



Taking Digitization to the Edge

Journey to the digital supply chain

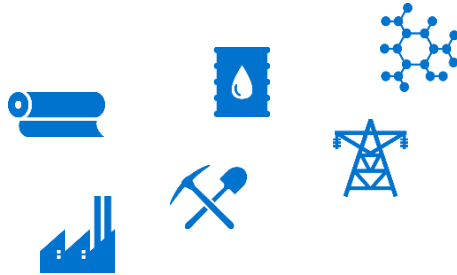
Presented by Matthew Miller
Transportation Industry Principal

Topics

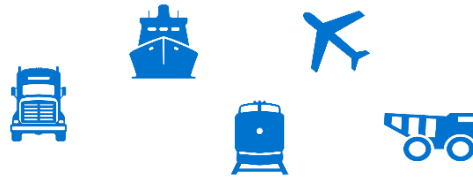
- Digital maturity in transportation
- Integrating Enterprise Platforms
- Operational Analytic Approaches
- Track Session Preview

OSIsoft in Transportation

- Enterprises



- Transportation & Logistics

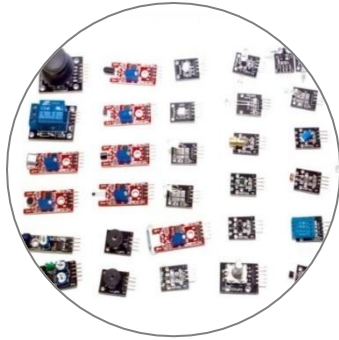


- Data Sciences, Academia & Standards Groups



Market Hype vs. Digital Maturity

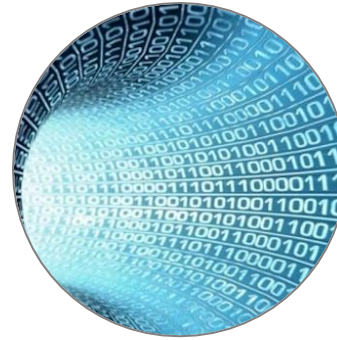
- Big Data Hype driven by 4 converging megatrends



Pervasive, cheap, and tiny sensing



Decreasing compute and storage costs



New abilities to process and analyze data

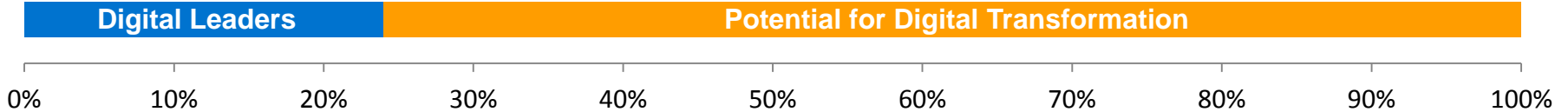


Ubiquitous connectivity

Convergence of key enablers indicate coming demand for pervasive sensing and vertical-specific analytics applications

Digitization of Industry is Underway

% of US GDP



Relatively high digitization

- Information technology
- Media
- Professional services
- Finance & insurance



Utilities



Transportation



Advanced manufacturing

Relatively low digitization



Agriculture



Mining



Basic goods manufacturing



Chemicals



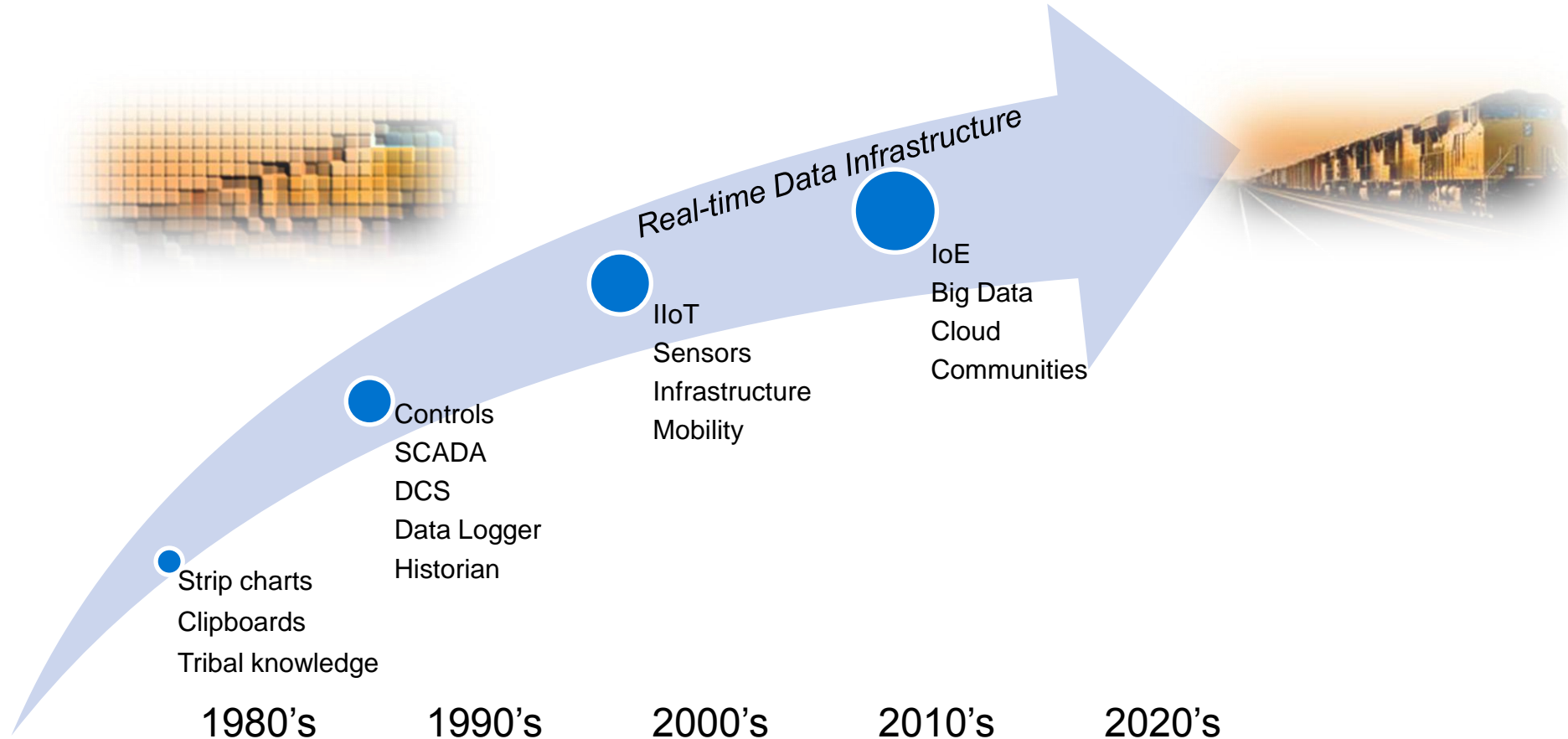
Oil & gas



Wholesale trade

Source: McKinsey, "MGI Digital America" December 2015

Transportation is maturing in digitalization



Why is digitalization happening?

Revenue
Growth

5X

Their rivals

Profit

8X

Their rivals

Shareholder
Returns

2X

Their rivals

Source: McKinsey and Company-McKinsey Digital Quotient, Capital IQ

Smart Industry

ACCELERATING DIGITAL TRANSFORMATION

OSIsoft in the “Smart 50” - 50% of Leading Digital Companies!



<https://www.smartindustry.com/articles/2017/the-smart-industry-50/>



Power / T&D



Metals & Mining



Oil & Gas



Pharma / Food & Bev



Pulp & Paper



Water



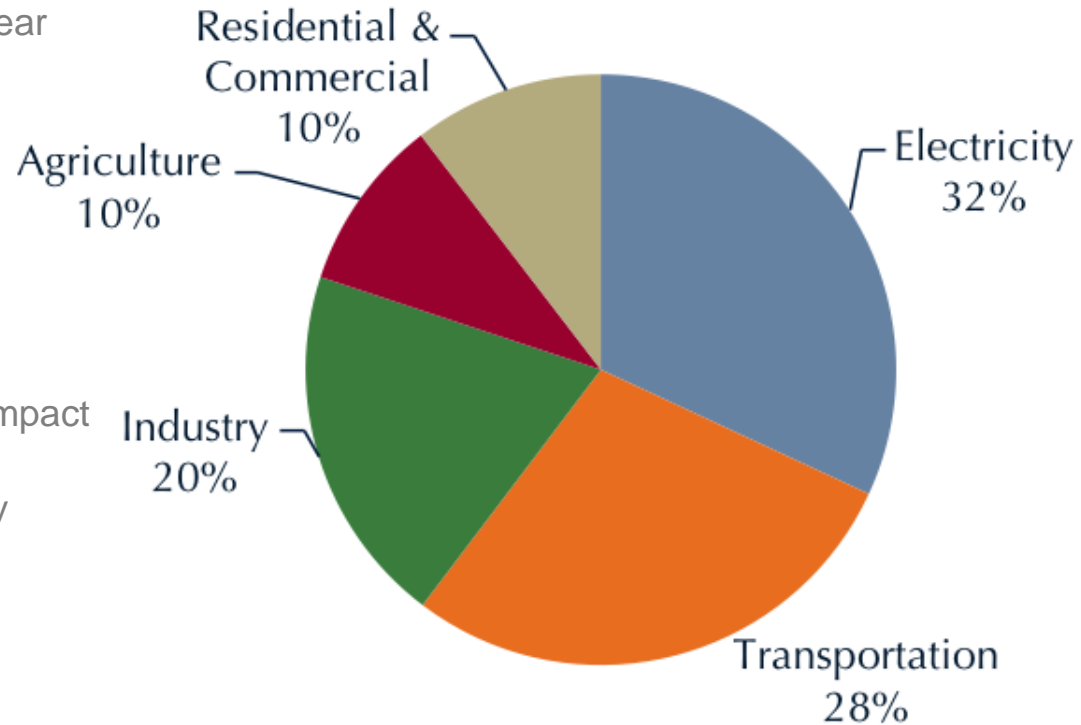
Transport



Global Transport Energy Puzzle

Fig Figure 8-8. World transportation energy consumption by mode, 2012
quadrillion Btu

- Accounts for >1/4 of GHG emissions per year
 - 90+% Petroleum based fuels
 - 28% growth since 2000
 - 25-50% OPEX in Fuel
 - 70 Quadrillion BTU's (20 Trillion KWH)
- Fuels national economy and urbanization
- Diversifying fuel to reduce environmental impact
- Asset availability is key to network capacity



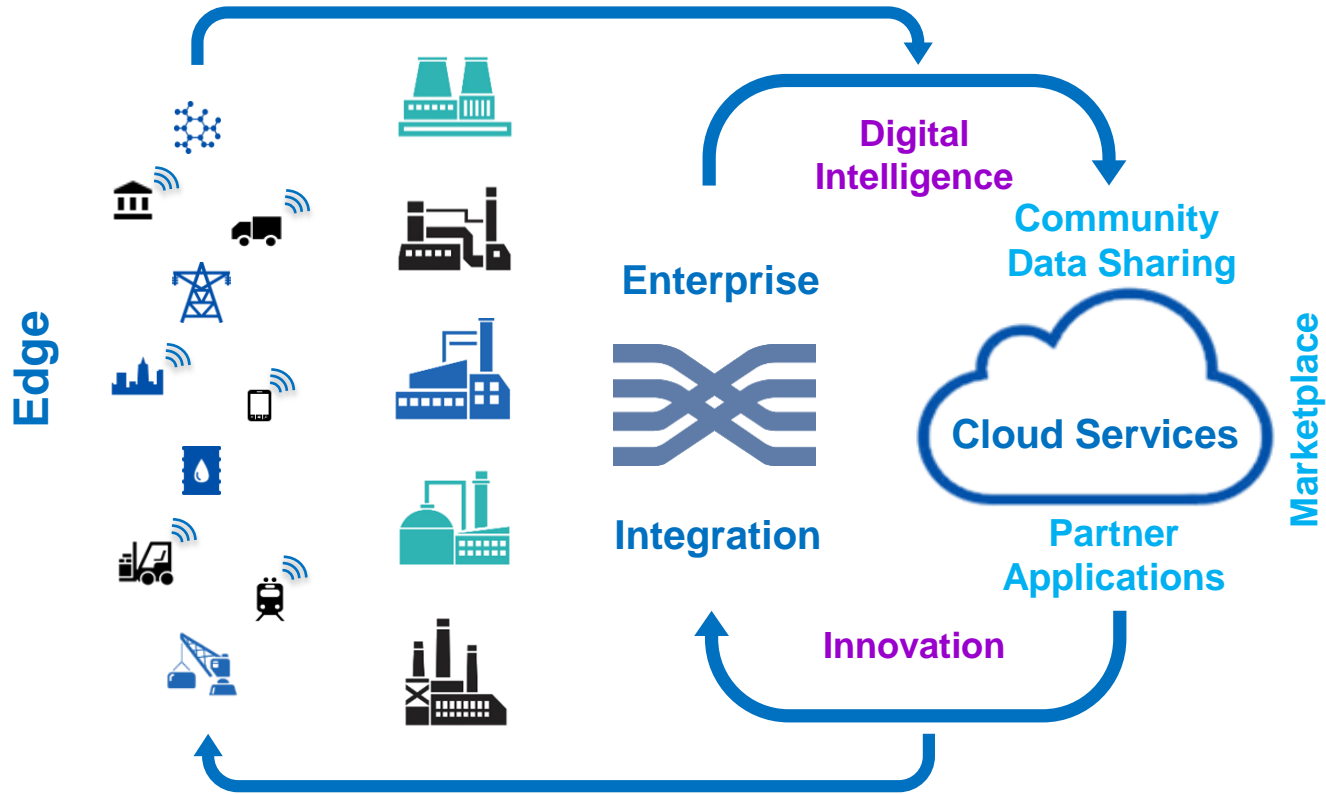
Source: International Energy Agency

Digitalization of Asset & Energy-Intensive Businesses

- Volatile business climate demands faster responses
- Data-driven culture is elusive at scale
- “I DON’T KNOW” is no longer a good answer...

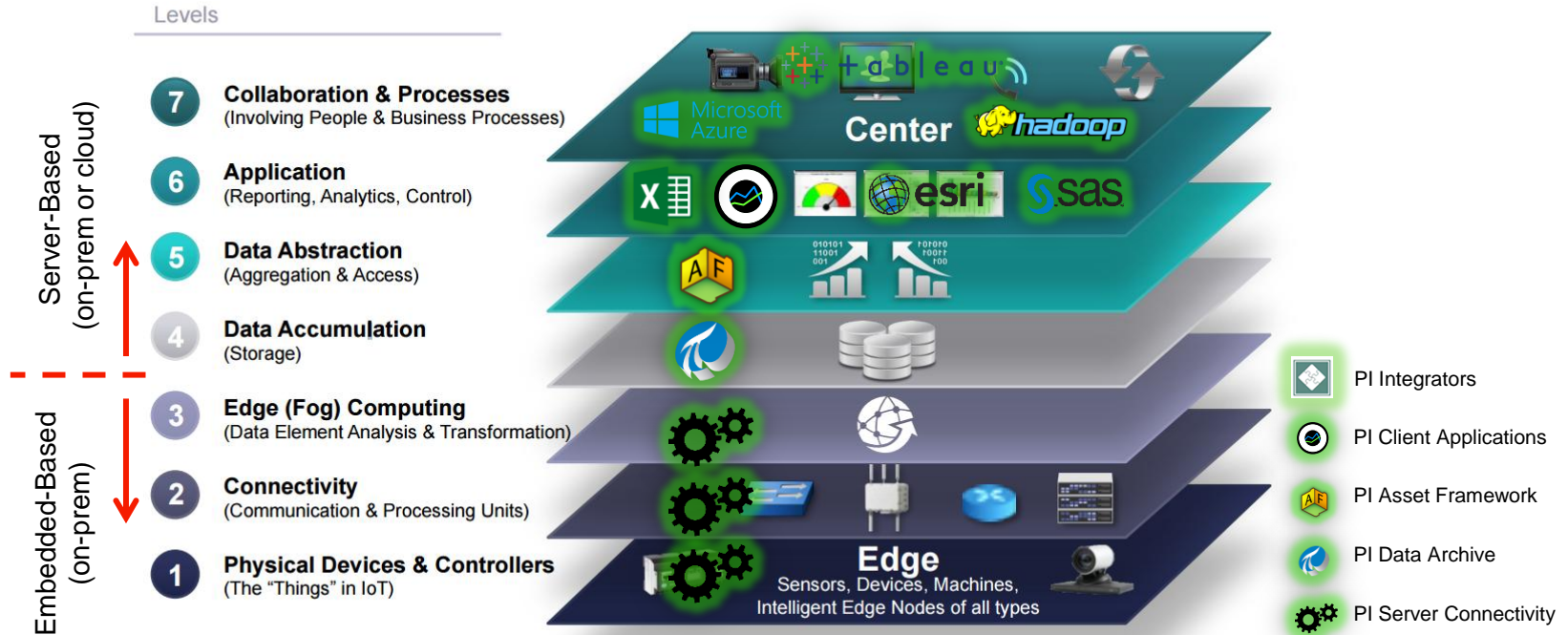


Edge to Enterprise to Cloud

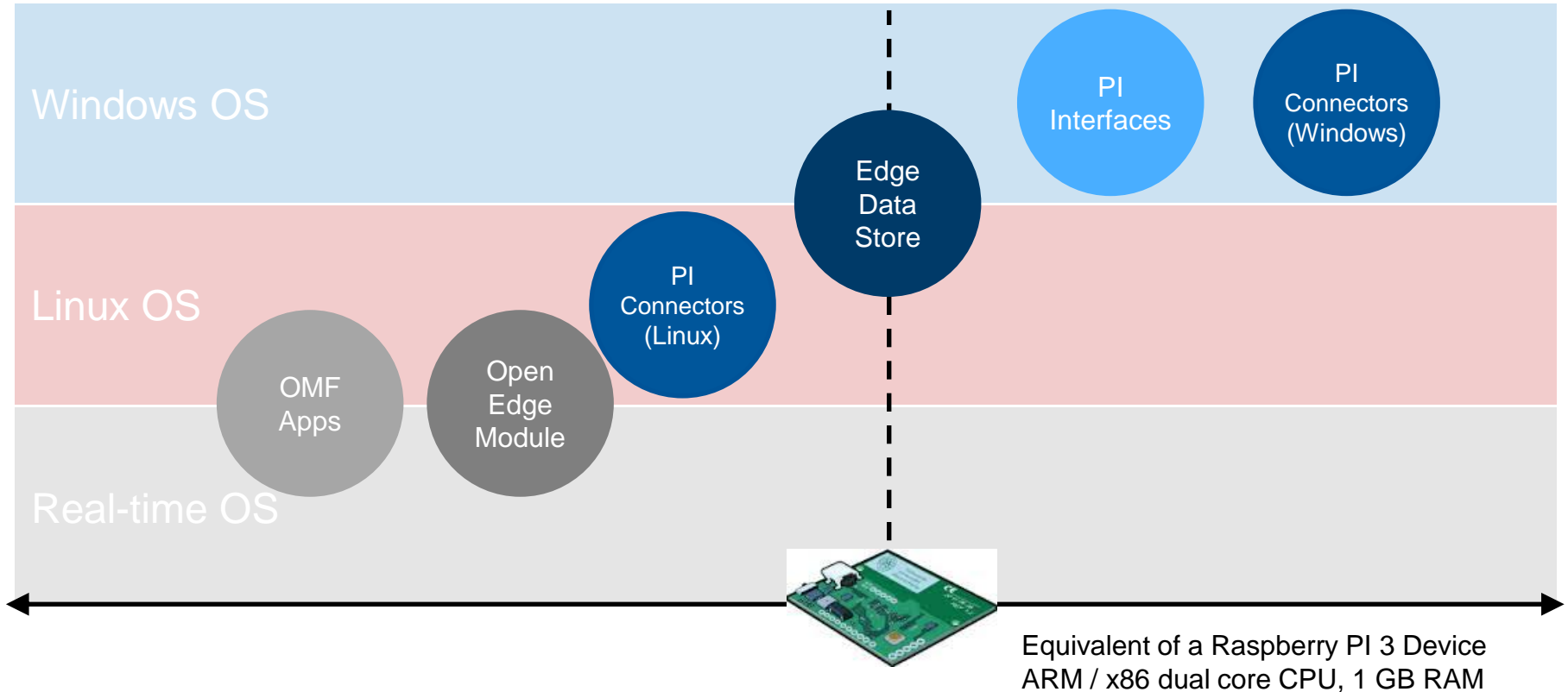


PI System in IIoT Reference Architecture

Internet of Things Reference Model



PDC Technologies: Hardware & Operating System Targets



Pervasive Data Collection Market Segments

Customers



Automation Hardware Partners



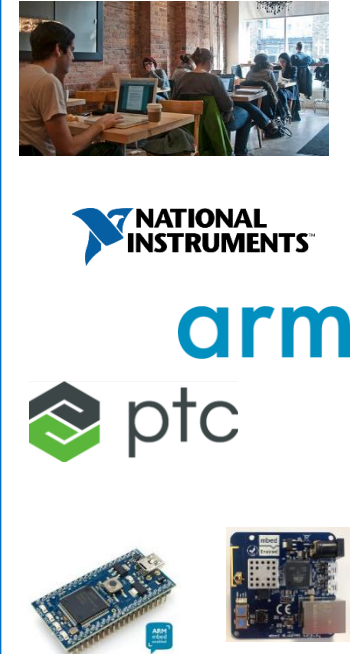
Equipment Partners



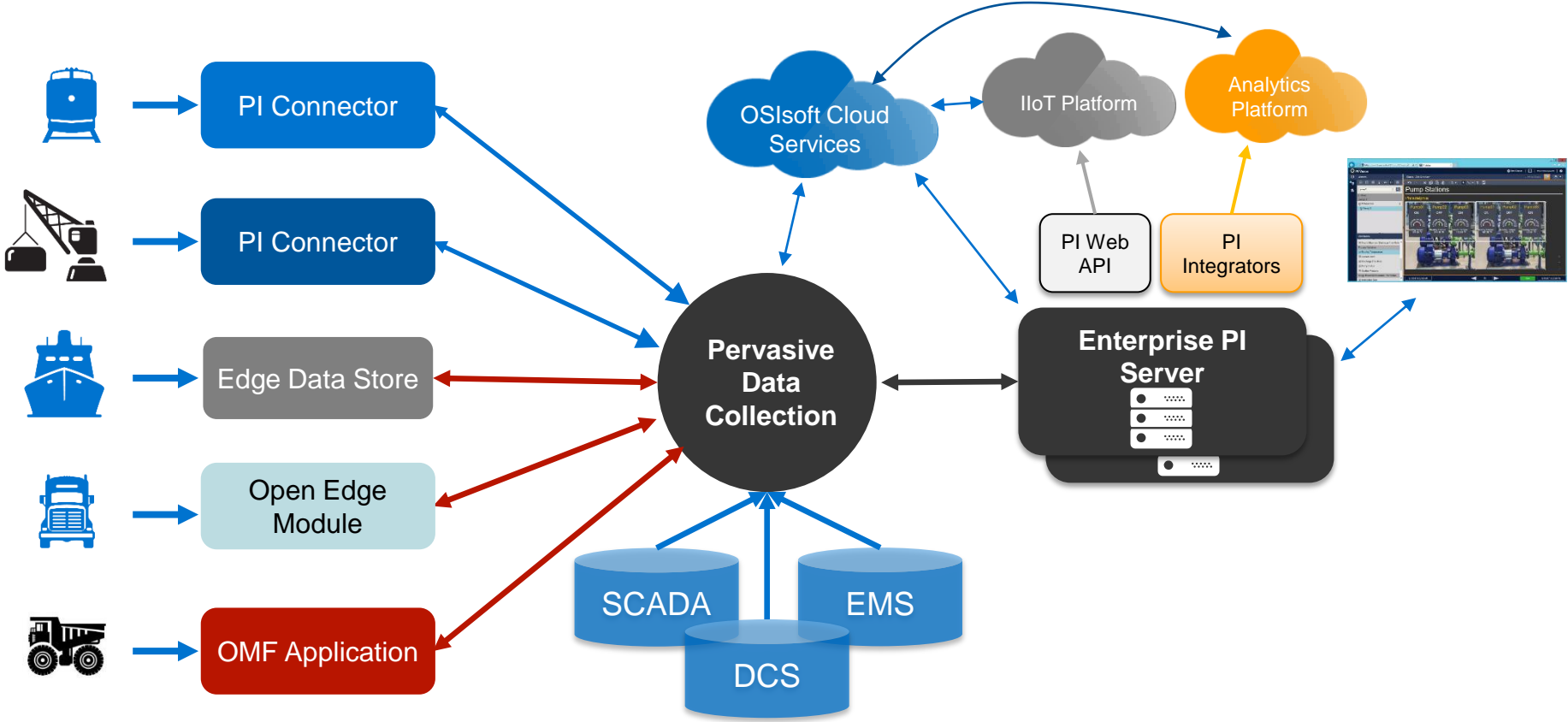
IT Hardware Partners



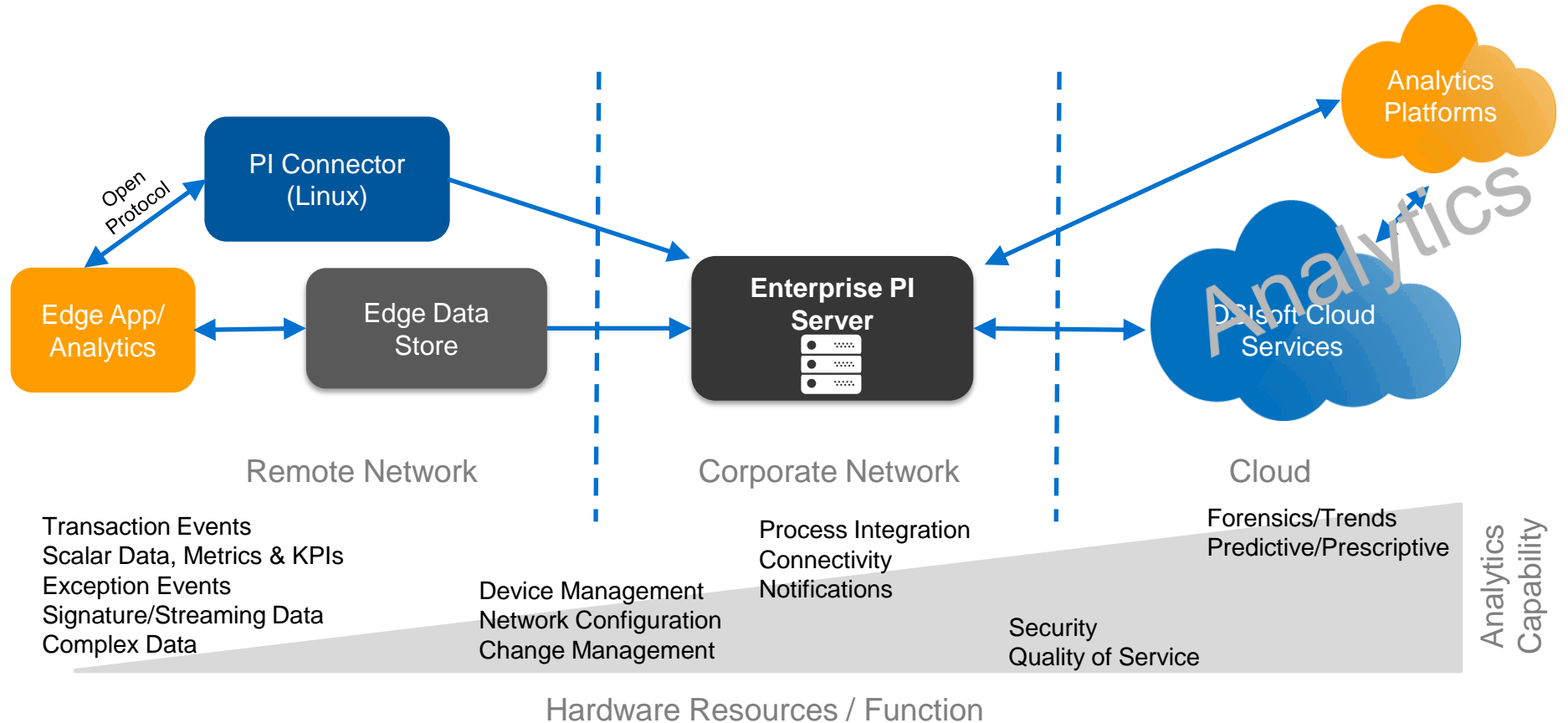
Developer Community



In Summary: Any Data Source to Any Destination



Data Analysis: Edge to Enterprise to Cloud



Operational Intelligence throughout the supply chain

- Transportation assets are critical
- Enterprise infrastructure supports scale & time to value
- Operationalize your analytics
- Collaborate through data communities



Transportation Sessions

Time	Description	Company	Speaker
09:45 – 10:15	SEACORES - Efficiency Insights and Improvements for Marine Transportation	BAE Marine Systems	Chris Courtaux
10:30 – 11:00	Digital Transformation to Reduce Testing Efforts in Battery Cell Production	University of Aachen	Christoph Lienemann
11:15 – 11:45	Using Operational Data for the Future Maintenance of the French Rail Infrastructure	SNCF DataPred	Stephane de Paris Thomas Oriol
12:00 – 12:30	PI System Supports SHIPVIEW in Optimizing Operations and Lifecycle in marine	Fincantieri/DELFI TQService	Lorenzo De Francesco Fabio Interlenghi
12:30 - 14:30	Industry Luncheon	Open to All	Open Discussion
14:30 – 15:00	Panel Discussion: Lessons learned in edge deployments	DEME BAE Marine Systems University of Aachen OSIsoft	Kristof De May Chris Courtaux Christoph Lienemann Chris Felts, Matt Miller
15:15 – 15:45	Transportation and Supply Chain Users Group Launch Meeting	OSIsoft	Chris Lonsberry Matt Miller

Other UC “don’t miss” sessions tomorrow...

Time	Description	Company	Speaker
10:10 – 11:00	PI Integrator for Esri ArcGIS: A Journey through Time and Space	OSIsoft	Vadim Fedorov, Elizabeth Ammarell
11:15 – 11:45	Connectivity from A to Z - Roadmap for PI Connectors and PI Interfaces	OSIsoft	Chris Coen, Tadeas Marciniak, Zdenek Ryska
14:30 – 15:00	Best Practices for Implementing PI AF - Customer Testimonials	OSIsoft	Stephen Kwan
14:30 – 15:00	Data Collection at the Edge - OSIsoft Message Format	OSIsoft	Chris Felts
15:25 – 16:10	Pervasive Data Collection for Industry 4.0	OSIsoft	Christian Leroux, Chris Felts

Transportation & Supply Chain PI User Group

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

Customer run,
customer led,
OSIsoft assisted

This is NOT an avenue for sales presentations or marketing

Want to opt in?

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

Or contact jsirois@osisoft.com



Have questions?

- jsirois@osisoft.com
- mmiller@osisoft.com
- clonsberry@osisoft.com
- Visit the PI Square Booth



Matthew Miller

mmiller@osisoft.com

Transportation Industry Principle
OSIsoft, LLC



Questions

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

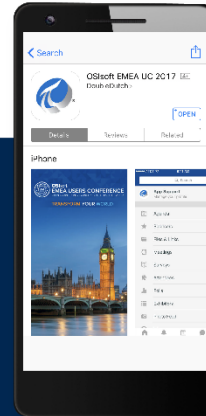


State your **name & company**

Please remember to...

Complete the Online Survey for this session

Download the Conference App



- View the latest agenda and create your own
- Meet and connect with other attendees

Search **OSISOFT** in the app store

Download on the

App Store

GET IT ON

Google Play

HTML

감사합니다

Danke

谢谢

Merci

Gracias

Thank You

ありがとう

Спасибо

Obrigado