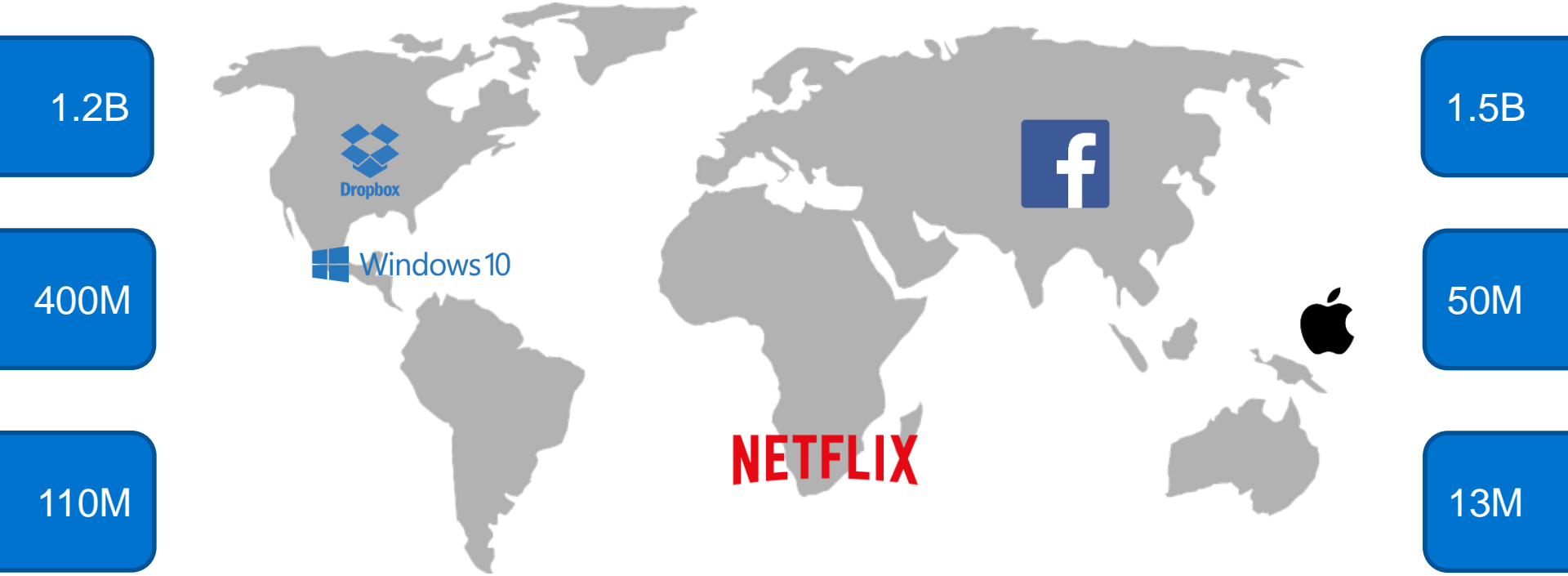




The Role of the PI System in IIoT

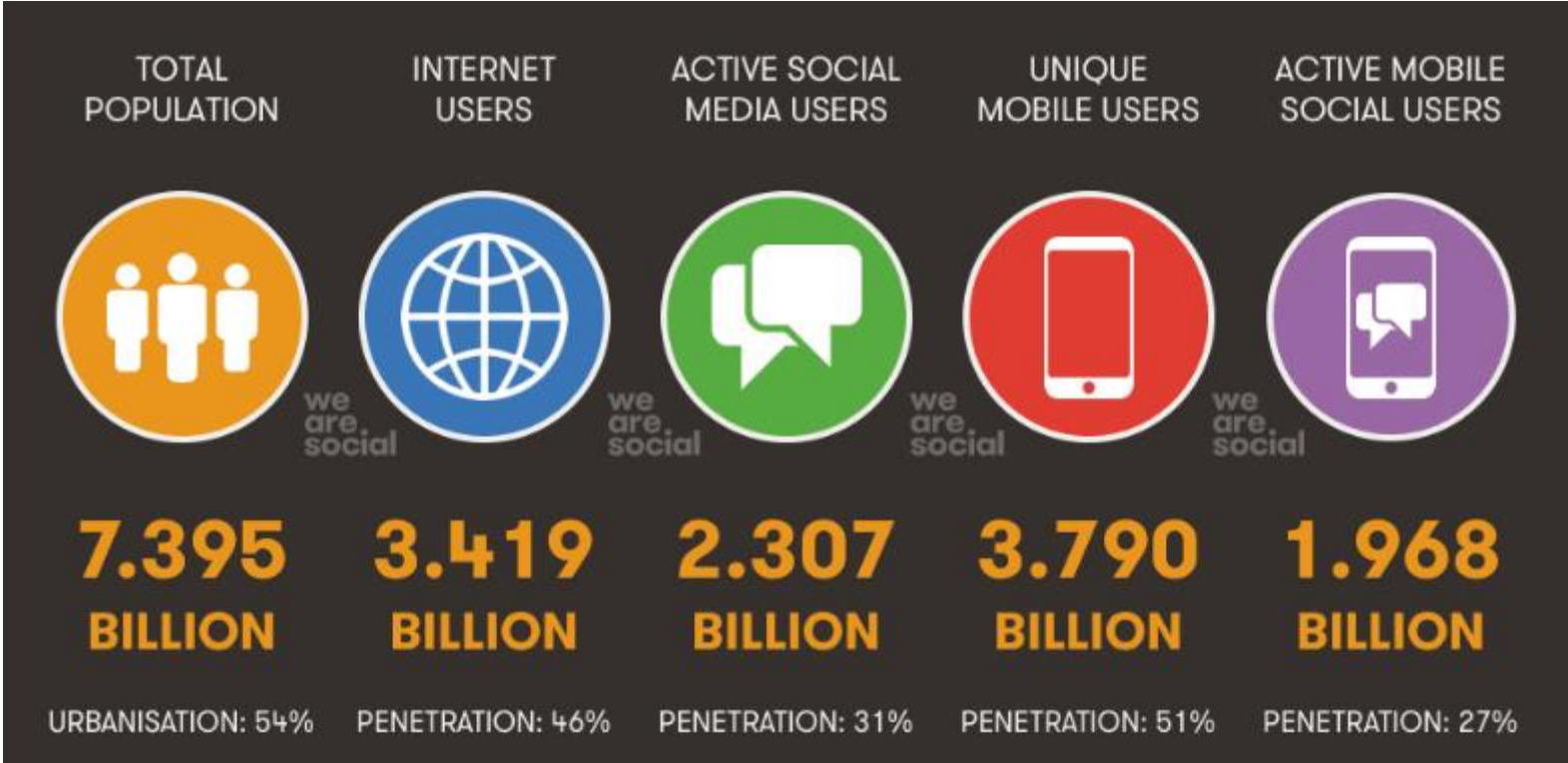
Dr Dominic John,
VP of Marketing and Technical Communication


Our World Is Digitally Transforming



Source: McKinsey, "MGI Digital America" December 2015

We Are Getting More Connected





“Today, your cell phone has more computer power than all of NASA back in 1969, when it placed two astronauts on the moon.”

-Michio Kaku



The Digital Opportunity- Top B2B Digital Companies

Revenue
Growth

5X

Their rivals

Profit

8X

Their rivals

Shareholder
Returns

2X

Their rivals

McKinsey and Company-McKinsey Digital Quotient, Capital IQ

Data Driven Transformations

Safety & Security

Energy

Productivity

Asset Health

Quality

Regulatory Performance



Eliminated **5 unplanned** shutdowns in first year

\$3.3 million in annual energy savings

Industrial Demand Response and Smart Manufacturing

\$20M per year in preventative maintenance and improved worker safety

1000+ fewer paper documents via Lifecycle tracking

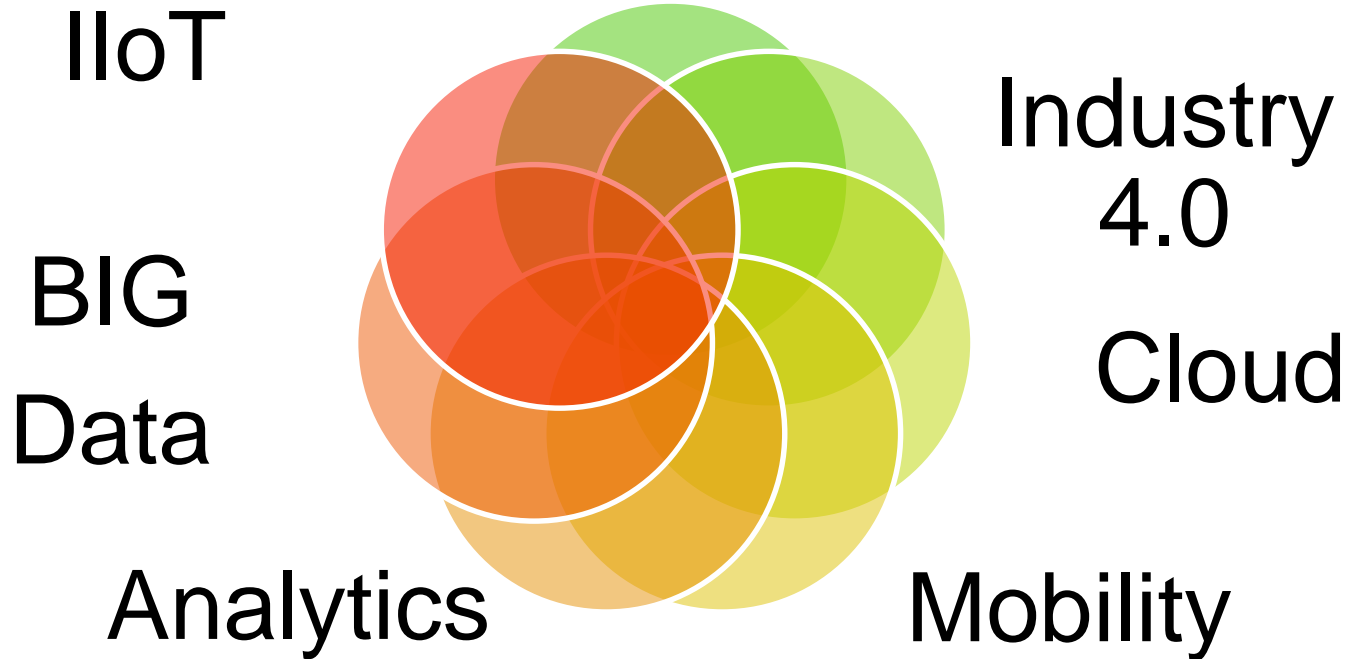
Recovering **640M liters** of treated water



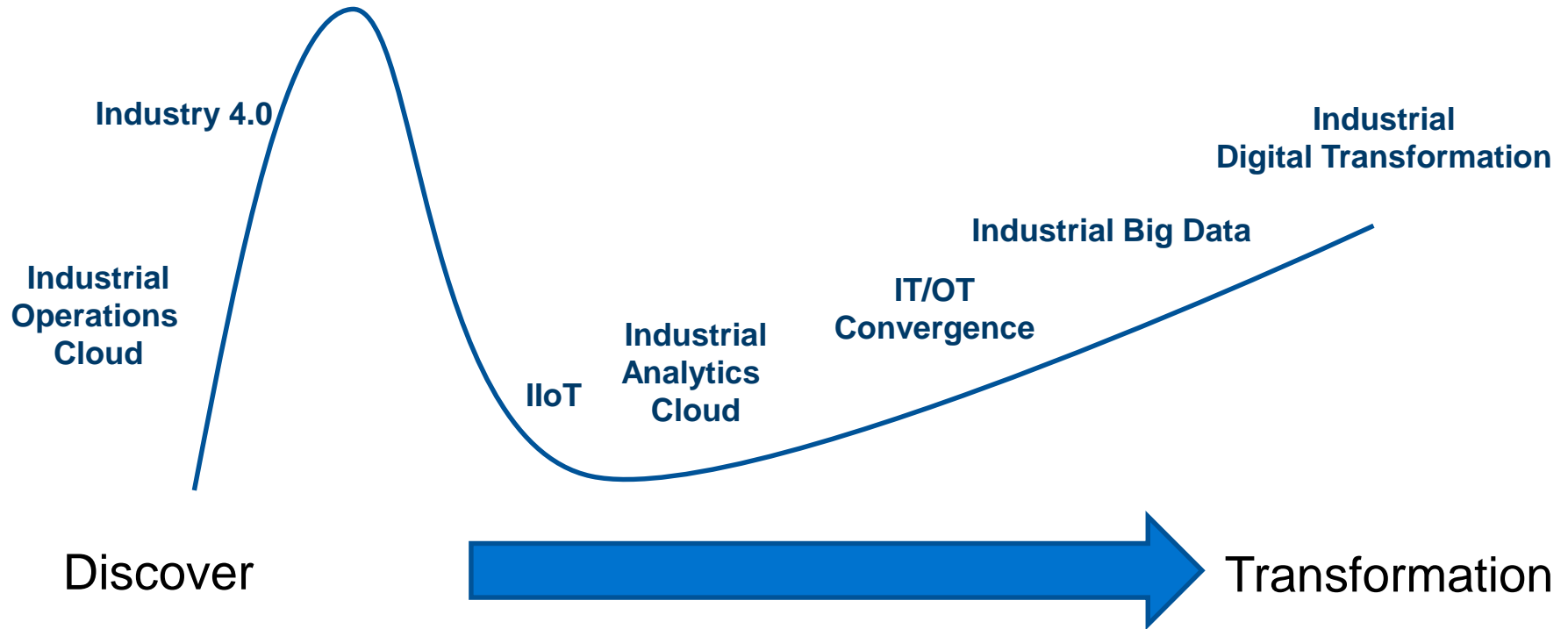
Do you want to be Digital Prey or Predator?

©IKS UK LIMITED

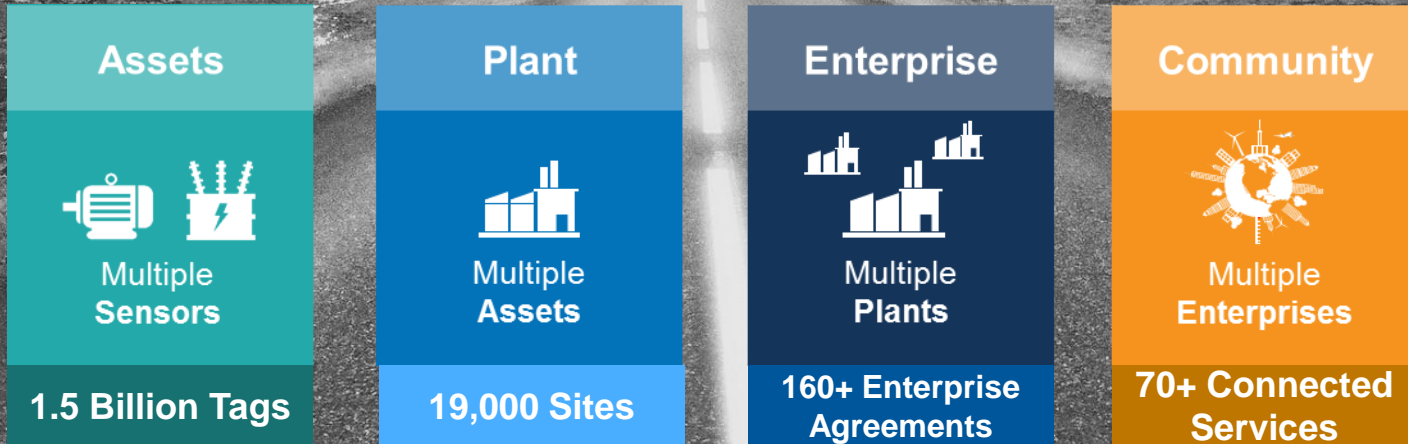
Your Challenge- Buzz Words



Customer (Hype) Interest Cycle as OSIsoft sees it



IIoT Digital Transformation Is Happening Today



Evergreen CIO Speaks to the Buzz

The IIoT Game Changer



Hello Barbie

Microphone, speaker and tri-color LED lights embedded in necklace.

Turn the doll on with the power button on her belt.

Press and hold down belt buckle to activate speech recognition.
Note: Speech Recognition is Not On Unless Purred.

Doll cannot stand alone.

Flat feet for charging stand placement.

ONE TIME APP DOWNLOAD AND WIFI CONNECTION REQUIRED FOR 2-WAY CONVERSATION.
Disclaimer: Compatible smart device required.

PARENT CONSENT REQUIRED

CHARGING STAND INCLUDED
Note: Height on the contrary side is about 10" tall.

DOLLS AVAILABLE IN THREE SKIN TONES

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The Role of IIoT within Industrial Operations

Traditional Operations



Sense



Process/
Control
System



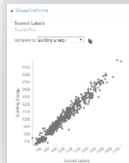
Connect



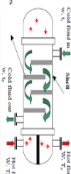
Store



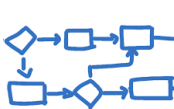
Structure



Analyze



Model



Implement



Automate

IIoT Enabled Operations



Sense



Connect/
Gateway



The Role of the PI System in IIoT

Traditional Operations



Sense



Process/
Control
System

PI Connectors

Connect

PI Server

Store Structure

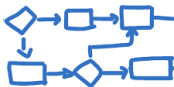
PI Visualization

PI Integrators

Analyze



Model



Implement



Automate

IIoT Enabled Operations



Sense



Connect/
Gateway

3 Use Cases for “New” IoT



Monitor what you couldn't



Integrate new sensor types



Add sensors around existing systems

1) Primary Use Case: Now Connect What was Physically and Economically Not Possible Before



.... Remote and mobile assets

Connecting the Supply Chain- Pit to Port

2) Use Case: New Sensors Outside of Existing Systems

[Automation Solutions](#)[Commercial & Residential Solutions](#)[Industries](#)[Expertise & Best Practices](#)[Documents & Drawings](#)

Rosemount™ 708 Wireless Acoustic Transmitter with Steam Trap Monitor

Featuring ultrasonic acoustic event detection that mounts externally, the Rosemount™ 708 Wireless Acoustic Transmitter with Steam Trap Monitor offers a fast, cost effective installation. This device allows visibility into steam traps and pressure relieve valves (PRVs) by accurately communicating acoustic level and temperature data as well as device data, event status and leak detection via the *WirelessHART*® network. The Steam Trap Monitor software option provides real-time information about steam trap conditions, energy usage and emissions.

[BUY NOW >](#)[CHAT NOW >](#)[CONTACT US >](#)[LEARN ABOUT >](#)[REQUEST QUOTE >](#)

3) Use case: Upgrade existing Systems with new sensors

DTE Energy

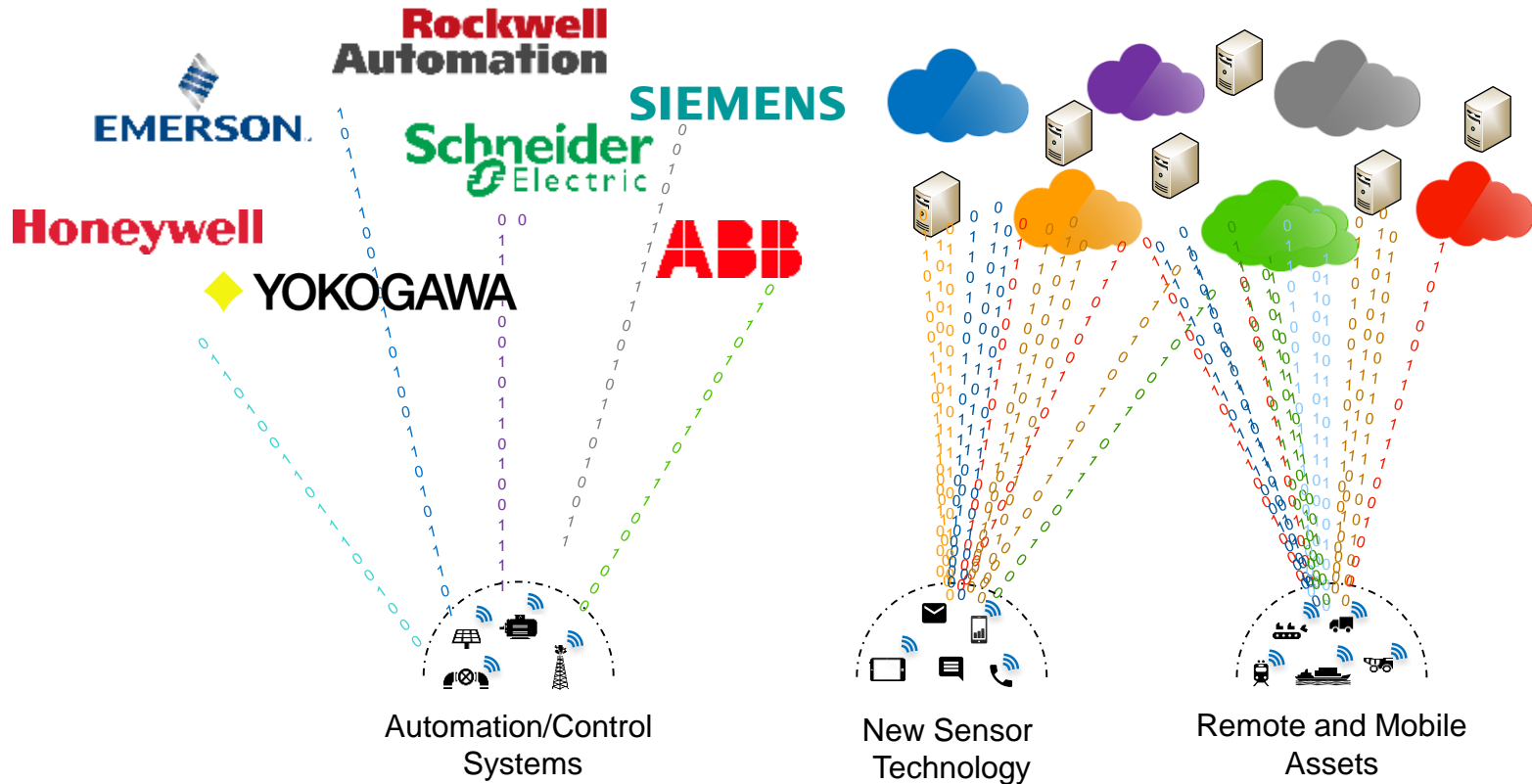


DTE Energy Shortens Customer Outages
With Wireless Sensors & The PI System

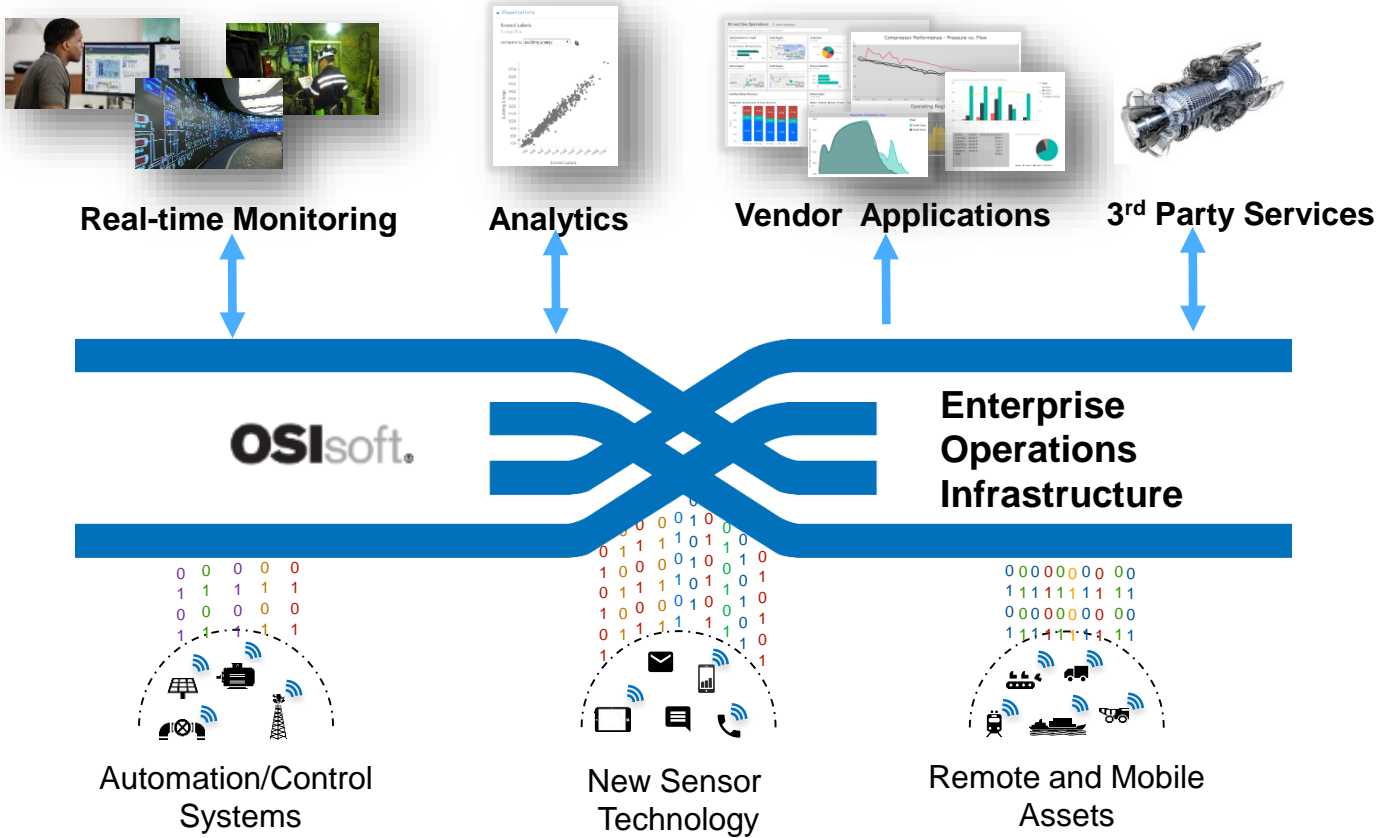
Challenge	Solution	Results
Determining where to send crews during outages to minimize patrol times and reduce duration of outages.	Install wireless sensors to help pinpoint fault locations. Leverage OSIsoft technology to collect and share this data across the enterprise.	Prevented spending \$25 million in Capex. Reduce 6.6 million customer outage minutes annually.

- Capital Expense
 - SCADA is **\$30K** per install
 - Wireless is **\$5k** per installation
- Deployment Time
 - SCADA takes **months** to deploy
 - Requires a shutdown
 - Significant construction
 - Wireless takes **hours** to deploy
 - Can be installed on live wires
 - 1 bucket truck and 2 people

The IIoT Challenge




Strategic Approach to an IIoT Enabled Enterprise



Data Infrastructure: Designed For Today, and Tomorrow's IIoT


Volume

DTE:
3 million
customers
27 million +
tags



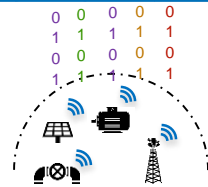
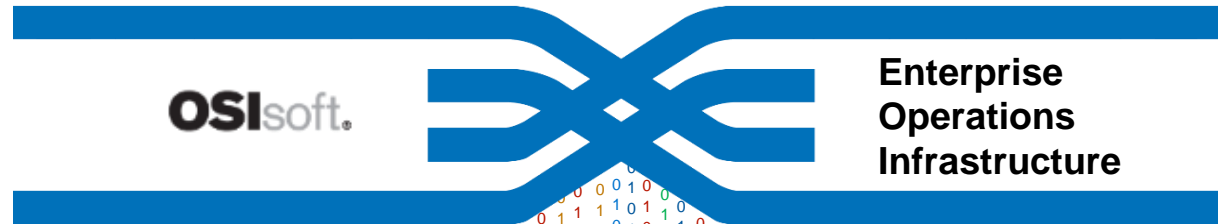
Variety

E.ON:
310,000
tags, 250
formats, 140+
locations



Velocity

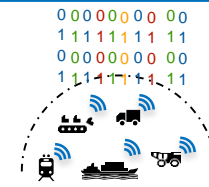
SetPoint:
400,000 events
/sec



Automation/Control
Systems



New Sensor
Technology

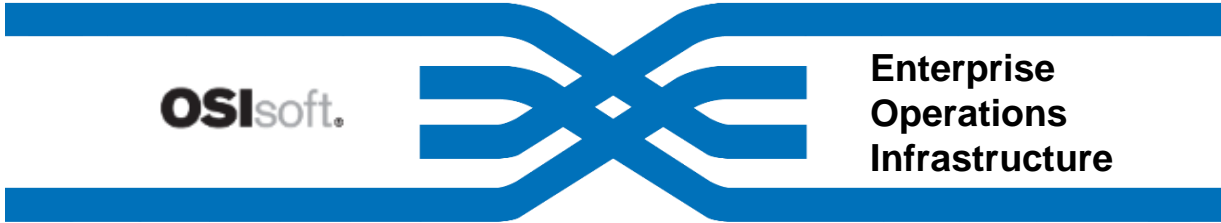


Remote and Mobile
Assets

Summary: 3 Steps to Strategically Embracing IIoT

...Next 3 technical presentations

- 3 Data Utilization
- 2 Data Readiness
- 1 Pervasive Data Collection





Obrigado

Gracias

Thank You

Спасибо

Merci

감사합니다

Danke

谢谢

ありがとう