

# Accelerating Digital Transformation

Scott Turner  
European Solutions Architect

# Biography



**Chartered Engineer with the Institute of Measurement and Control**

**M.Sc. In Process Automation from Newcastle University**

**Emerson employee for 18 years**

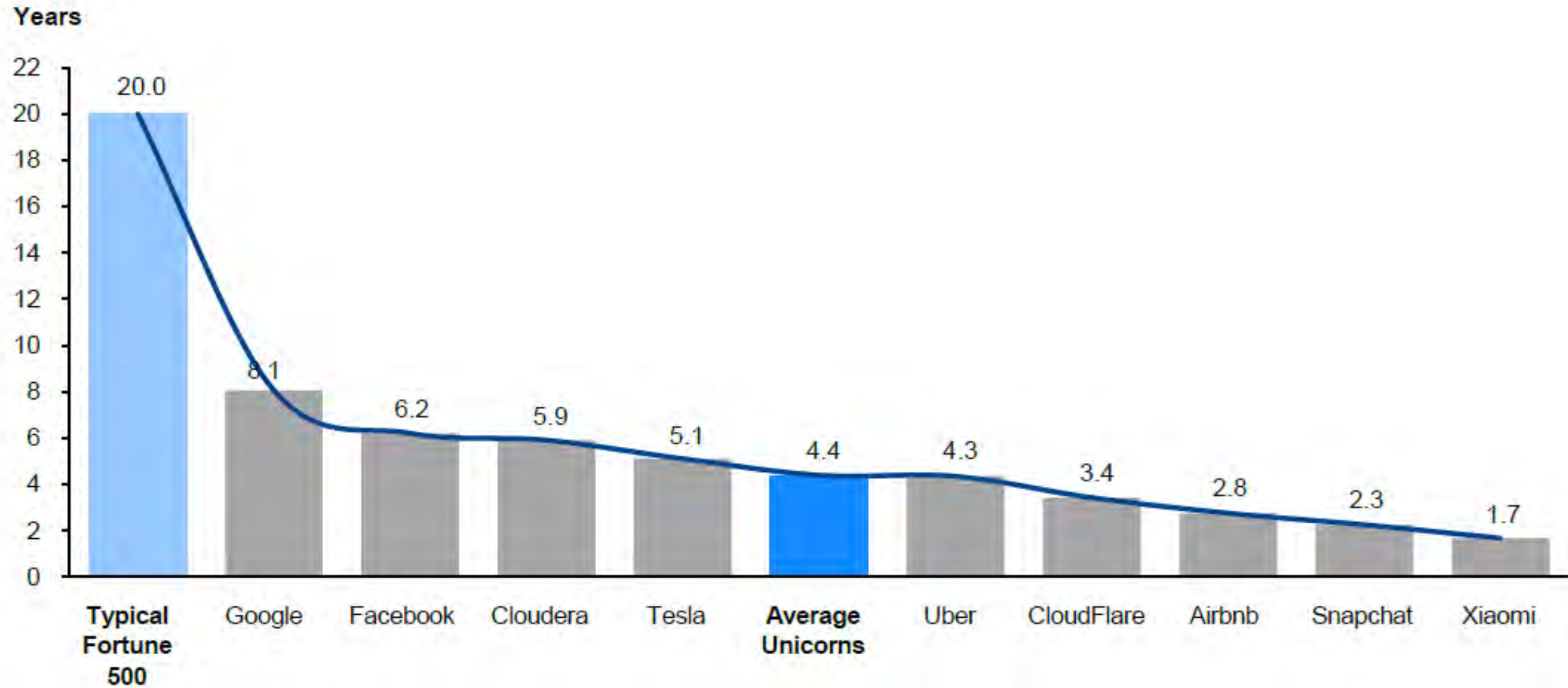
**Ten years technically leading automation projects**

**Five years consulting**

**European Solutions Architect for Operational Certainty**

**Global Consultant for Project Certainty**

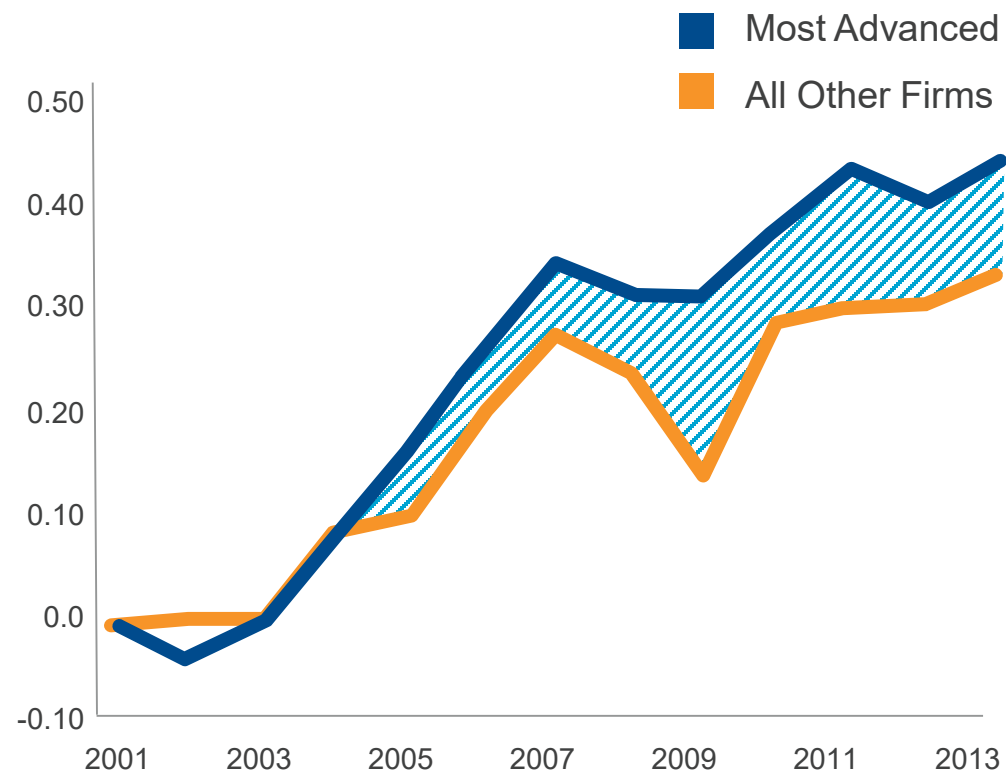
# An Example of Digital Transformation



Time to Reach a Market Valuation of \$1 Billion or More

# Top Performers Are Accelerating Value Creation Through Investing in People & Technology

Manufacturing Labour Productivity



Source: Global Firm-Specific Labor Productivity OECD, Criscuolo and Gal (2016)

## BEHAVIORS OF TOP QUARTILE PERFORMERS



Link strategy to business objectives



Demand a culture of accountability

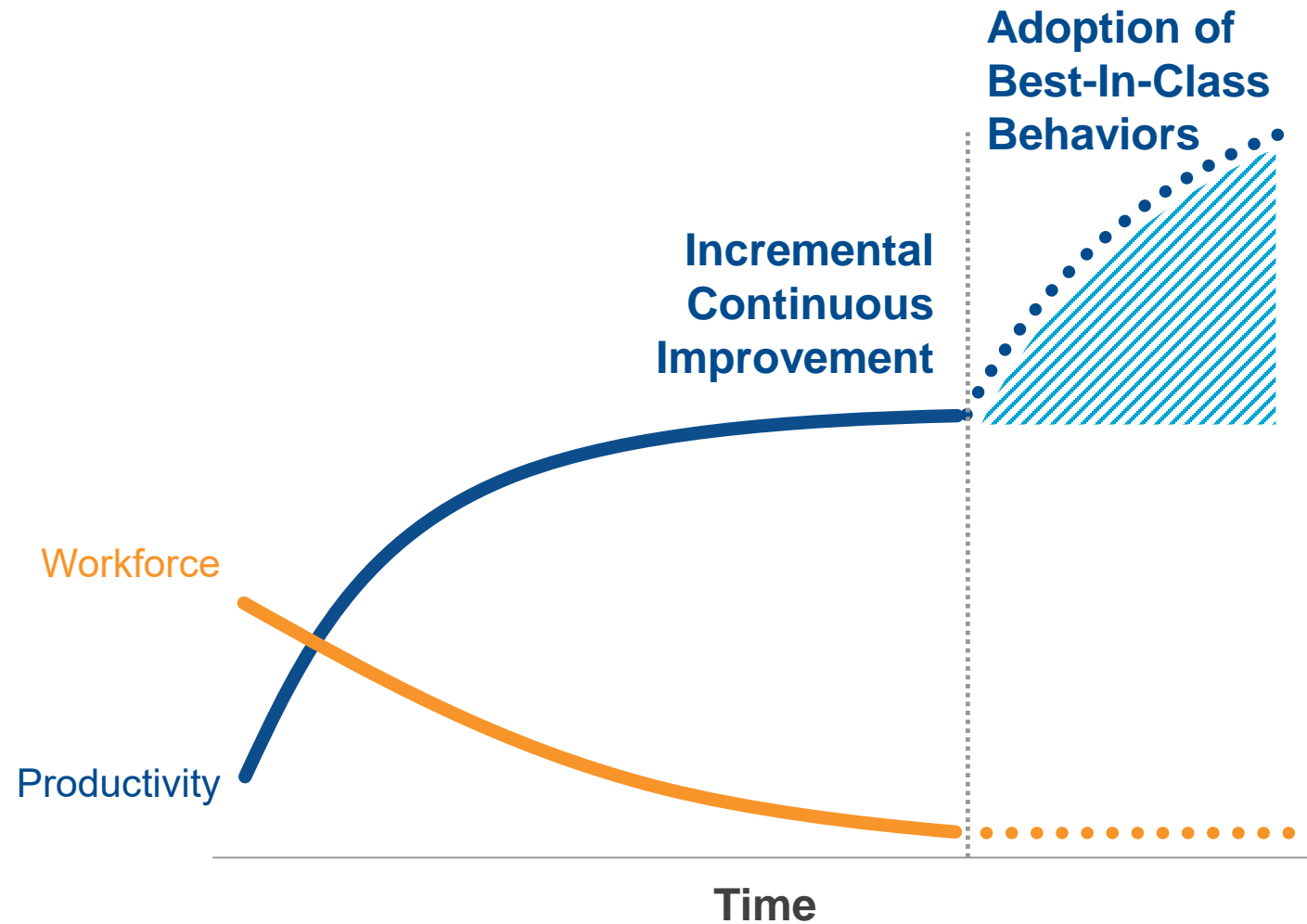


Embed expertise in work processes and application



Optimise with real-time data

# The Next Era of Value Creation Will Be Enabled by Digitalisation



## 5 ESSENTIAL COMPETENCIES OF Digitalisation

Automated Workflow

Decision Support

Workforce Upskilling

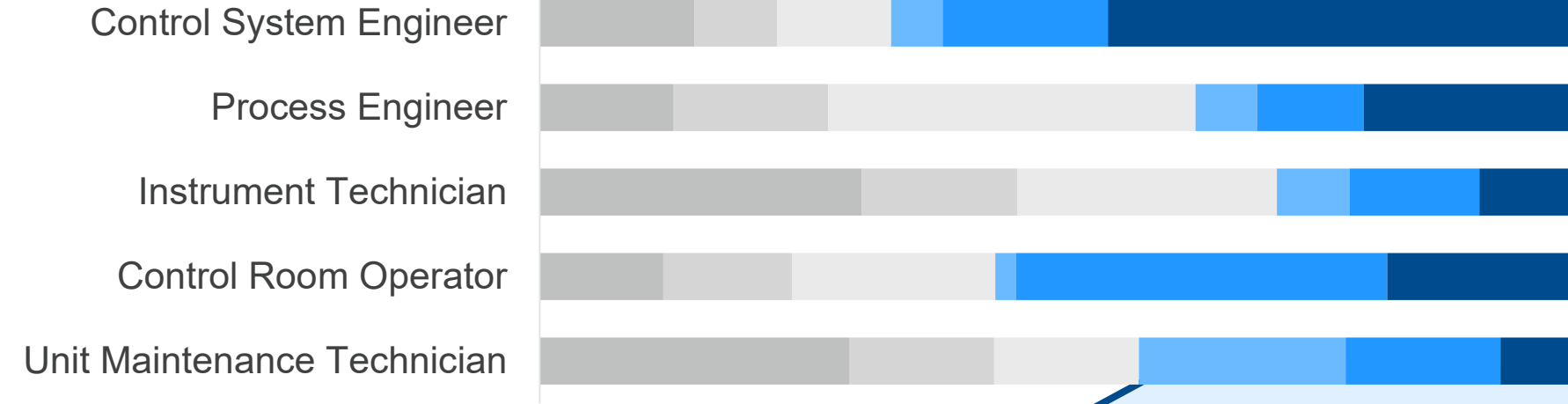
Mobility

Change Management

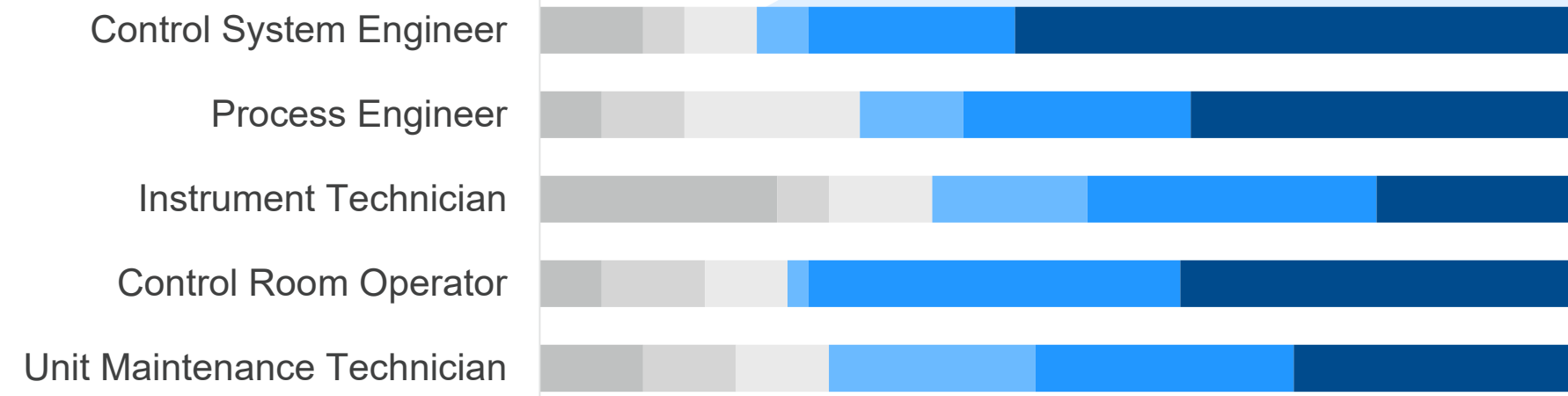
# Digital Transformation Changes the Role of Core Production Workers



## CURRENT



## FUTURE



*“In many cases we **redeploy the workforce** into doing more **intelligent tasks...the integrity, quality, and productivity** of the process is improved by them doing more intelligent tasks.”*

- CTO, Integrated O&G

Source: Human Centered Design Personas, Customer Proven Results & Emerson Analysis

Source: Harris Insights & Analytics Digital Workforce Study (2017)

## SAFETY

### Zero injuries. Zero incidents.

- Employees removed from hazardous activities
- Constant monitoring of worker and plant health
- Threat prevention and response – cyber, physical – is automated, part of culture

## RELIABILITY

### No unplanned downtime at minimal cost

- Analytics predict health of all equipment
- No reactive repair: pre-failure corrective action by automated closed-loop systems
- 'Avatars' perform field tasks

A ROADMAP  
NEEDS A DESTINATION  
THE GOAL OF  
DIGITAL  
TRANSFORMATION

## PRODUCTION

### Production optimized to market conditions

- Continuous visibility enables active business management
- Business areas optimized in real-time across interconnected systems
- Predictive digital twins enable exception management along entire value chain

## ENERGY & EMISSIONS

### Recognized sustainability leader

- Continuous analytics predict and prevent releases
- Energy consumption measured and dynamically optimized with production
- Energy sources balance business and shared community goals

### Empowered workers drive even more value

- All routine tasks automated: staff takes larger role in meeting KPIs
- Collaboration embedded in culture, work processes, and digital tools
- Faster, better decisions supported by analytics, contextual information, and on demand expertise
- Career-long development and certification through virtual tools



## WORKFORCE

# SUCCESSFUL DIGITAL TRANSFORMATION

ROADMAP  
Destination  
Start  
Tangible Path

EXPERTISE  
Industry  
Automation  
Domain  
Digital

TECHNOLOGY  
Comprehensive  
portfolio



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# COMMON CHALLENGES

How Do We Get There?

Where Do We Start?

How Do We Accelerate  
Progress?

# Our Customers are Seeking Tangible Business Outcomes Through IIoT

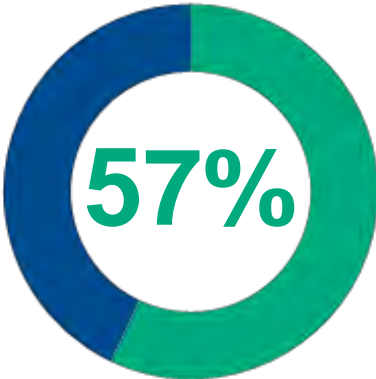
Only



of companies have an **in-depth Industrial IoT strategy** for improving plant equipment reliability and maintenance

Source: IndustryWeek Online Survey

**#1** barrier to IIoT adoption is **MAKING A CLEAR BUSINESS CASE**

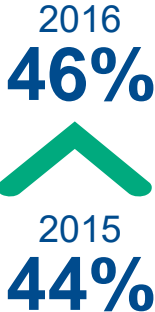


find ROI the biggest challenge to adopting IIoT

Source: OSISoft EMEA Users Conference

**32%** cite funding as a challenge to deploying IIoT technology

Source: LNS Research



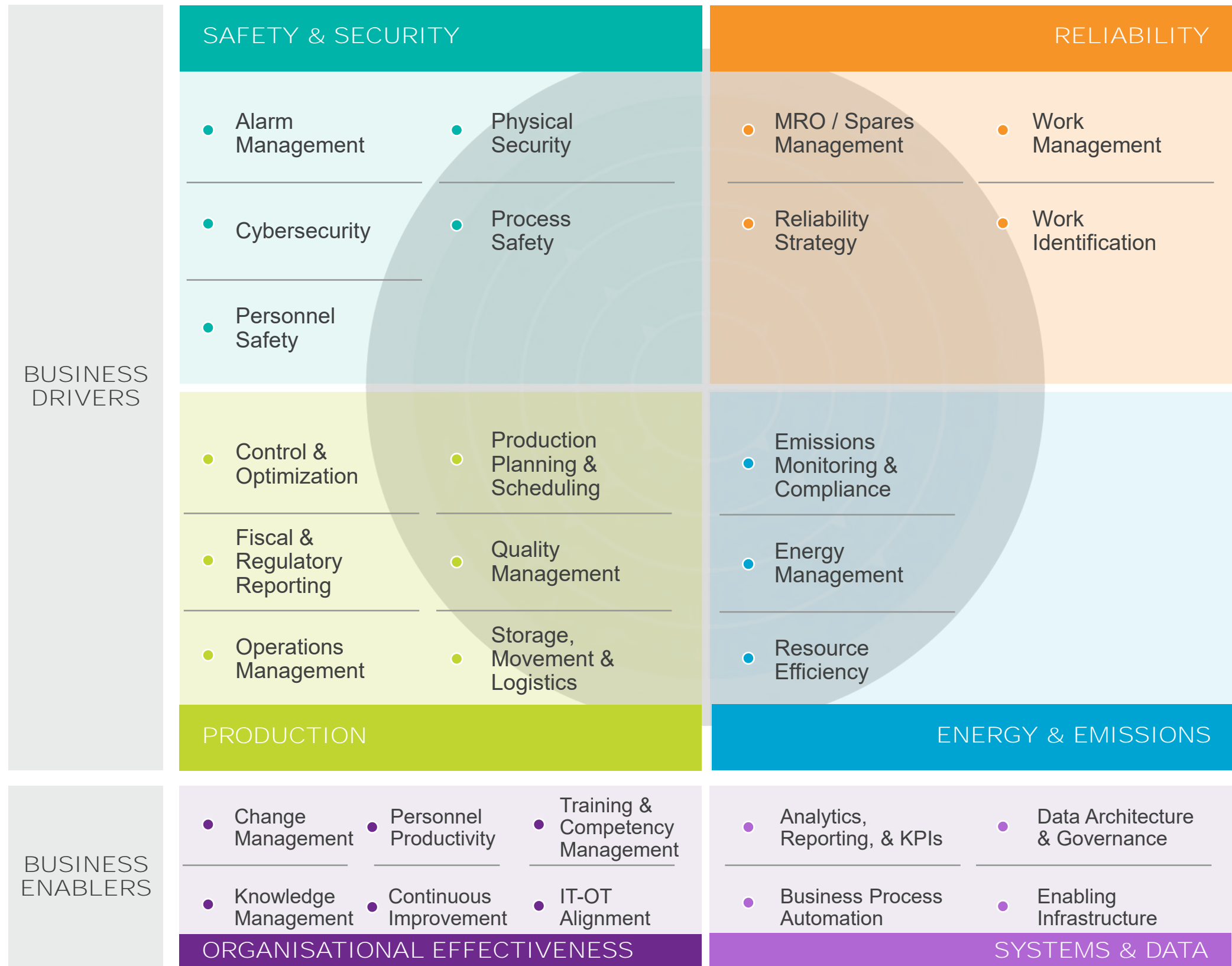
**Lack of business-impact understanding** has increased as the key obstacles to IIoT adoption

Source: Smart Industry State of Initiative Report 2016



# DIGITAL TRANSFORMATION ROADMAP

The Capability Dimensions Detail Specifically What is Needed to Improve Performance



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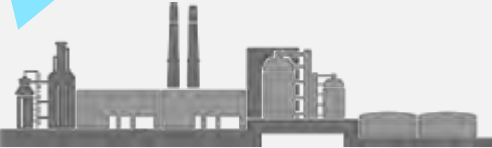
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# Our World is Changing

## Evolving Deployment Methods for Operational Improvement

### Local Experts

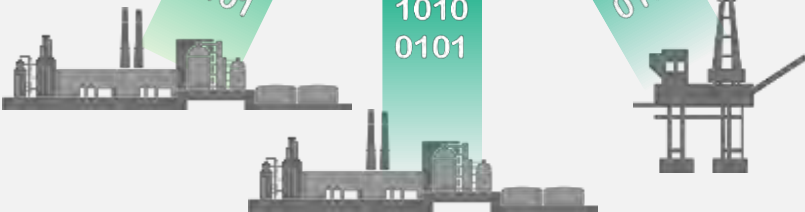
Automation Network



### Centralized Expertise

On Premise or Cloud Hosted

Customer Center  
Integrated Operations Center  
Monitoring and Diagnostics Center



Customer Data

### 3rd Party Expert Services

Could be Cloud Hosted



### 3rd Party Monitoring and Analysis Platform



Customer Data



### Diagnosis or Work Instructions



Customer

Connecting the Data to Expertise Unlocks the Value of Industrial IoT  
The Purdue Model No Longer Fits

# IT and OT Organisations Must Leverage Complementary Strengths to Extract Real Business Value from Digital Transformation

## Operational Technology (OT)

### Local

Values intimate knowledge of facility goals and needs secure, relevant time information to optimize performance

### Engineer

Problem solver willing adapt to operating conditions and find creative technical solutions to improve productivity

### Purpose-Built

Robust technologies to perform specific tasks reliably, for long life, with infrequent of upgrades

### Optimal Solution

Skilled at project identification and functional specification, but wants tools to solve specific problems



### Business Perspective



### Mindset



### Technology Environment



### Preferred Deployment

## Information Technology (IT)

### Enterprise

Values secure data transfer and management across the organization and is the steward of the systems of record

### Architect

Strategist with a systematic approach to standards, management of change, and project management

### Open and Connected

Platforms leveraging latest technology trends, with regular updates performed during down periods

### Scale

Skilled at technical evaluation and requirements documentation to prepare tools broad implementation

# Digital Transformation Methodology



## DELIVERABLES

### Stakeholder Readiness

Goal alignment, culture, operations and infrastructure

### Business Case & Opportunity Prioritization

Performance benchmarks, workflow and ROI analysis

### Architecture & Functional Specification

Infrastructure gap & solution analysis, management of change

### Program Implementation

Process w/ deliverables, work streams, resource plan

### Program Management

KPI tracking and scale up

## WHY EMERSON?

**100** CONSULTING LEADS

supported by over 5000 delivery engineers

**6200** EQUIPMENT TEMPLATES

used to standardize operations and maintenance processes

CHANGE MANAGEMENT TOOLKIT & SURVEY

identify and create opportunities for organization and workflow changes



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# Pragmatic Digital Transformation Follows a Simple, Effective Model



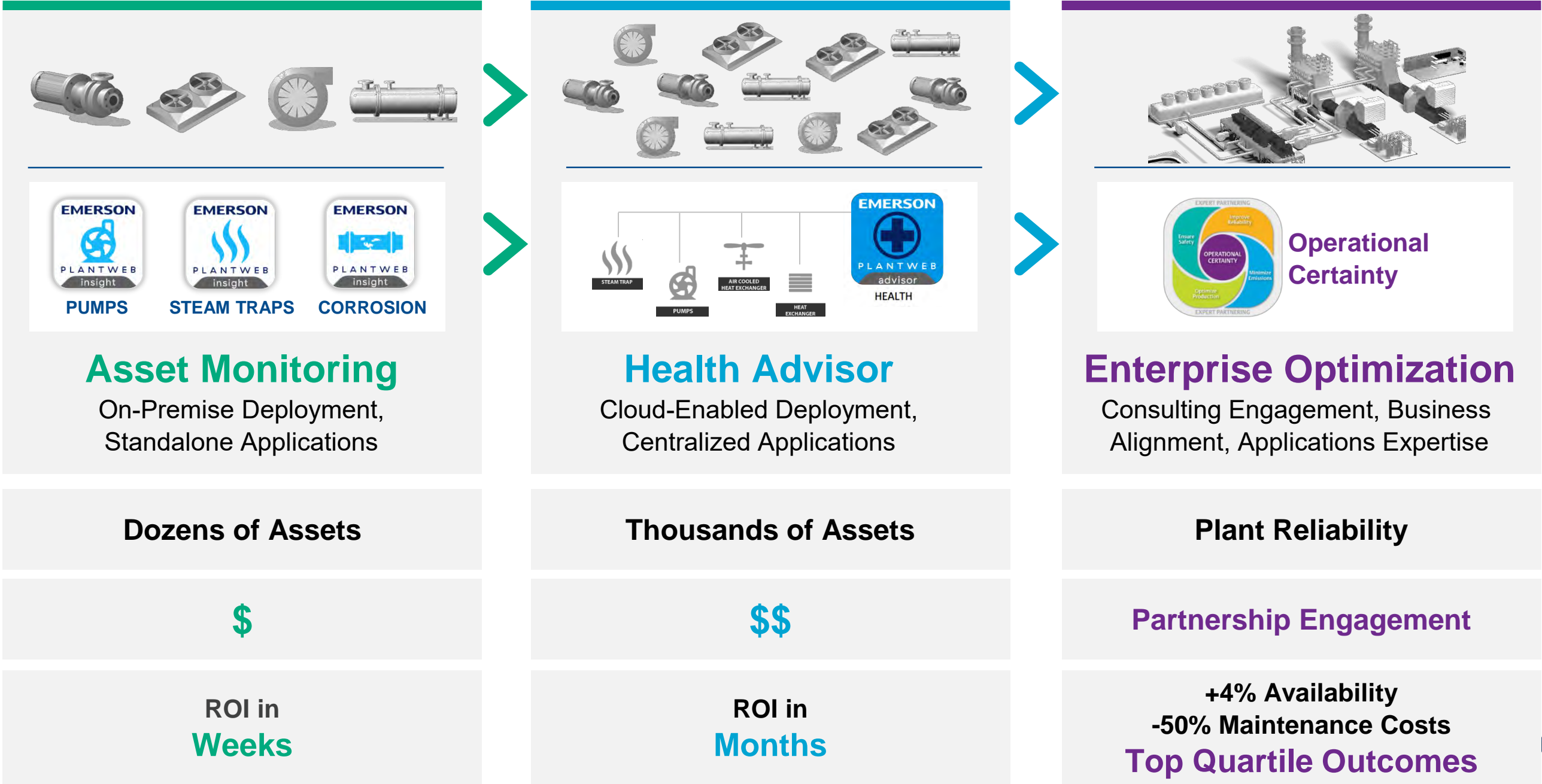
Adopt **innovative sensing technologies** that are easy and cost effective to install and maintain

Implement a set of **architectures** that ensures **security** of operational data, and allows secure interaction with **IT** and **cloud** applications

Deploy **scalable analytics applications** to deliver actionable insights and automate manual workflows

Deploy **new monitoring solutions, consulting, and implementation services** ensure operational outcomes

# Expect Incremental Returns on Every Investment



# Save The Date!

Date :12<sup>th</sup> June 2019

Venue: The Principle Hotel, York

Time: Registration from 9:00

# Innovation Day

## Accelerate your Digital Transformation

Wherever you are in your Digital Transformation Journey...  
Join us to learn how technology can transform the way you run and maintain your plant!

### Walk through The Plant of the Future



Gain insight where to start the digital transformation and why



Learn how to create an efficient and effective digital ecosystem



Become inspired and get to know what benefits Industrial IoT tools bring when it comes to maintaining equipment information



Tackle your challenges and improve reliability, productivity, safety and (energy) efficiency

Control Room



Shop Floor



Connected Services



Thank you



PLANTWEB

