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Institute for
High Performance

High performance. Delivered.

Three Numbers and Three Messages for the Year Ahead

Allan E. Alter
Senior Research Fellow
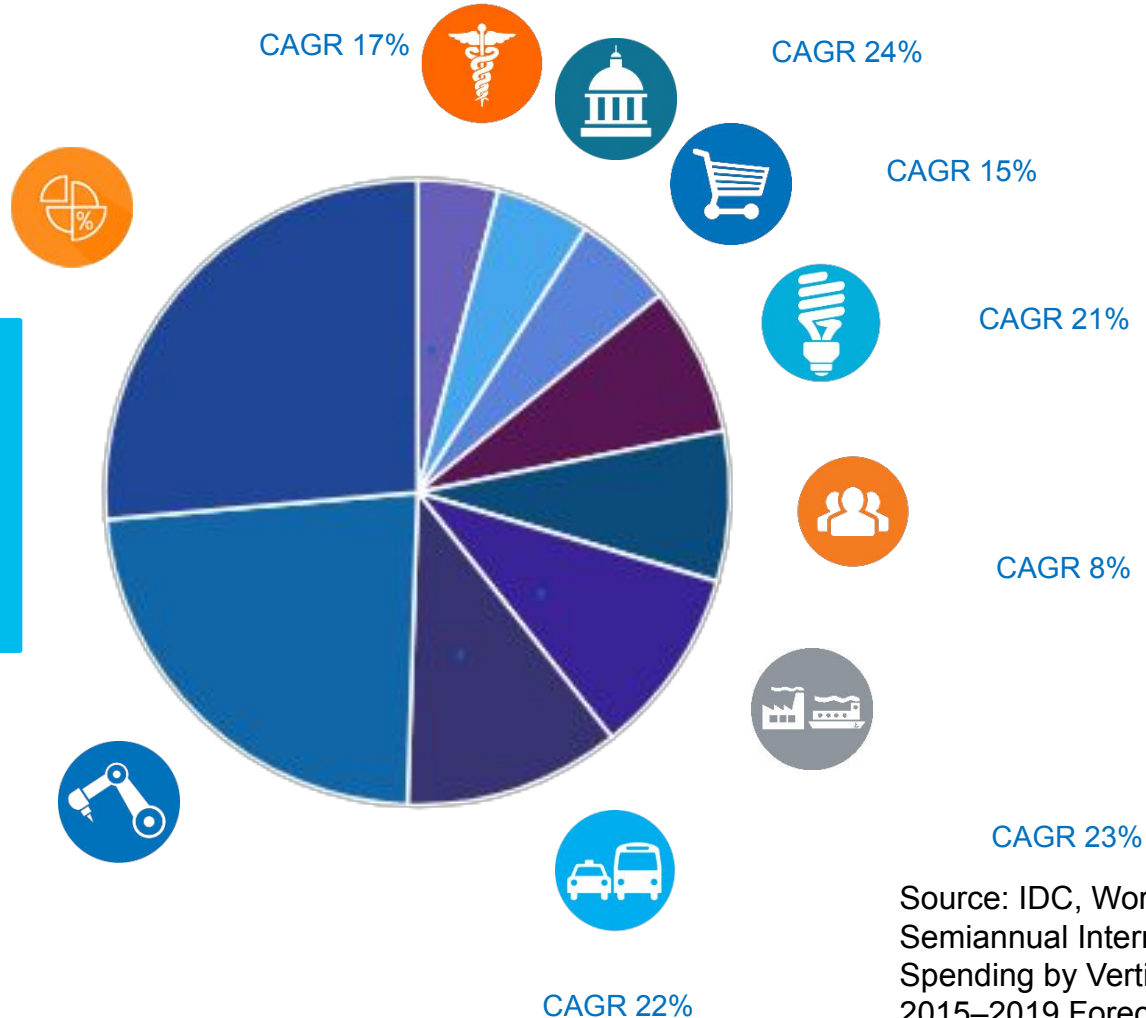Accenture Institute for High Performance

The state of the IIoT is good.

Let's make it better.

30

2017 looks bright for the Internet of Things market

CAGR 17%

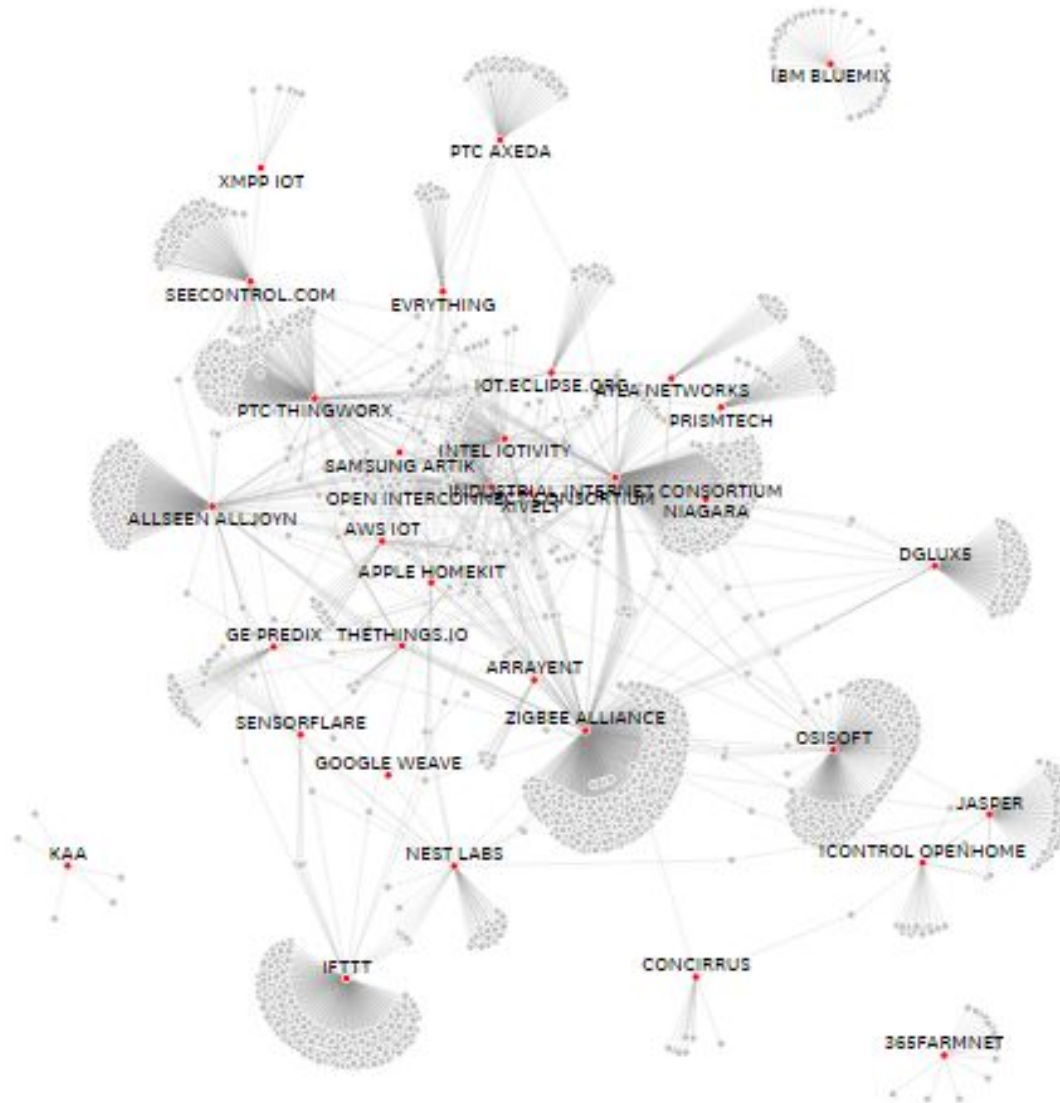CAGR 24%

CAGR 15%

CAGR 21%

CAGR 8%

CAGR 23%

CAGR 22%

CAGR 15%

2017 total:
US $971B
2019 total:
US $1.3T

Source: IDC, Worldwide
Semiannual Internet of Things
Spending by Vertical Market
2015–2019 Forecast,
Doc # US40221915

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IoT ecosystems are forming

Source: "To Predict the Trajectory of the Internet of Things, Look to the Software Industry," Bala Iyer, HBR.org, February 25, 2016
https://hbr.org/2016/02/to-predict-the-trajectory-of-the-internet-of-things-look-to-the-software-industry

The IIoT is moving towards platforms, services and AI

Platform is the future

- Fragmentation
- Connectivity
- Data management
- Access to data and equipment

Rise of "as-a-Service" Models

- Pricing
- Data monetization
- Data ownership and access
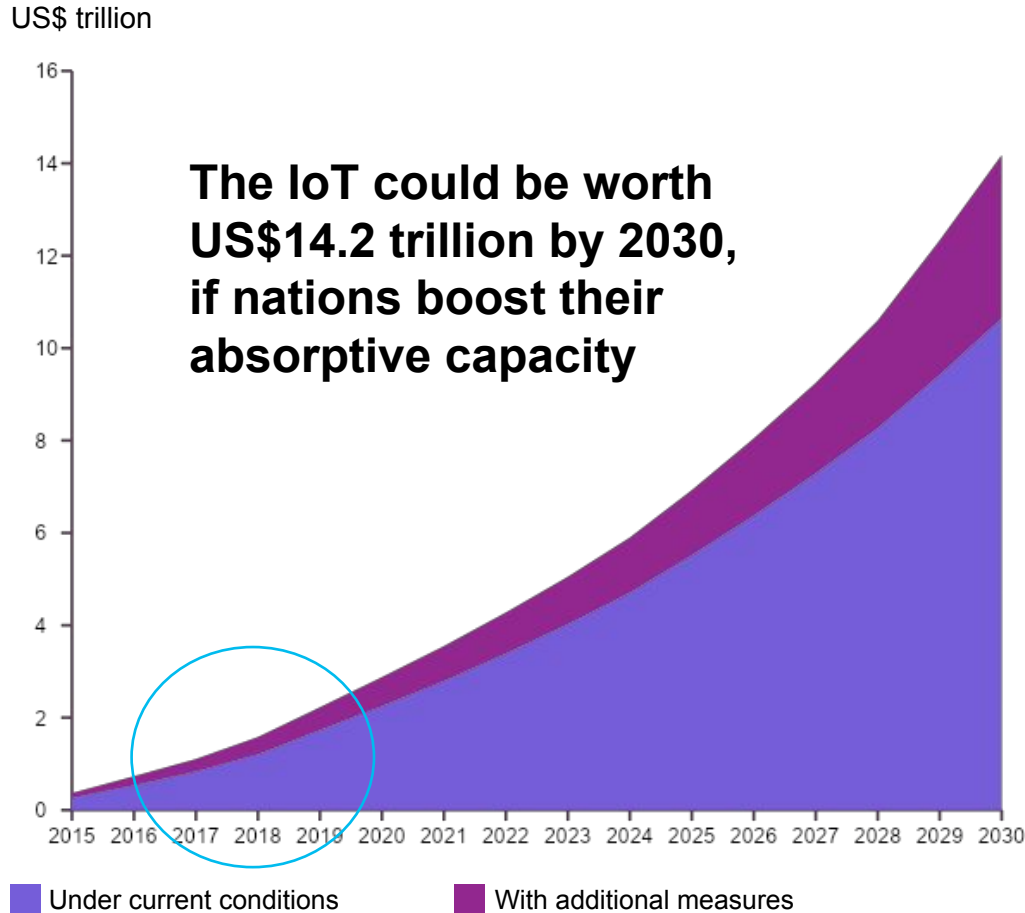
Advent of Artificial Intelligence

- Skills and workforce
- Managing algorithms
- Trusting algorithms

Give the people the IIoT they want.

300

An IIoT that creates opportunity.

Cumulative GDP Impact of IoT

US$ trillion

The IoT could be worth US$14.2 trillion by 2030, if nations boost their absorptive capacity

Under current conditions   With additional measures

Absorptive capacity factors

Business Commons
Educated workforce
Access to capital
Supplier & distributors

Take-off Factors
STEM talent
Government R&D support
Standards and connectivity

Transfer Factors
Consumer to industrial IOT
Knowledge transfer
Privacy and security

Innovation Dynamo
Maker movement
University-industry
Entrepreneurship

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An IIoT that converts business opportunity into jobs

IIoT industrial jobs

- Process and hardware designers
- Centaur jobs
- Robot farmers and trainers
- Quality assurance and testing
- Maintenance and repair

Bloomberg Technology

Mercedes Boots Robots from the Production Line

"Robots can't deal with the degree of individualization and the many variants that we have today, We're saving money and safeguarding our future by employing more people." – Markus Schaefer, Daimler AG

- **Industrial Internet service sector**

  - Product/Service developers: product managers, software developers, data scientists, UX designers, security
  - Digital service operations: data scientists, intelligent equipment operators
  - Solution sellers and evangelists: sales engineers, consultants, marketers and educators.

An IIoT that makes our work easier, safer and more interesting

Human-machine collaboration means:

- Sharpening human vision and judgment

- Increasing the capacity for discovery

- Freeing people from administrative tedium and dangerous tasks

- Spotting and solving problems faster

- Machines that respond to gestures, facial expressions and speech
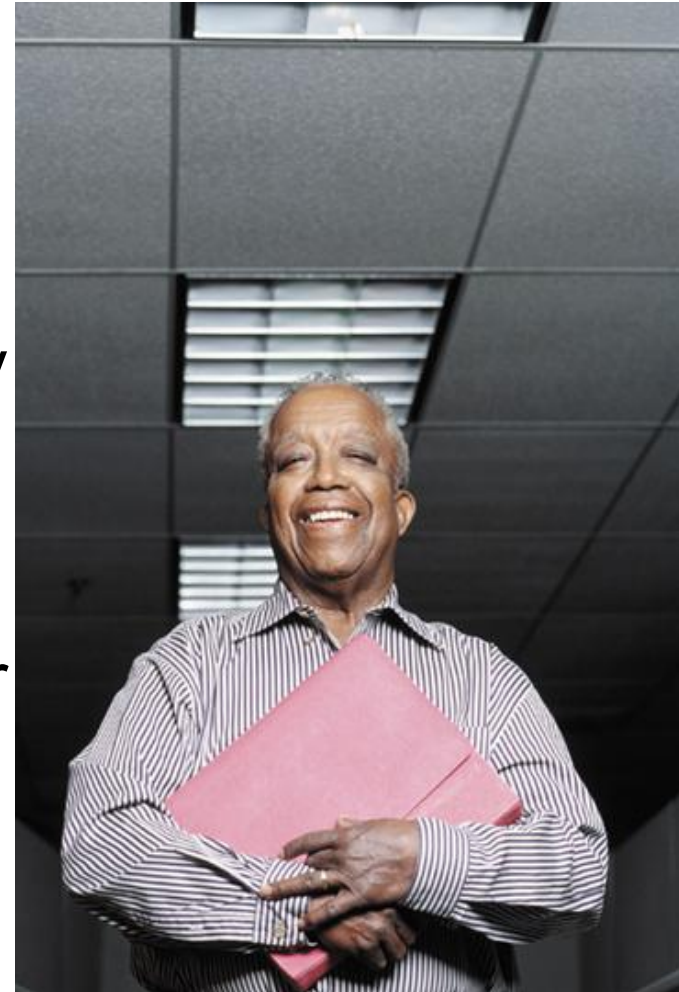
Reimagine business processes with algorithms

30,000

The opportunity of machine-reengineering

Automating process change

- Using IoT data and machine learning, processes can optimize, repair and adapt themselves to changing business conditions.
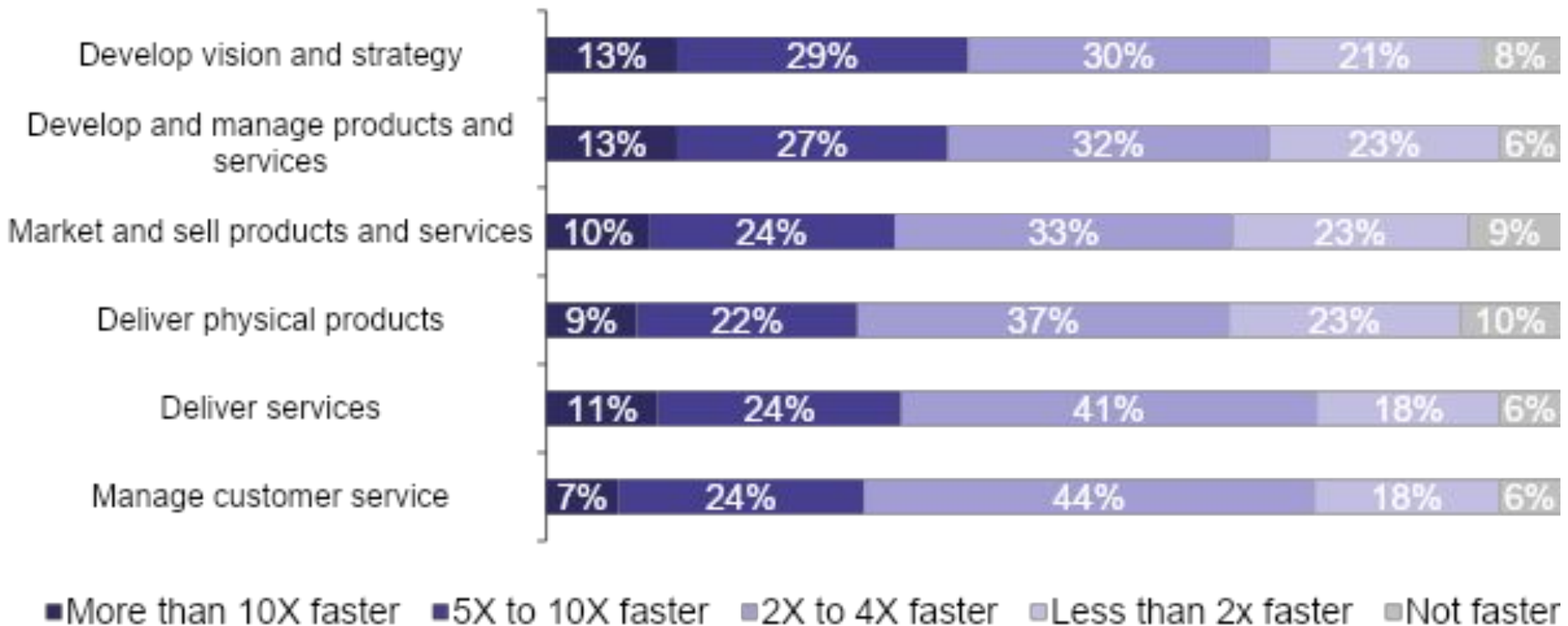
Exponential improvement

- We see evidence of 10x or more improvements in speed and KPIs.

New capabilities, new value

- Companies can achieve value they could not achieve before, and solve problems they could not solve before.

By machine-reengineering, companies are often speeding up core business processes by at least 2x

Based on your experience to date, how much can machine learning-enabled processes speed up the following processes?

Process	More than 10X faster	5X to 10X faster	2X to 4X faster	Less than 2x faster	Not faster
Develop vision and strategy	13%	29%	30%	21%	8%
Develop and manage products and services	13%	27%	32%	23%	6%
Market and sell products and services	10%	24%	33%	23%	9%
Deliver physical products	9%	22%	37%	23%	10%
Deliver services	11%	24%	41%	18%	6%
Manage customer service	7%	24%	44%	18%	6%

■ More than 10X faster ■ 5X to 10X faster ■ 2X to 4X faster □ Less than 2x faster ■ Not faster

Source: Accenture Institute for High Performance Machine Learning and Business Processes survey, Jan 2016.

A majority of companies are also seeing significant improvements in process KPIs in the range of 2x to 10x

Based on your experience to date, how much can machine learning-enabled processes <u>improve</u> the following processes?

Improvement measured by key process performance indicators -- e.g., quality, error reduction, scale, capability, etc.)

Process	More than 10X	5X to 10X	2X to 4X		
Develop vision and strategy	15%	29%	34%	14%	8%
Develop and manage products and services	12%	30%	38%	16%	4%
Market and sell products and services	13%	28%	38%	17%	4%
Deliver physical products	11%	29%	42%	14%	5%
Deliver services	10%	35%	36%	13%	6%
Manage customer service	13%	38%	32%	13%	4%

- ■ More than 10X improvement
- ■ 5X to 10X improvement
- ■ 2X to 4X improvement

Source: Accenture Institute for High Performance Machine Learning and Business Processes survey, Jan. 2016

Machine-reengineering is taking us to a world where companies will…

3D print a footbridge

MD3X

Sight Machine

Quickly locate the root cause of complex problems

Optimize factories and warehouses with autonomous robots

The Fraunhofer Institute for Material Flow and Logistics

http://www.iml.fraunhofer.de/

30,000 pounds of peaches

Make the state of the IIoT better

Give people the IIoT they want

Reimagine processes

Thank you.
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