

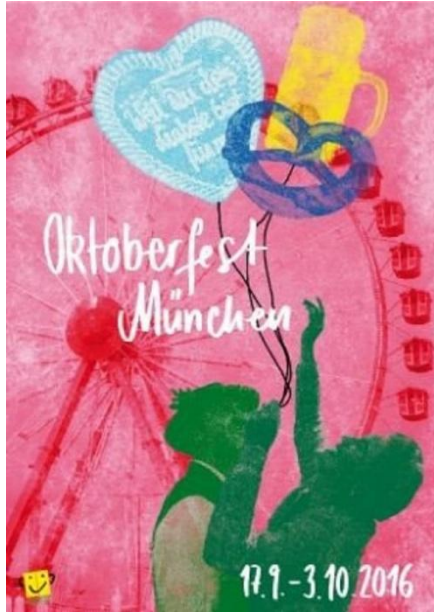


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EMEA USERS CONFERENCE

BERLIN, GERMANY • SEPT 26-29, 2016








PI System Roadmap

Presented by Sander Kim
Director, Product Management & Product Marketing





Unleash Your Infrastructure
with the **PI System**



Enhance Your Intelligence with **PI Advanced Integrations**



Enable Your World with
OSIsoft Cloud Services



Advance Your Ecosystem
with **OSIsoft Marketplace**



Accelerate Your Transformation
with **OSIsoft Advanced Services**

1

● Data Ingress /
Connectivity



Data ingress trends

More sources & importance of metadata

Patterns of ingress

Geographically distributed

Diverse protocols & pervasive sensing



Ensuring **no matter where** your critical **operations** data exists the PI System is the critical **infrastructure**

What problems are we focusing our attention on...

Time



Spend a lot of
time configuring
tags

Configuration



Challenging to
configure
interface

Build



Time consuming
to build an asset
model

Embedded



Run on
embedded
devices / Linux

Secure



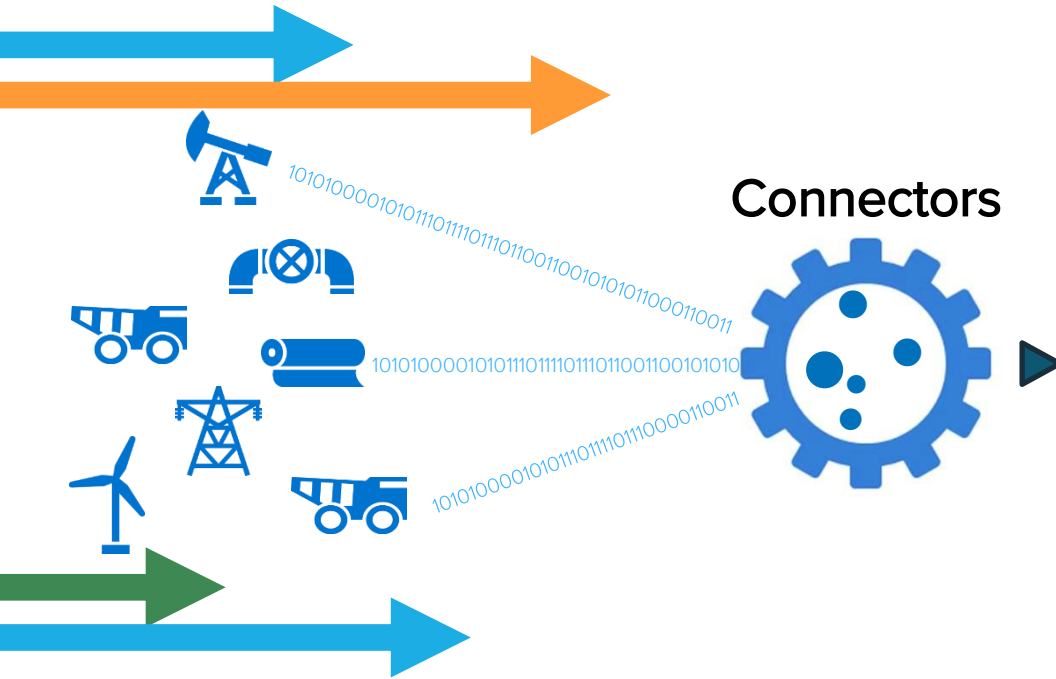
Security

Speed



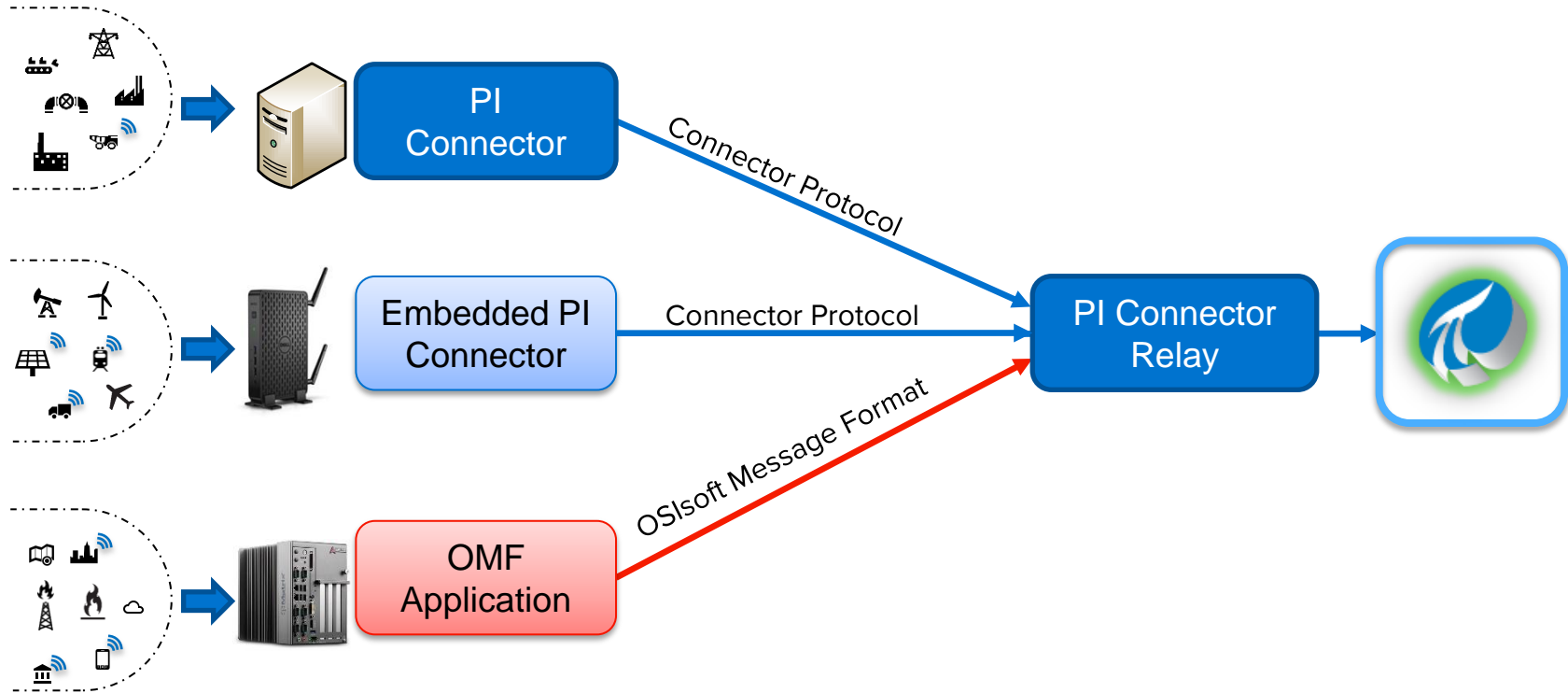
Collect high
speed data

Strategic focus: PI Connectors



- Easy to **configure**
- Creates **reference model** based on **assets** as defined by the data source
- **Auto-creates:**
 - Elements in PI AF
 - Points in PI Data Archive, linked to PI AF Elements
 - Events collected and stored in Event Frames
- **Updates** automatically with data source changes
- **Collects** real-time data

Multiple Data Ingress Options with Connector Relay



IIoT Gateway Examples

Monico
(PI Server
connectivity –
OMF)



Dell
(complete PI
System)



Cisco
(PI Server
connectivity –
Embedded
Connector)



HPE
(complete PI
System)



Intel / ODM
(PI Server
connectivity -
TBD)



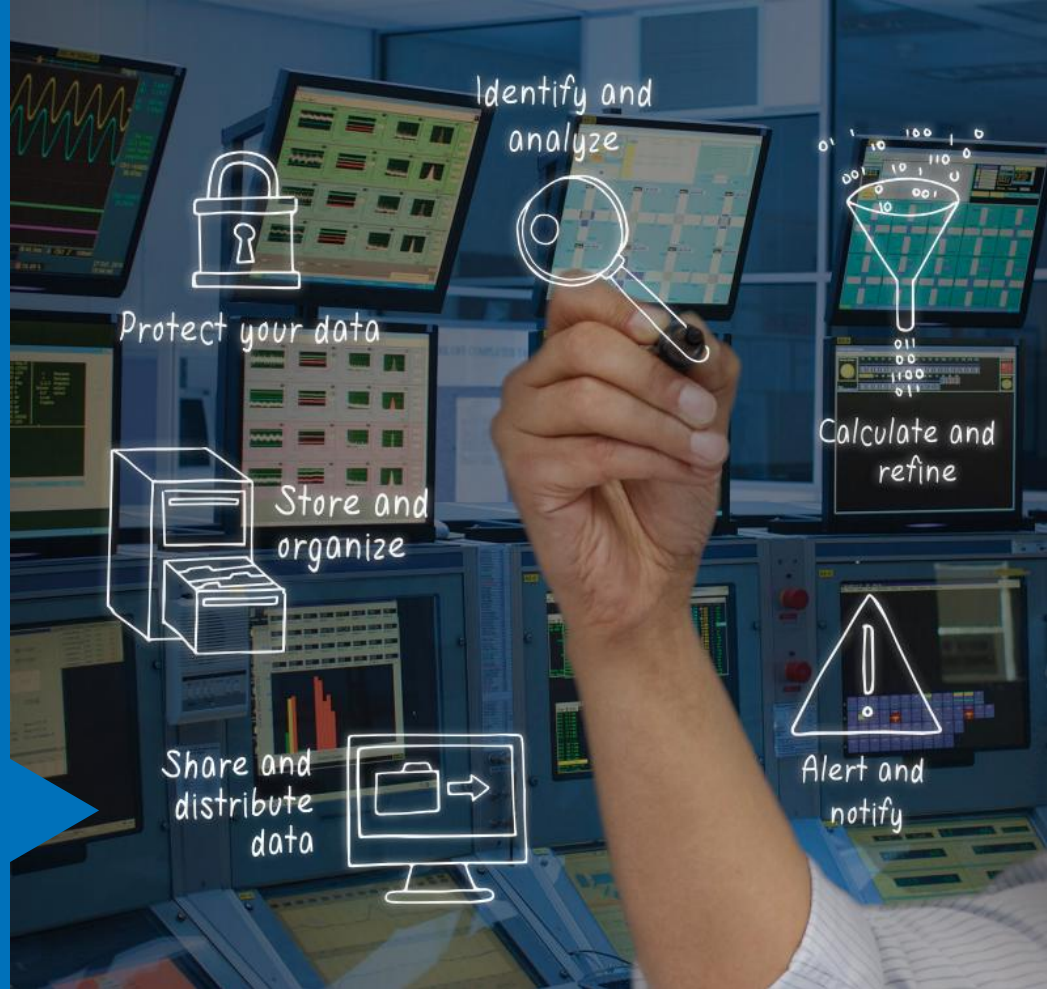
**Stratus IoT
Solutions**
(PI Server
connectivity –
OMF)



PI Connectors in development

	PI Connector	Market	Status
▶	PI System	All	Beta Q3
	Redfish	Datacenter	Development
▶	Modbus for embedded systems	All	Development
▶	DNP3 for embedded systems	T&D	Development
▶	IEC 61850	T&D	Development

PI Server



PI Server: Redesigning next gen PI Notifications



- **Detect:** Leverage analysis service to identify important events
- **Containerize:** Use event frames as a natural container for the event
- **Notify:** Content / Delivery / Escalation / Acknowledgement

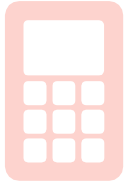
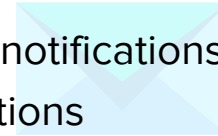


Notifications tailored for a person(s) or another system



Notifications

- Scalability (target 1M configured notifications)
- Migration tool for legacy notifications
- Leverage Analytics and Event Frames
- Tight integration with PI Client tools: Coresight Event History



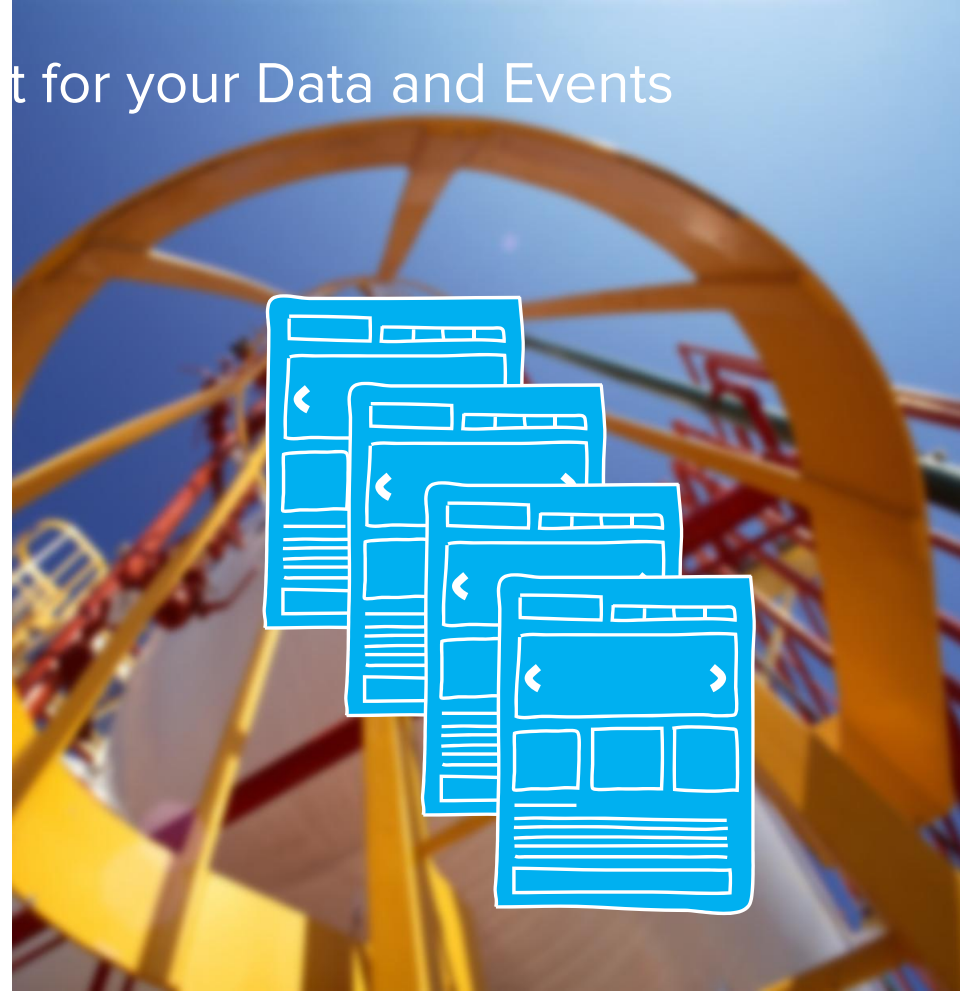
Analytics

- Manual recalculation via PI System Explorer
 - Programmatic access via AF SDK
- Windows Clustering support for PI Analysis Service



PI Asset Framework: Richer Content for your Data and Events

- Well defined traits for attributes
 - Limits
 - Forecasts
 - Geolocation
- Event frames enhancements
 - Severity
 - Acknowledgements
 - Annotations



PI Server 2017+ Focus

Manageability

- Integrated installer
- PI Directory Service
- PI System Dashboard
- Configuration portal
- Improve archive management
- Actionable error messages
- More granularity on default Access Control List

Performance and Scalability

- Data access
- Event frames
- Searches and queries
- Analyses
- Caching and multi-user enhancements

Analytics

- Auto recalculation
- Extensible analytics with 3rd party integration

Usability and Features

- Localized attribute names
- UOM grouping
- Delivery channels



Visualization



What we hear about visualization...

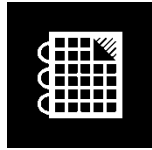
“People want their data **where they are**, not where the system is”

“I have a tough time selling ProcessBook internally because it's **powerful** but to the end users **it looks heavy and old** and other tools have **5% of the functionality but look better and work over the web** and they win.”

“... that ability for an **end user** to be able to go in and configure it and get an **integrated experience** has **not been there**”

Visualization: a critical piece of the Infrastructure

Today



PI ProcessBook
Display Editor
Process Monitoring



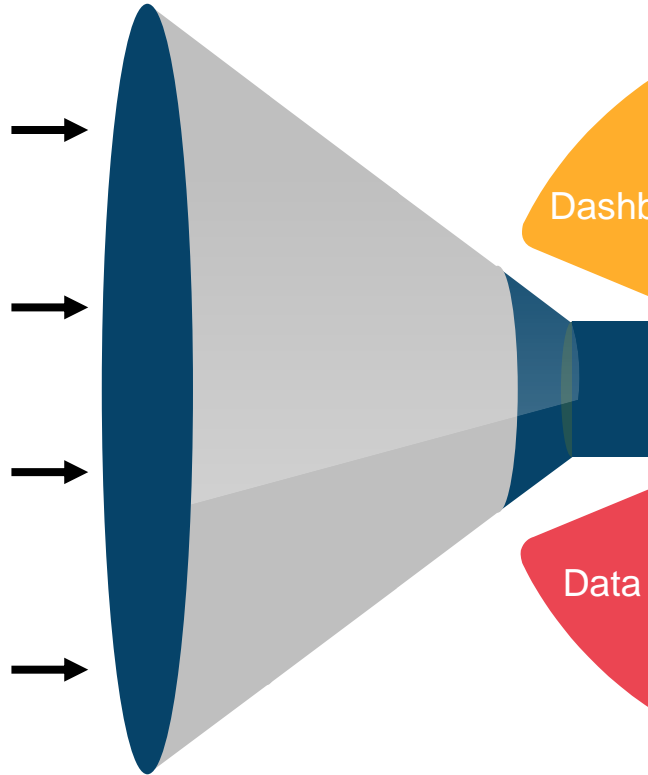
PI Coresight
Ad Hoc Analysis
PB Display Viewer



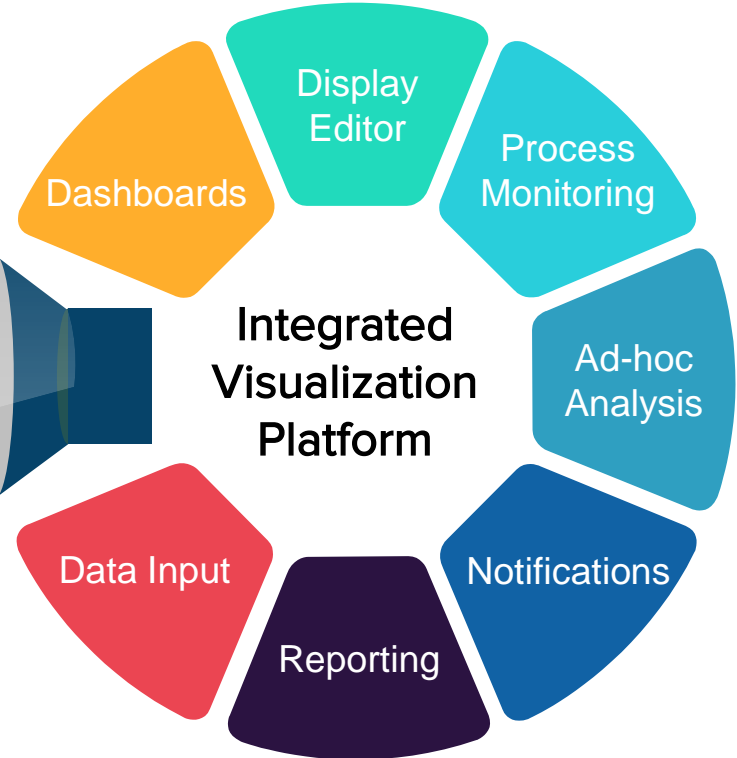
PI WebParts
Dashboards



PI Manual Logger
Manual Data Entry



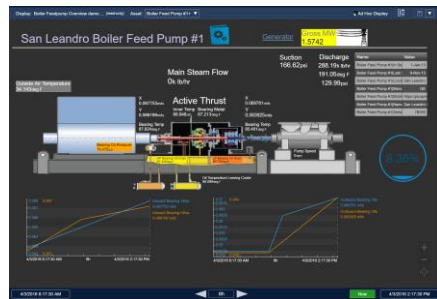
Tomorrow



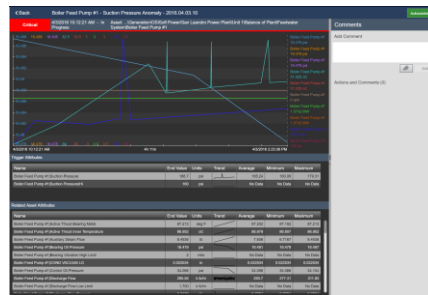
PI Coresight 2016 R2– This is not the same PI Coresight!



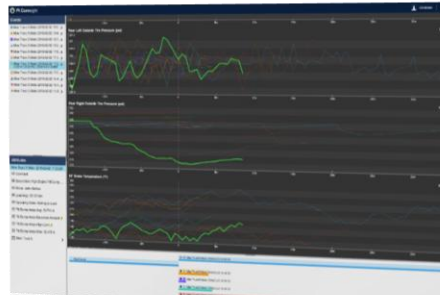
Authoring



Monitoring



Event Details



Ad Hoc Analysis

PI Coresight 2016 R2 brings together high fidelity displays, notifications, ad hoc analysis, events, and collaboration and lets you view it from anywhere on any device.

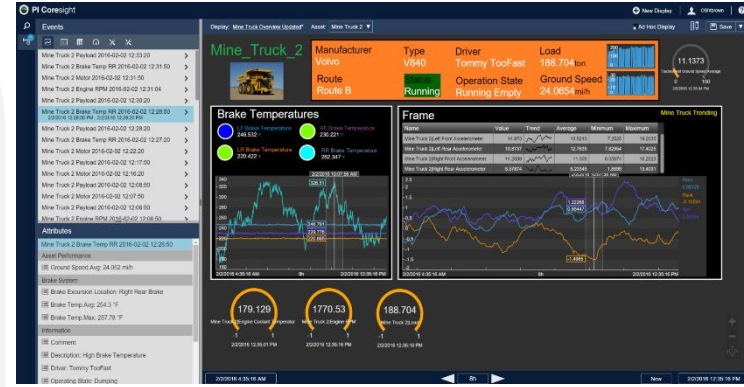


PI Coresight 2016: PI Coresight like never before

New!

- **New Display Editor:** Author high fidelity displays
- **Still Quick & Easy** to find and visualize data
- **Process Monitoring:** Visual alerts with multistate behaviors
- **Ad Hoc Analysis:** Synchronized trend cursors, & basic time manipulation
- **Event Enabled:** Discover related events on your assets
- **Event Comparison:** Easily compare and analyze data from similar events using overlay trends
- **Event Details & Comments:** View details to quickly assess the situation, acknowledge the event, and view and add comments so your colleagues always have the latest information
- **PI Notifications Beta Support:** View Event Details and acknowledge events

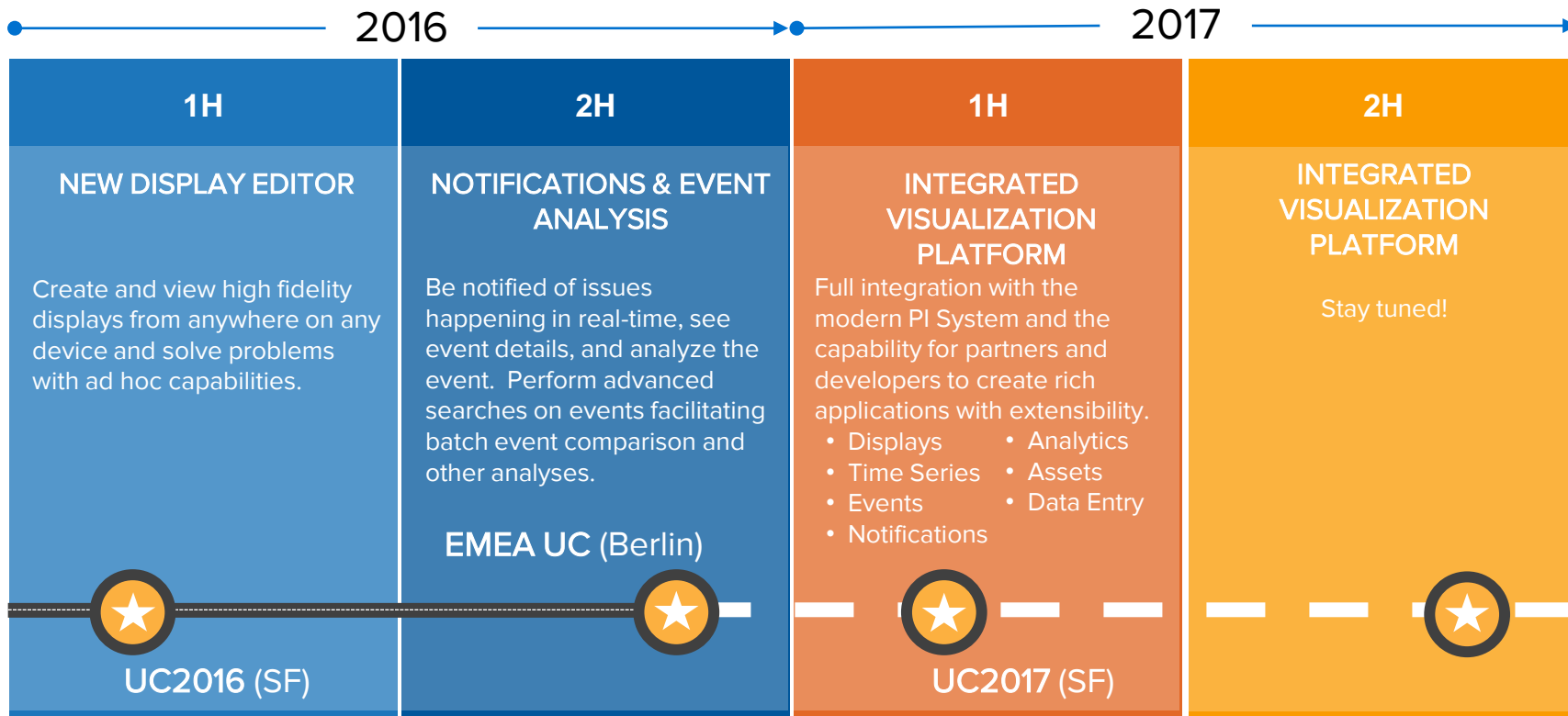
New Display Editor



Event Comparison



PI Coresight roadmap



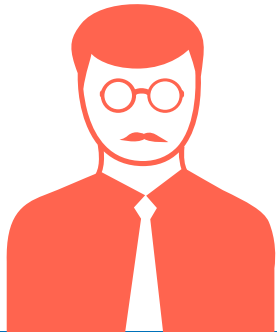


Advanced Integrations



What we hear you need

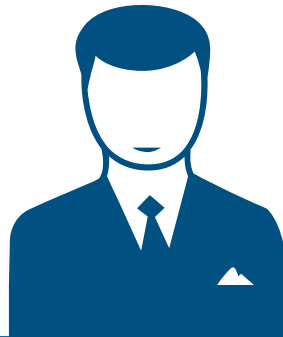
"We're looking to get the data into tools like Spotfire"



"Writing code and supporting it is just not an option."



"It's great that I can look at data across similar and different assets together."



Familiar tools
Scale without code
Flexibility and trust

Problem complexity drives the need for Integrators

Disparate assets or interacting one-by-one

Interacting with common assets as a fleet

Complexity ↑

Monitoring

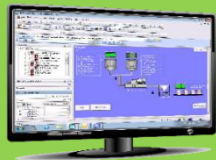
Real-time visibility



- HMI

Process Optimization

Real-time & historical view across any plant asset



- PI ProcessBook
- PI Coresight
- PI Datalink

Benchmarking

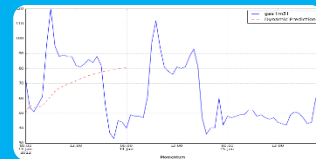
Fleet-wide performance comparison



- BI App (i.e. Tableau, Spotfire, Lumira)
- PI Integrator for Business Analytics
- PI Integrator for SAP HANA

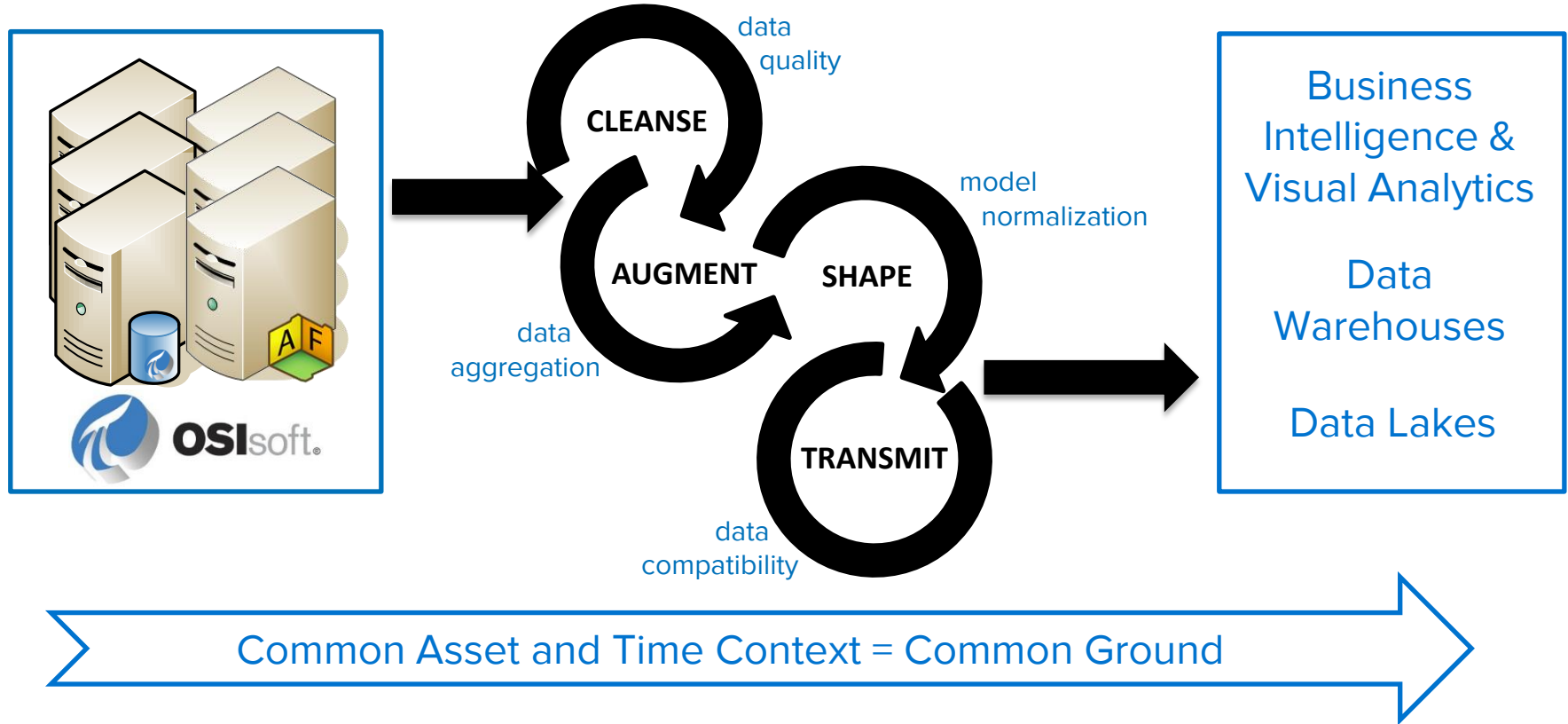
System Optimization

Large scale multi-variate analysis

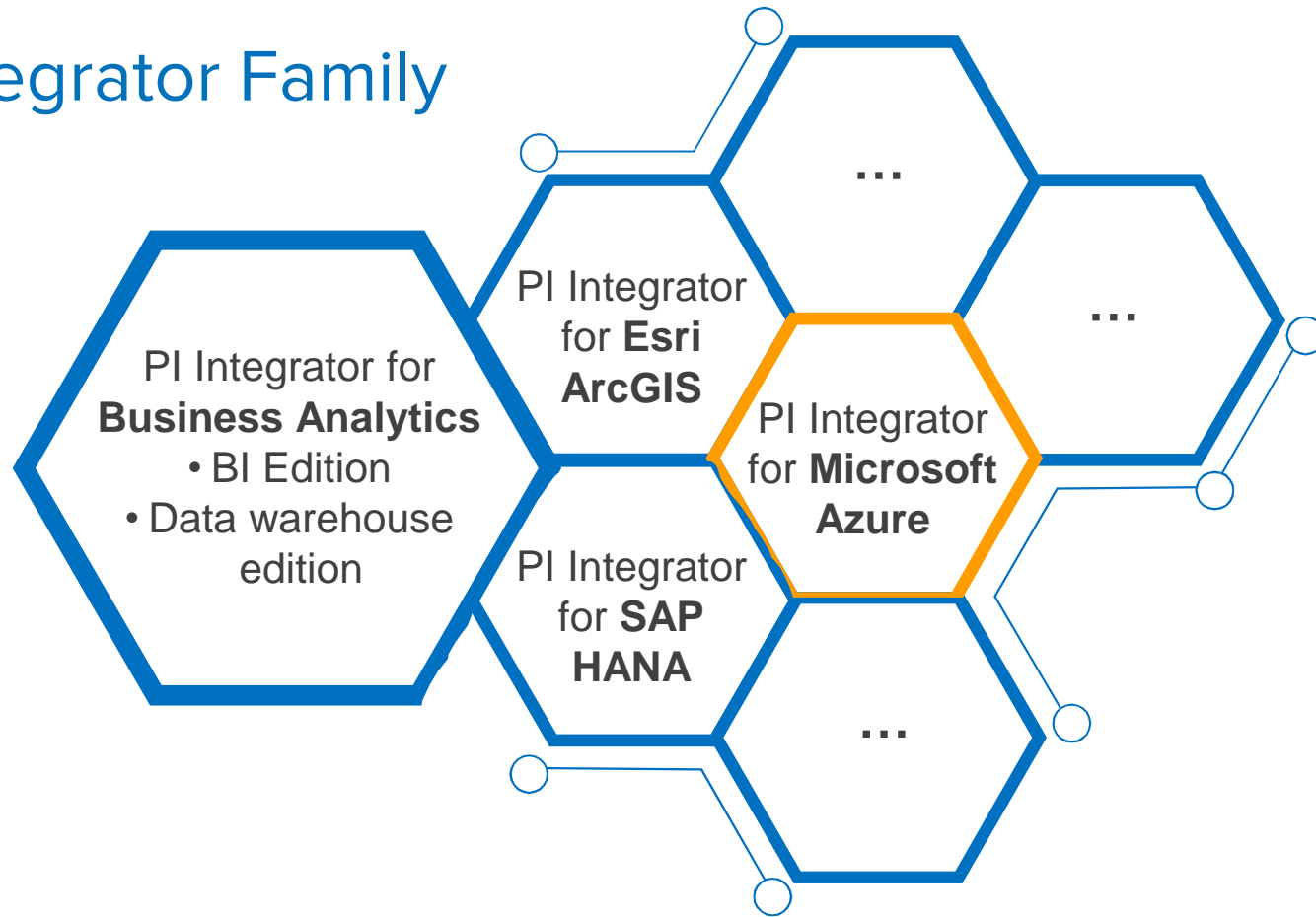


- Machine Learning (Azure ML, R)
- PI Integrator for Business Analytics
- PI Integrator for SAP HANA

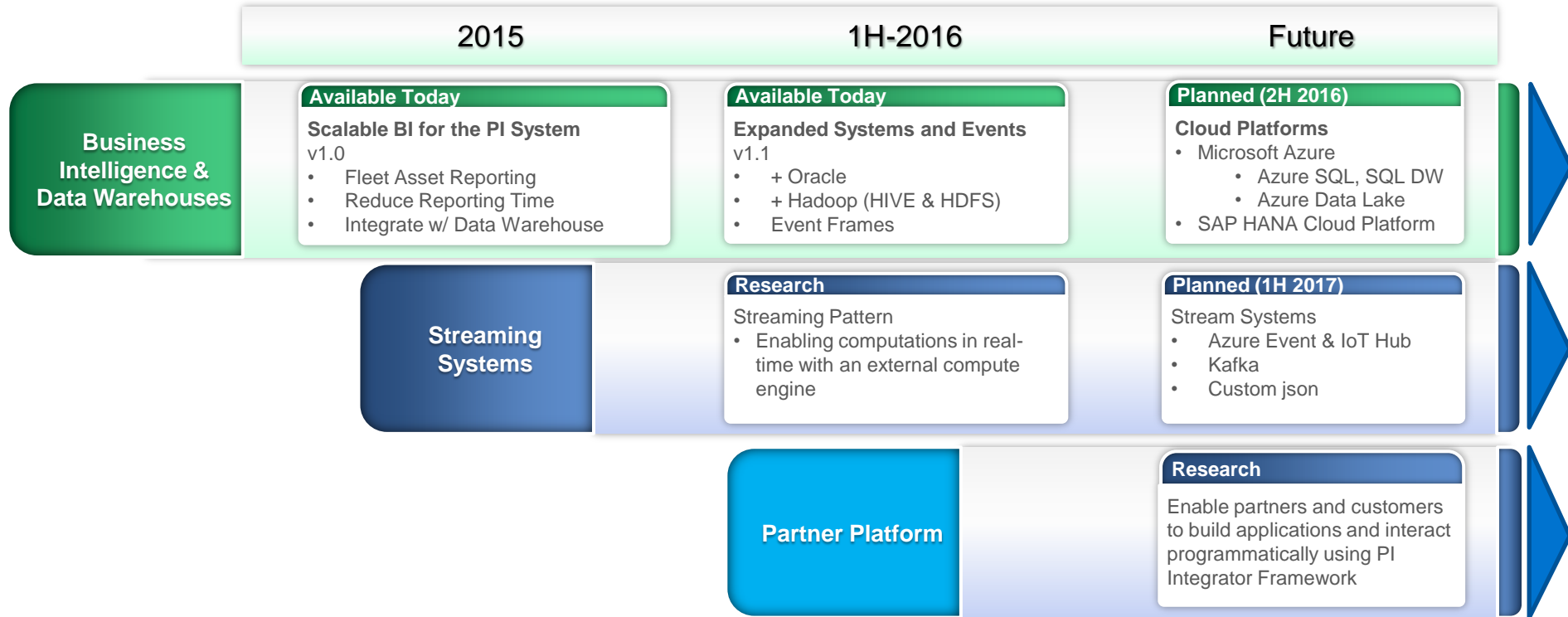
PI Integrator for Business Analytics



PI Integrator Family



More integration options, more systems

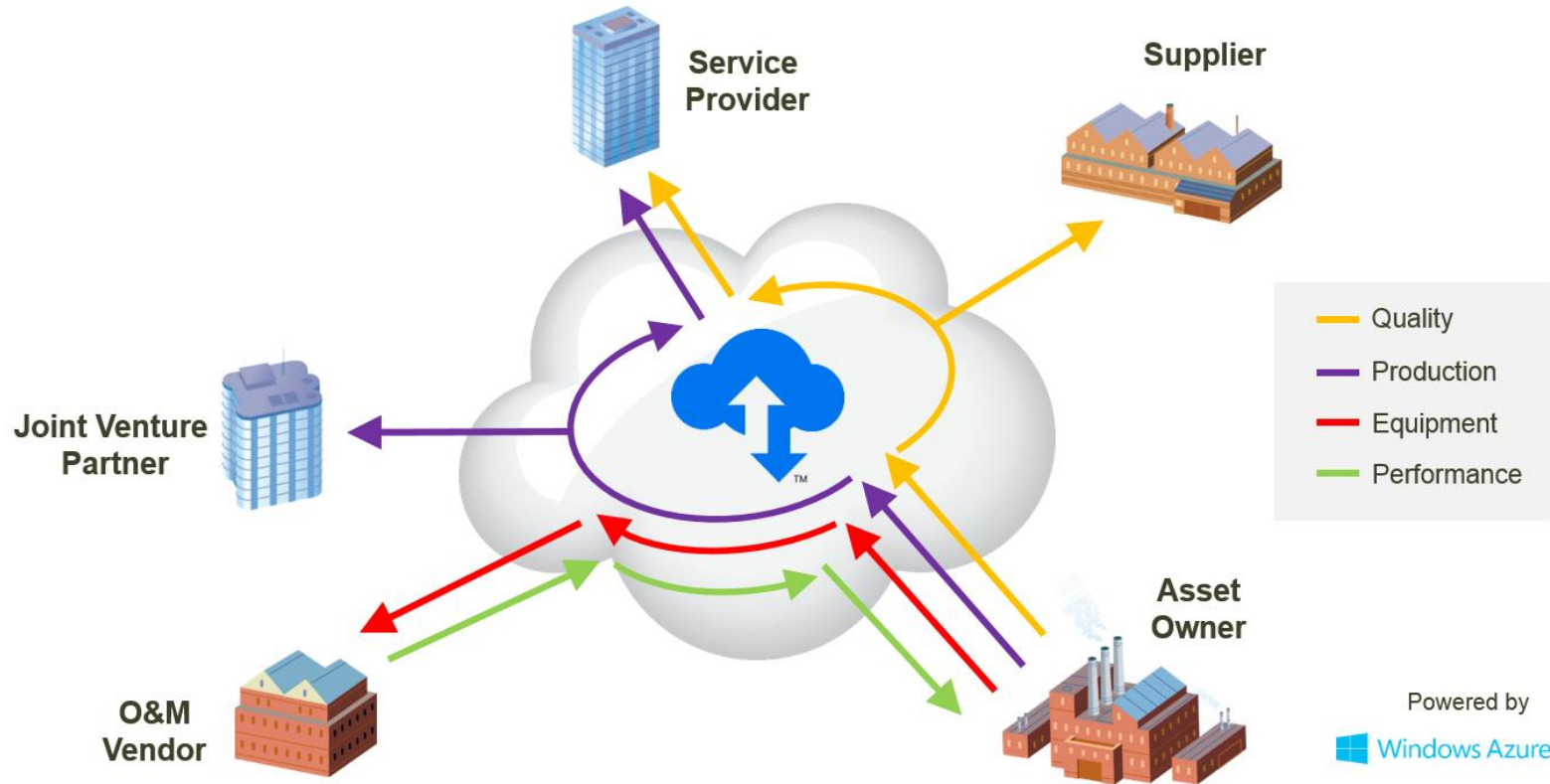




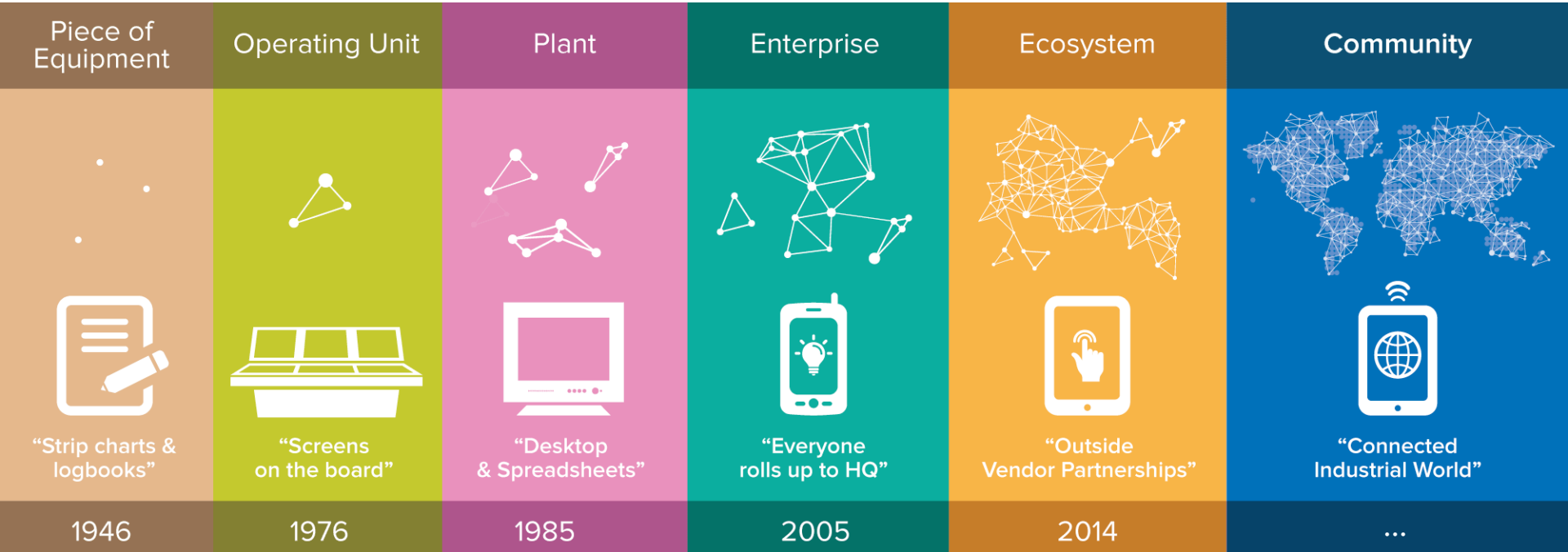
OSIsoft Cloud Services



Released in 2015: PI Cloud Connect



A journey to a more connected world



Cloud Services – Market Needs

Quick Deployment
“Zero” Admin.

IoT/IIoT and
Community Scale

Data Collection
from Devices

Data Collection
Across
Companies

Data Sharing
within
Communities

Other Needs
for Communities

Contact Information

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Questions

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

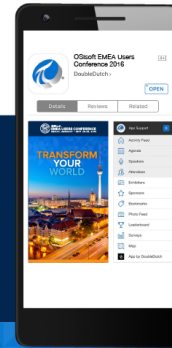


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감사합니다

谢谢

Danke

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado



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