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# EMEA USERS CONFERENCE

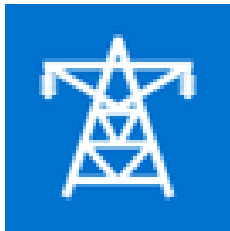
BERLIN, GERMANY • SEPT 26-29, 2016



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# Enhance the Performance and Reliability of Large Transmission & Distribution Systems Using Real-time Operational Data

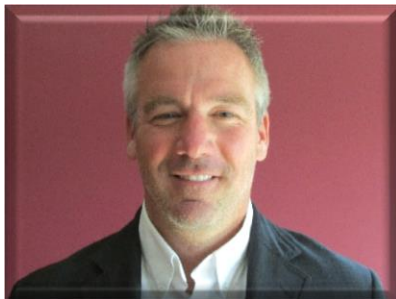
Presented by **Miguel Chavero** – *Industry Principal*



# OSIsoft Power and Utilities Industry Principals



**David Thomason**  
**Global Power**  
**Generation**



**Kevin P Walsh**  
**T&D and Smart Grids**

**Chris Crosby**  
**Global**  
**Nuclear &**  
**Renewable**  
**Energy**



**Miguel Chavero**  
**EMEA Power**  
**and Utilities**



**William E. McEvoy**  
**Distributed Energy**  
**Resources**

# Announcements

## Gold Sponsors



## Silver Sponsors

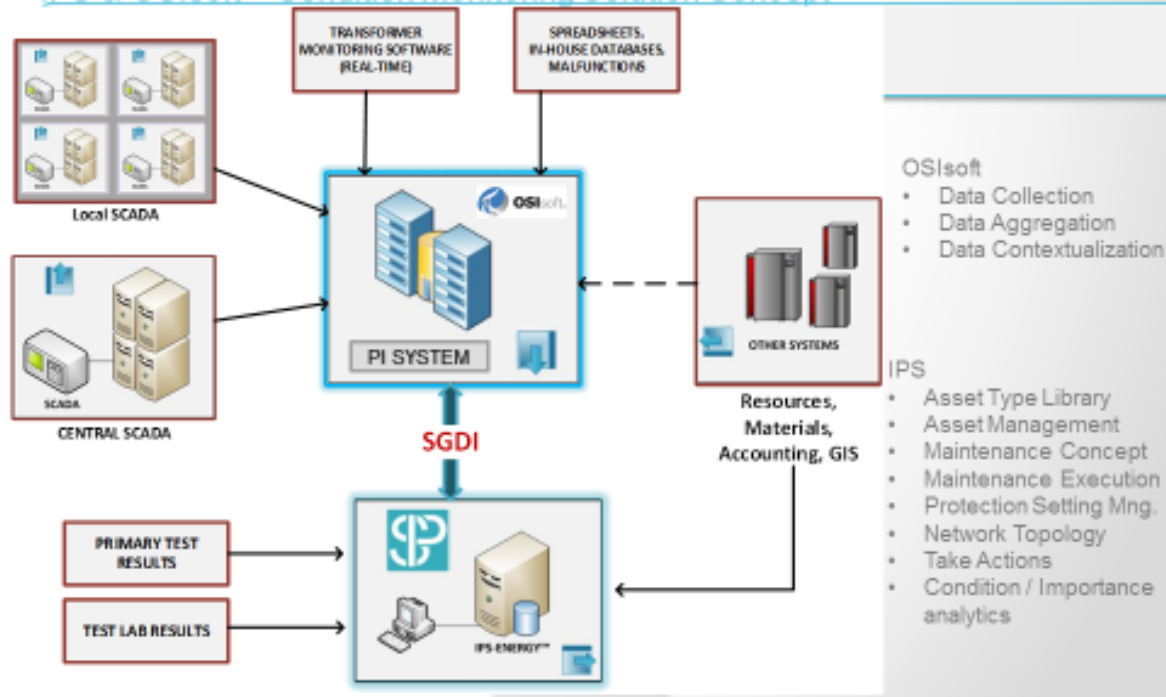




# Announcements



## IPS & OSIsoft – Condition Monitoring Solution Concept



# Announcements









**Jože Bizjak (MSc) (Mr)**

[joze.bizjak@ips-energy.com](mailto:joze.bizjak@ips-energy.com)

Area Sales and Application Manager



# Announcements

TIME	CUSTOMER	TITLE
9:30-10:00		<i>Developing Power System Operations: Combining Visualization and Online Analysis Using the PI System</i> – Antti-Juhani Nikkilä
10:15-10:45		<i>Intuitive Interpretation of Big Data Using Esri ArcGIS and the PI System</i> – Jan F.X. Urbanus
11:00-11:30		<i>Value of Realtime Data for Improved Grid Performance</i> – Robin Hagemans
11:45-12:15		<i>Data Acquisition from Distributed Power Plants and Integration into the Business Intelligence System</i> – Zijad Lemeš
14:15-14:45		<i>PI System as Part of An Existing TSO Infrastructure</i> – Martin Tauer, Lukas Sedlacek
15:00-15:30		<i>Achieving Operational Efficiency at PowerStream</i> – Vince Polsoni

# TSO Industry Pain Points



Aging Infrastructure



Asset Management



Regulated Tariff



Capacity Planning



Smart Grid  
Integration



Renewables  
Integration



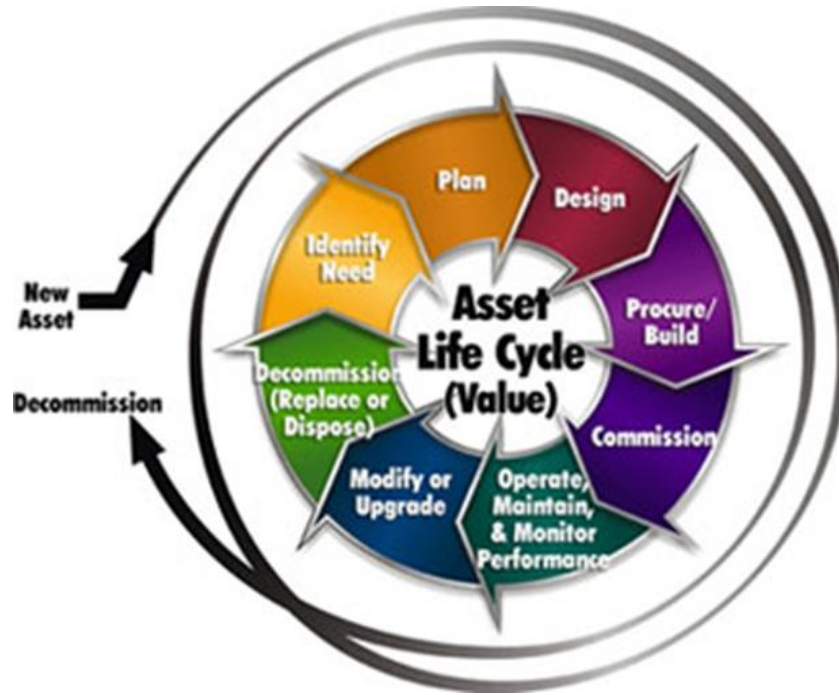
Compliance



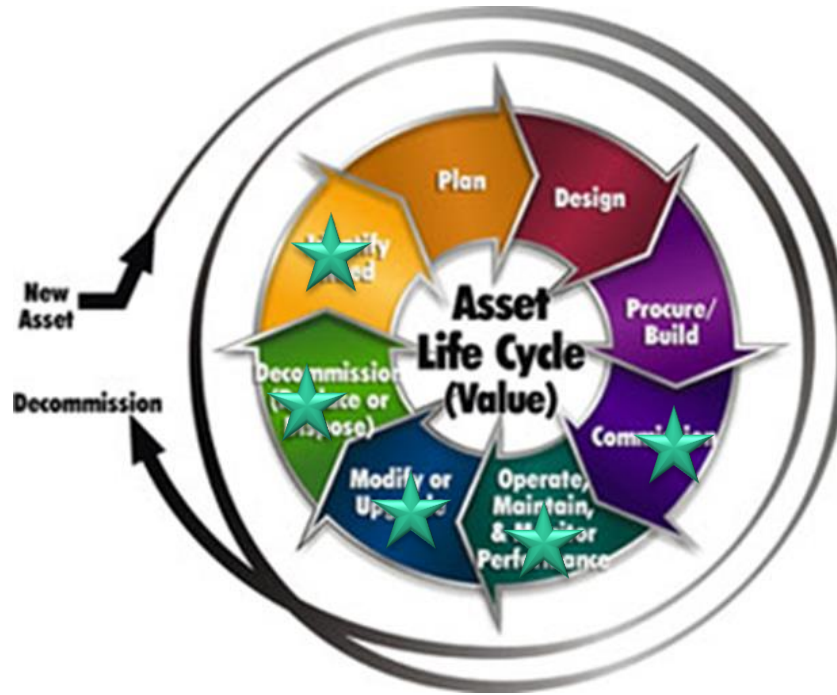
New Industry  
Trends: GIS  
Integration,  
TSO/DSO  
collaboration



# Setting the context



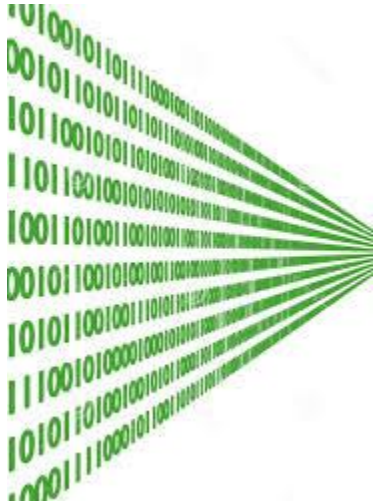
# Setting the context



★ Major Business Impacts

# The Art of Possible

# The Challenge



Billions of data streams

Multiple data sources



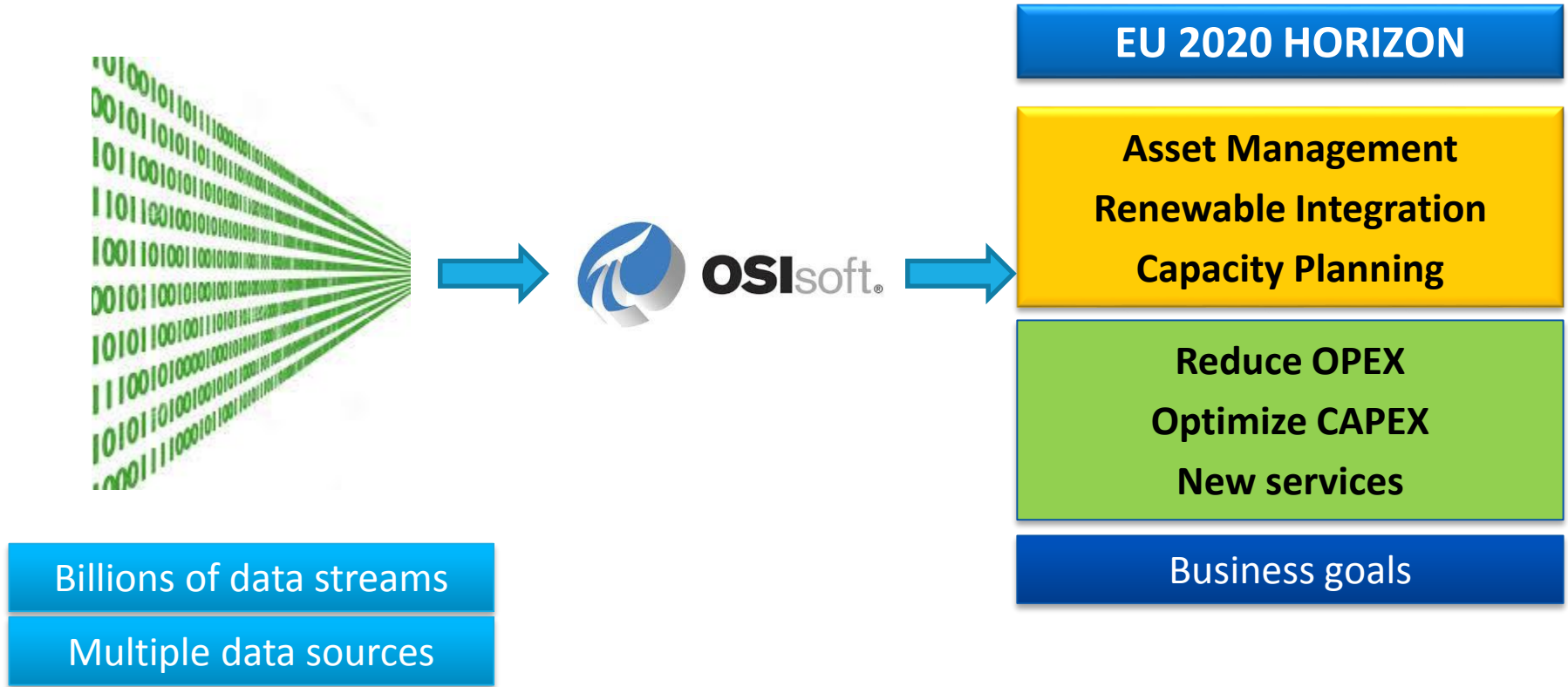
**EU 2020 HORIZON**

**Asset Management  
Renewable Integration  
Capacity Planning**

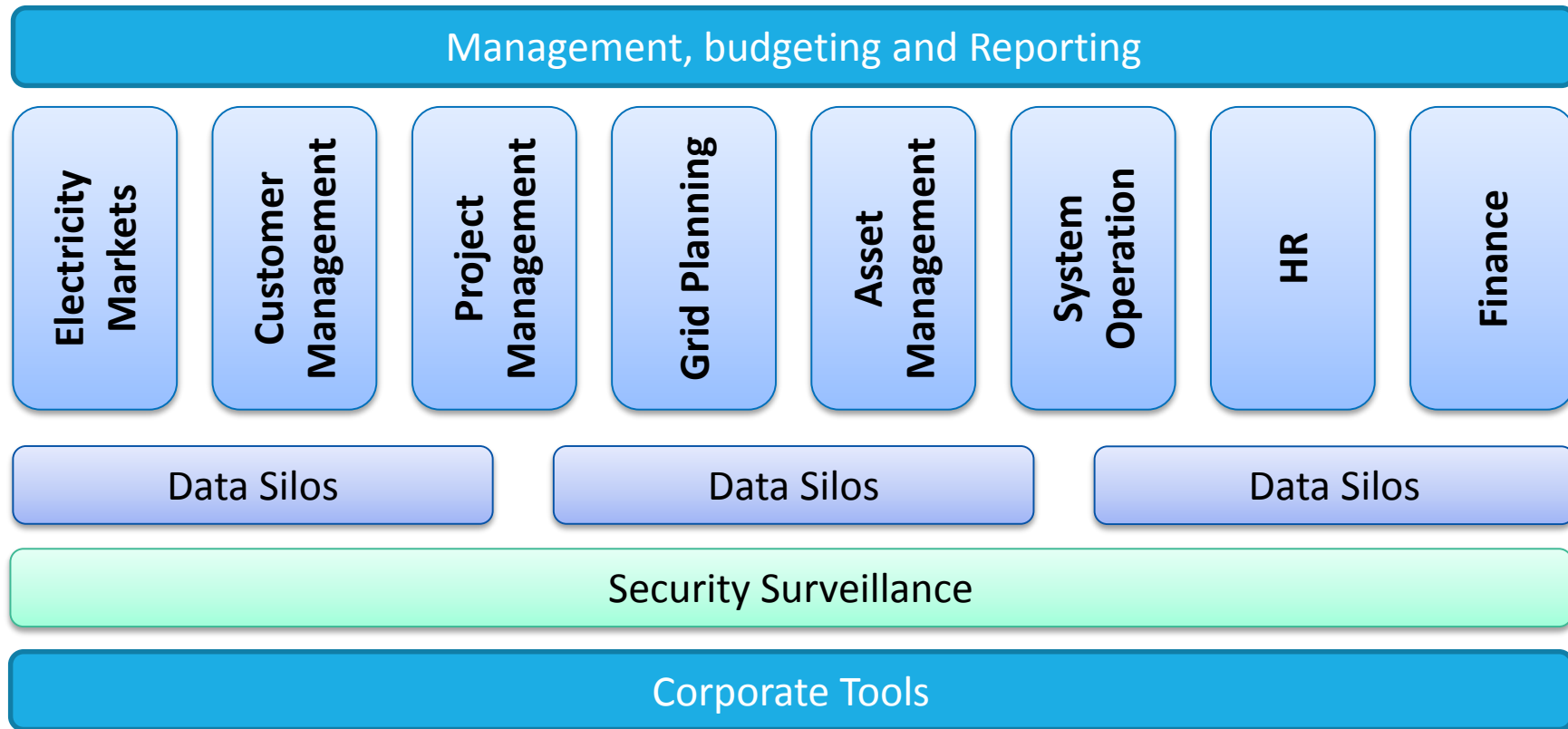
**Reduce OPEX  
Optimize CAPEX  
New services**

**Business goals**

# The Vision

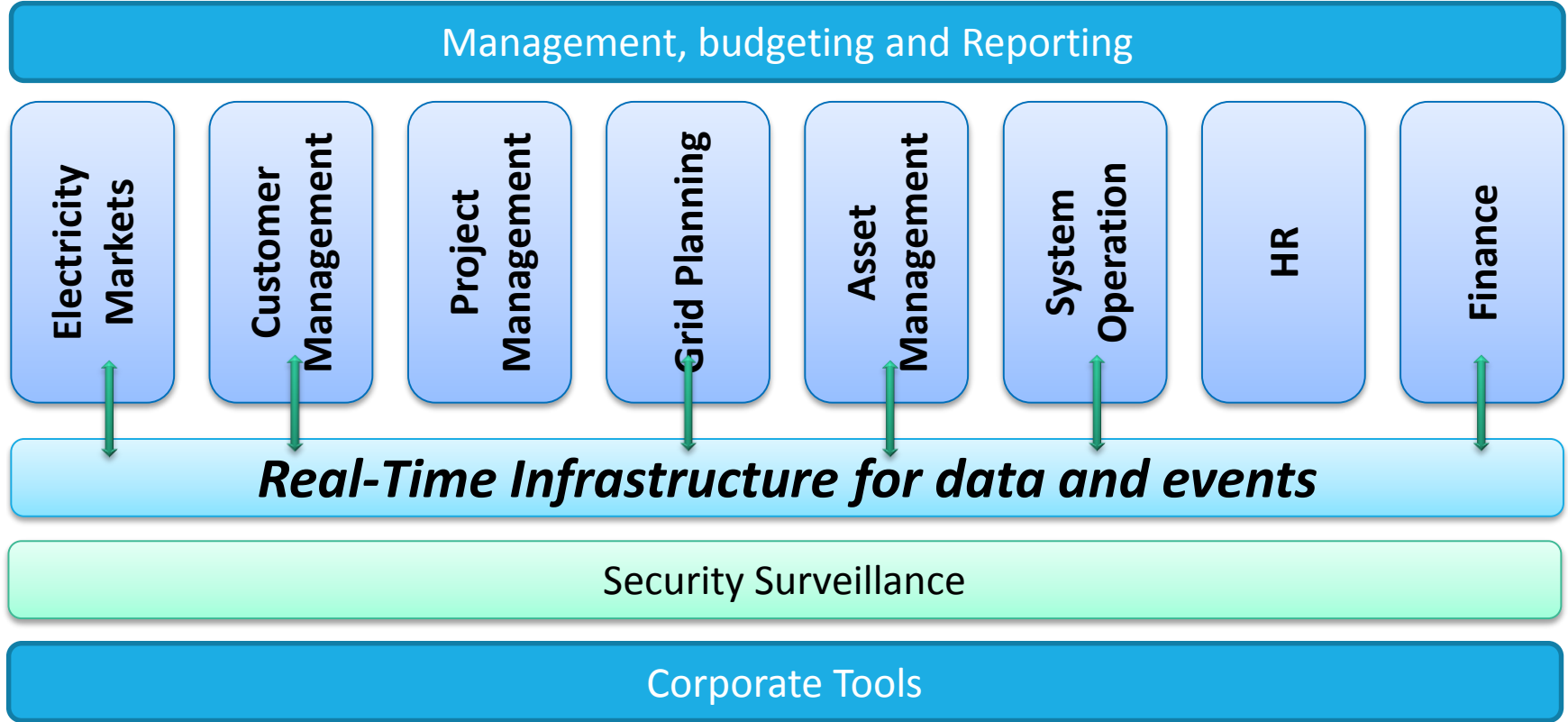


# Where we fit?

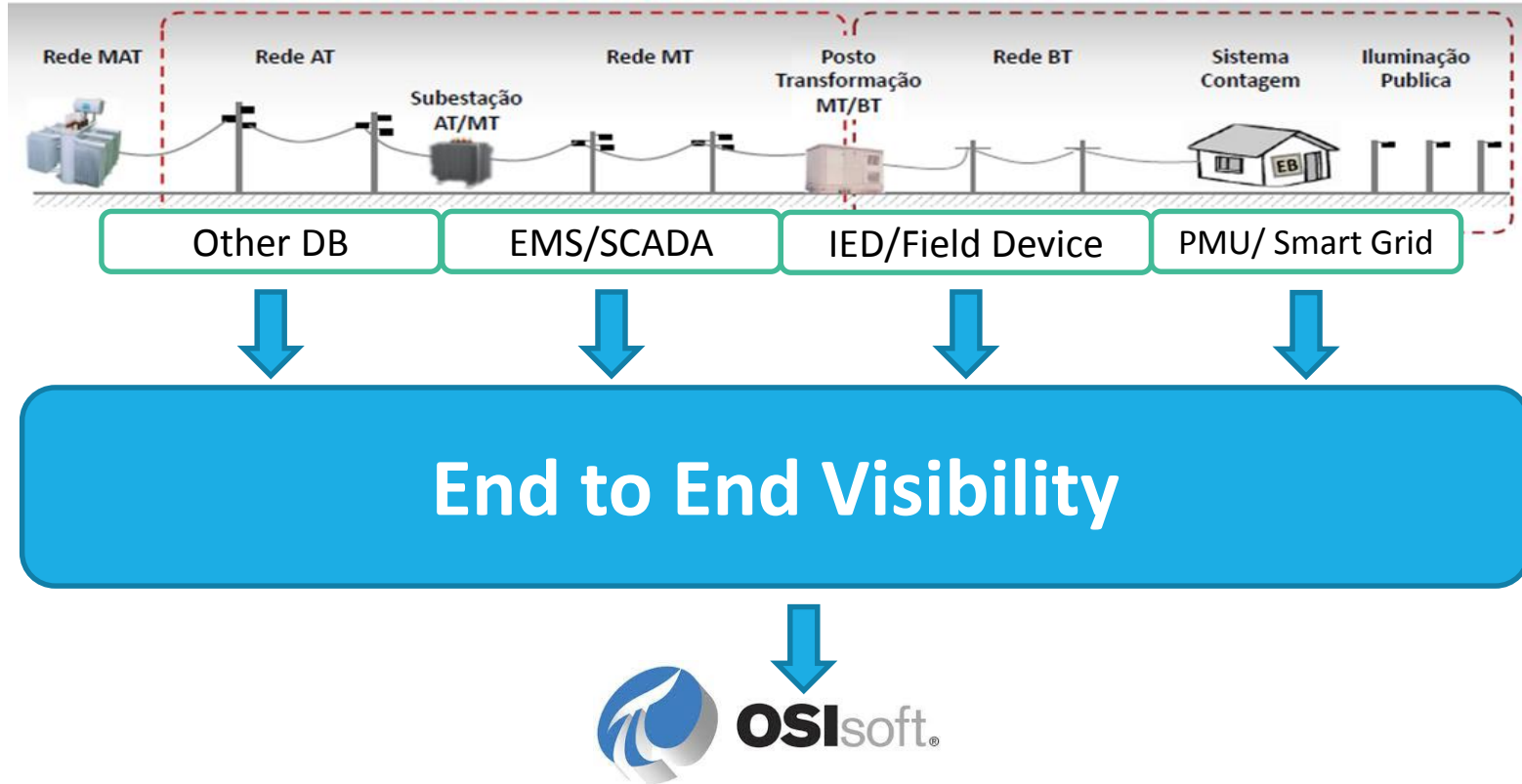




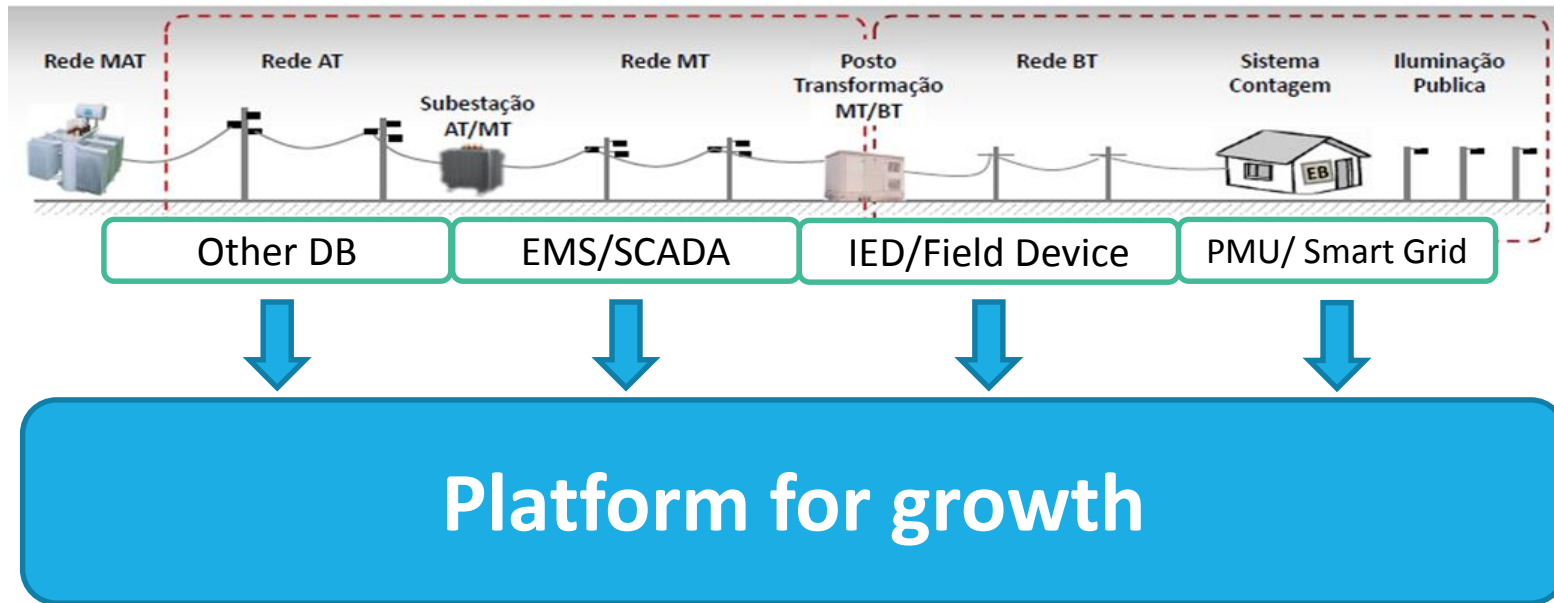
# Where we fit?



# The Vision



# The Vision



DER/Smart  
Grid

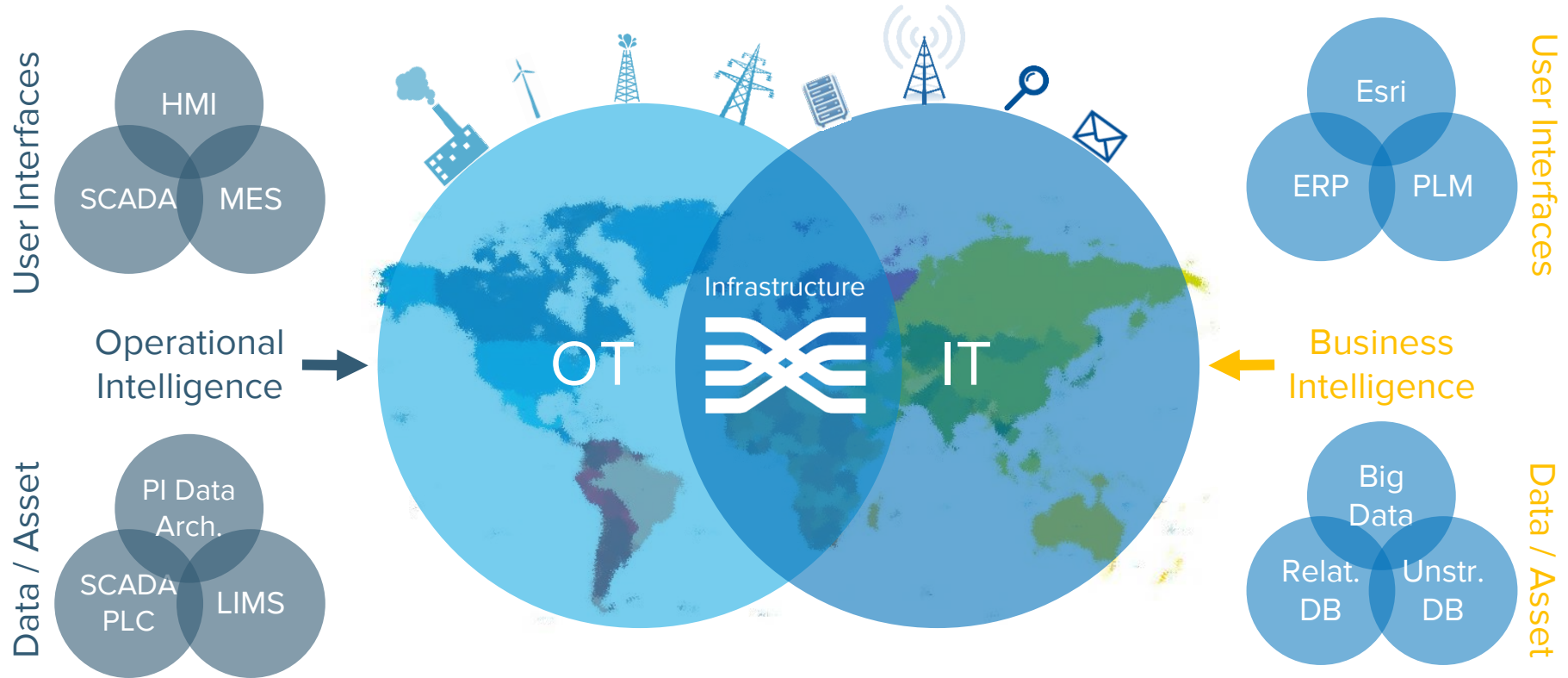
Asset Health  
/ Cond Mnt

Renewables  
Integration

Frequency  
Control

Hidden  
Opportunities

# Infrastructure Context Enables OT and IT Data Integration





# What's Next?



# What's coming?



## Smart Microgrid



# An Evolving Generation Landscape



**Natural Gas**



**Coal**



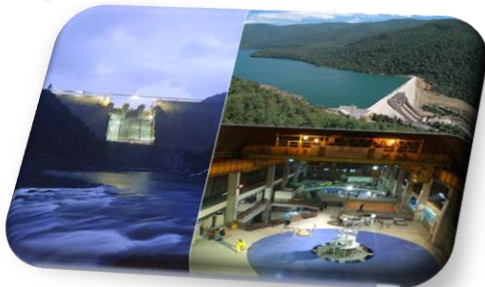
**Wind**



**Solar PV & CSP**

Traditional Power Generation

Renewable Generation



**Hydro**



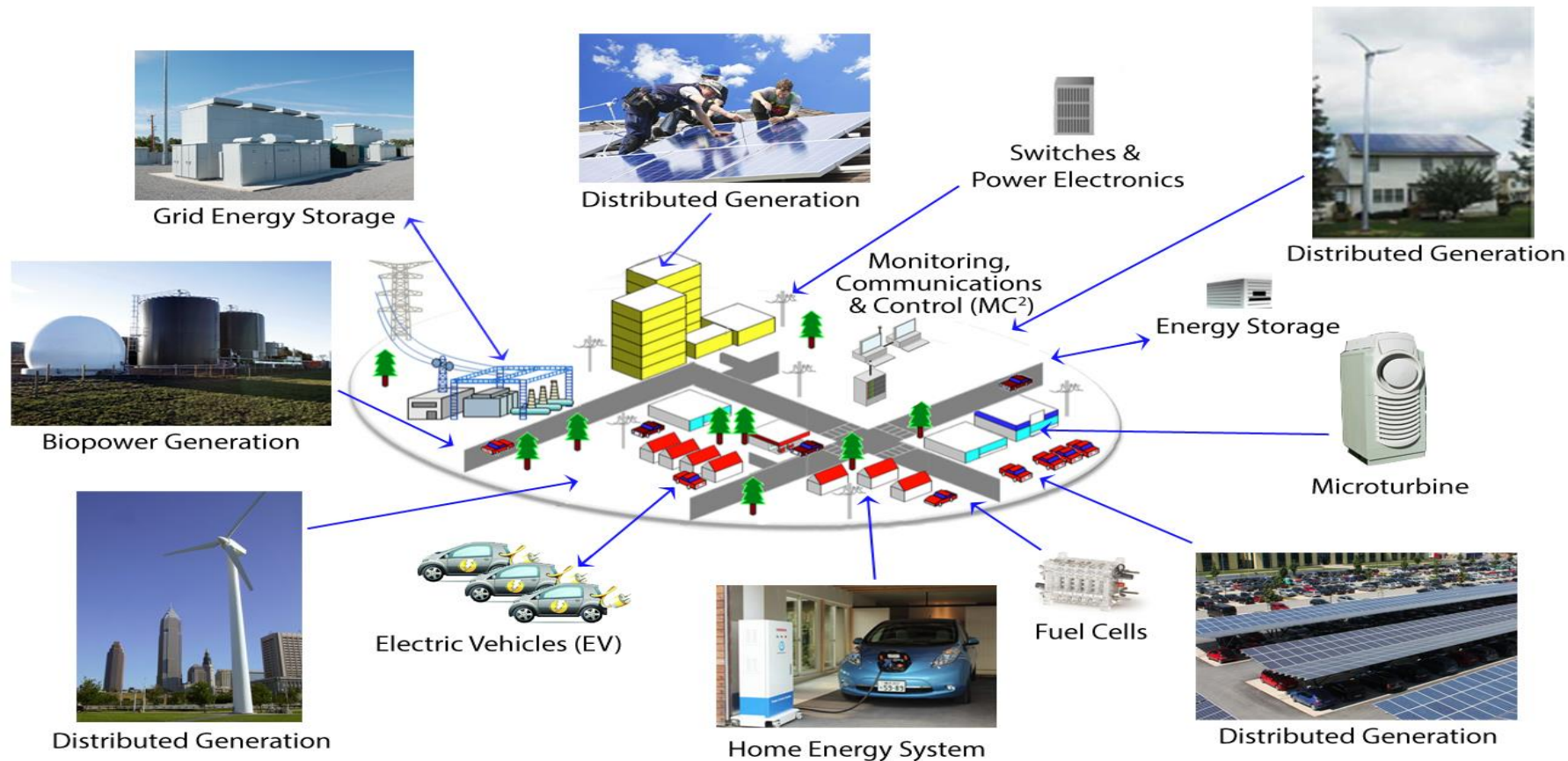
**Nuclear**



**Geo-thermal / Biomass / Tidal / Battery**



# And Still Evolving ...



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# Transmission, Distribution and Smart Grids



**Markets**



**HV Transmission**



**Distribution**



**Metering**



**Res Solar**



**Renewables**



**Batteries**



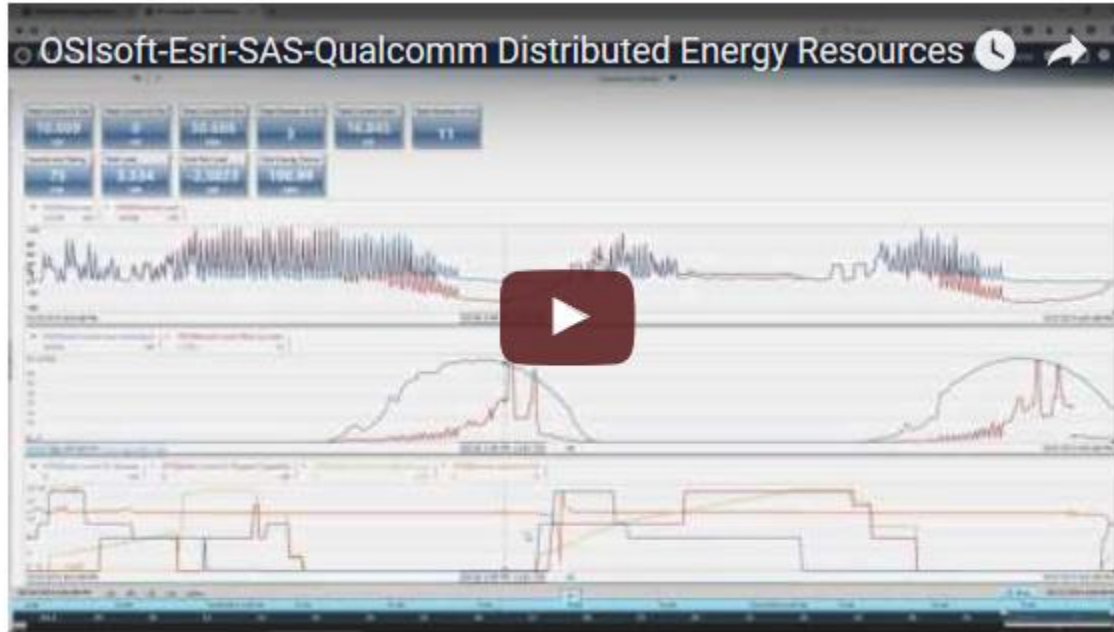
**Smart Homes**



**EV**



<https://youtu.be/HZx7Naz8oO8>



# What's coming?

## IIoT Gateway Examples



Monico



Dell



HPE



Cisco



Intel / ODM



# Summary

# Summary

*Digitalization era is in front of us*



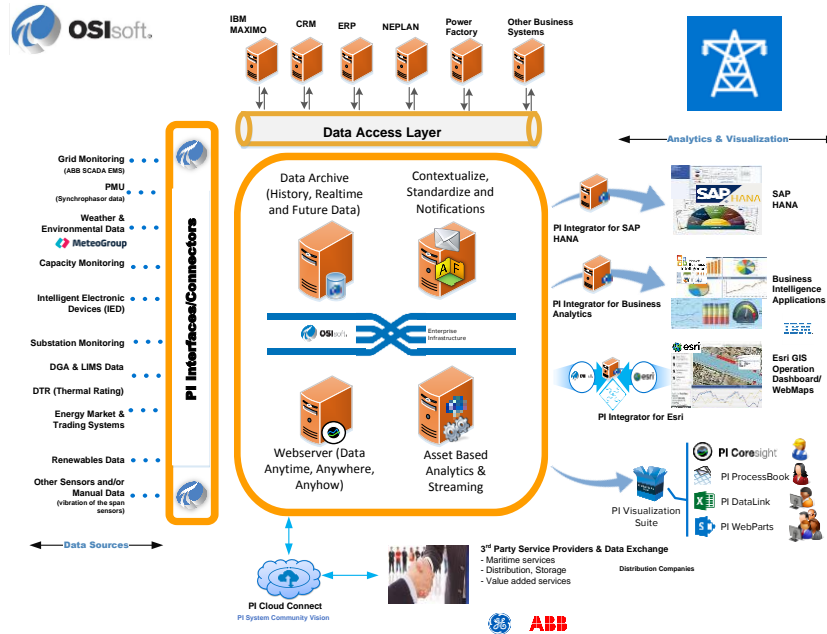
# Summary

*Integration is a must for success*

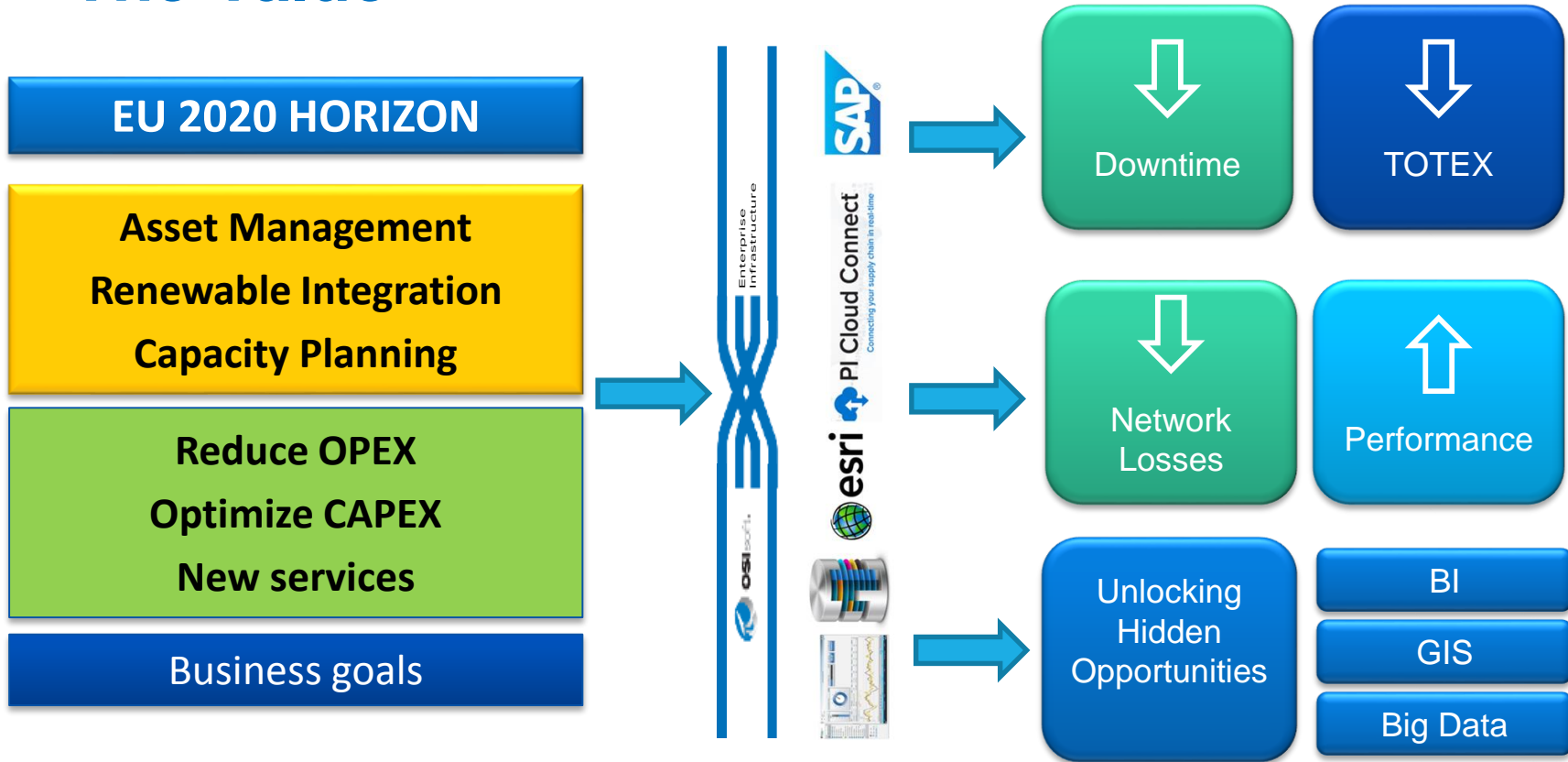


# Summary

## *A right data infrastructure accelerates the journey*



# The Value



**ARE YOU  
READY?**

*Osisoft.com/TSO*

**OSIsoft.** Transmission System Operators

HOME | THE PI SYSTEM | ABOUT | EVENTS | CONTACT |

We believe people with data  
can transform their world

OSIsoft is proud to support the Transmission industry  
worldwide with over 180 T&D customers in 40 countries.

Discover best practices from leading Transmission companies

**FINGRID**  
Real-time Condition Monitoring

**elia**  
ACC: Asset Control Concept

**cept**  
Network Reliability, PMUs and  
Situational awareness

**RED ELECTRICA DE ESPAÑA**  
Renewable Energy & the Electrical  
Grid: A TSO Perspective

Industry Spotlight: Electricity Transmission Trends



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# Partner Expo

## Gold Sponsors



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## Bronze Sponsors



## Exhibitors



IoT Zone – Wednesday, April 6, 2016



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## ***CBM Pod***

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***[http://www.osisoft.com/  
corporate/power-cbm/](http://www.osisoft.com/corporate/power-cbm/)***

**ARE YOU  
READY?**

### **Learn More: Real-Time Asset Monitoring for Power Generation**

The PI System provides power generators with a universal data infrastructure that is capable of collecting, managing and analyzing information from multiple isolated sources across the enterprise and presenting that data in a way that allows management, engineering, operations and maintenance staff to share information and solve problems faster.

#### Implementing Condition-Based Maintenance Using Real-time PI System Data

A practical guide to getting more value from real-time data  
by supporting asset management systems



#### Condition-Based Maintenance Bolsters the Bottom Line in Power Generation

Innovative approach pays off in lower maintenance costs, higher asset reliability and availability



# PowerGen and T&D PI User Groups

Join to discuss best practices, white papers, share news, and exchange ideas.

## Objectives:

- Identify Best Practices
- Share knowledge and ideas across our industry
- Foster communication with OSIsoft regarding our industry needs

This is NOT an avenue for sales presentations or marketing

Customer run,  
customer led,  
OSIsoft assisted

## Power Generation Group:

<https://pisquare.osisoft.com/groups/power-gen>

## Transmission and Distribution:

<https://pisquare.osisoft.com/groups/td>



## Have questions?

- [mchavero@osisoft.com](mailto:mchavero@osisoft.com)
- [kwash@osisoft.com](mailto:kwash@osisoft.com)
- [jsirois@osisoft.com](mailto:jsirois@osisoft.com)
- Visit the PI Square Booth



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Industry Principal

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## Questions

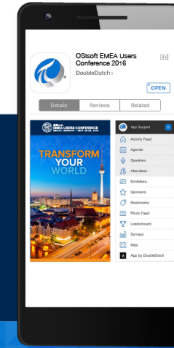
Please wait for the **microphone** before asking your questions



State your **name & company**

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감사합니다

谢谢

Danke

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado



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