

Addressing Business Initiatives with the PI System

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Business Impacts: Delivering Value at Enterprise Scale

Safety & Security

Energy Utilization

Process Efficiency

Asset Health

Quality

Regulatory Performance



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

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?

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in a year

Reduced
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energy
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over \$2M

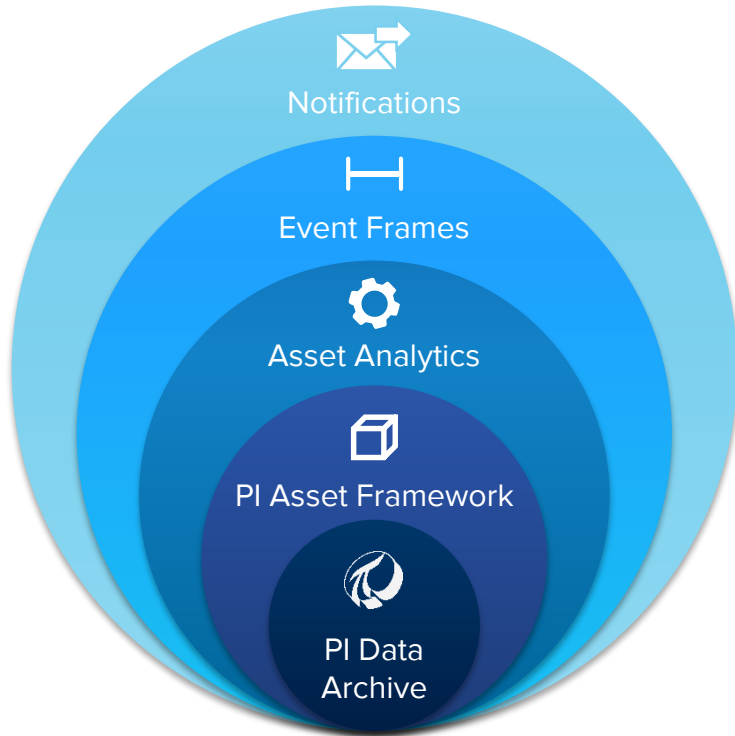
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Water
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compliance

Modern PI Server: Data in context of assets & events



PI Server

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

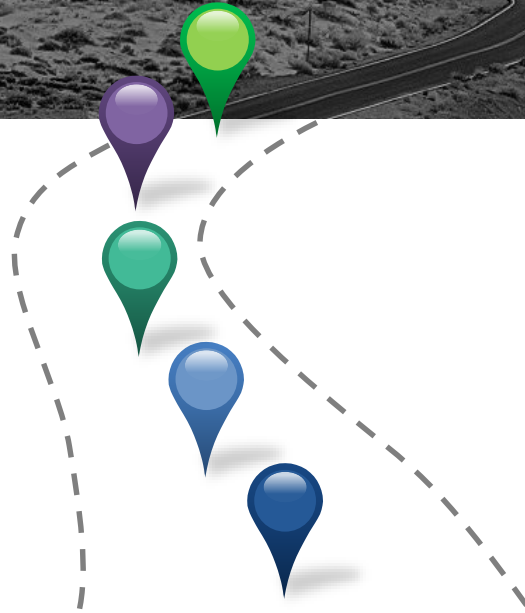
Run into organizational challenges



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

Imagine

Focus



Elements



Pump 18

Lower costs: Reduce pump maintenance

Imagine

Focus

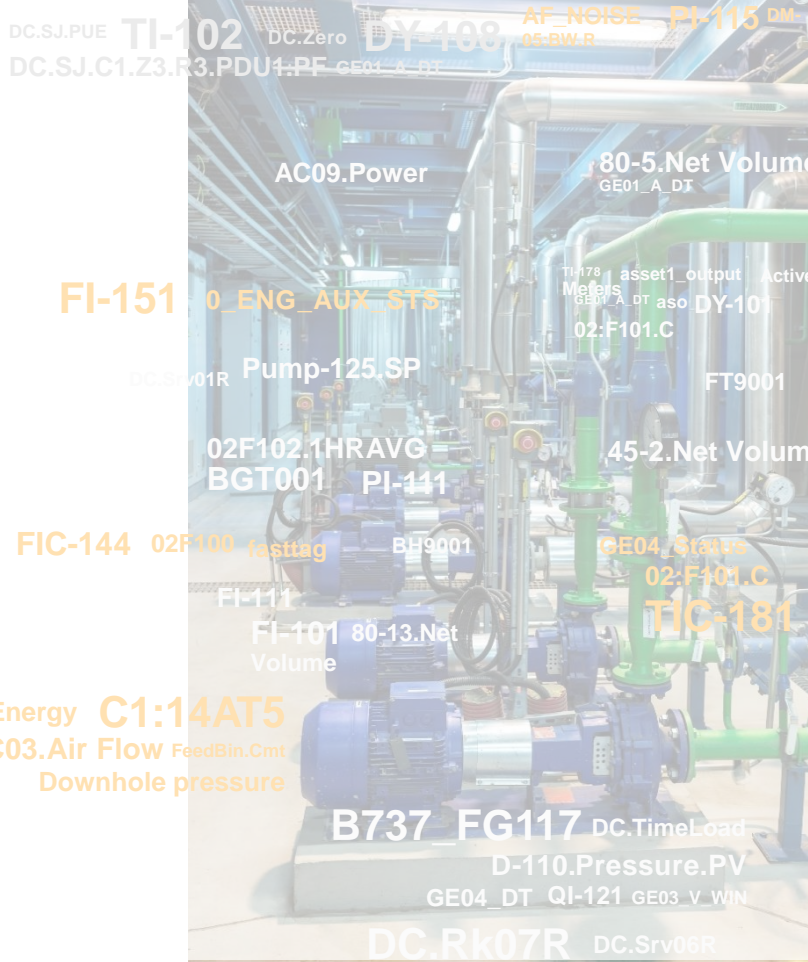
Elements

 Pump 18



“What does that asset look like?”

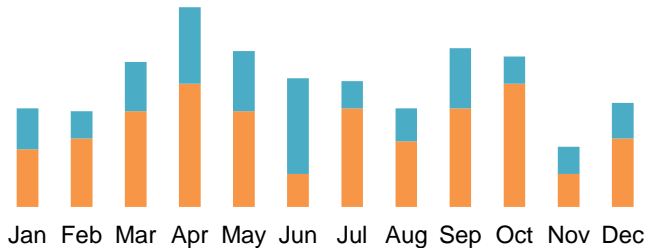
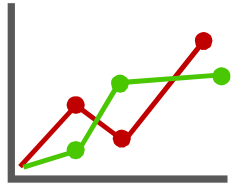
“What tags do I have?”



What do I need for my focused initiative?

Pro-tip

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



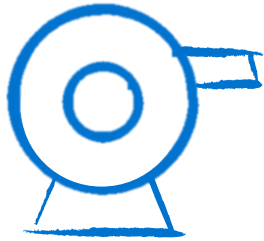
$$[E_f] = \frac{[E_0] - [ES]\left(1 + \frac{[I_f]}{K_I}\right)}{\left(1 + \frac{[I_f]}{K_I}\right)}$$



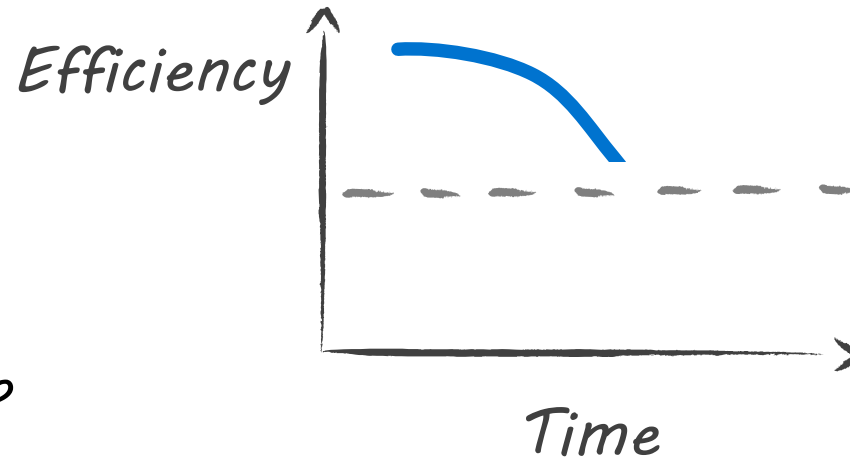
Specify

What information do I want to see, and how?

Specific readings, Aggregate metrics, Trends, Reports



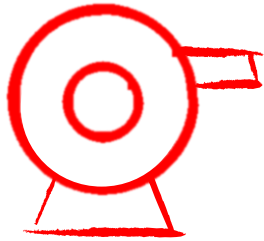
Type: Discharge pump



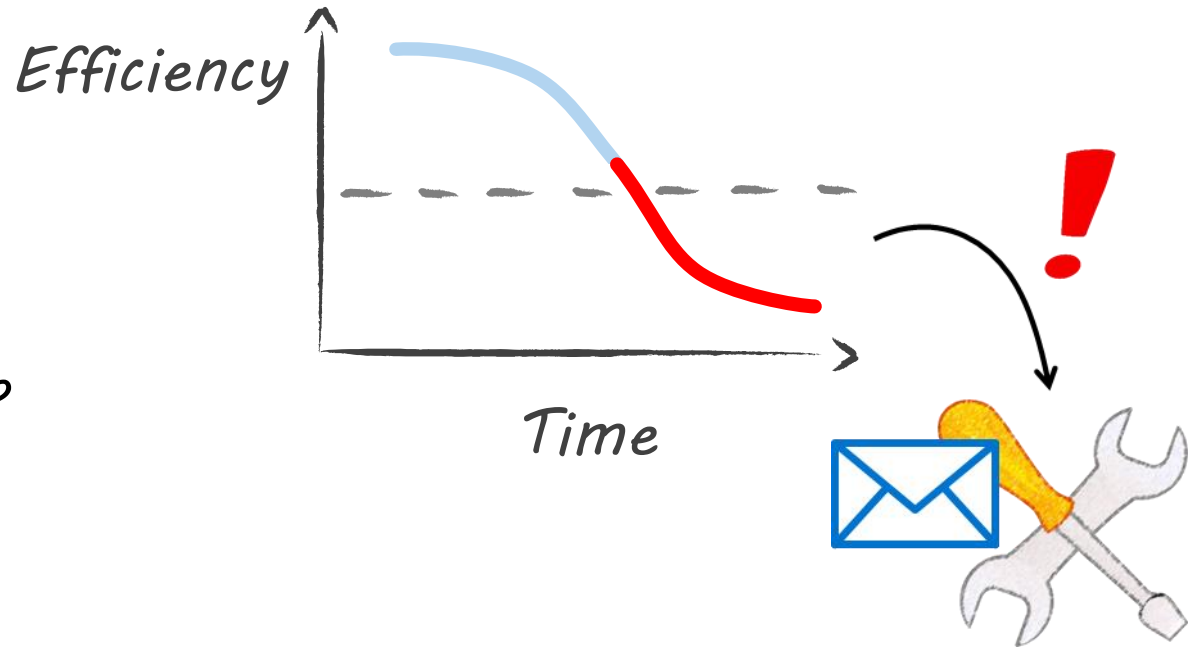
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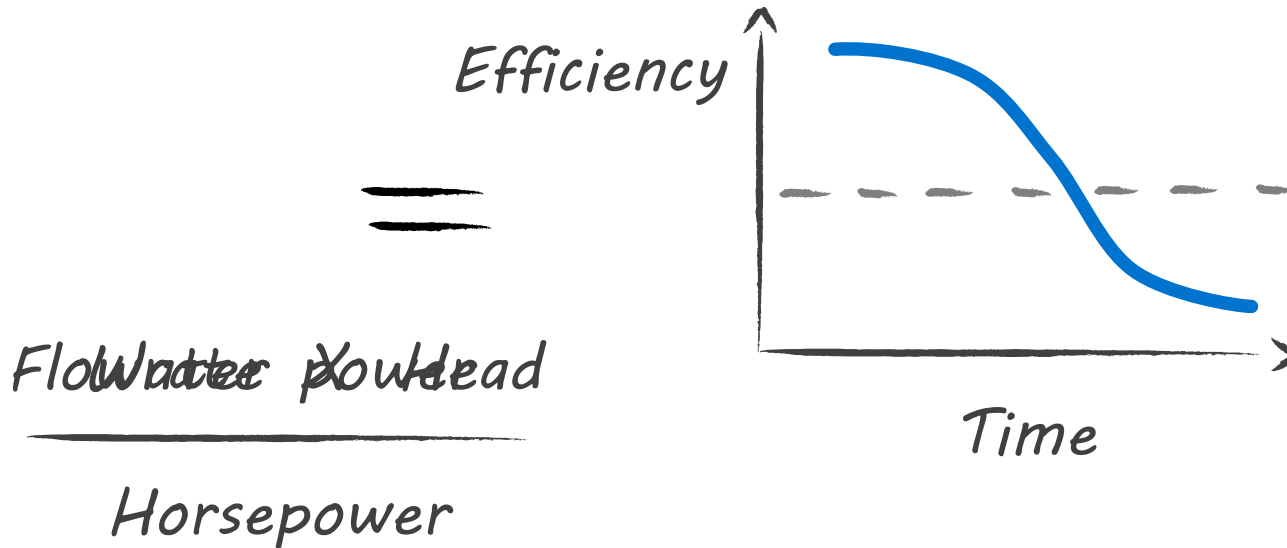
Type: Discharge pump



Specify

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Specify

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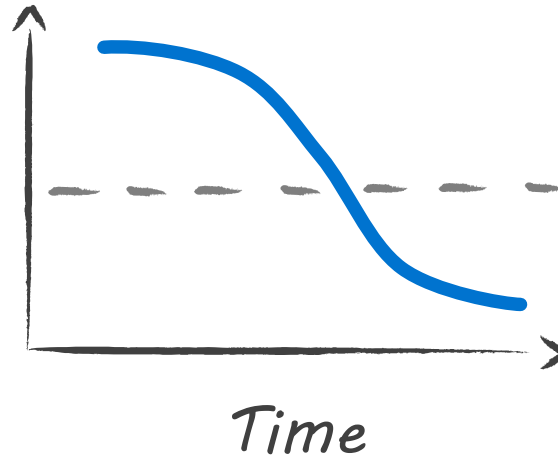
Specific readings, Aggregate metrics, Trends, Reports

Find these readings

Flowrate X Head

Horsepower

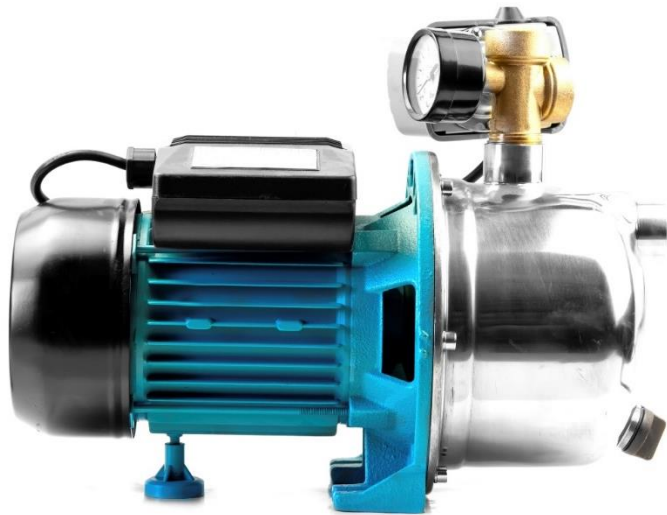
Efficiency



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?

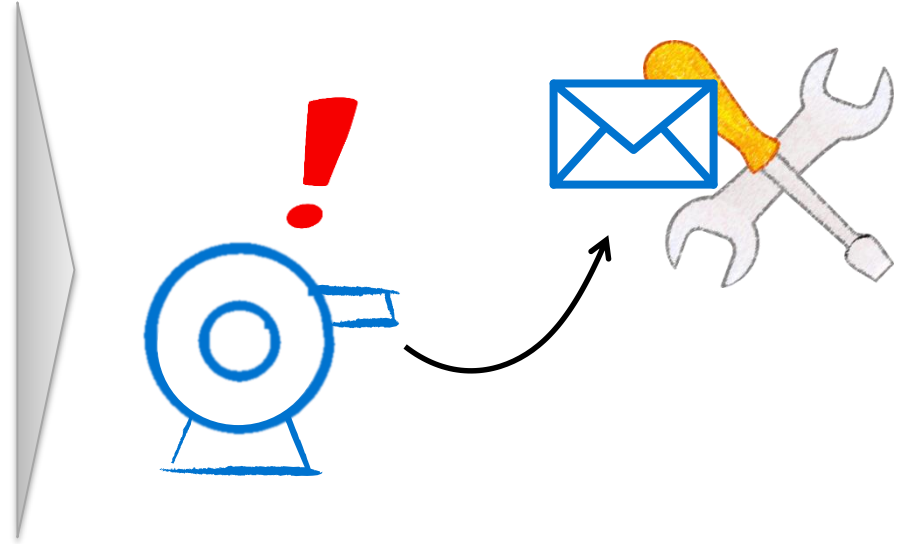
Do I look at a valve without the tank?



Pulling it all together

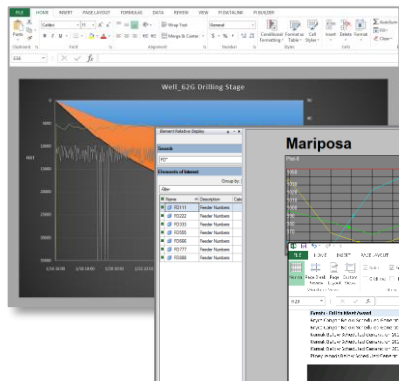
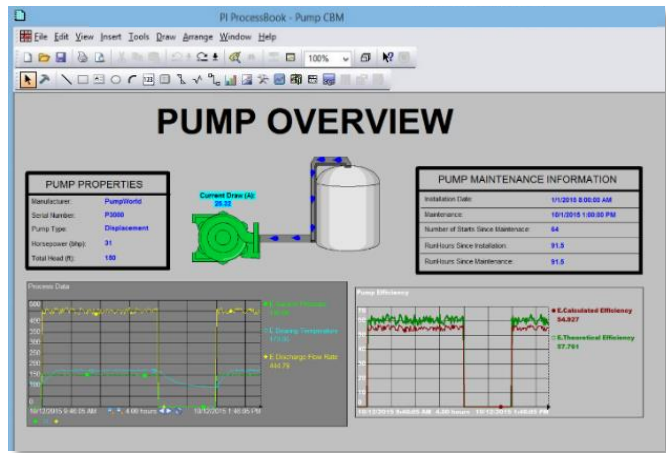
4 simple attributes is all you need to start CBM

<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

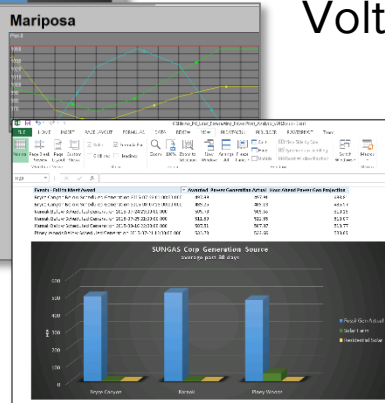
Voltage monitoring

Load forecasting

...and more!

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

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



Where you want to be

Design

Map

Specify

Focus

Imagine

- 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

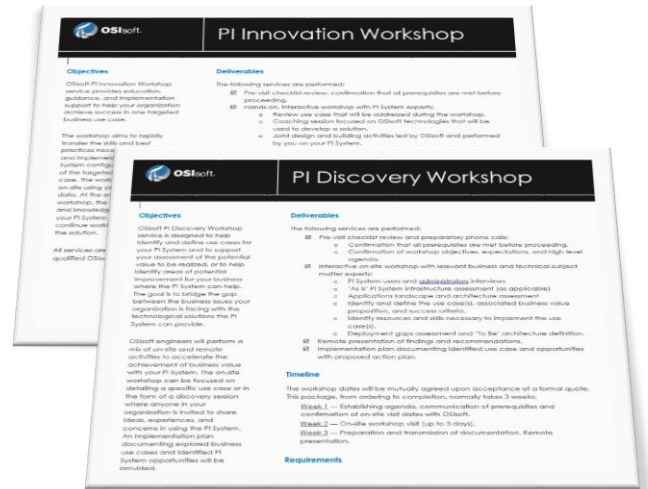
Educate

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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OSIsoft Canada ULC



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

Quality of seminar

	Poor	Good	Excellent	N/A
1. Presentation topics meeting your needs or interests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Time allowed for lunch/breaks/discussions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Pace and time allocated to the presentations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank You



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