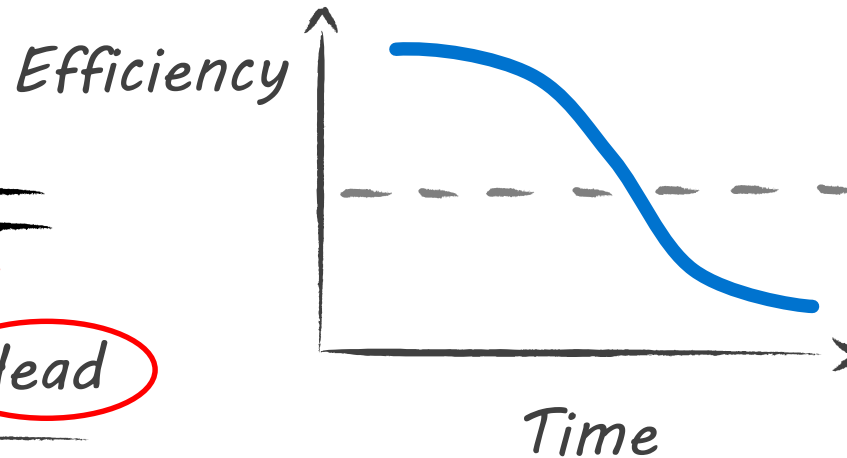
What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports

Find these readings

Flowrate X *Head*

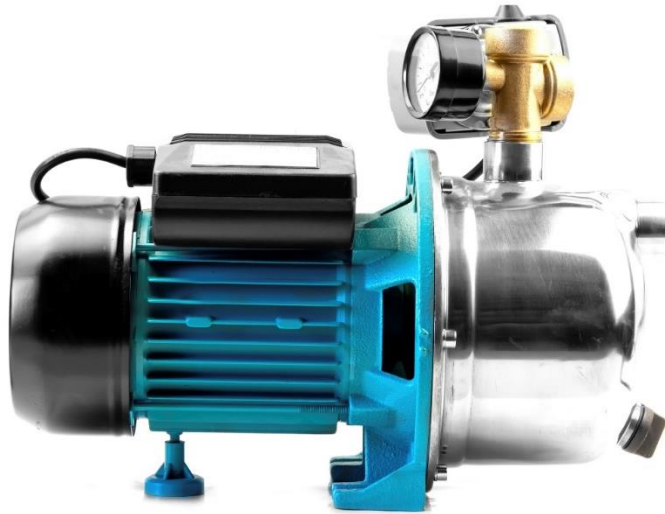
Horsepower



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?

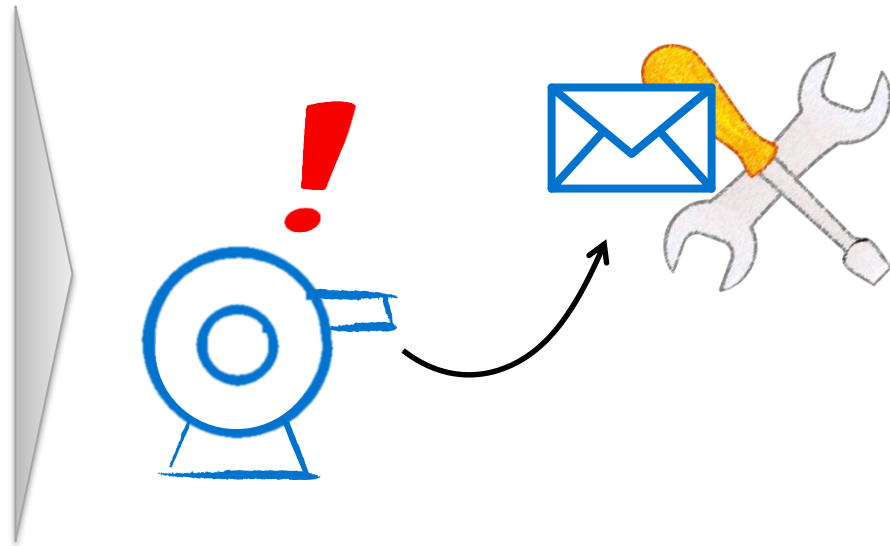
Do I look at a valve without the tank?



Pulling it all together

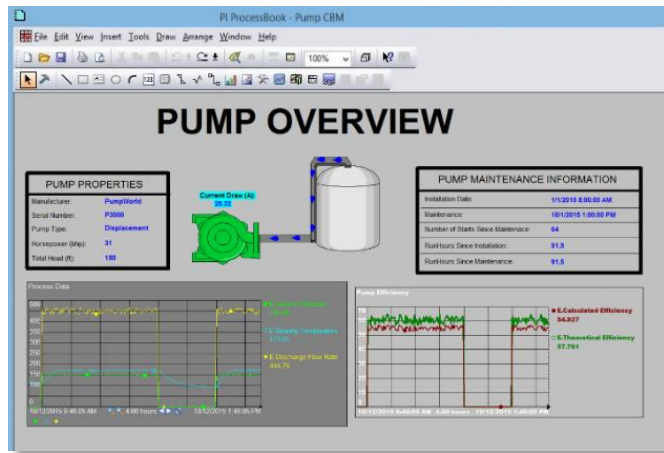
4 simple attributes is all you need to start CBM

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

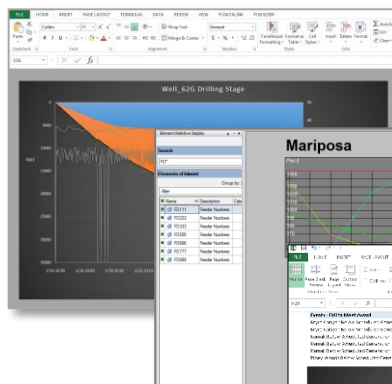


Asset Based PI Example Kits: See initiatives take shape

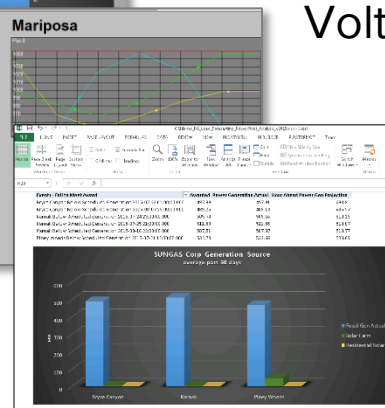
CBM for pumps



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



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Looking for more coaching? Workshops to fit your needs

PI Discovery Workshop

Learn

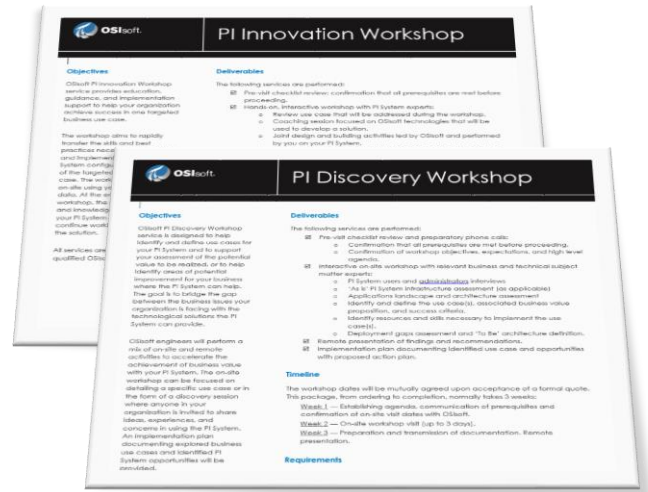
Educate

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

John Maytum

jmaytum@osisoft.com

Sr. 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

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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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