

Mega Trends vs Outcomes

IT/OT Teaming for Business Value

John De Koning
Joe Salamon

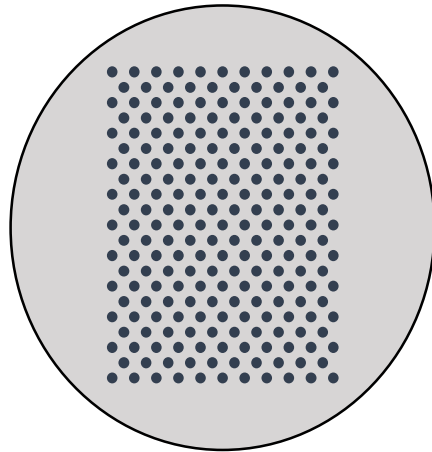
Is “the right info in the right hands at the right time,” at risk?

KSG
SOLUTIONS

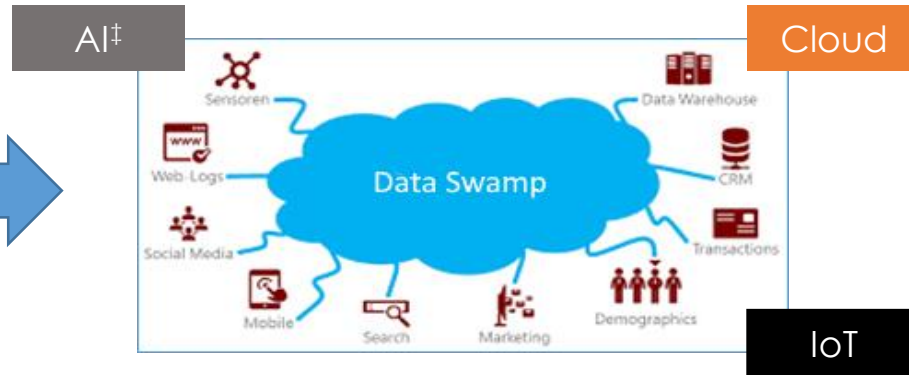
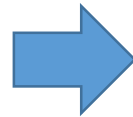
Data Lake or Data Swamp?

Keeping the Data Lake
from Becoming a
Data Swamp.

Is “the right info in the right hands at the right time,” at risk?



Dirty Operational Data



- Data Lake initiatives are threatening to kill self-service analytics on the operations side, if not applied correctly
- Without an OT data infrastructure, we send dirty data to IT (especially data lakes), creating a swamp

The Pundits Say the World is Changing...

Cloud

\$94B ->\$203B
2017->2021

30% of total IT budget will be allocated to cloud computing within the next year

IDG, 2018 Cloud Computing Survey, Aug, 2018.

Through 2020, public cloud infrastructure as a service ... will suffer at least 60% fewer security incidents than ... traditional data centers

Gartner - 2018

IoT

\$745B->\$1T
2019->2022

- **2016** - 80% of IoT implementations will squander transformational opportunities and fail to monetize IoT data. (Gartner)
- **2017** – Close to $\frac{3}{4}$ of IoT projects are failing (Cisco)
- **2019** – Only 3% ... underperforming and a paltry 0.4% cost more than they delivered (Gartner)

AI†

\$35B->\$79B
2019->2022

85% of Executives believe AI will sustain or give a competitive advantage.

MIT Sloan Management Review - 2017

But...

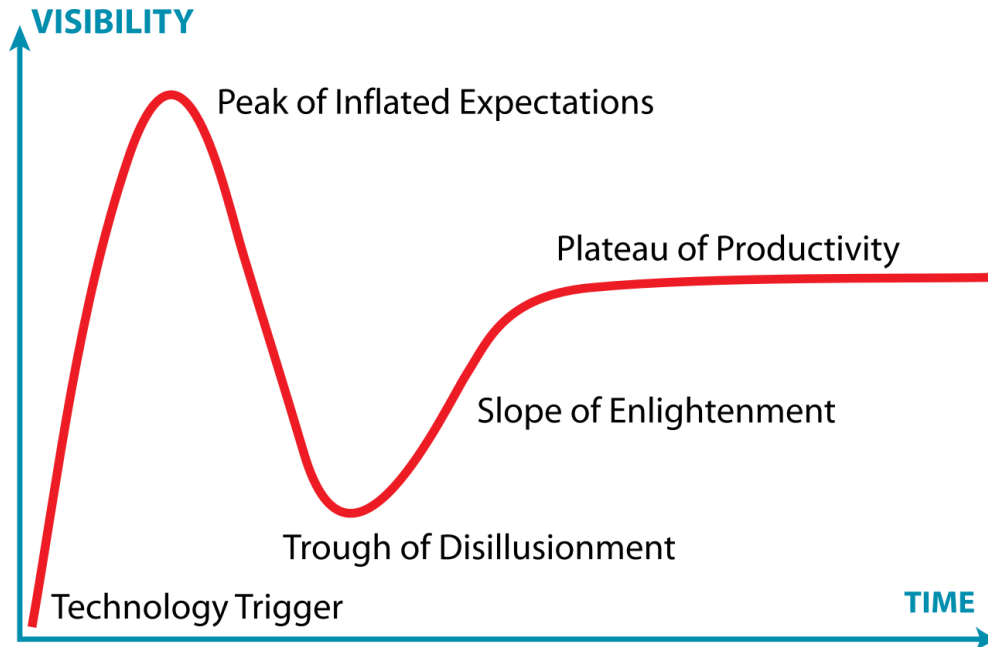
Only 8%-12% felt well staffed for AI.

OSIsoft Exec Forum, 2018

AI is not quite ready for real time

Operational AI in Asset-Orientated Value Chain
Energy Industries, IDC, April 2019

Reality of the Megatrends Hype Cycle



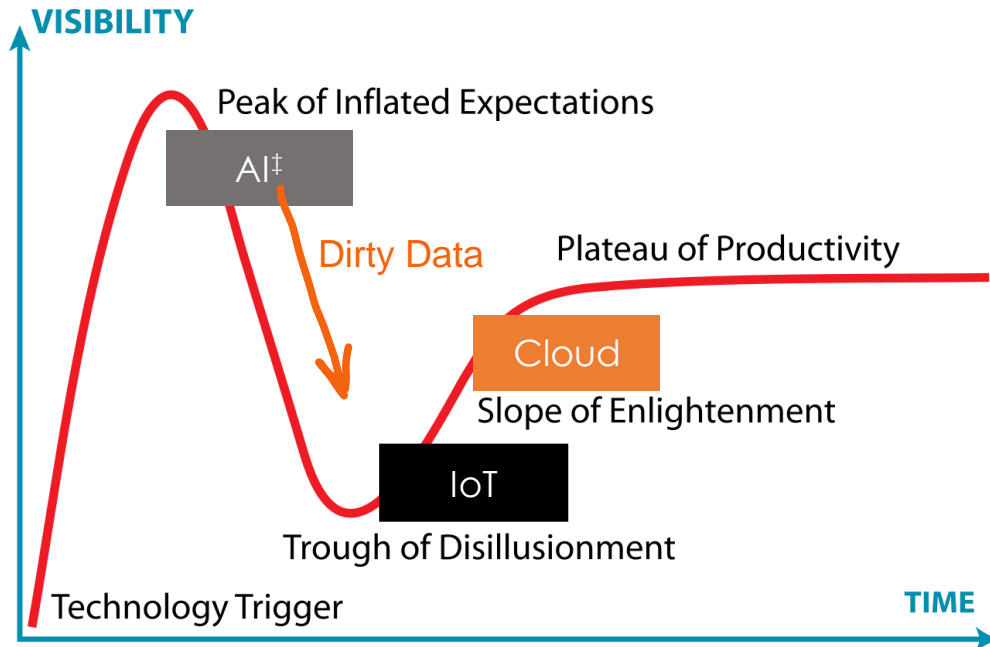
AI†

IoT

Cloud

*Data preparation accounts for 80% of the work of data scientists
Gil Press, Forbes, 2016*

Reality of the Megatrends Hype Cycle



*Data preparation accounts for 80% of the work of data scientists
Gil Press, Forbes, 2016*

Reality of the Megatrends

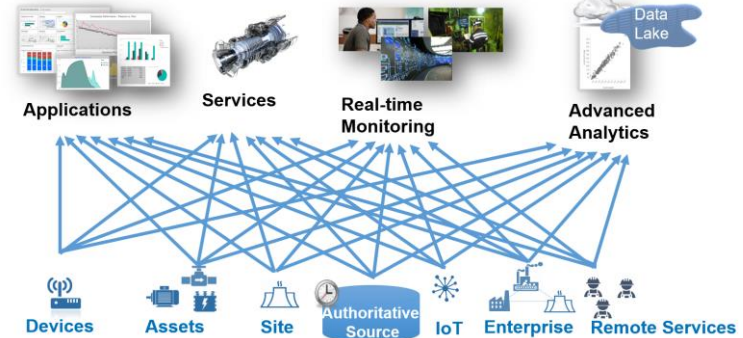
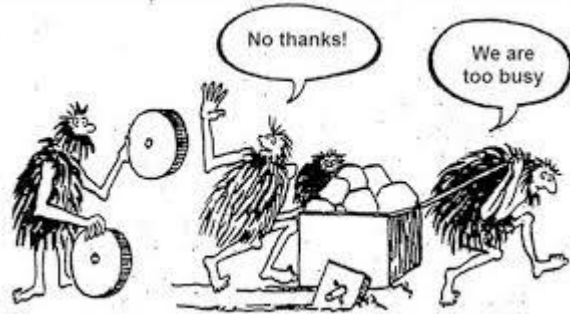
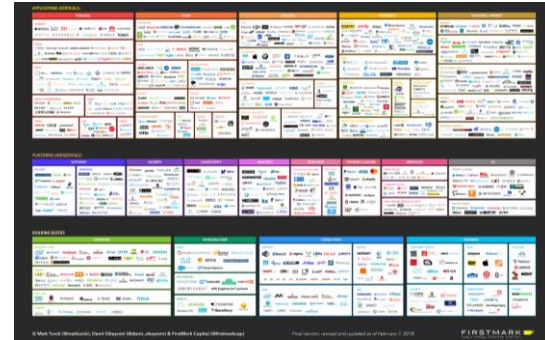
The Toughest Job to fill in IT



Forbes/ IBM, 13 May 2017

Reality of the Megatrends

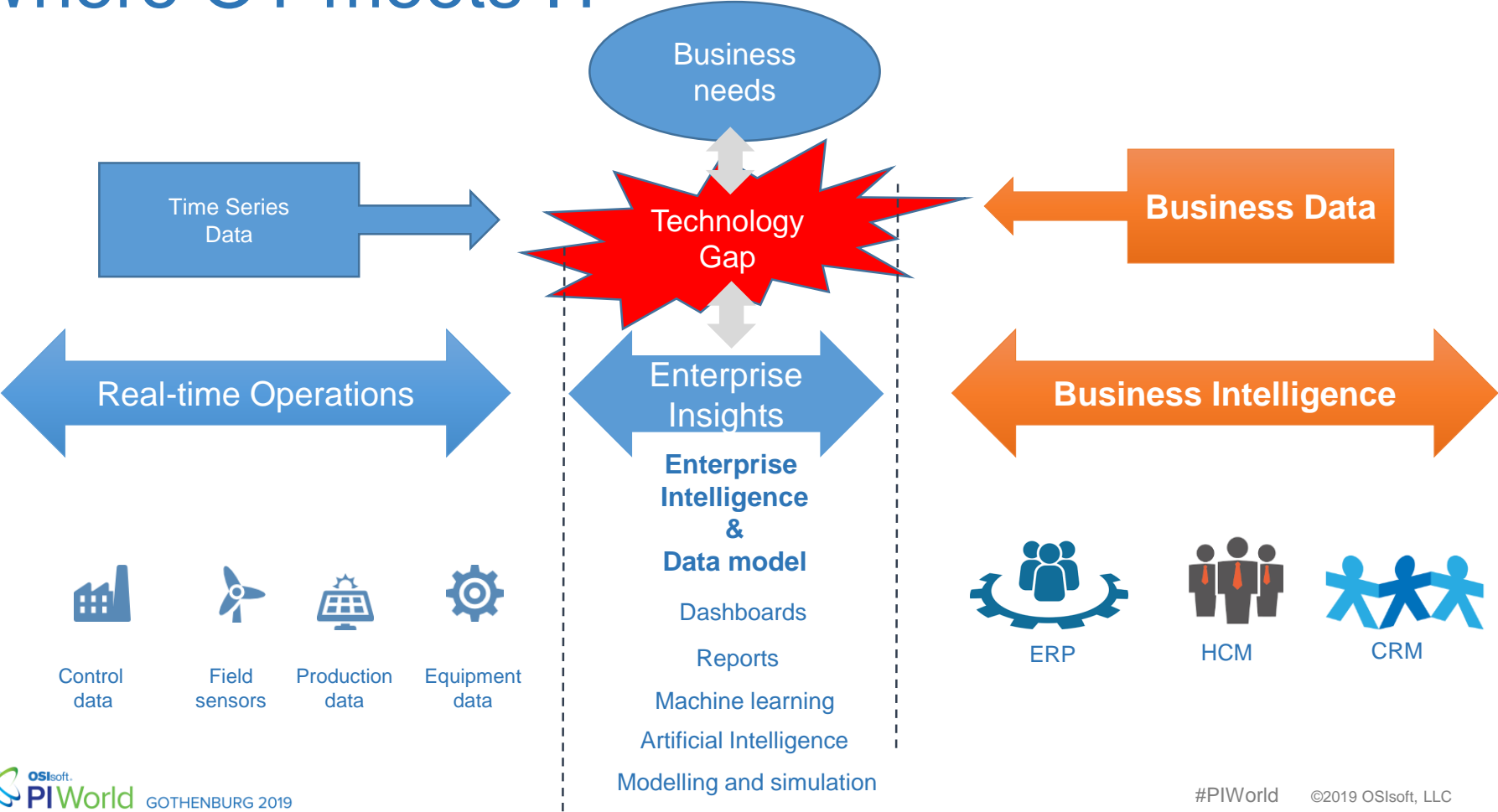
A Forest of Technology & Vendors... and Culture



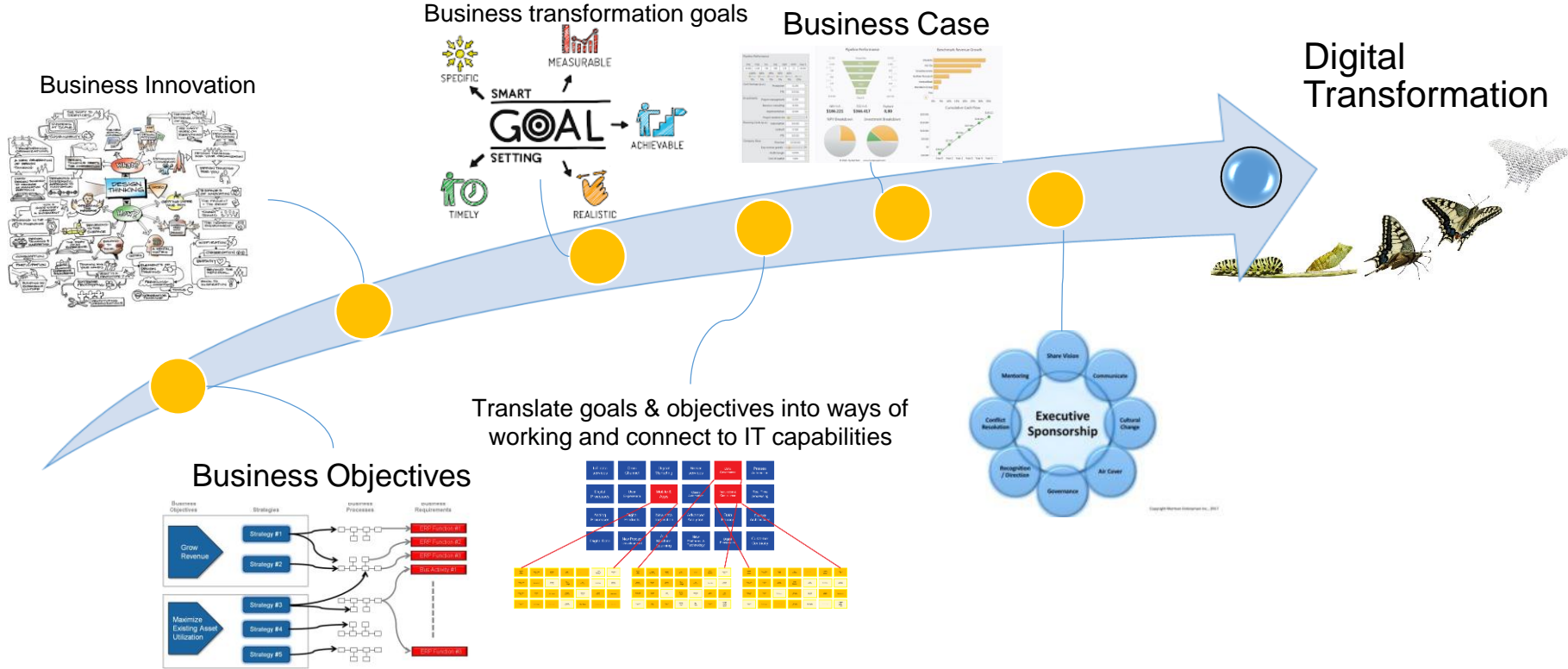
The pathway to successfully integrating IT and OT starts with a question: Why consider this transformation? Identify why the operation will benefit from improved operational awareness.

IDC - Converged IT/OT: Envisioning a Pathway to the Operationally Intelligent Organization

Where OT meets IT



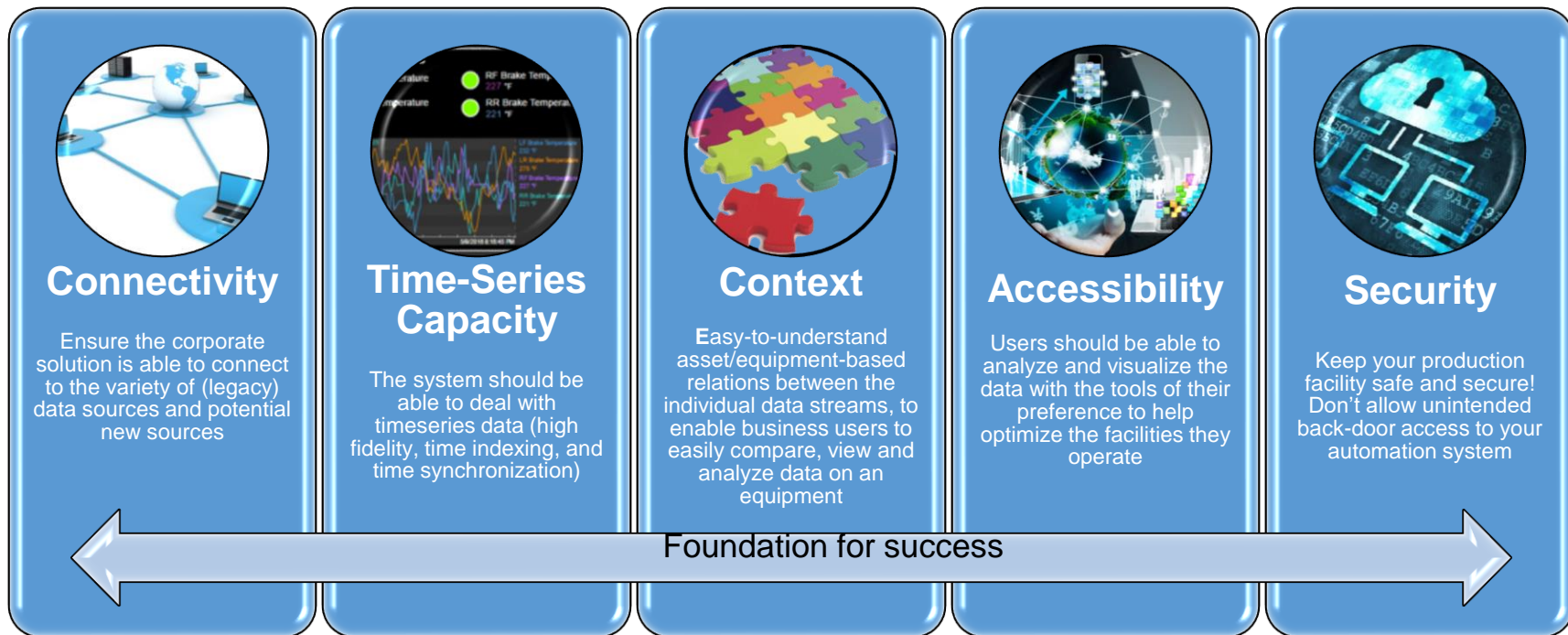
Linking Business Transformation to Digital Transformation



OT/IT Focus area's (Technical IT)



Fundamentals for time-series Solution Architecture



Design principles – Business Impact Assessment

Disruption Risk Scales

Category
Financial
Human
Legal/ Compliance
Operational
Reputational
Strategic/ Market

Design principles – Business Impact Assessment

Disruption Risk Scales

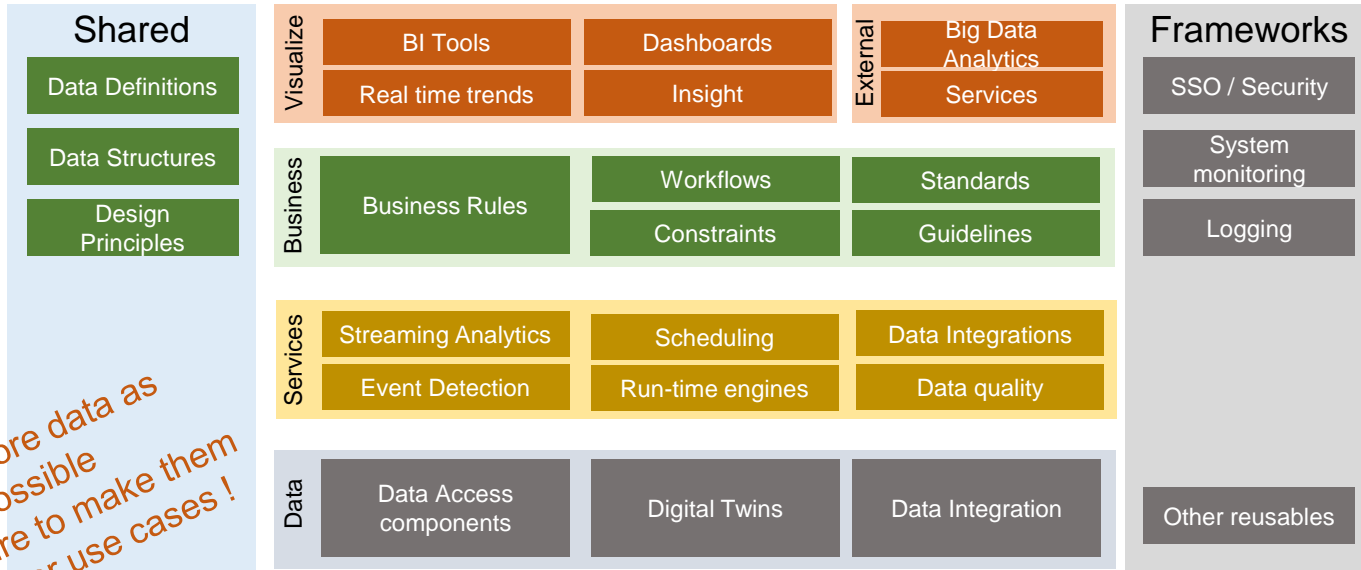
Category	Negligible	Minor	Moderate	Major	Severe
Financial					
Human					
Legal/ Compliance					
Operational					
Reputational					
Strategic/ Market					

Design principles – Business Impact Assessment

Disruption Risk Scales

Category	Negligible	Minor	Moderate	Major	Severe
Financial	Potential loss of < \$10,000	Potential financial loss of \$10,000-\$50,000	Potential financial loss of \$50,000-\$200,000	Potential financial loss of \$200,000-\$500,000	Potential financial loss of \$500,000 +
Human	Potential for minor injury requiring first aid treatment	Potential for injury or illness resulting in medical attention and several days off work	Potential for injury or illness resulting in short-term hospitalisation	Potential serious long-term injury	Potential for death, permanent disability or ill-health
Legal/ Compliance	Minor internal dispute that can be remedied without external intervention	Potential for compliance, contractual or regulatory breaches with external implications	Confirmed compliance, contractual or regulatory breaches. Specific activities required to remedy situation	Significant penalties and/or costs to remedy legal and/or compliance breaches	Severe penalties to company and/or staff
Operational	No noticeable impact on operational functions	Short-term disruption to operational functions	Significant disruption to operational functions	Extended disruption to operational functions	Collapse of operational functions
	No noticeable impact on supply chain	Short-term disruption to supply chain	Significant delays to supply chain	Extended delays to supply chain	Total supply chain failure
	Minimal change to work conditions	Short-term increase in working hours	Sustained deterioration in working conditions	Long-term deterioration in working conditions resulting in increased sick leave and potential resignations	Unacceptable working conditions resulting in workplace injuries/illness and resignations
Reputational	Adverse impact that can be remedied immediately	Adverse impact that is short term and reversible at minimal cost	Adverse impact with potential for significant damage	Impacts requiring long term remedial attention	Irreversible damage to brand and reputation
Strategic/ Market	Localised concern – no impact on long term viability	Detrimental to short-term profitability and/or strategic direction	Detrimental to mid-term profitability and/or strategic direction	Significant long-term impacts. Will required change strategic direction and objectives	Business viability in question

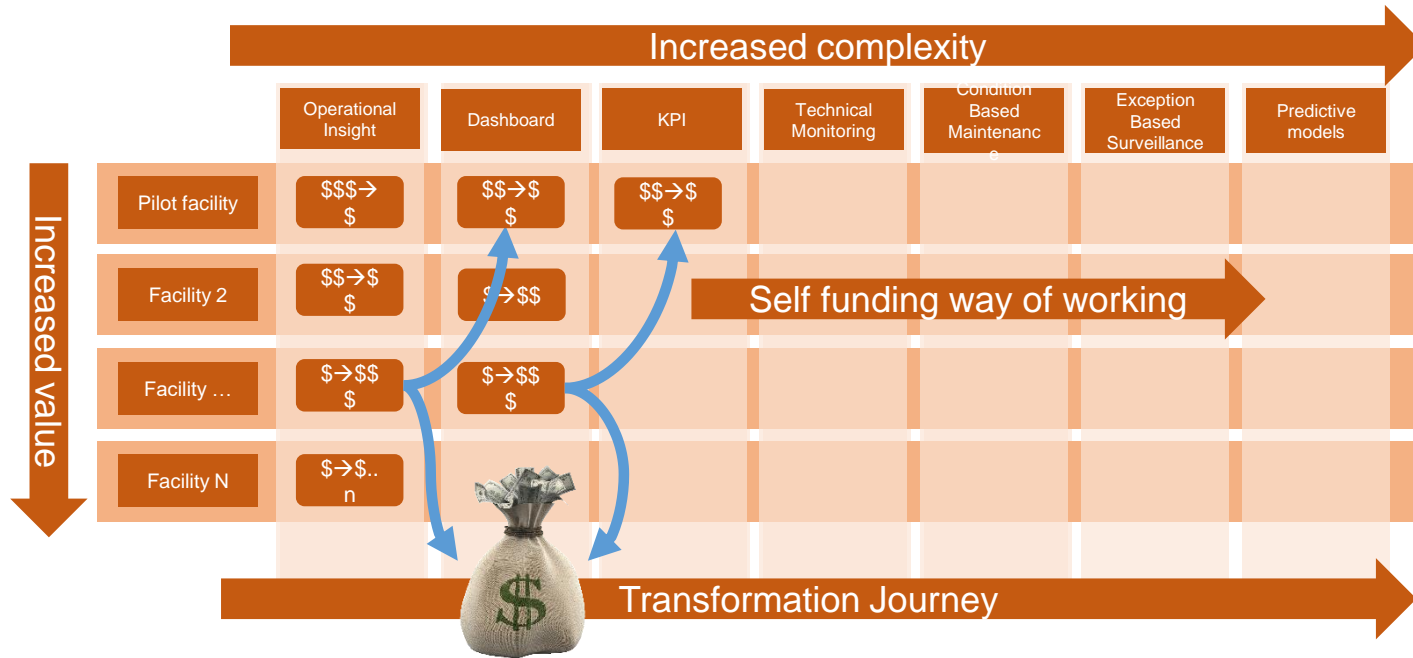
Design principles – Layered Architecture



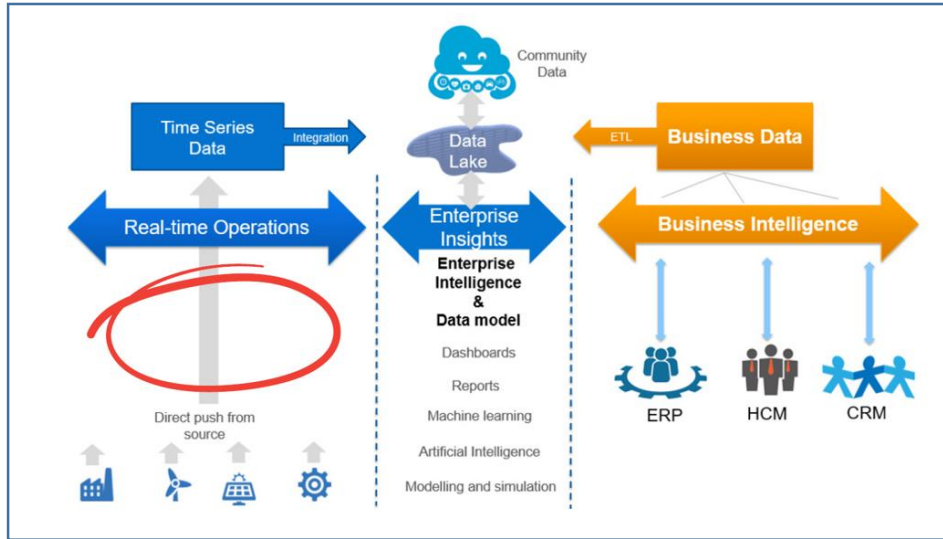
Process and store data as low as possible in the architecture to make them reusable in other use cases !



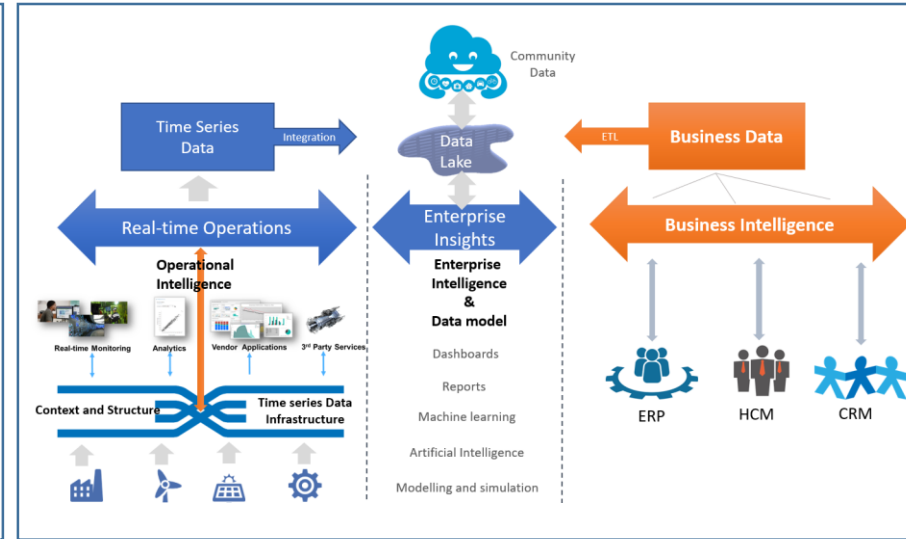
Design principles – Evolution based Value generation



Hybrid solution for RT Data in a Data Lake environment

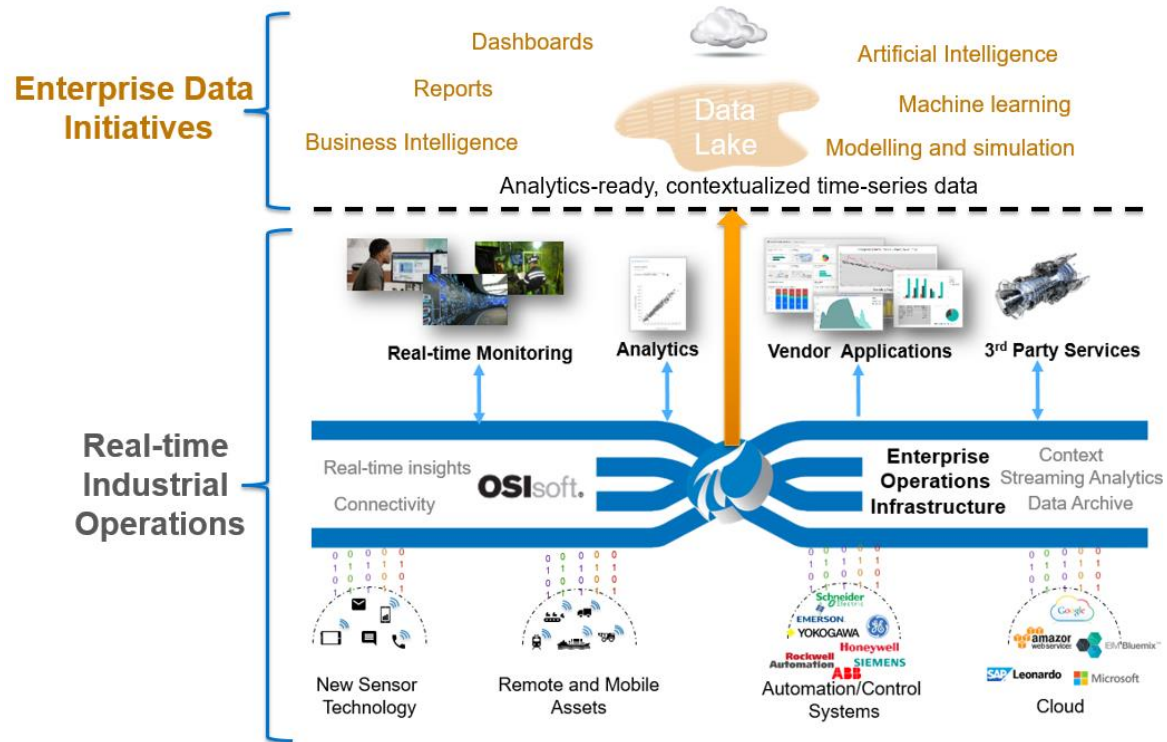


Ideal world

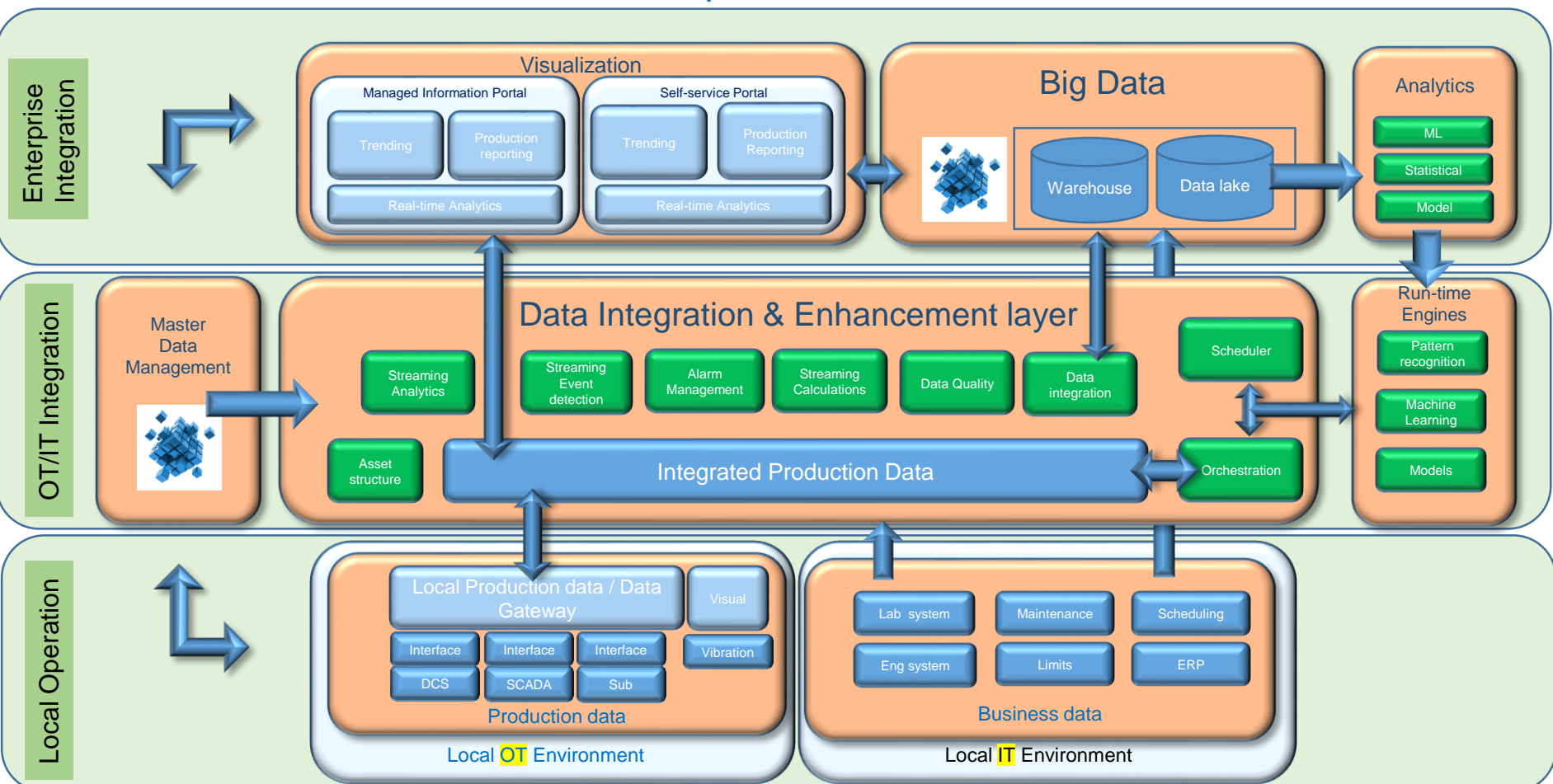


Hybrid reality

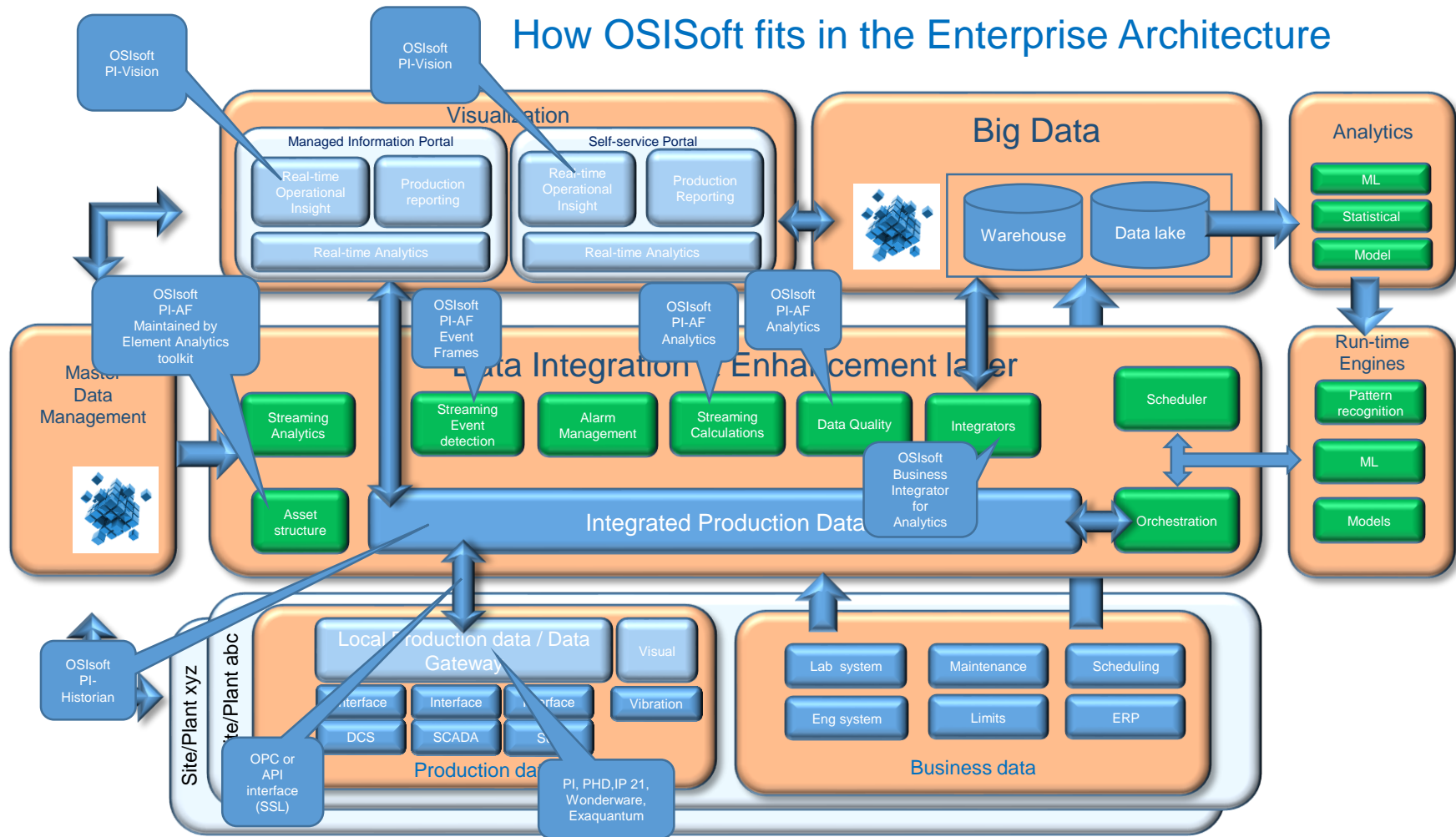
How OSIsoft PI system blends in perfectly



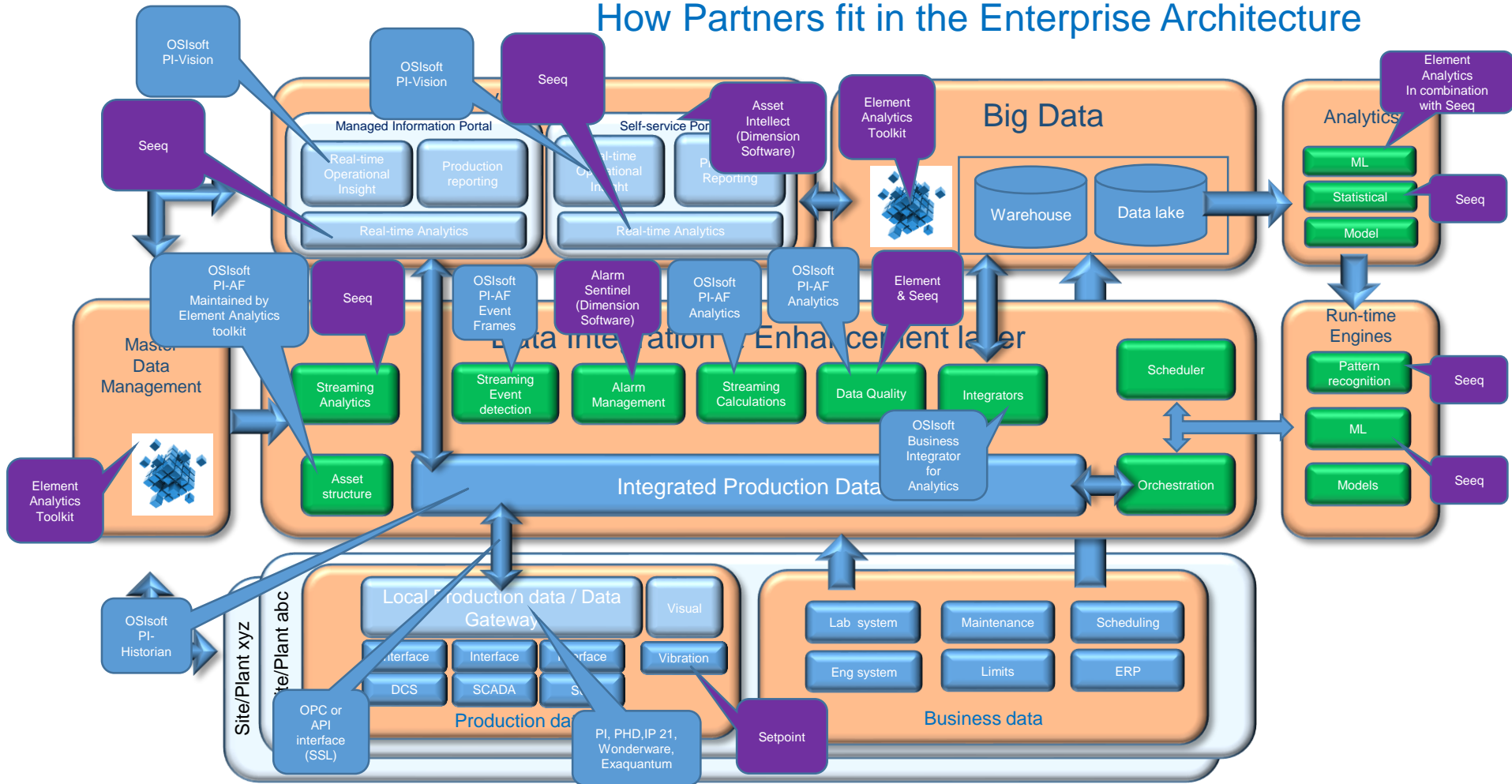
Enterprise Architecture



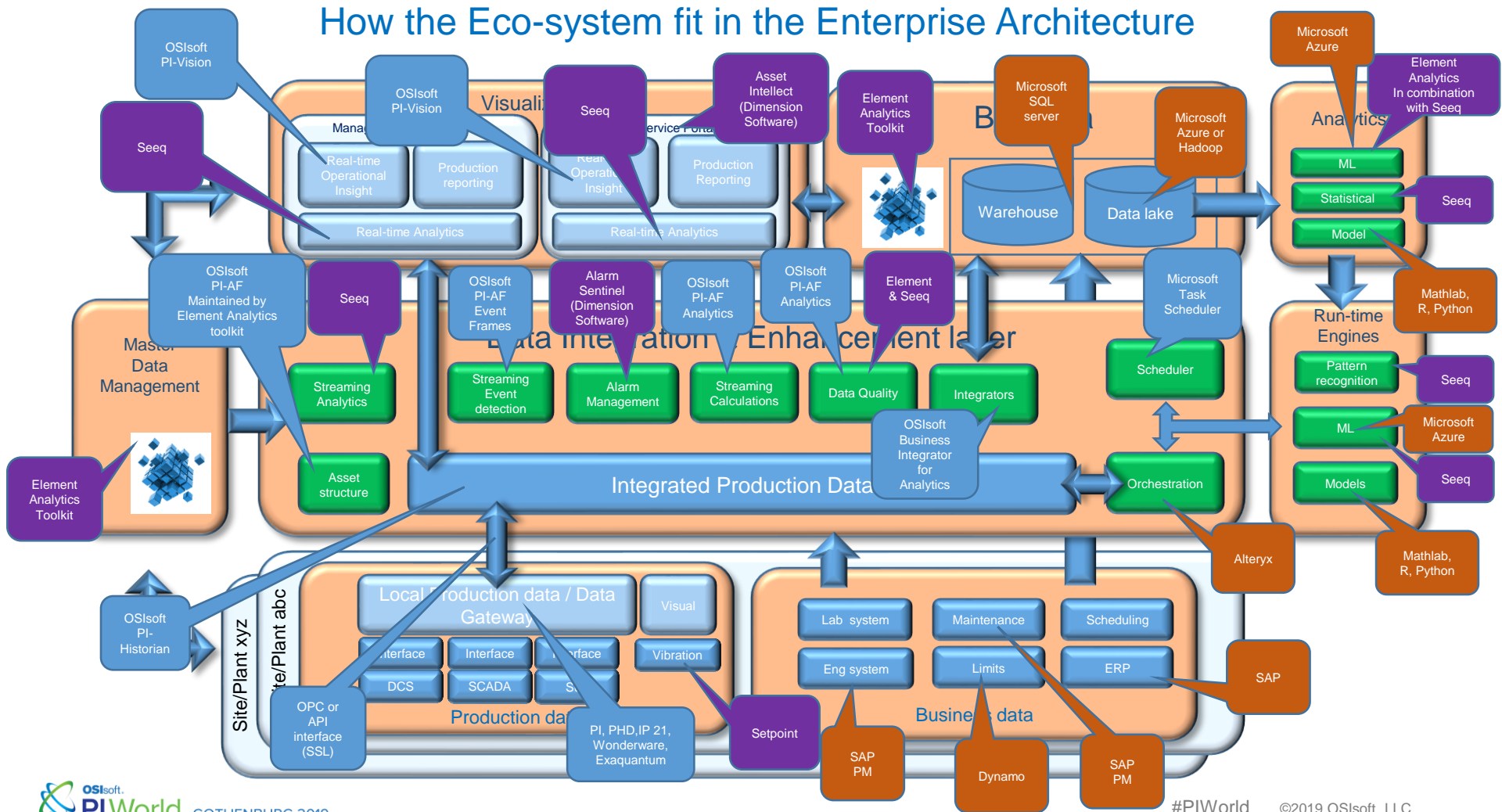
How OSIsoft fits in the Enterprise Architecture



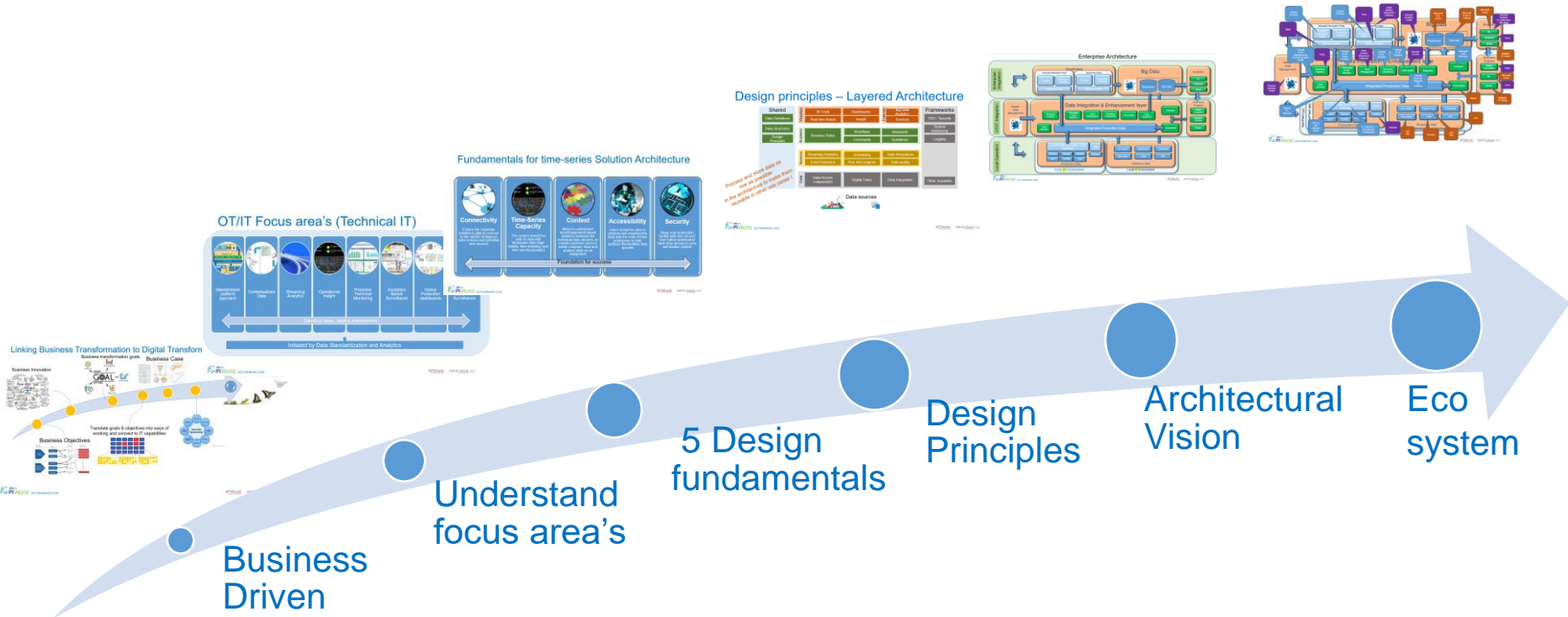
How Partners fit in the Enterprise Architecture



How the Eco-system fit in the Enterprise Architecture



Summary of recommendations



Questions?

Please wait for
the **microphone**

State your
name & company



Please remember to...

Complete the Survey!
Navigate to this session in
the mobile app for survey

An advertisement for the OSISOFT PIWorld mobile app. The background is dark blue with a subtle grid pattern. On the right, a smartphone displays the app's logo, which consists of three white curved lines forming a stylized 'O' or 'PI' shape, with the text 'OSISOFT PIWorld' below it. To the left of the phone, the text 'TO DOWNLOAD APP, SEARCH OSISOFT' is written in white, all-caps font. Below this text are two black buttons: the first has the Apple logo and the text 'Download on the App Store', and the second has the Google Play logo and the text 'GET IT ON Google Play'.



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謝謝 KEA LEBOHA
 TAPADH LEIBH 고맙습니다
 БАЯРЛАЛАА MISAOTRA ANAO
 DZIĘKUJĘ CI NGIYABONGA TEŞEKKÜR EDERIM GRACIES OBRIGADO شكرا SALAMAT
 DANKON TANK TAPADH LEAT KÖSZÖNÖM DANKIE TERIMA KASIH GRACIES
 СПАСИБО МАНАДСАНІД
 PAKMET CIZGE GO RAIBH MAITH AGAT
 БЛАГОДАРЯ GRACIAS MAHADSANİD
 ТИ БЛАГОДАРАМ
 TAK DANKE MAHADSANİD
 RAHMAT MERCI HATUR NUHUN
 GRAZZI ПAKKA PĒR PAXMAT САГА
 FАLEMİNDERİT
 CẢM ƠN BẠN WAZVIITA
 TI БЛАГОДАРАМ СИПОС
 EΥΧΑΡΙΣΤΩ GRATIAS TIBI
 AČIŪ SALAMAT MAHALO IĀ 'ŌE TAKK SKALDU HA
 ありがとうございます
 SIPAS JI WERE TERIMA KASIH MATUR NUWUN
 UA TSAUG RAU KOJ
 TI БЛАГОДАРАМ СИПОС
 MULȚUMESC
 HVALA FААFETAİ
 ESKERRIK ASKO
 HVALA ХВАЛА ВАМ
 TEŞEKKÜR EDERIM
 GRAZIE
 DI OU MÈSI
 ĎAKUJEM

