# **Smart Connected Factory**

# Modern Manufacturing and Supply Chain Day

François BRIANDET, Oracle

Lausanne, April 19<sup>th</sup>, 2018



Tomorrow's Supply Chain, Today

Copyright © 2018, Oracle and/or its affiliates. All rights reserved.

## Safe Harbor Statement

The preceding is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.



"4<sup>th</sup> Industrial Revolution: The new digital revolution (Cloud, IOT, VR, gaming tech, AI, Blockchain) enable the Next Industrial revolution

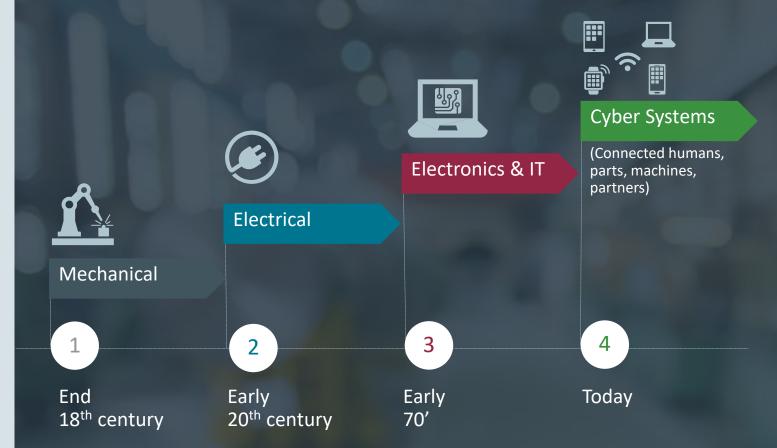


# Program Agenda with Highlight

- 1 How Industry 4.0 is changing your business?
- 2 Why cloud and emerging technologies are game changer?
- Extend your core systems with IOT & VR?
- 4 Q&A



#### From Industry 1.0 to Industry 4.0



#### Next Gen of Operational Technologies is Digital Native

- 3D printers, Cobots, connected tooling, AGVs... **must be connected**.
- Artificial Intelligence will run complex operations.
- Innovations will come from data and digital improvement.
- Digital OT must be secured and enterprise grade by design.

Made Industry has a bright future if we strongly improve our competitiveness

5





EUrop

Humans are the greatest success enablers If they are offered a fun and motivating work experience



#### The operational challenge

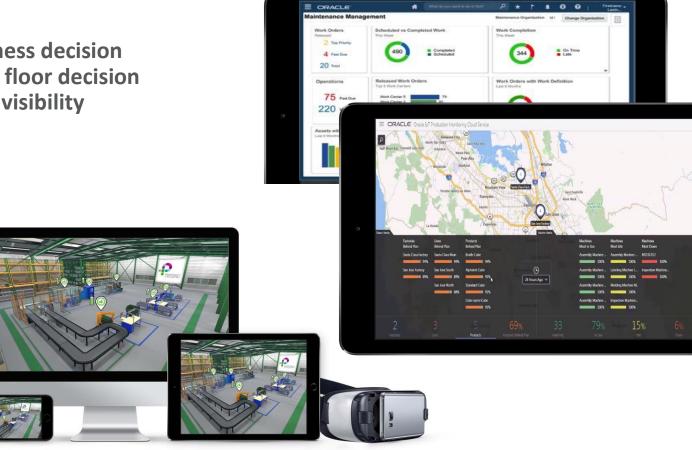
- Increasing complexity in supply chain
- New data to use and to integrate in the day to day activity is increasing

How to take better decision in a more complex world ?

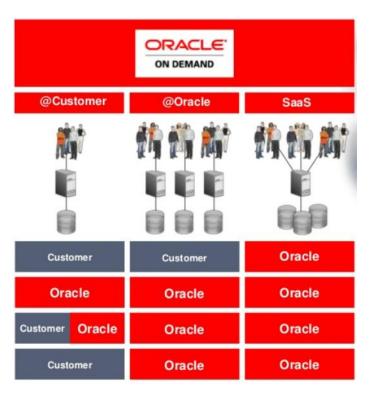


# Global & Local together

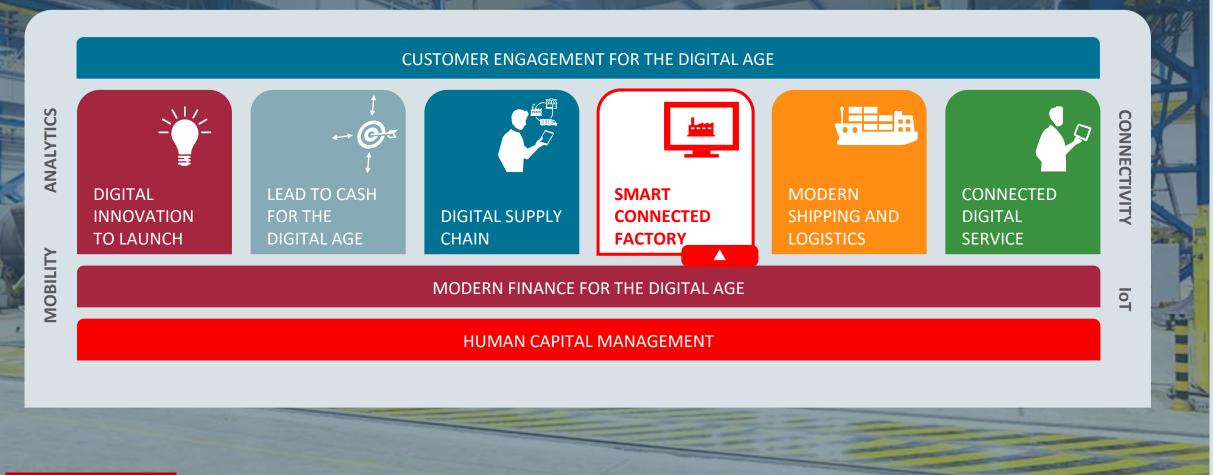
**Business decision** Shop floor decision Data visibility



**IT implementation** Security **Data localization** 



#### **Transforming Manufacturing for the Digital Age**





# Program Agenda with Highlight

- 1 How Industry 4.0 is changing your business?
- 2 Why cloud and emerging technologies are game changer?
- Extend your core systems with IOT & VR?
- 4 Q&A



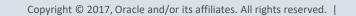
# **Constant Innovation is the Heart of Success**

- **Digital twin data** connects the digital and the physical worlds for faster innovation.
- Next best action AI helps to tackle human and machine errors.
- Open collaboration with partners helps Innovation.
- Data transparency helps decision making.
- Human and Machines is the best team



Existing Manufacturing Systems (Core ERP, MES) Alone and Industrial IOT (IOT) are not Enough to Drive Improvements

- Learn, Predict & Execute from Data vs Execute from alerts.
- Vertical & horizontal data transparency to benchmark & take agile decision
- Open connectivity & mobility for new sensors, and new usages.
- Open for new emerging tech **AI, VR, AR, Blockchain**.



# Program Agenda with Highlight

- 1 How Industry 4.0 is changing your business?
- 2 Why cloud and emerging technologies are game changer?
- <sup>3</sup> Extend your core systems with Digital?
- 4 Q&A



## **Oracle Smart Connected Factory Brings the Power of Digitization within the Four Walls of Your Plants**

KNOW	DECIDE		
Connected & disconnected factories monitoring	Production monitoring & predictive maintenance	Asset monitoring and predictive issue resolution	Quality monitoring and training
Know in real-time from data transparency	Decide the next best action based on KPIs	Execute predictive actions	Learn from the field, and run best practices



## **Oracle Smart Connected Factory Brings the Power of Digitization within the Four Walls of Your Plants**

KNOW	DECIDE		
Connected & disconnected factories monitoring	Production monitoring & predictive maintenance	Asset monitoring and predictive issue resolution	Quality monitoring and training
Know in real-time from data transparency	Decide the next best action based on KPIs	Execute predictive actions	Learn from the field, and run best practices

 $\wedge$ 

#### **Connected & Disconnected Factories Monitoring**

- Provides a step-by-step global and local transparency of your factories KPIs.
- One 360° view of yield / efficiency, and equipment behaviors.
- Consolidate planning and cost management.
- Leverage IOT, predictive Al and cloud supply chain.

Before After Email / Excel

Email / Excel Reporting Static Analytics Transparency Real-Time Virtual World

## **Oracle Smart Connected Factory Brings the Power of Digitization within the Four Walls of Your Plants**

KNOW	DECIDE		
Connected & disconnected factories monitoring	Production monitoring & predictive maintenance	Asset monitoring and predictive issue resolution	Quality monitoring and training
Know in real-time from data transparency	Decide the next best action based on KPIs	Execute predictive actions	Learn from the field, and run best practices

 $\wedge$ 

#### Production Monitoring & Predictive Maintenance

- Predictive alerts and next best action based on production line OEE.
- Anticipate potential yield drop.
- Optimize your maintenance scheduling, downtime costs and spare parts purchasing.
- Bigdata root cause analysis for maintenance optimization.



## **Oracle Smart Connected Factory Brings the Power of Digitization within the Four Walls of Your Plants**

KNOW	DECIDE		
Connected & disconnected factories monitoring	Production monitoring & predictive maintenance	Asset monitoring and predictive issue resolution	Quality monitoring and training
Know in real-time from data transparency	Decide the next best action based on KPIs	Execute predictive actions	Learn from the field, and run best practices





#### Asset Monitoring and Predictive Issue Resolution

- Monitors assets to provide predictive alerts.
- Next best action based on asset efficiency and field data.
- Optimize maintenance reaction with OTA to reduce downtime and costs.





## **Oracle Smart Connected Factory Brings the Power of Digitization within the Four Walls of Your Plants**

KNOW	DECIDE		
Connected & disconnected factories monitoring	Production monitoring & predictive maintenance	Asset monitoring and predictive issue resolution	Quality monitoring and training
Know in real-time from data transparency	Decide the next best action based on KPIs	Execute predictive actions	Learn from the field, and run best practices

 $\wedge$ 

#### **Quality Monitoring and Training**

- Quality based predictive alerts.
- Corrective action automation.
- Quality plan adaptation to avoid massive quality issue and recalls.
- Use field and engineering data to learn and provide best practices training.

Local Quality Local Best Practice Costly Training

Before

Global Quality Smart Best Practices Virtual Training



After

# Take the Next Step Forward

#### • THE FUTUR is NOW!



# Program Agenda with Highlight

- 1 How Industry 4.0 is changing your business?
- 2 Why cloud and emerging technologies are game changer?
- Extend your core systems with IOT & VR?





# Integrated Cloud Applications & Platform Services

