

# Manufacturing in the Age of Experience

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DELMIA CEO  
DASSAULT SYSTEMES

## GLOBAL PRODUCT DATA INTEROPERABILITY **S U M M I T** 2017



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# Guillaume Vendroux

Global Product Data Interoperability Summit | 2017



Guillaume Vendroux is the DELMIA brand CEO within Dassault Systèmes where he leads the industrial solutions portfolio and strategy for all industries in today's digital revolution. Guillaume brings to Dassault Systèmes applied knowledge from his roles across industry. Most recently, Guillaume was VP Industrial at Alstom Transport where he led organizations in Engineering, Manufacturing and R&D. Previously, he held a Directorship position at Valeo Electrical Systems. Guillaume started his career in Engineering and R&D in Aerospace as an R&D engineer in Composite material at Aerospatiale. Guillaume holds a Ph.D. in Aeronautics from the California Institute of Technology.

# Optimism: Growth Projected Through 2019

What factors drive or constrain an Aerospace company's ability to compete?

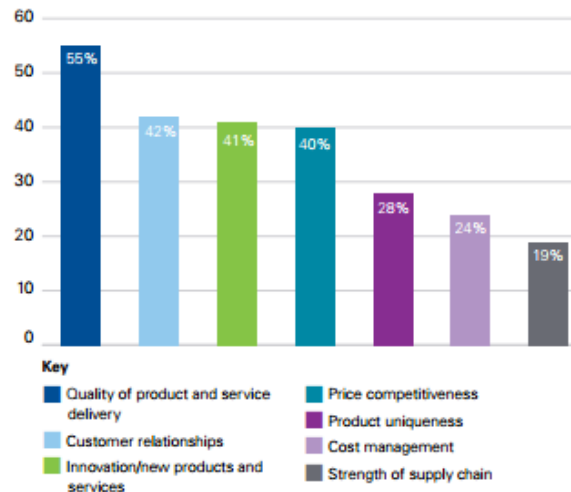


A&D organizations are highly optimistic about their growth prospects and are exploring new opportunities to drive growth

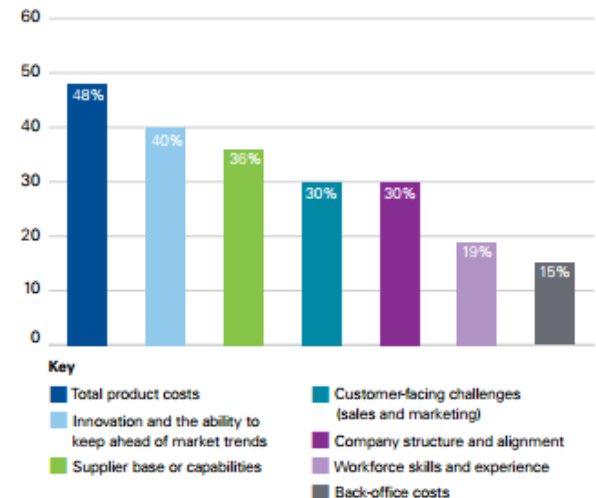
70% of companies say growth will be a high priority for the next 2 years.

81% are focused on improving cost and performance management by evaluating new technologies, partnership models and emerging markets as well as cost structures.

Competitive advantages



Competitive constraints



SOURCE: [KPMG Aerospace & Defense Outlook](#)



## Record Setting Production Rates

HOW TO: manage the record setting production levels from CONCEPT to RECYCLING with the need for over 33,000 aircraft in the next 20 years?

## Growing Complexity of Programs

HOW TO: integrate new technologies into a system of systems to ensure increased inter-operability, safety and profitability?

# Increasing Pressure Facing the Aerospace & Defense Industry

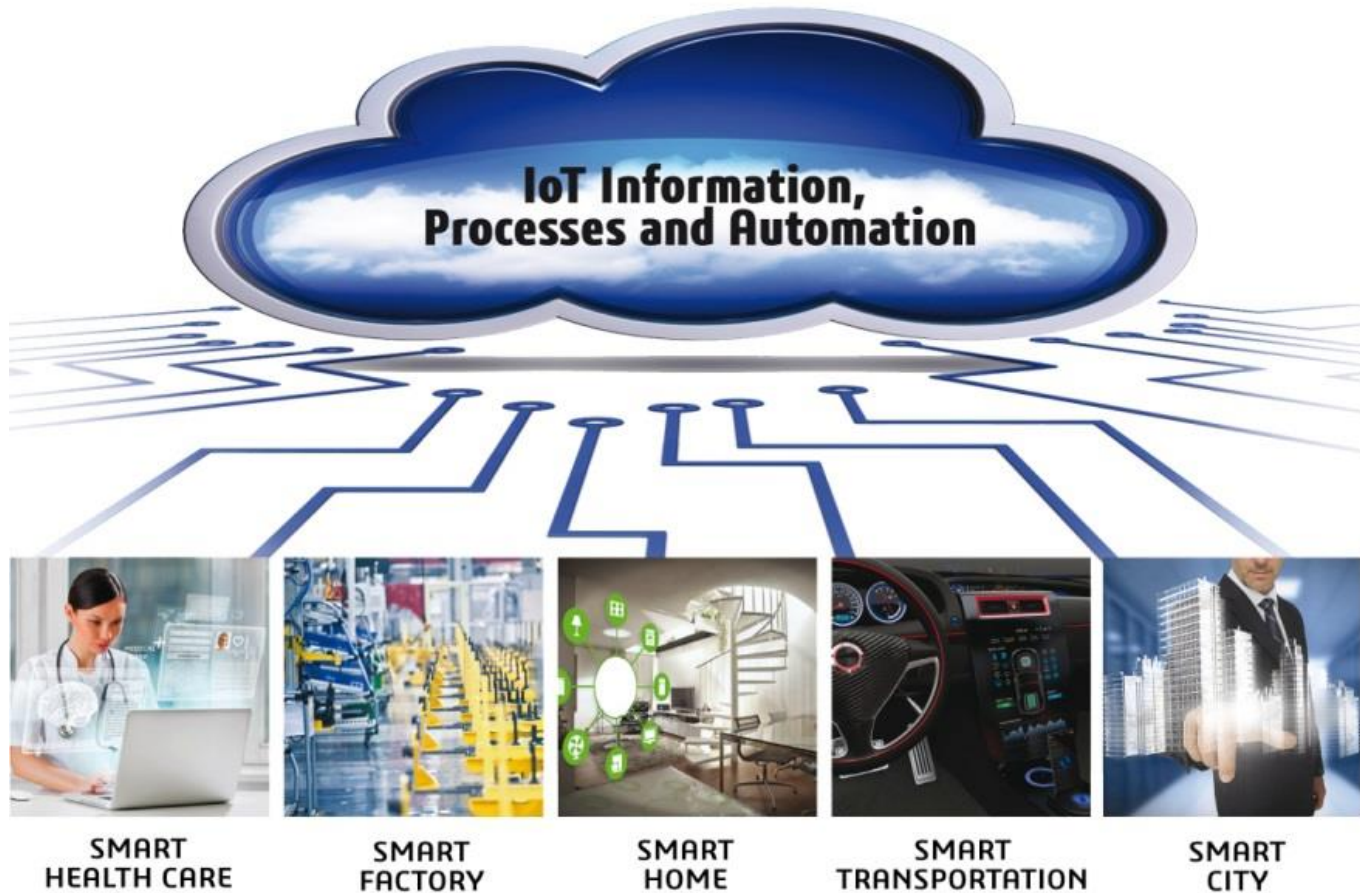
## Evolving Work Force

HOW TO: facilitate knowledge transfer and intellectual property protection as companies redefine their workforce and how they partner with their supply chain?

## Innovate with Flat Budgets

HOW TO: drive down costs to innovate, build and operate aerospace systems to compete with new entrants and technologies coming into the market?

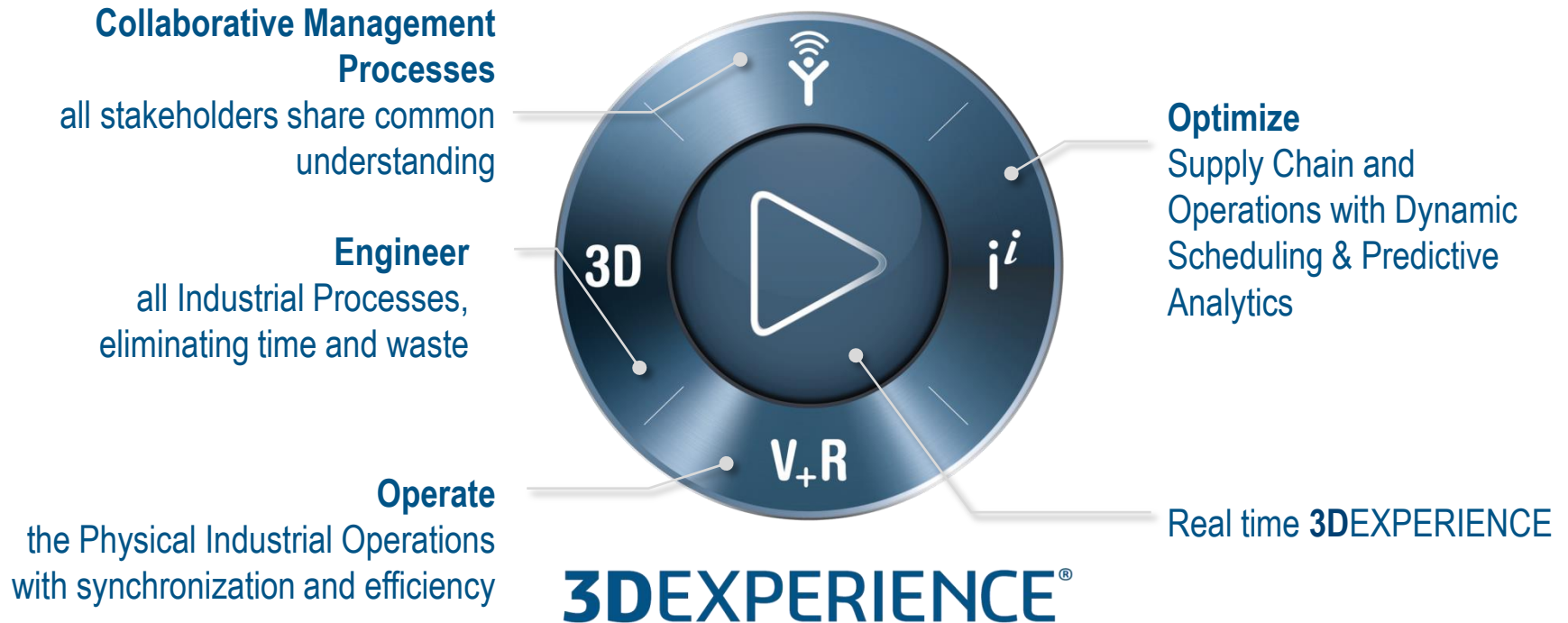
# Technology Trends are Creating Opportunities



IoT/IIoT, Big Data, Mobility, Cloud



# 3DEXPERIENCE Manufacturing

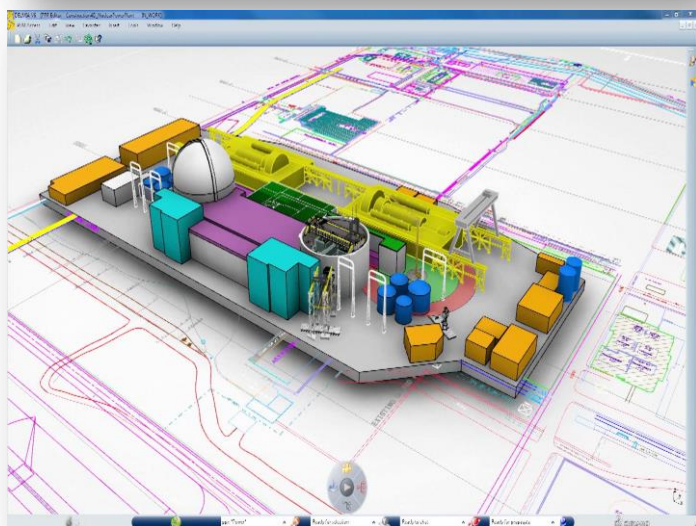
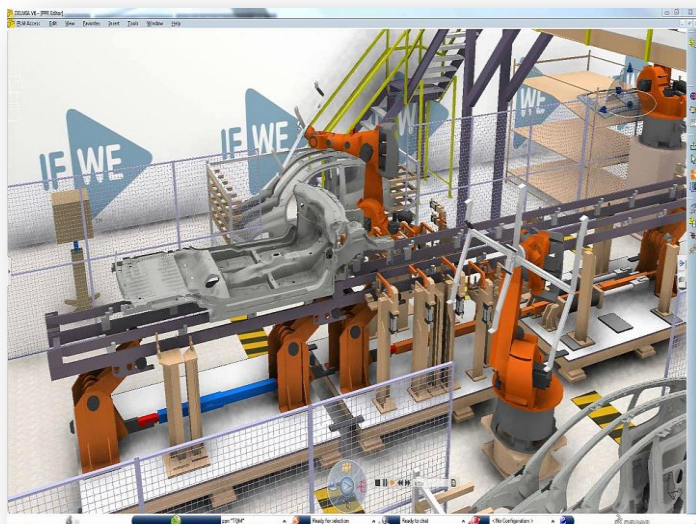


# 3DEXPERIENCE Manufacturing Business Processes



\* In Progress

# ENGINEER: Model & Simulate Global Industrial Operations



## ► What

- Creates executable process plans insuring manufacturability
- Validates process plans through simulation and virtual certification

## ► Why

- New product Introduction lead time ⬇️
- Right First Time ⬆️
- Manufacturing engineering efficiency ⬆️

## ► How

- Process Planning; Assembly Process and Ergonomic Simulation; 3D Work Instructions; and Machine & Robotics Programming
- Single 3D data model across engineering and manufacturing



# OPERATE: Execute Global Industrial Operations



## ► What

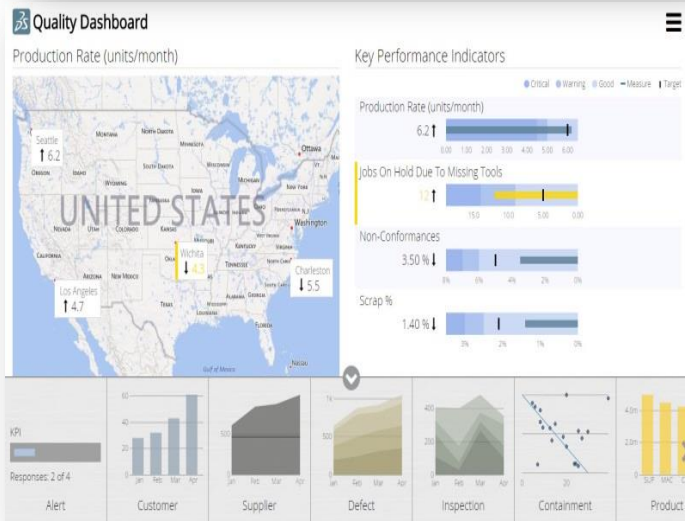
- Orchestrates all Shopfloor activities
- Provides comprehensive, actionable intelligence, traceability and reporting

## ► Why

- Manufacturing Efficiency ↑
- Cost of Non-Quality ↓
- Inventory and WIP ↓

## ► How

- Visibility, control & synchronization across all manufacturing operations
- Global, enterprise solution enables “best practices” across environments from leading edge IIoT equipment, to brownfield factories, to recent acquisitions



# OPTIMIZE: Schedule and Predict Industrial Operations



## ► What

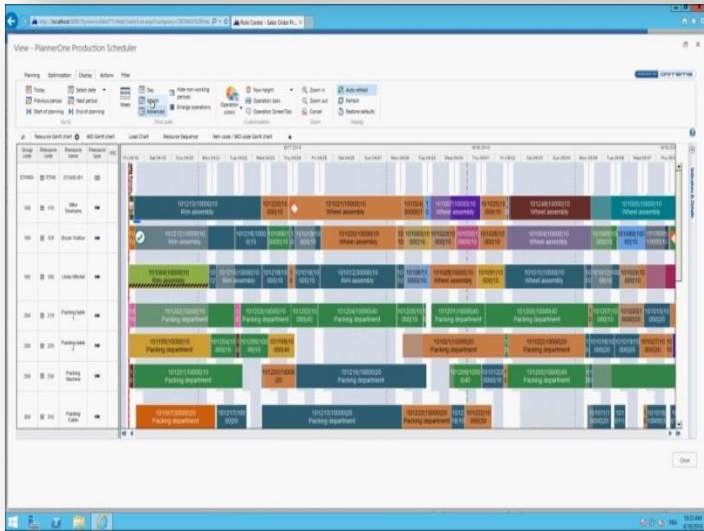
- Real time analytics for efficient decision making and re-scheduling
- Back office analytics for continuous improvement
- Predictive analytics to anticipate

## ► Why

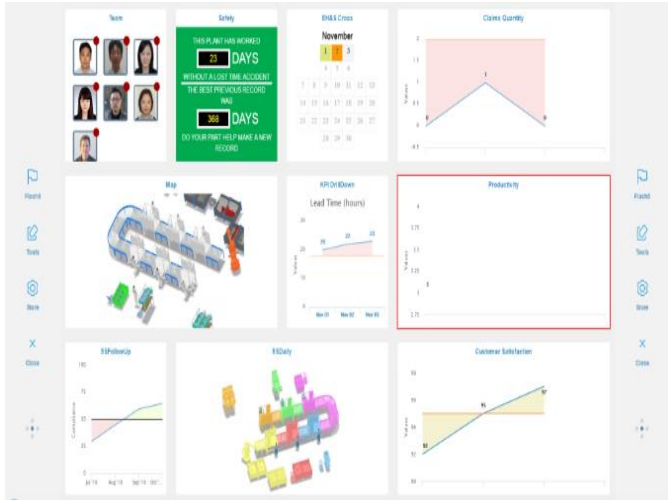
- On Time Delivery ⬆
- On Time in Full ⬆

## ► How

- Platform for all needs: Strategic to tactical decision support
- KPI-based planning with real-time decision support
- Record-breaking optimization processing speed





# COLLABORATE: Empower the Manufacturing Team



## ► What

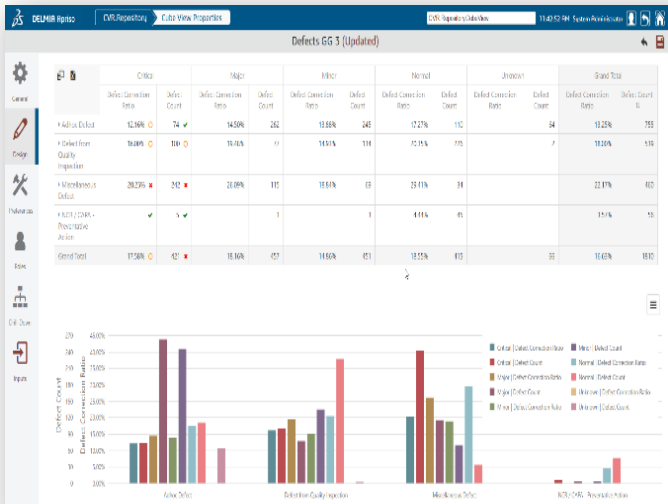
- Common understanding across daily activity and business goals
- Manages Lean, Operational & Performance activity, data, analysis

## ► Why

- Team engagement and empowerment
- Sustainable continuous improvement
- Efficiency (Safety, People, Quality and Deliveries  Cost )

## ► How

- A single, simple to use Experience that empowers workers
- Seamlessly move between Lean, KPIs, Operations, and continuous improvement activities

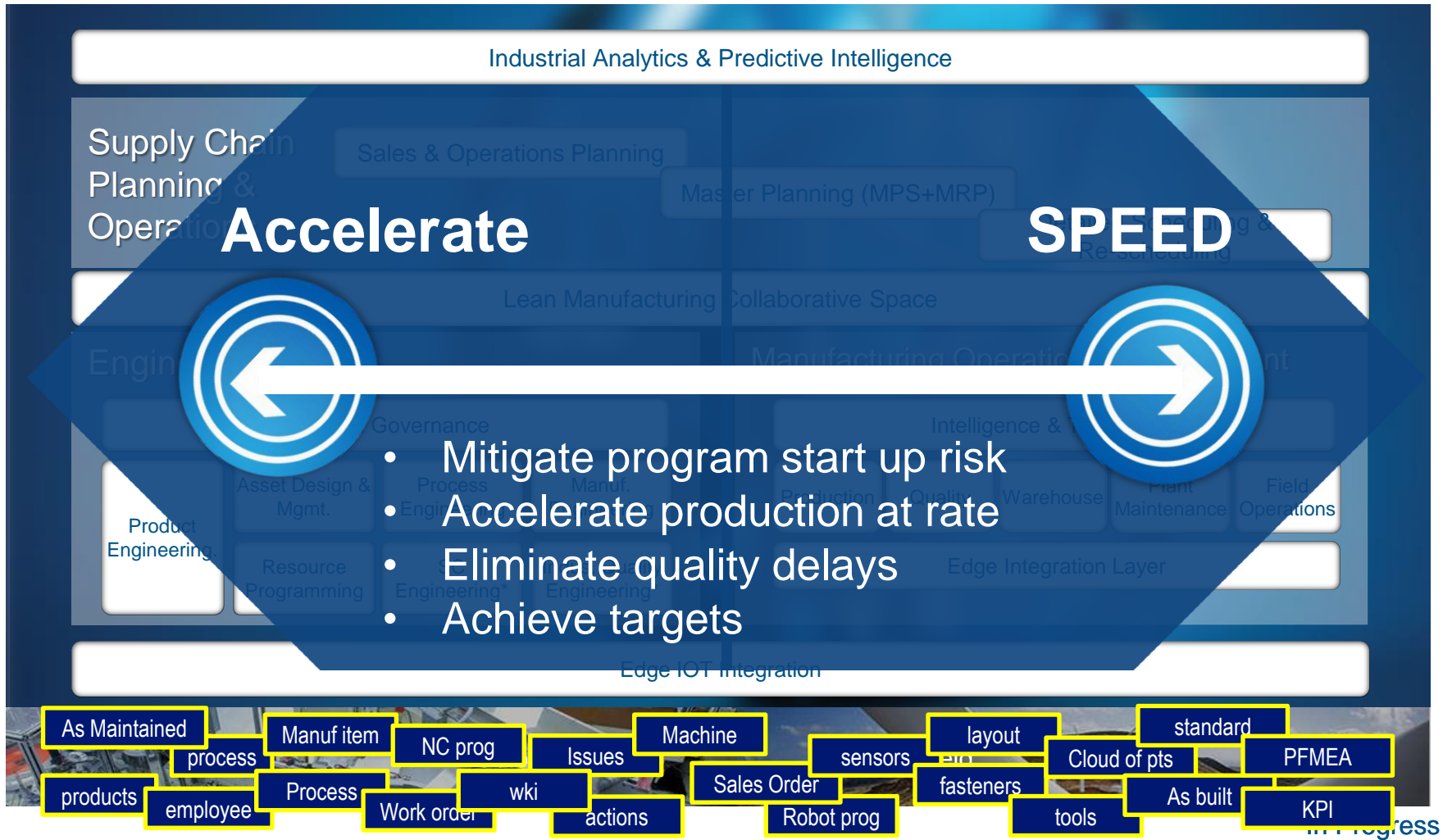


# 3DEXPERIENCE Manufacturing Delivers Digital Continuity

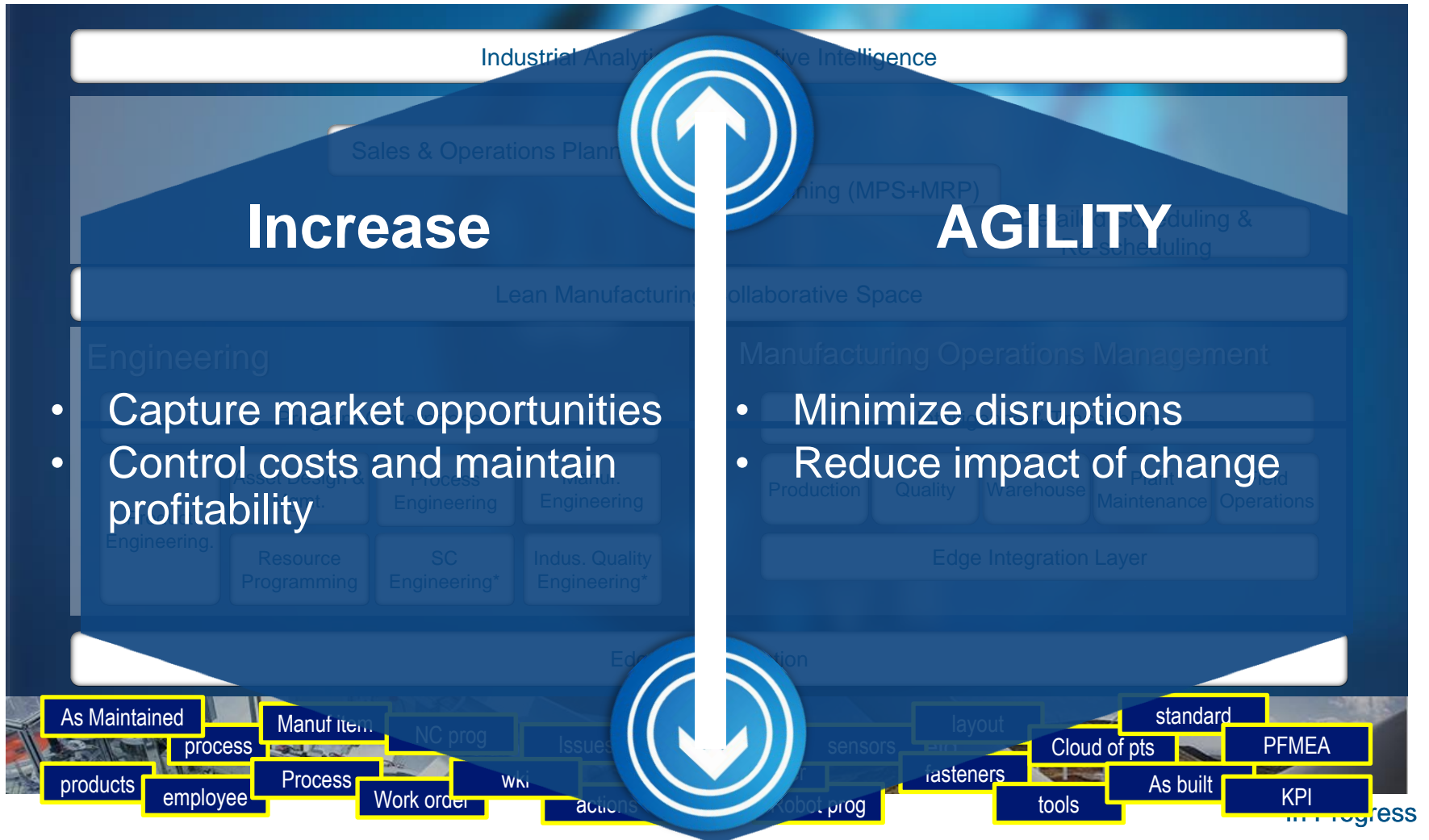




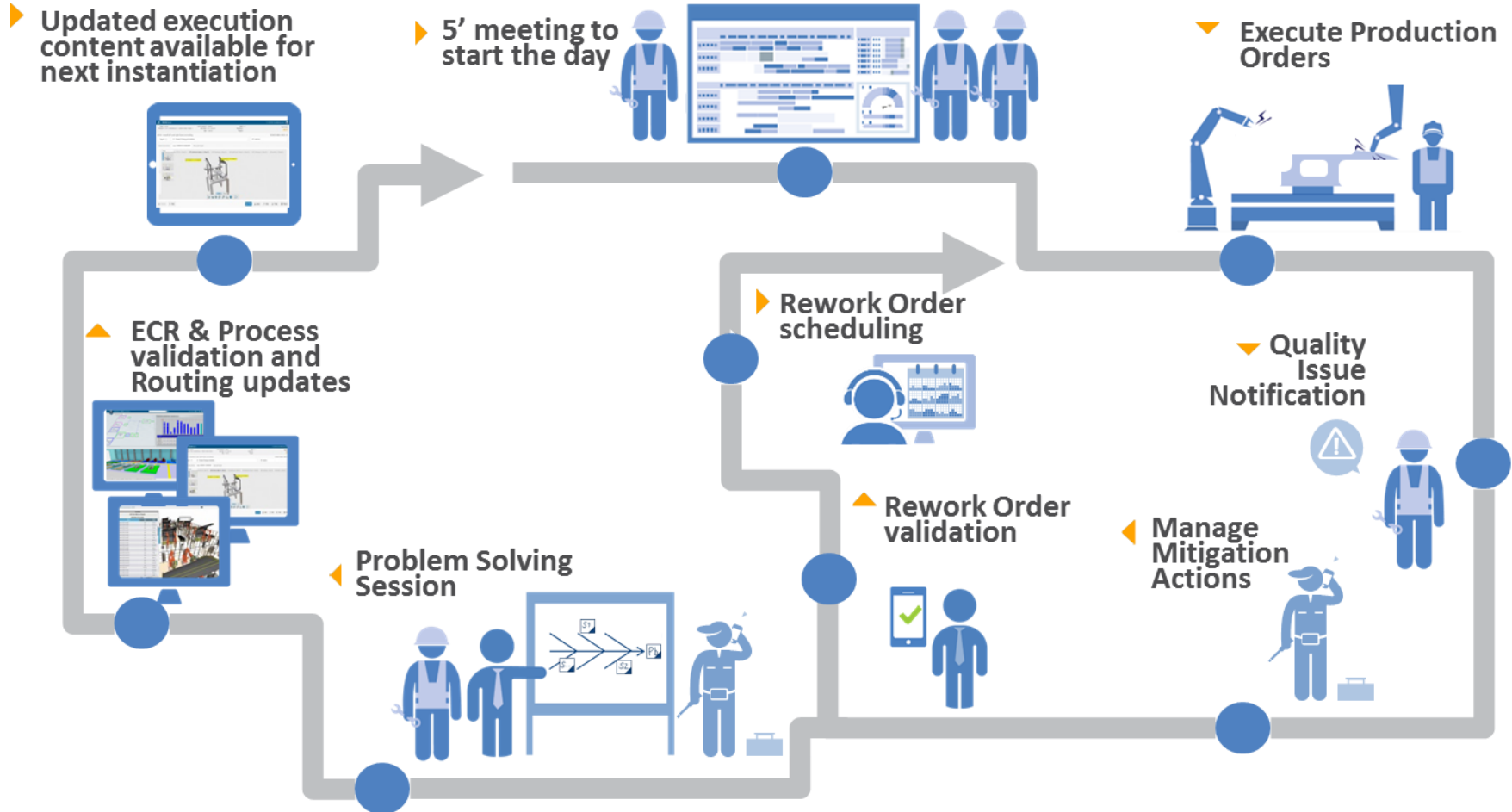
# 3DEXPERIENCE Manufacturing Delivers Digital Continuity



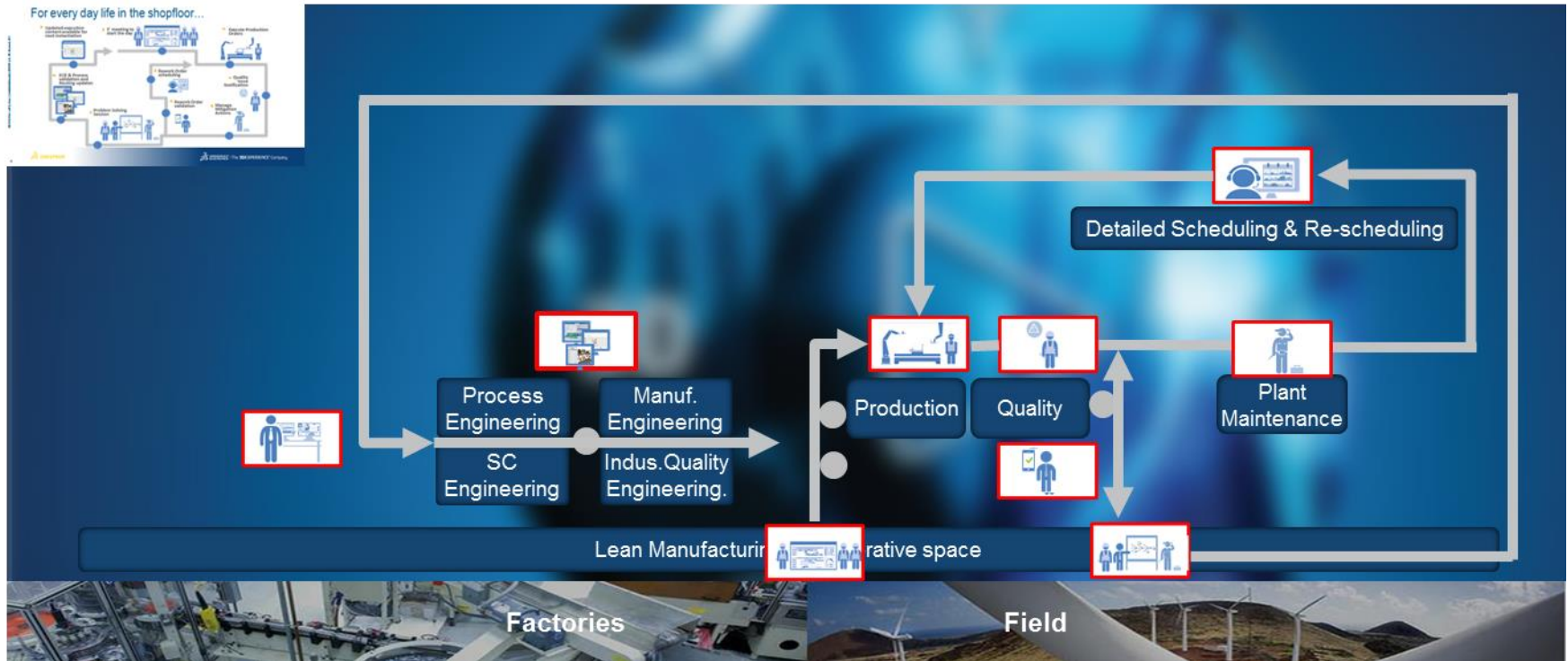
# 3DEXPERIENCE Manufacturing Delivers Digital Continuity



# Everyday on the Shopfloor...



# ...3DEXPERIENCE Manufacturing Delivers Value



- Full & instantaneous data *consistency* from Shopfloor to Engineering
- Full & Instantaneous data *availability* from Shopfloor to Engineering
- Complete Traceability



# Conclusion

- A model based and data centric approach is the key to execute strategy whether you are an OEM, tier 1 supplier or diversified manufacturer
- Digital Continuity is achieved through a collaborative platform, unified model, and user specific experience from engineering, manufacturing, supply chain and field operations
- Dassault Systèmes is the partner to help you achieve your objectives

