



# DIGITAL

## The Business Value of Digitization

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# Impact of 40 Years of Industrial Digitization



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Huge  
improvements  
in productivity

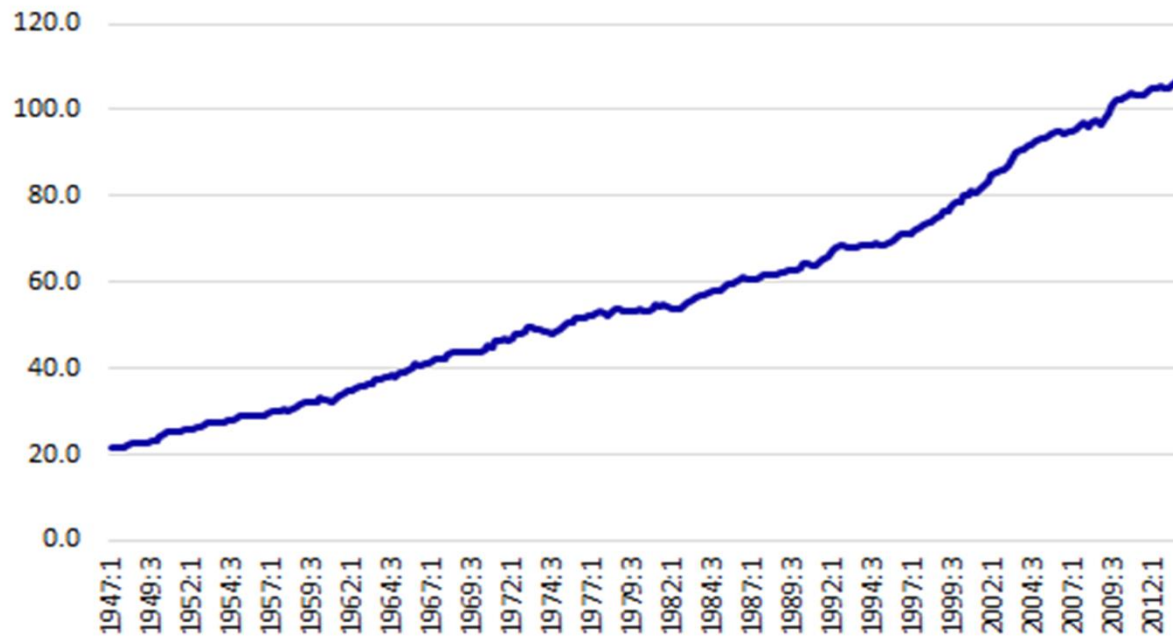
Technology  
transition from a  
mean to an end

Speed of business  
continues to  
increase

# Huge Improvements in Industrial Productivity

Labor productivity in the business sector, first quarter 1947–fourth quarter 2013

Index (2009 = 100)



Source: U.S. Bureau of Labor Statistics.

# Technology Transition from a Means to an End



Foxboro Manometer Type Flow Meters at Texas Oil Co. c1950

1970

Challenge

Solution



Edgar Bristol & Greg Shinskey Discuss Control Strategy c1981



2018

Problem

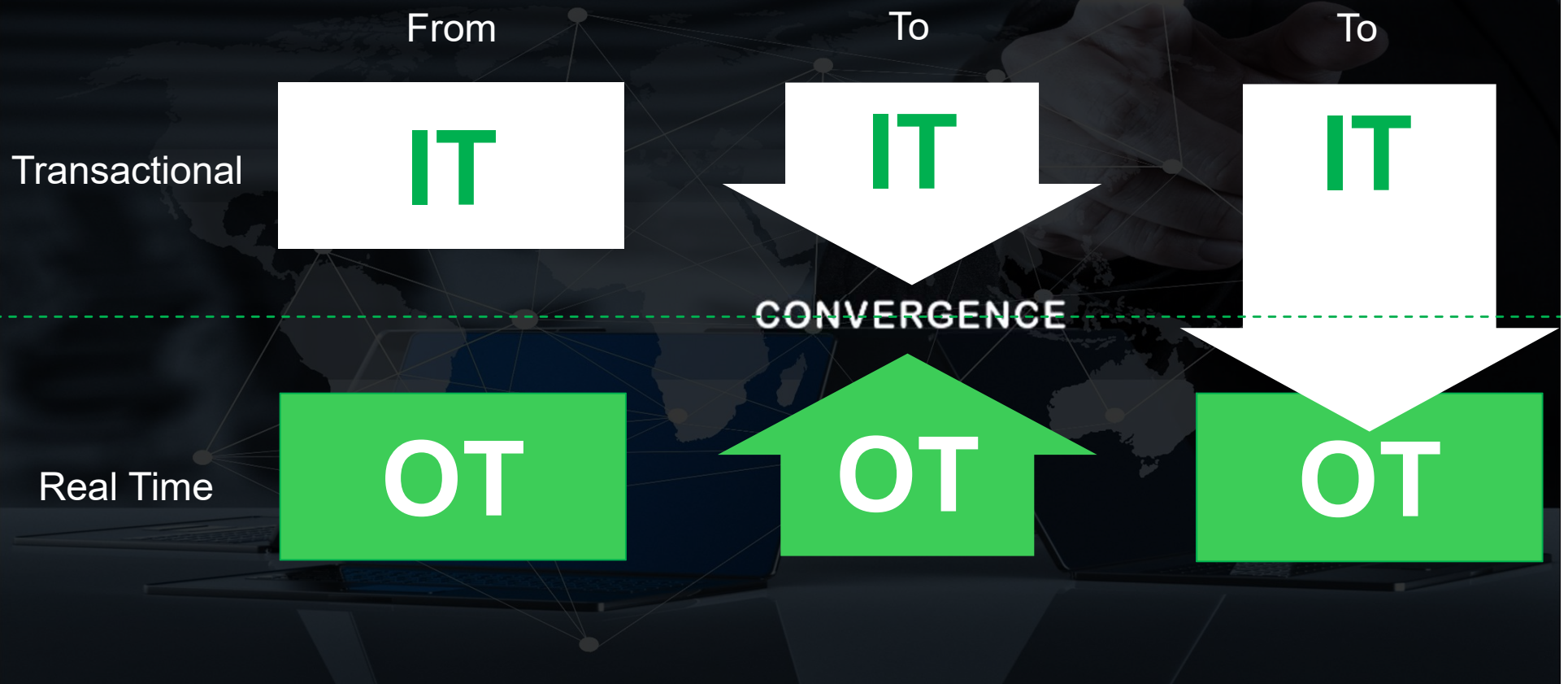
Technology



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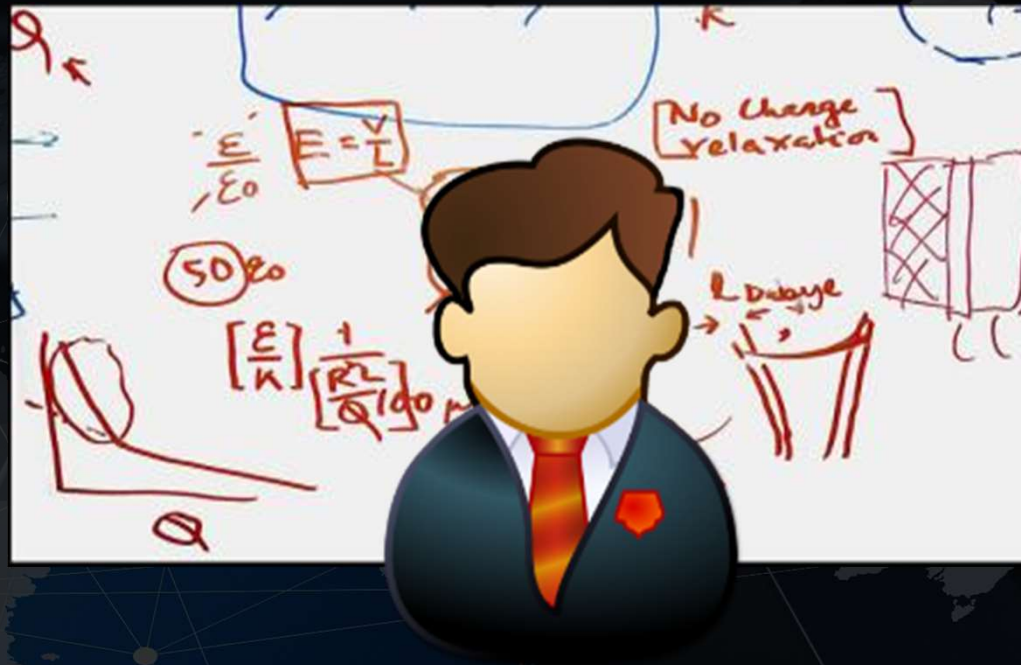
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# Speed of Industrial Business Continues to Increase





# So Why Digitization Now?



# Technology no longer constrains solution design!

# Digitization Can Drive Significant Value Across Your Operation

## Activated workforce



**What:** Empower workforce with real-time operations and business decision support

**Benefits:**

- Faster decision making
- Business-centric decisions
- Lifetime learning

## Optimized assets



**What:** Optimize operation and profitability from industrial assets

**Benefits:**

- Maximum profitability from assets
- Combined reliability and efficiency
- Integrated asset safety

## Extended control



**What:** Extend control to cover efficiency, reliability risk, safety risk, security risk and operational profitability

**Benefits:**

- Measurable operational profitability improvement
- Safe, secure and sustainable operations

# Emerging Value from Industrial Digitization



Extended  
real-time  
control



Autonomous  
industrial  
assets



Increased  
asset  
performance



An  
activated  
workforce

Measurably improve operational profitability - safely



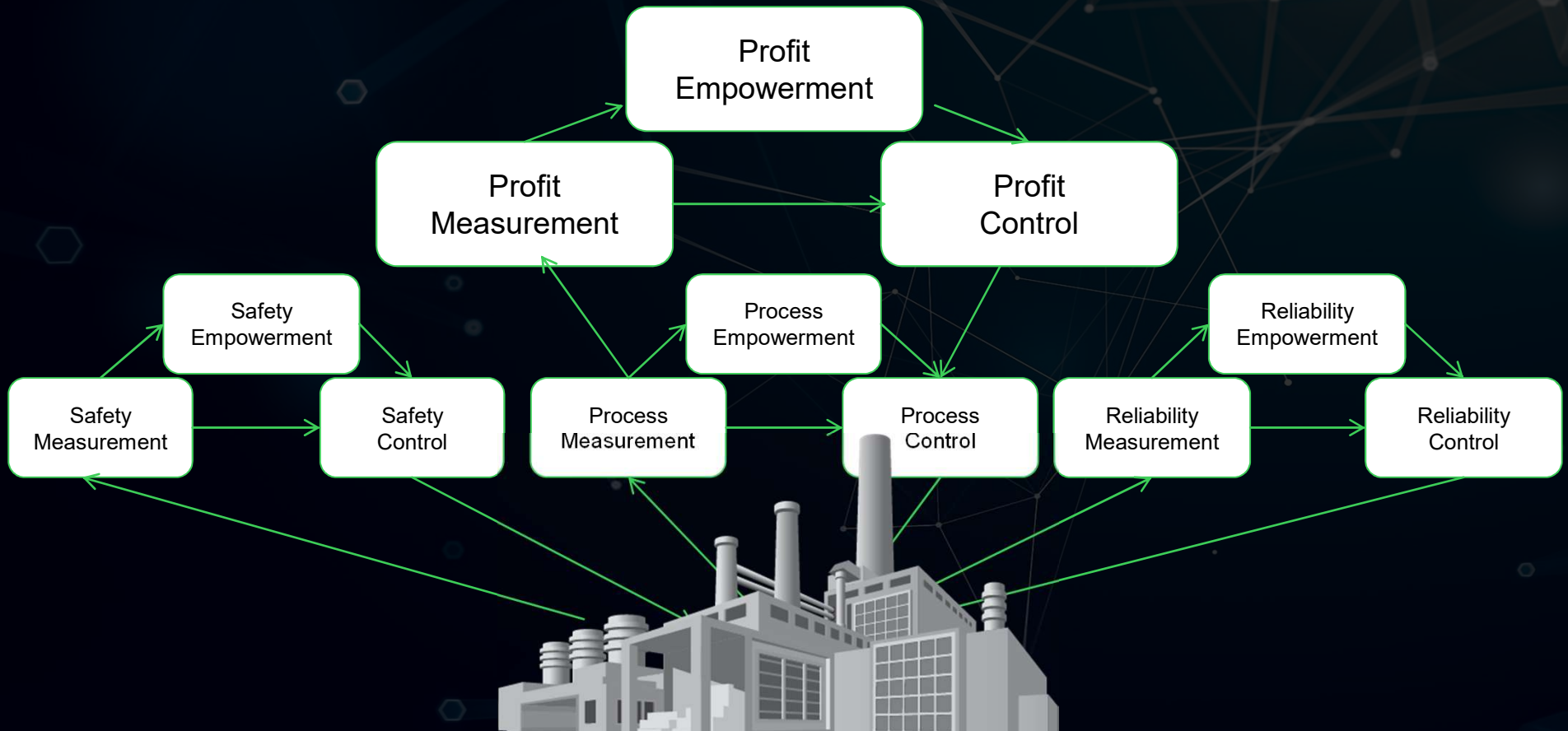
# Extend Control to Improve More than Just Efficiency



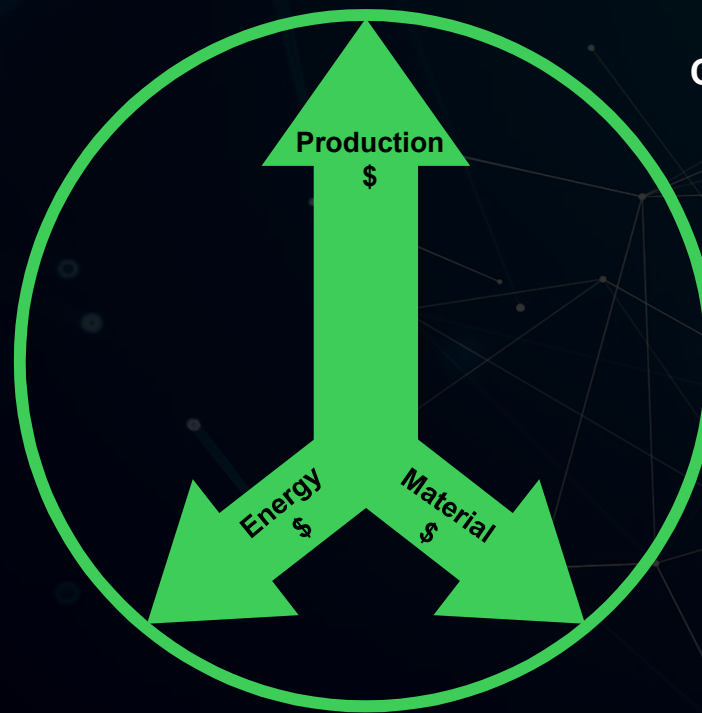
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# Extended Real-Time Control



# What Constrains Operational Profitability?

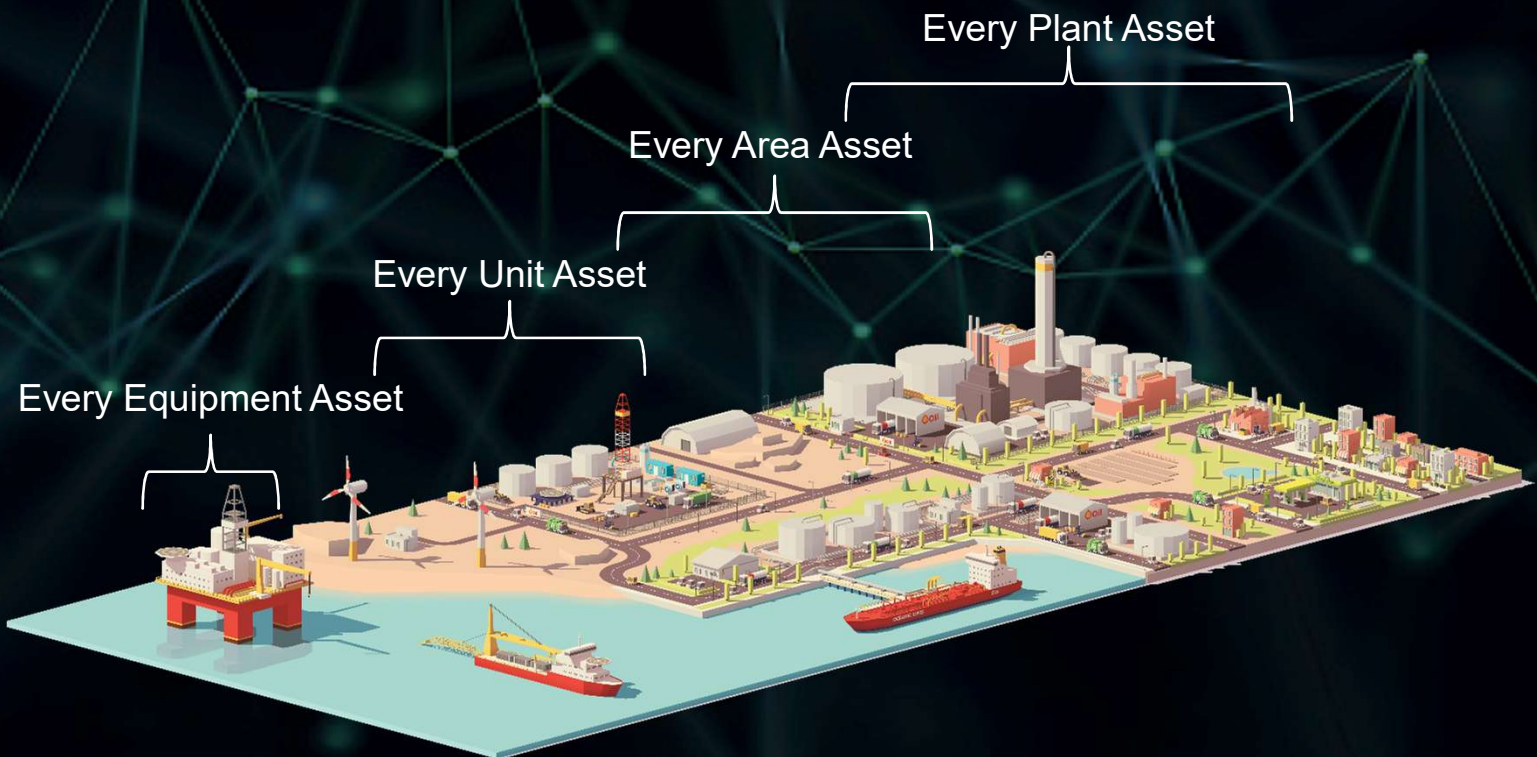


**Composite Constraints**  
Safety Risk  
Environmental Risk  
Reliability Risks  
Equipment Limits

# A New Approach to Asset Performance

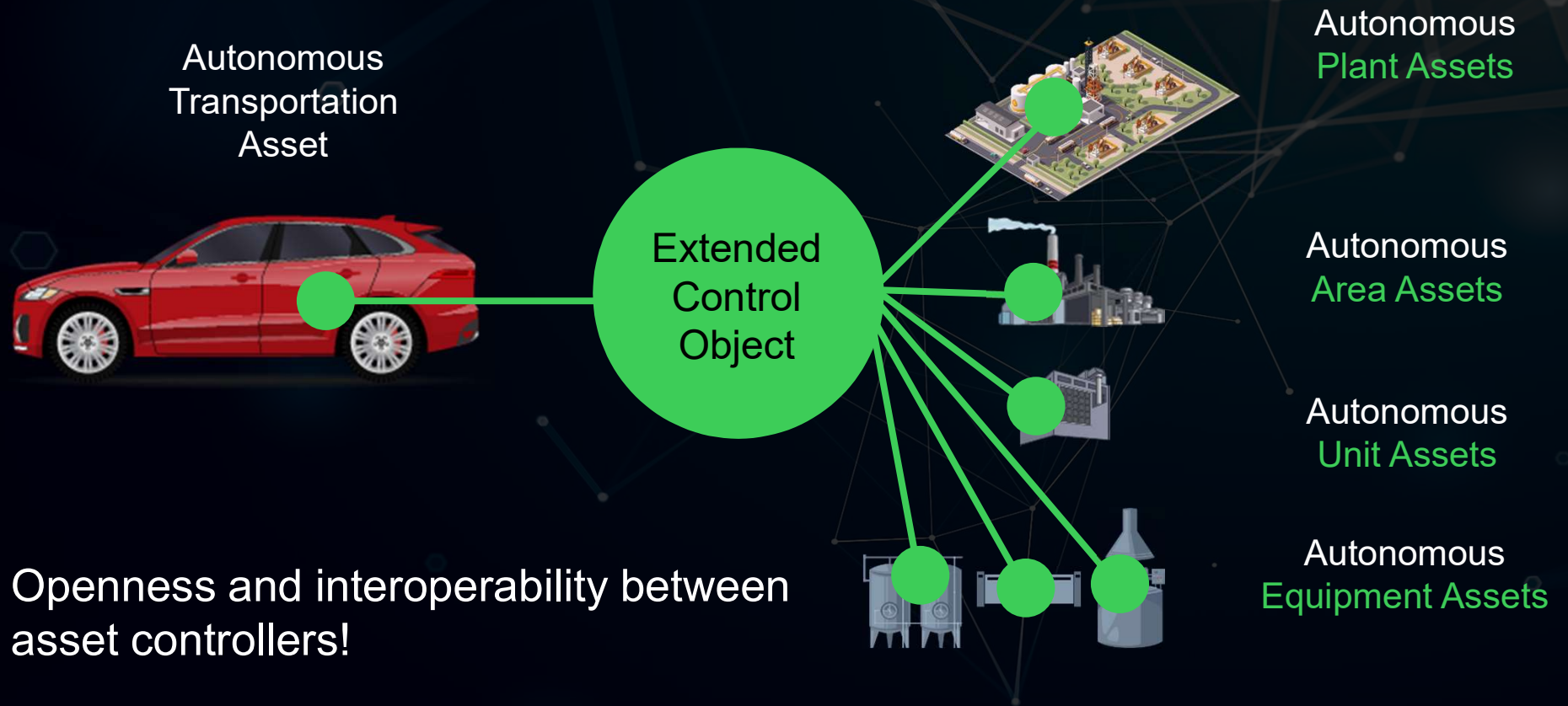
Shift to Real-Time Control Across Your Entire Value Chain

- ✓ Efficiency
- ✓ Reliability
- ✓ Safety
- ✓ Security
- ✓ Profitability





# Self-Optimizing Industrial Assets



# A New Approach to Asset Performance

Shift to Real-Time Control Across Your Entire Value Chain

Transactional

Asset Performance Management



Real Time

Asset Performance Control



# Maximize the Value from Each and Every Asset

Transactional

## Asset Performance Management

Safety &  
Security  
Management

Efficiency  
Management

Reliability  
Management

Profitability  
Management

Real-Time

## Asset Performance Control

Safety &  
Security  
Control

Efficiency  
Control

Reliability  
Control

Profitability  
Control



# Value-Based Decision Support

“Give me the information, and I’ll tell you what to do.”

Time

Decisions

“I can create more value...if you empower me.”

C- Level

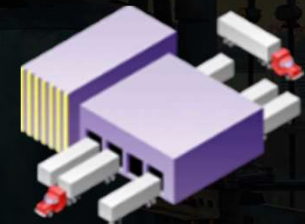
VP

Director

Manager

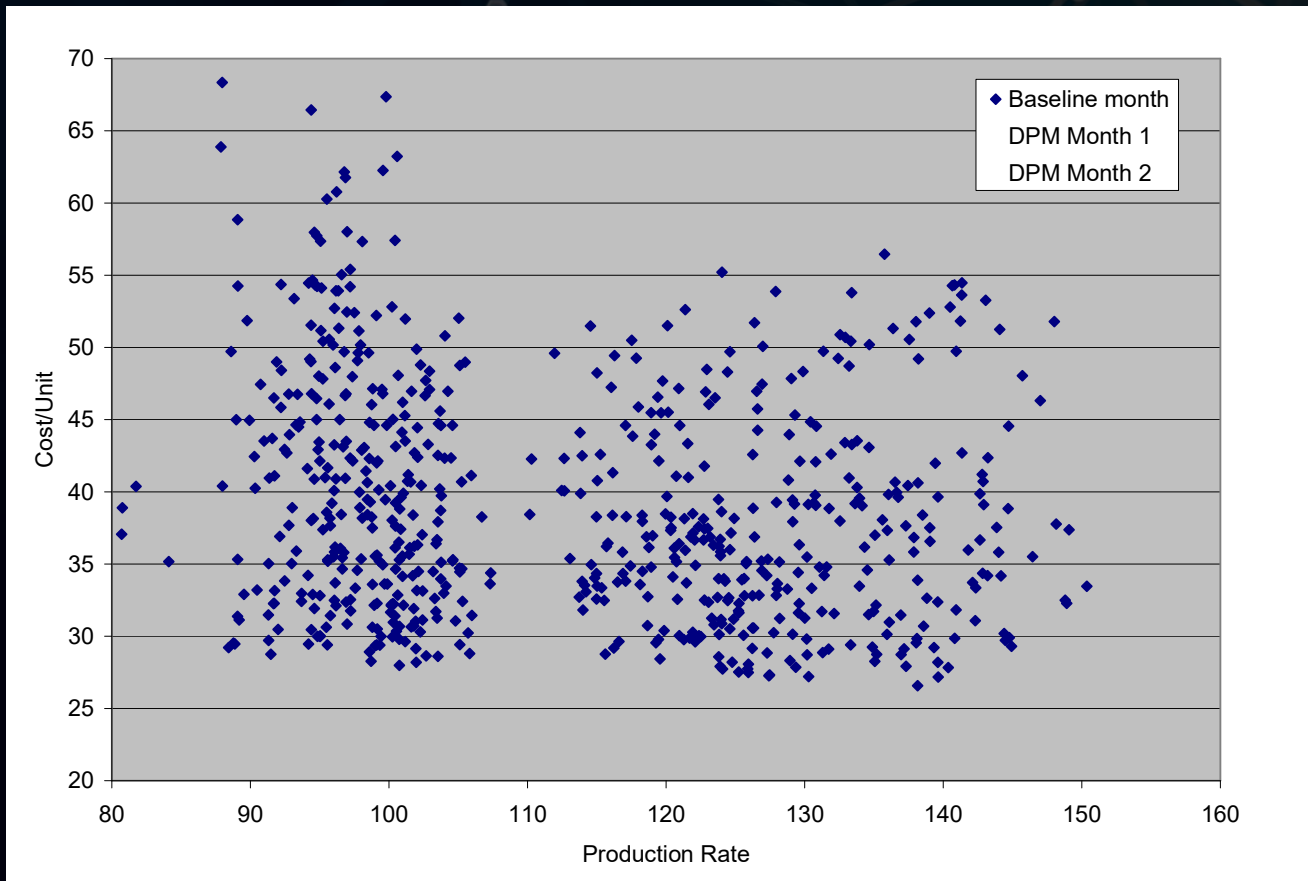
Supervisor

Front-line Worker

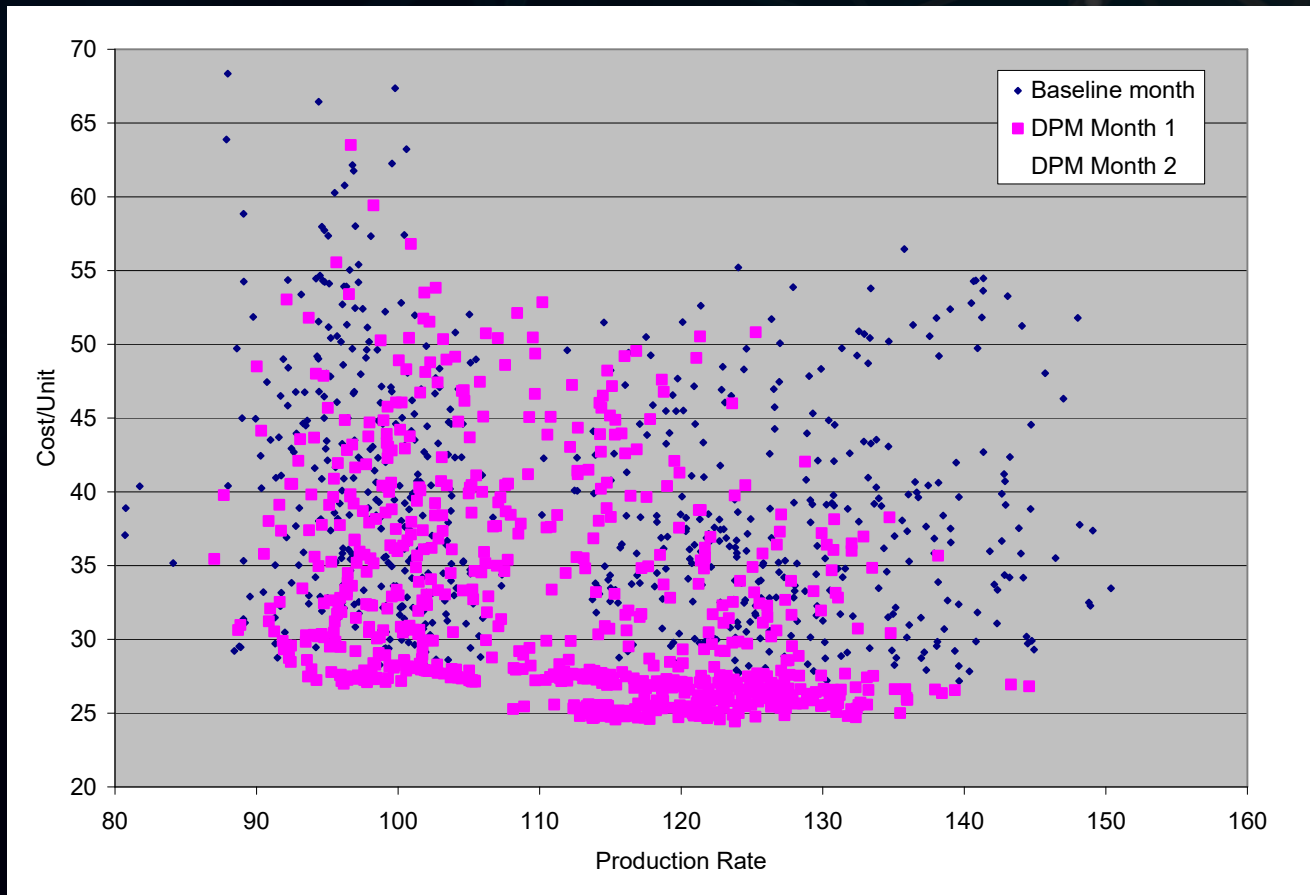




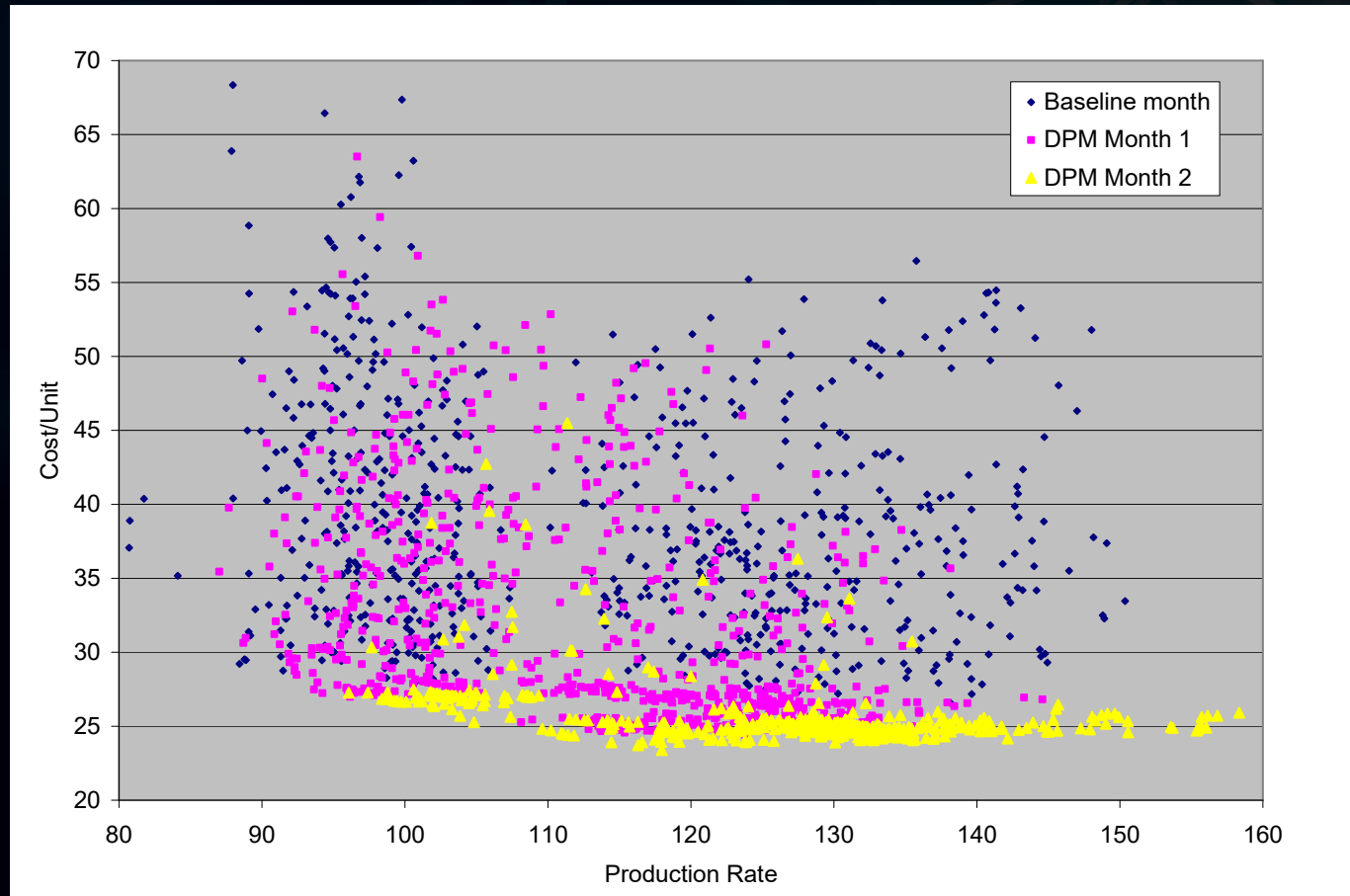
# Profit Engine in Practice at Sasol



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# Profit Engine in Practice at Sasol





# In Summary

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Technical and business forces are driving Industrial Automation to the point of huge transformation

Digitization has impacted automation for decades, but is reaching the point at which it is providing the opportunity to rethink automation and control

Extending real-time control beyond operational efficiency can drive significant levels of measurable operational profitability improvements - safely



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