Leading Digital Transformation
Driving innovation at scale

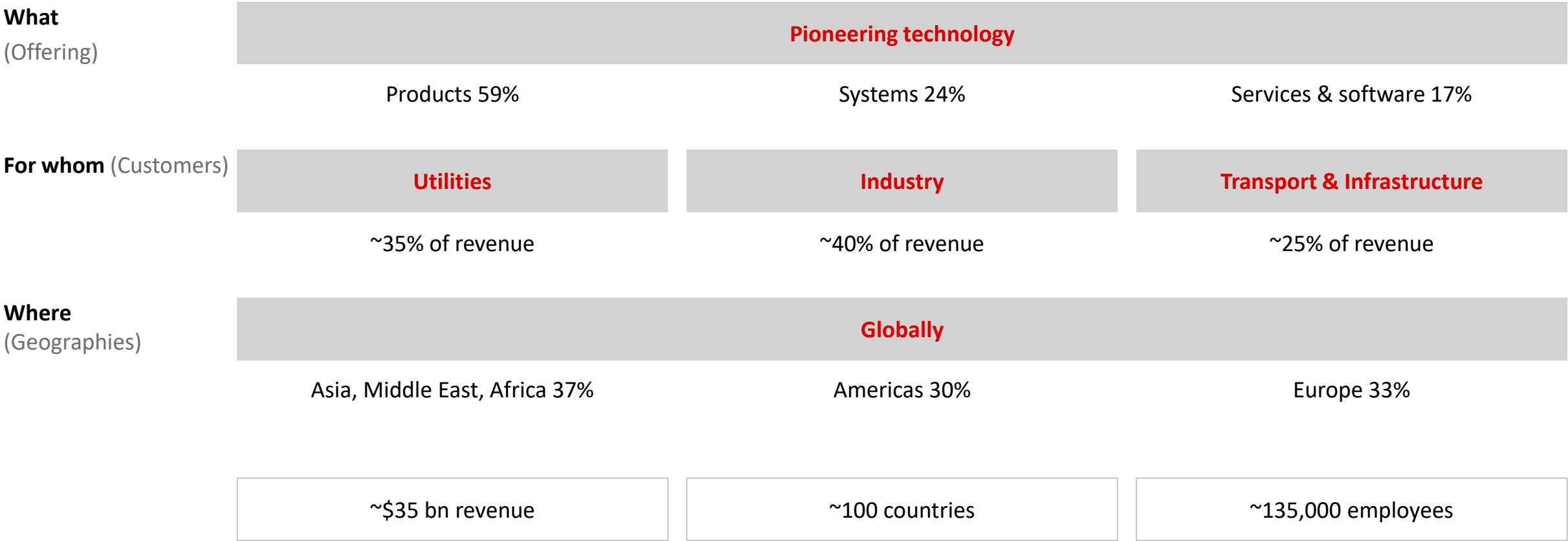Marc Leroux – Executive Evangelist/Digital ABB

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Discussion topics

– Introductions

– The digital transformation

– Innovating at scale
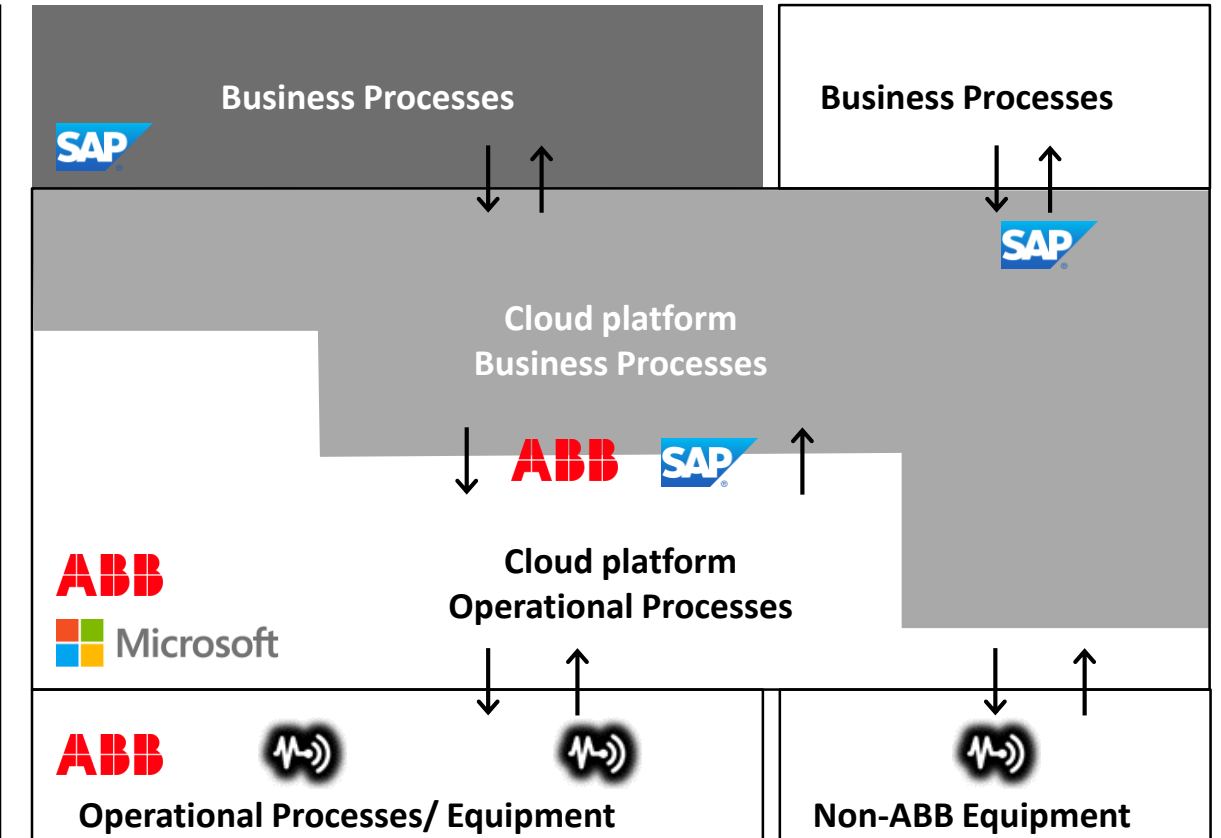
– How we can help

– Q&A… additional dialogue

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ABB—125 years of innovation

What (Offering)	**Pioneering technology**	
Products 59%	Systems 24%	Services & software 17%

For whom (Customers)		
Utilities	**Industry**	**Transport & Infrastructure**
~35% of revenue	~40% of revenue	~25% of revenue

Where (Geographies)		
Globally		
Asia, Middle East, Africa 37%	Americas 30%	Europe 33%

~$35 bn revenue	~100 countries	~135,000 employees

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ABB & SAP

- ABB's 125 years of innovation and results delivered in Operating Technology (OT)

- SAP's leadership in ERP and business process enablement (IT)

- Leaders in Manufacturing and Industrial sectors and related industries (e.g., CPG)

- Leaders in IIoT, Analytics and Cloud

- Proven experience in IT/OT integration

- Teaming with Microsoft

- Fanatically focused on customer success

- Your trusted partners in Digital Transformation

Business Processes

Business Processes

Cloud platform Business Processes

Cloud platform Operational Processes

Operational Processes/ Equipment

**Non-ABB Equipment**

Digital transformation

– It's a journey, not a destination

– The only constant is change

– Look to the future, consider the past

– It's not about technology …

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Starting with the technology …

Combination of innovations

- Social media

- Mobile technology

- Analytics (machine learning)

- Cloud computing

- Rapidly reducing costs (of storage)

- Greatly improving battery performance

- Influence of design thinking
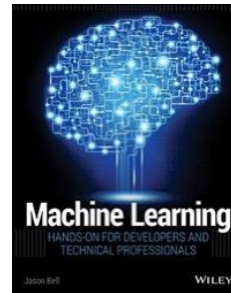
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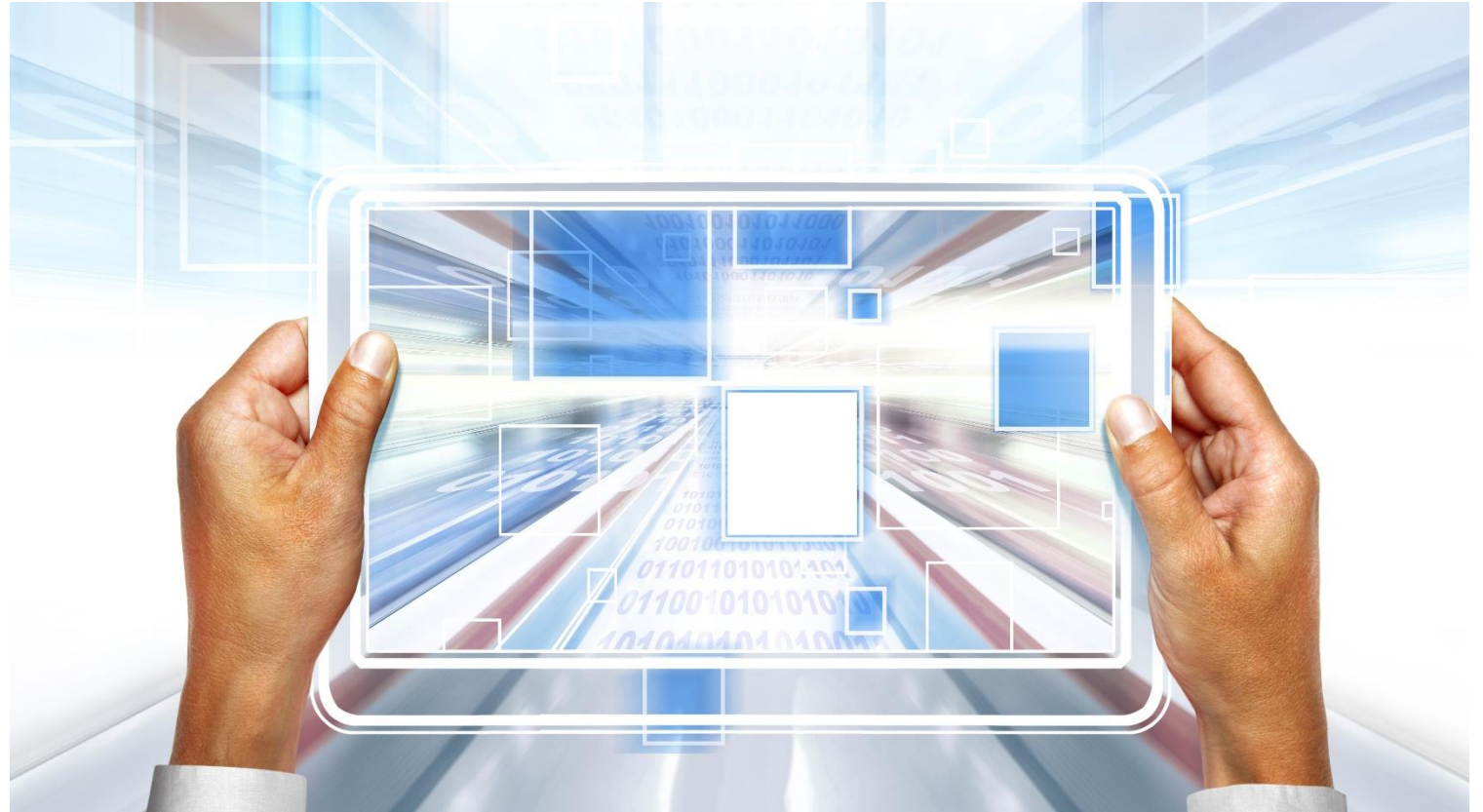
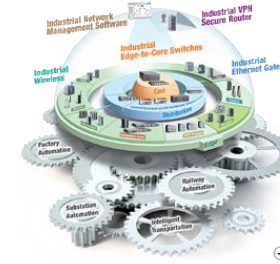# How is it playing out in the industrial sector

Virtual/ augmented reality
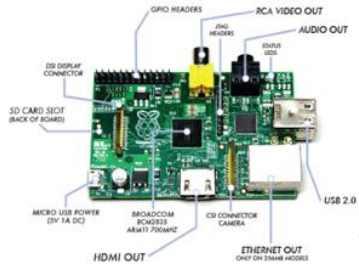
Software-defined machines

Machine learning

Time-sensitive networking

Big data

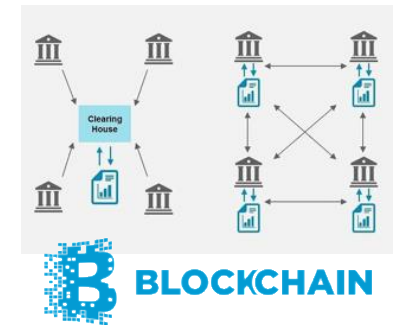**Inexpensive computing**

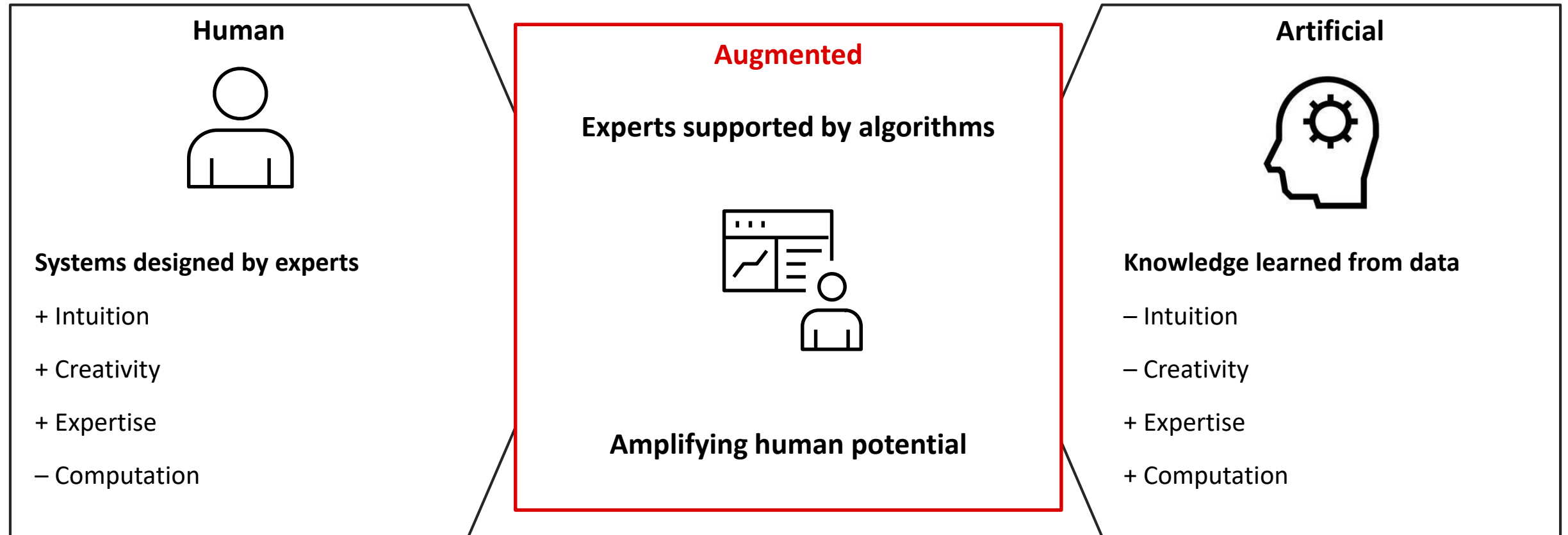**Cloud computing**

Cybersecurity

Connectivity

Blockchain

Artificial Intelligence is key technology for the next level of industrial progress

AI: "The ability to learn or understand or to deal with new or trying situations"[1]

Human

Systems designed by experts

+ Intuition

+ Creativity

+ Expertise

– Computation

Augmented

Experts supported by algorithms

Amplifying human potential

Artificial

Knowledge learned from data

– Intuition

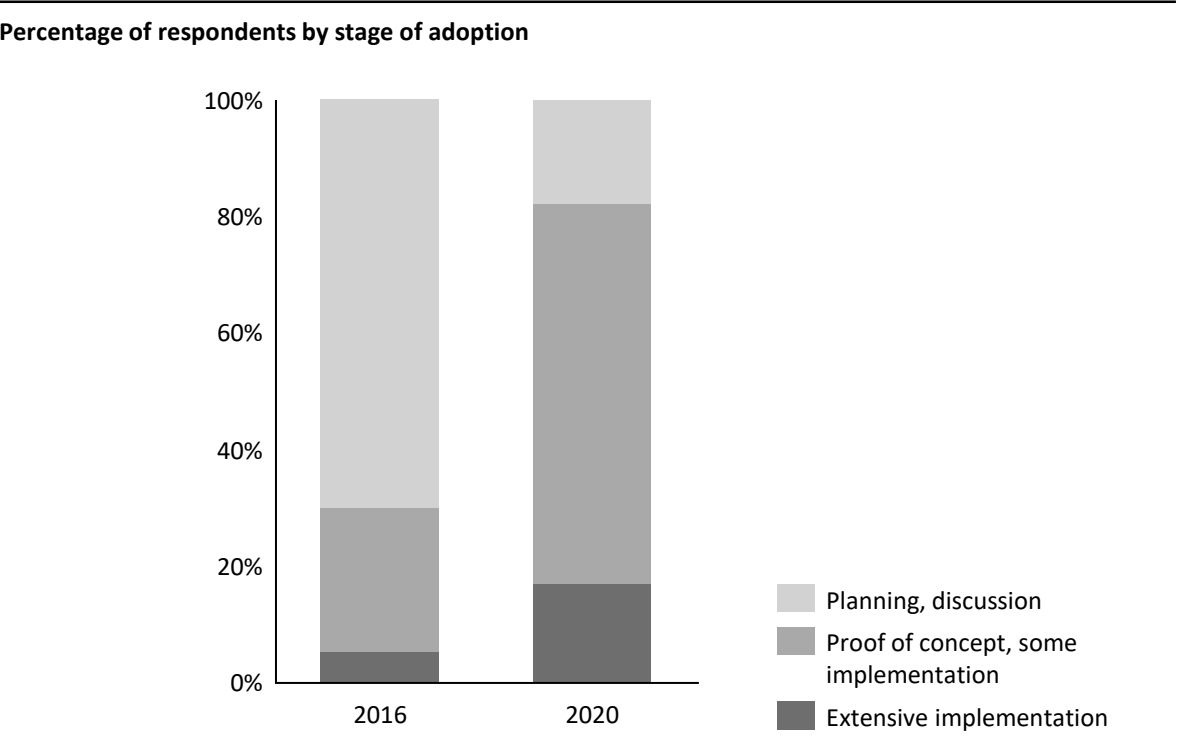– Creativity

+ Expertise

+ Computation

Ultimately it is all about business outcome and value creation

Percentage of respondents who say they will implement IoT solutions for the following reasons

Reason	%
Improving quality of service or product, leading to price premium, lower support costs	47%
Improving productivity of workforce	45%
Increasing realiability of operations	44%
Increasing asset productivity	37%
Reducing cost of materials and waste	35%
Accessing new customers	34%
Increasing customer satisfaction to reduce churn and support costs, gain revenue	33%
Insights for new products and services or cost efficiencies	32%
Faster time to market, lower development costs	26%
Reducing risk of theft and other loss	22%
Transitioning to services offerings	18%
Linking price to business outcomes	16%

Legend:
- ■ Cost more important
- ■ Revenue more important
- ■ Both Important

For those considering IoT and analytics solutions, what stage of adoption is your company in ?

Percentage of respondents by stage of adoption

Legend:
- ■ Planning, discussion
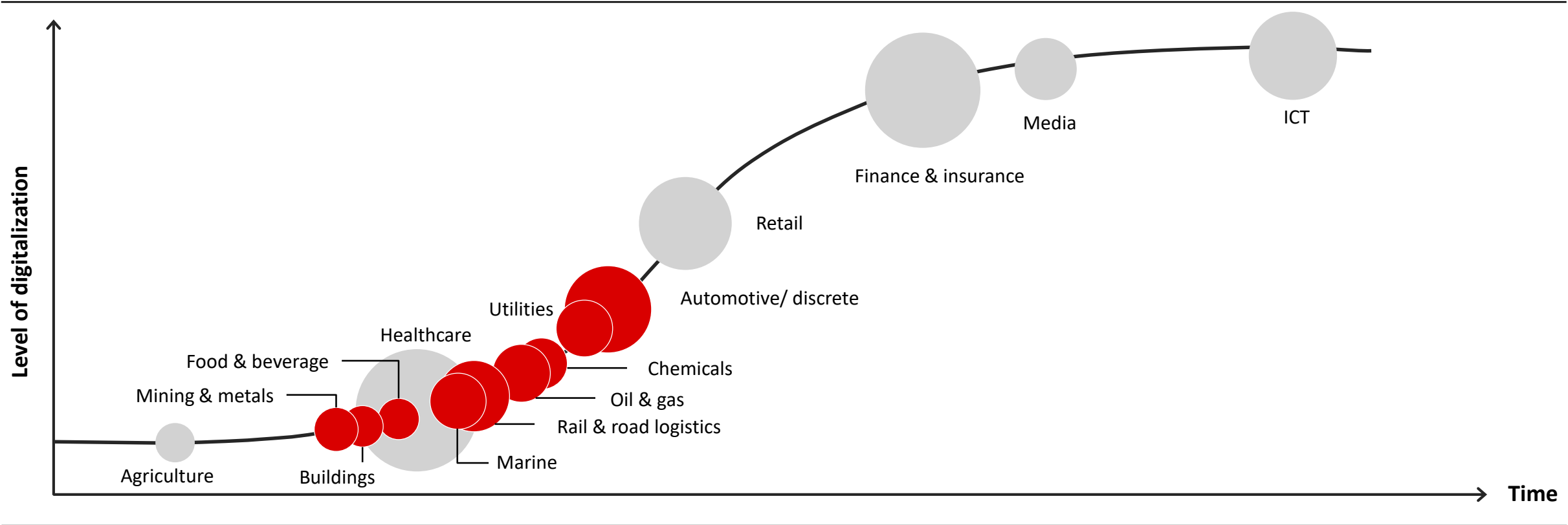- ■ Proof of concept, some implementation
- ■ Extensive implementation

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Industrial markets primed to adopt digital technologies

Computing + connectivity + cloud + analytics set to unlock value

Digital S-Curve

Note: relative size of industry for advanced economies
Source: ABB analysis

● ABB end-market   ● Other industries

General characteristics of industrial markets

– Speed of technology adoption

– Asset Intensive

– High degree of Interoperability required

– Reliance on people to operate and maintain

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Companies have been integrating data from sensors and operations management systems for many years!

– However

- Age of the assets

- Generally connected to single purpose systems
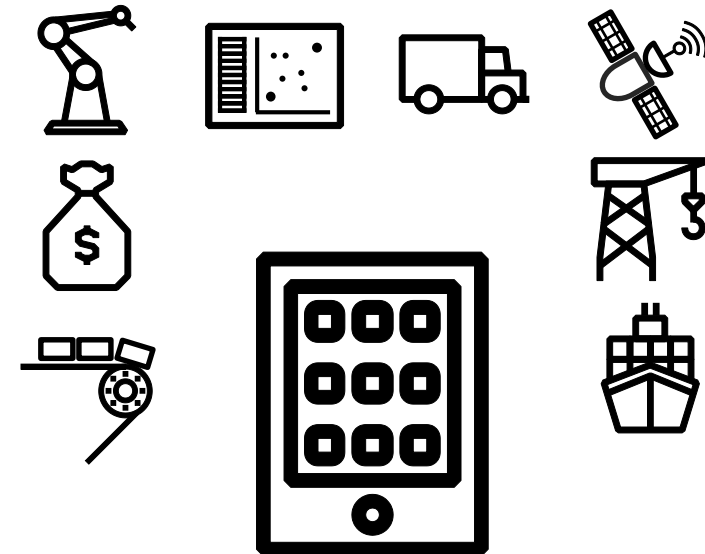
- Difficult & expensive to build applications

And...

88% — **of organizations' data is going unanalyzed**

- Gartner

Connected things will be in use by 2020—Gartner

25 Billion
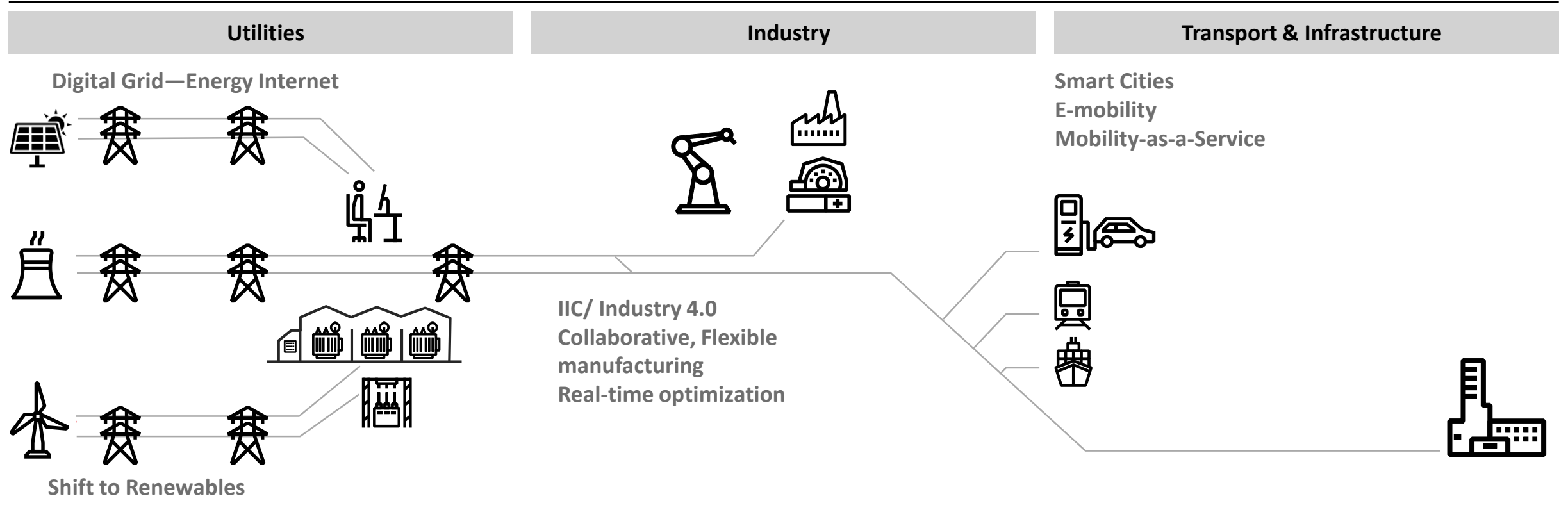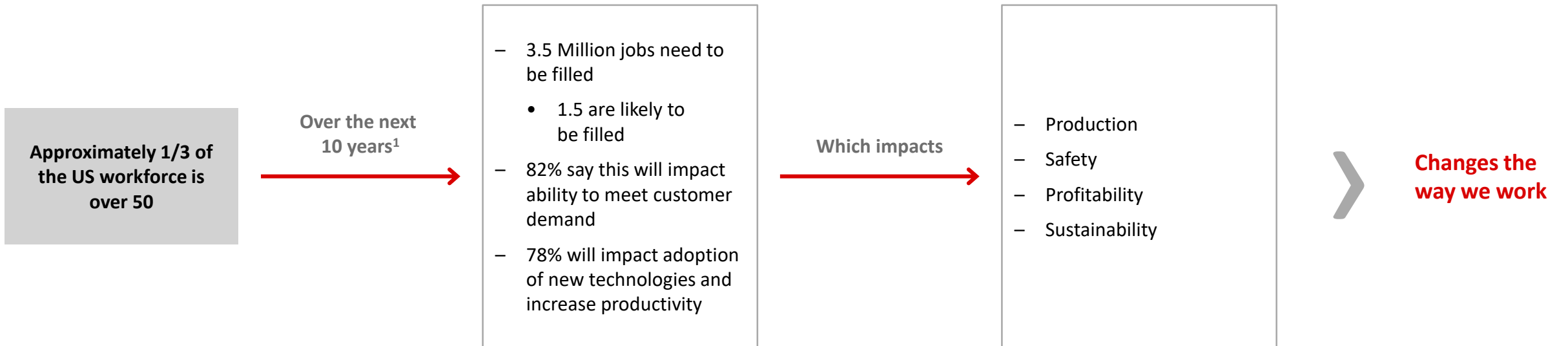
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Integrated supply chain

Energy and Digital Threads connect Utilities, Industry and Transport & Infrastructure

Power & Automation

Utilities	Industry	Transport & Infrastructure

Digital Grid—Energy Internet

Smart Cities
E-mobility
Mobility-as-a-Service

IIC/ Industry 4.0
Collaborative, Flexible manufacturing
Real-time optimization

Shift to Renewables

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Aging workforce

Approximately 1/3 of the US workforce is over 50

Over the next 10 years[1]

- 3.5 Million jobs need to be filled
  - 1.5 are likely to be filled
- 82% say this will impact ability to meet customer demand
- 78% will impact adoption of new technologies and increase productivity

Which impacts

- Production
- Safety
- Profitability
- Sustainability

Changes the way we work

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Utilities

Reduced installation time (-40%), maintenance costs (-50%) and outage time (-50%)

SELECTION

Asset performance management
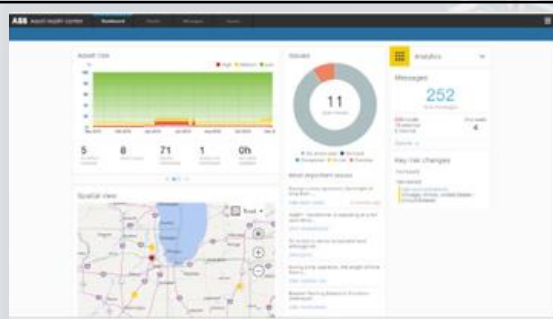
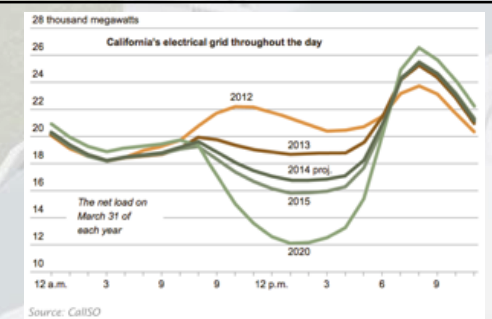**Distributed energy resource management**

Maintenance workflow management

Energy market trading system

Automated digital substation

Standard IP communications

Microgrids

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Industry

Improved productivity (+200%), reduced energy (-30%), & longer product life (+30%)
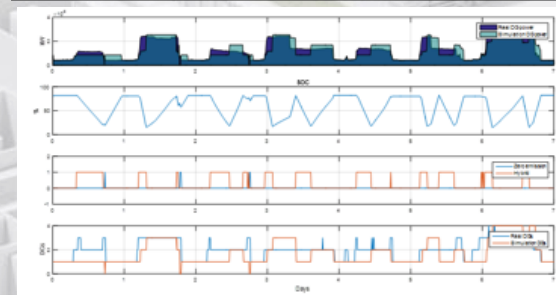
SELECTION

Connected robots

Manufacturing execution systems

Energy assessment

Cybersecurity assessment

Digital simulation for robot deployment

Power quality monitoring & demand-response

Distributed control systems

Remote monitoring & optimization

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Transport & Infrastructure

Proactive detection of faults (90%), reduced maintenance costs (-20%) and energy costs (-5%)
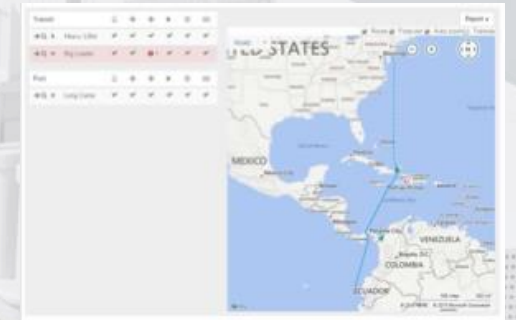
Remote monitoring for ship electrical systems

Building automation

Vehicle-to-grid demand/ supply coordination

Navigation optimization for fleets

EV charging with cloud management

Flash-charging electric buses

Energy management for mega-datacenters

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Next steps in your Digital transformation…

How we can help…

– Come visit our ABB "pod" at Leonardo Live

– Schedule a visit to an ABB "showcase" factory, learn from practitioners about ABB/ SAP OT/ IT integration

– Engage with our Digital Transformation team(s)

– Plan a workshop/ design session

– Engage with our subject matter experts and customers

– Explore new business models

Writing the digital future takes ability. ABB Ability™.

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