

# The Internet of Everything (IoE) Value Index

# Agenda

- IoE Value Index background, key findings, model, and definitions
- Trends, drivers, challenges, and impact
- IoE value realized by country, value driver, company size, and industry
- How to capture value realized

# The Internet of Everything:

## Networked Connection of People, Process, Data, Things



### People

Connecting people in more relevant, valuable ways



### Process

Delivering the right information to the right person (or machine) at the right time



### Data

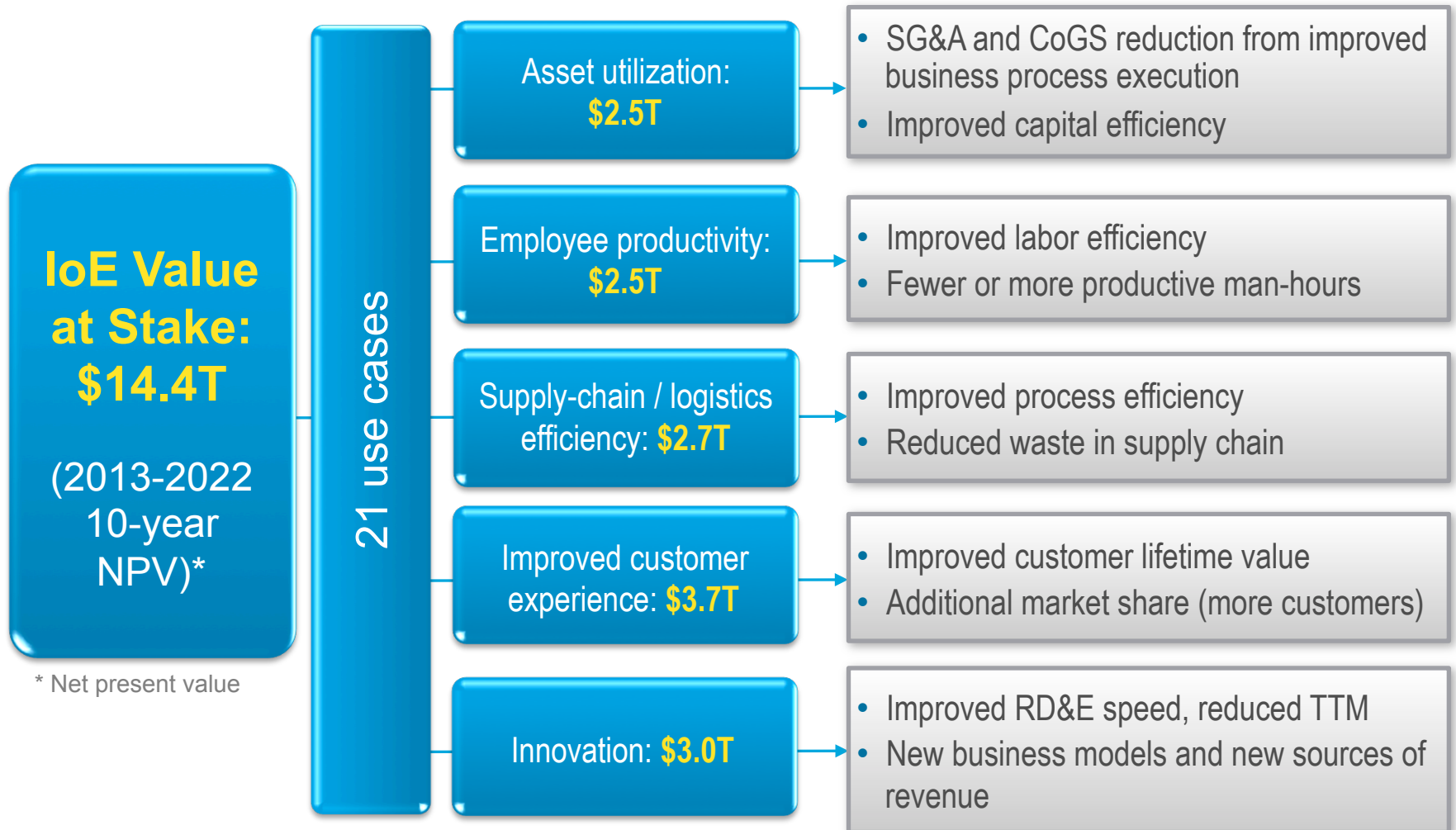
Leveraging data into more useful information for decision making



### Things

Physical devices and objects connected to the Internet and each other for intelligent decision making

# Internet of Everything: How It Delivers Value — and How Much Is at Stake



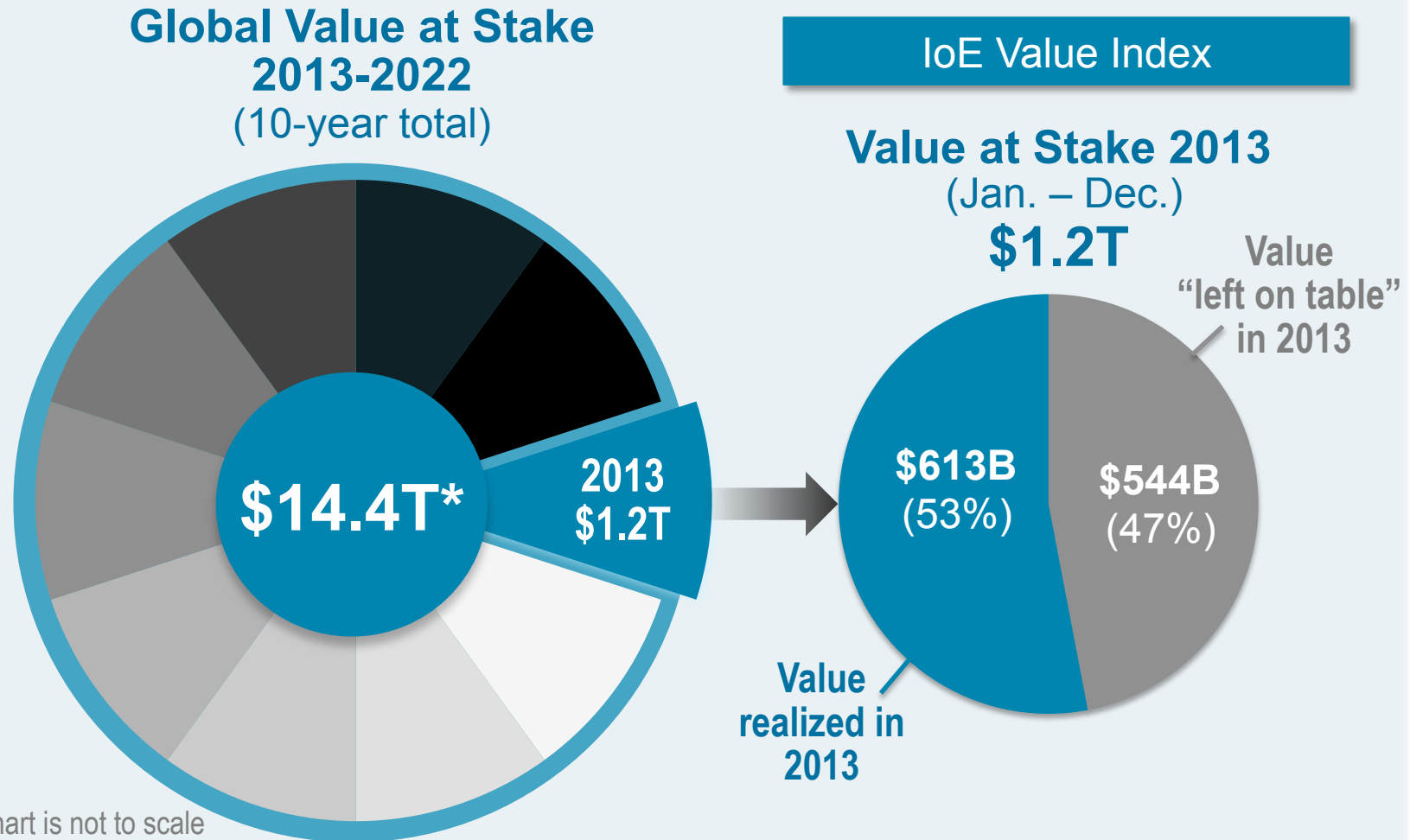
# Internet of Everything:

## How Much Value Will Firms Realize in Calendar Year 2013?

- Conducted ground-breaking online survey of **7,501 business and IT decision-makers**, split between enterprises and mid-sized companies
- Study executed by the **Cisco Consulting Services Research & Economics Practice**
- MIT Center for Digital Business provided advice on questionnaire development, but not on the IoE Value Index design or Value at Stake / value-realized estimates
- Fielded in **12 of the largest global economies** (70% of worldwide GDP): Australia, Brazil, Canada, China, France, Germany, India, Japan, Mexico, Russia, U.K., and U.S.
- **Estimates actual value realized by firms in 2013** as a share of potential Value at Stake; explores key IoE enablers (people, process, data, things) that drive value

# IoE Value Index:

## \$1.2T of Value at Stake Is Available to Firms in CY2013



Note: chart is not to scale

\* \$14.4T is conservative because it is based on a set number (21) of private-sector use cases and discounts future cash flows due to uncertainty around privacy and regulatory issues.



# Firms See Growing Significance of IoE as They Strive To Realize Value



**79%**

Viewed IoE pervasiveness as having  
“increased” or “significantly increased”  
over **past 3 years**

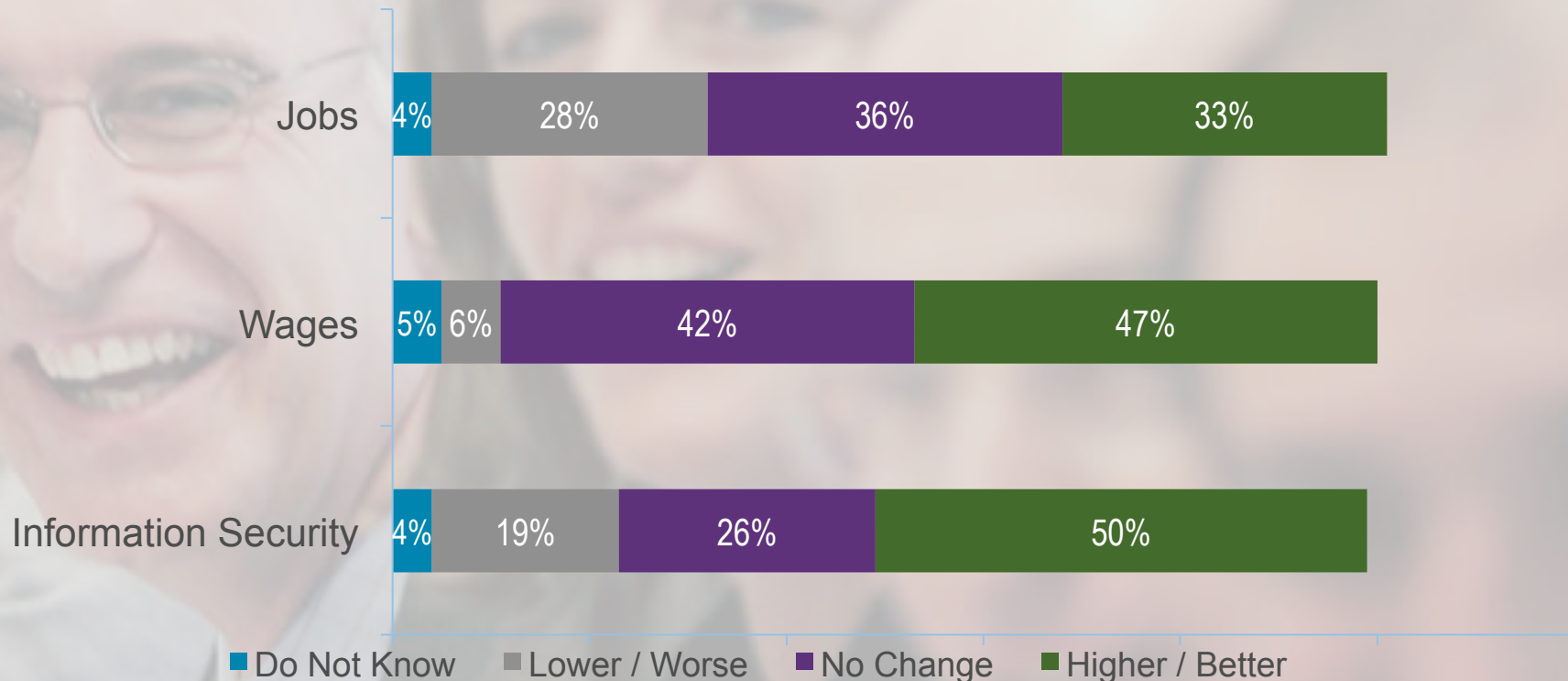
**84%**

Believe IoE pervasiveness will  
“increase” or “significantly increase”  
over **next 3 years**

N=7,501 respondents

# Executives Are Positive About IoE's Potential Impact ...

## 3-Year Outlook as Result of Increasing IoE Pervasiveness



N=7,501 respondents



# ...Because It Helps Them Stay Ahead of the Accelerating Innovation Curve...

## Top 3 Business Drivers of IoE

# #1

Accelerating pace of innovation

# #2

Satisfying customer demand for new ways of interacting

# #3

Need to automate business processes

N=7,501 respondents

# ... And Thrive Amidst Exponential Growth of Devices, Data, and Technologies ...

## Top 3 Technology Drivers of IoE

# #1

New types of devices

# #2

Volume of data generated

# #3

Cloud-based technology

N=7,501 respondents

# But, Firms Must Confront Security, Regulatory, and IT Challenges as IoE Grows

## Biggest Downsides of Increased IoE Pervasiveness

**#1**

New threats to data / physical security

**#2**

Inability of IT systems to keep pace with change

**#3**

Regulatory or compliance challenges

N=7,501 respondents



# ... While Taking the Steps Required To Realize Value from IoE

## Top Challenges to Realizing Value from IoE

# #1

Need to invest in new technology infrastructure

# #2

Ability to integrate new technologies with legacy IT environments

# #3

Ability to update processes to absorb new technologies

N=7,501 respondents

# By Embracing IoE, Companies Can Attain Benefits in Key Areas of Their Businesses ...

## Top Business Benefits of IoE



**#1**

**Operational efficiency**

(VAS drivers: asset utilization, supply chain, employee productivity)

**#2**

**Customer service**

(VAS driver: customer experience)

**#3**

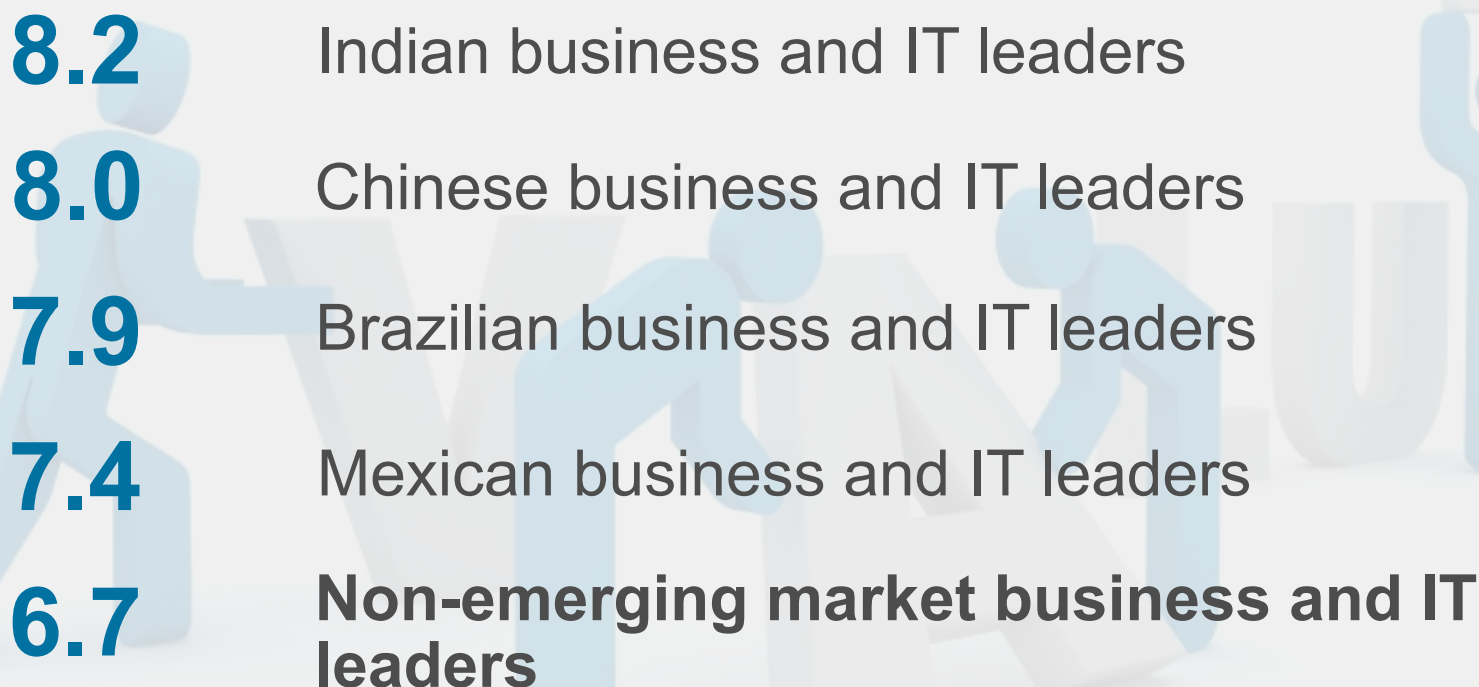
**Collaboration within company**

(VAS drivers: innovation, employee productivity)

N=7,501 respondents

# Firms in Emerging Markets Already Recognize IoE's Game-Changing Potential

## Executives' Confidence in Their Firms' Ability To Capture Value from IoE

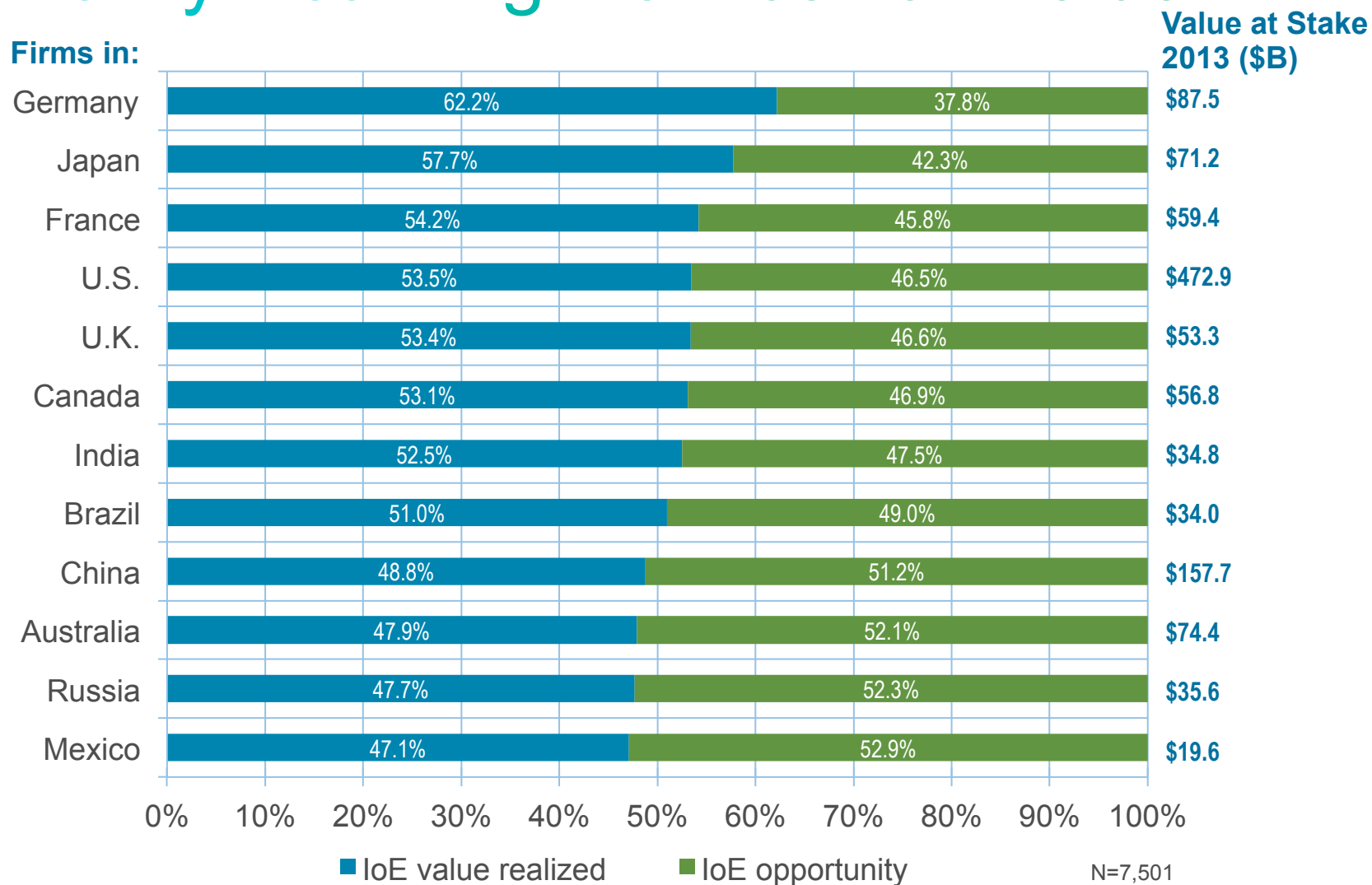


10-point scale: 1 = extremely weak ability; 10 = extremely strong ability

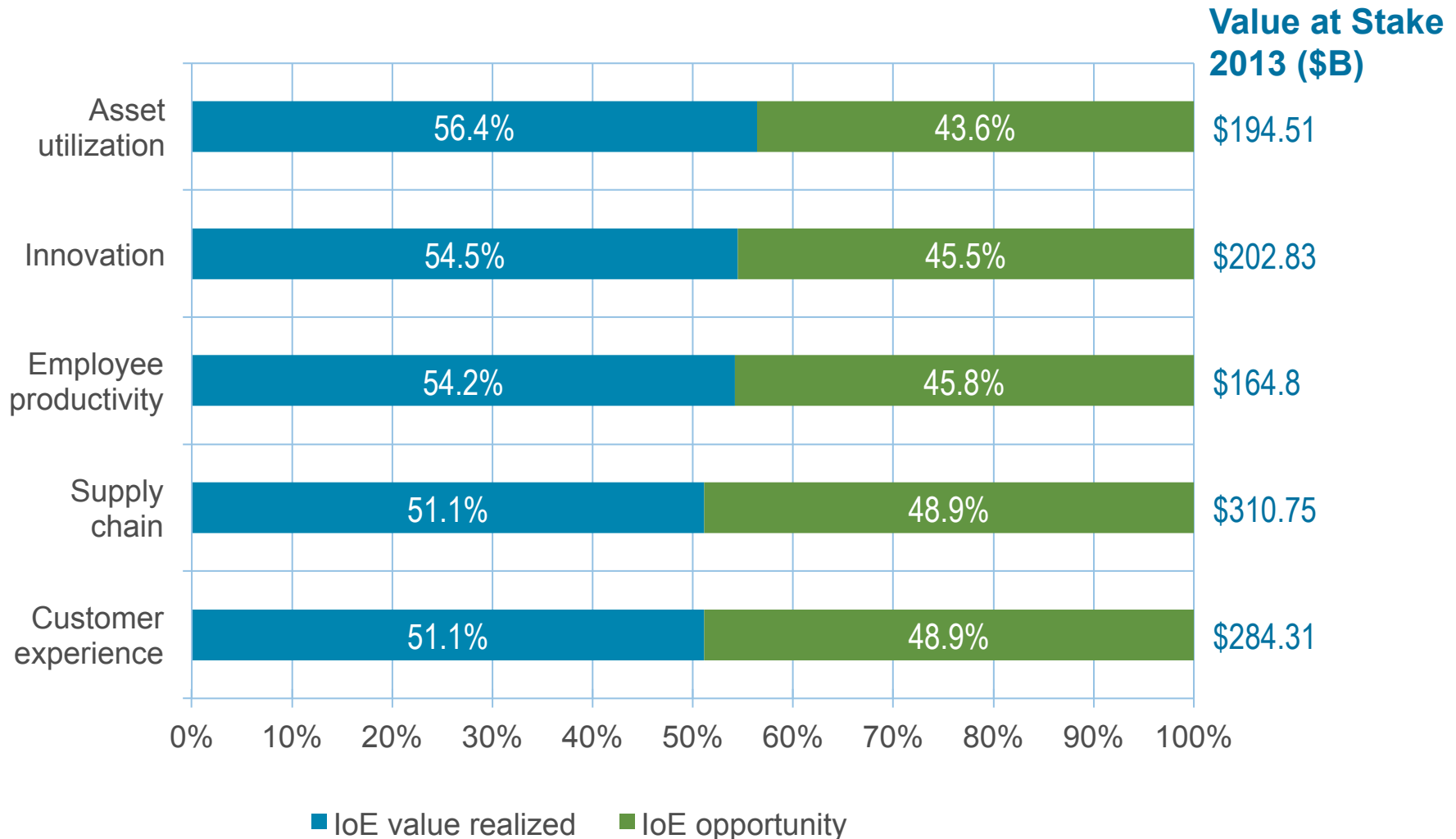
N=7,501 respondents



# ... But, Firms in Developed Countries Are Currently Realizing the Most IoE Value

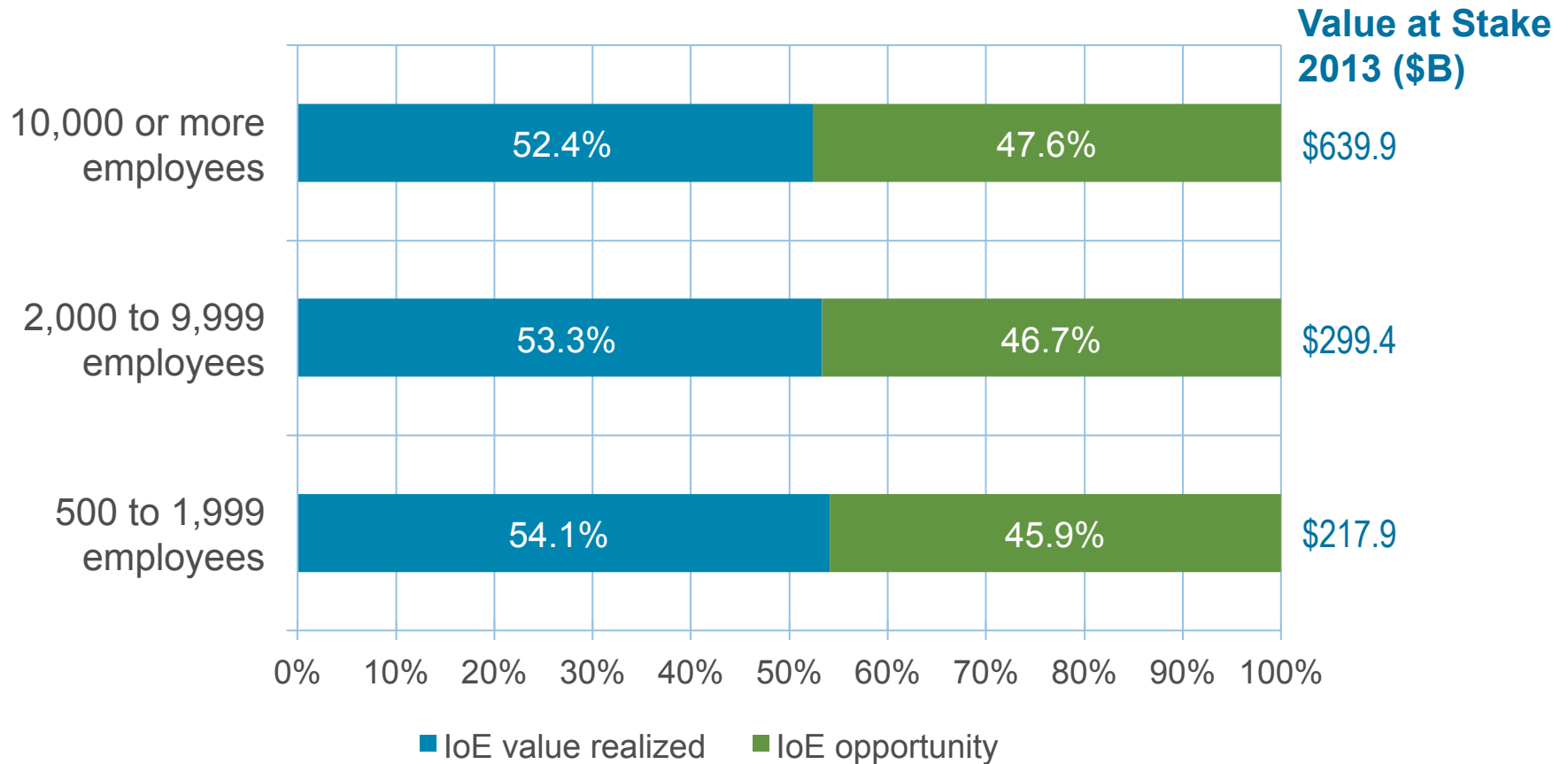


# This Value Is Distributed Nearly Equally Across 5 Key Business Functions ...



N=7,501

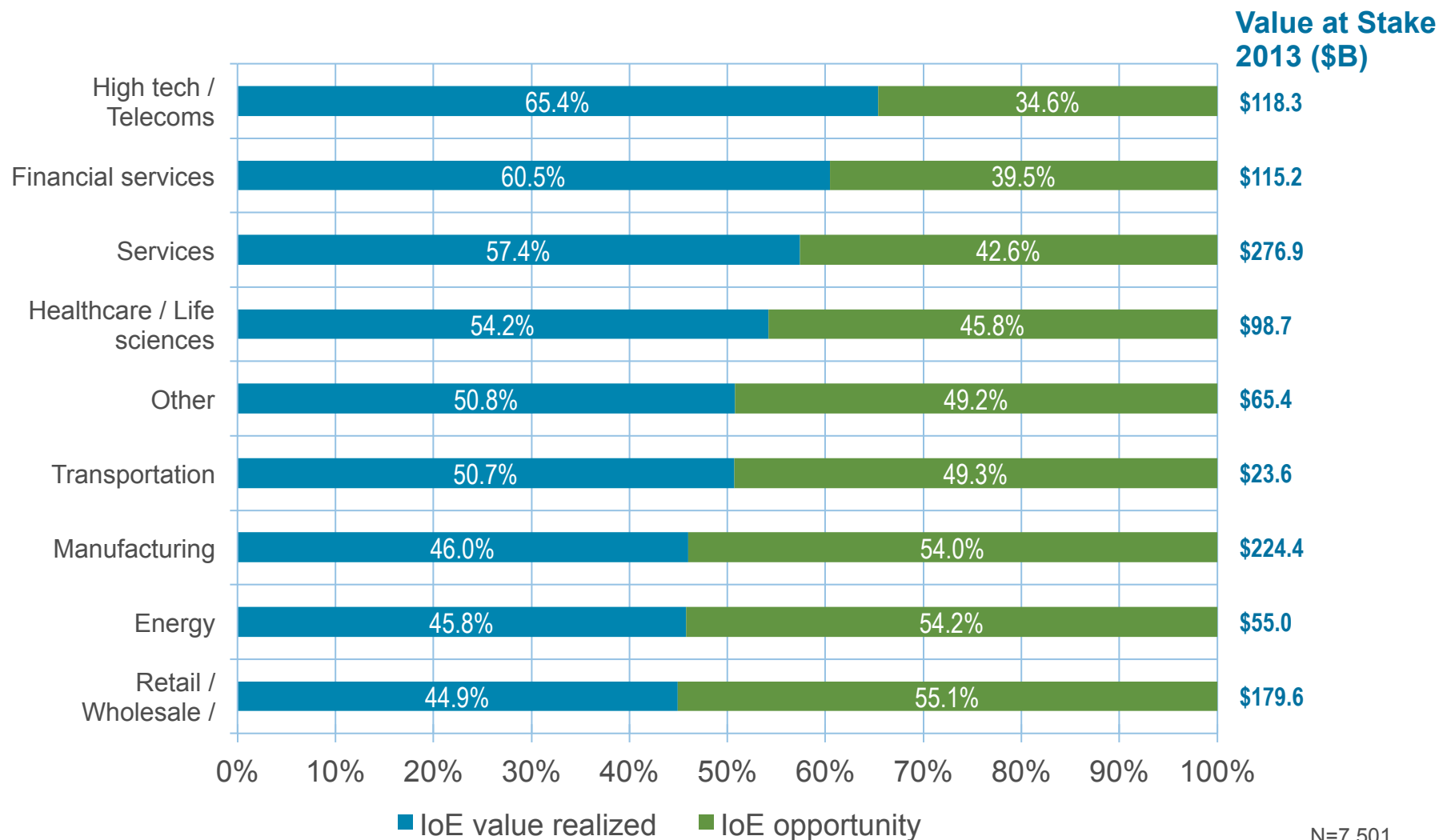
# ... And Across Midsize and Large Firms



N=7,501



# However, IT-Driven Industries Are Capturing the Greatest Share of This Value



# Manufacturing Firms: Real-Time Data Analysis Can Increase Value Realized from IoE

Type of connection	M2M	M2P	P2P
Share of VAS	39.0%	40.3%	20.6%
Top use cases	<ul style="list-style-type: none"> <li>• Smart factories</li> <li>• Smart grid</li> <li>• Supply-chain efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• Connected marketing and advertising</li> </ul>	<ul style="list-style-type: none"> <li>• Next-gen workers</li> <li>• Faster time to market</li> </ul>
IoE enablers: current strengths	<ul style="list-style-type: none"> <li>• Managing energy consumption through smart, connected systems</li> </ul>	<ul style="list-style-type: none"> <li>• Viewing KPIs through information dashboards</li> </ul>	<ul style="list-style-type: none"> <li>• Unified communications</li> </ul>
IoE enablers: largest opportunities	<ul style="list-style-type: none"> <li>• Intelligent machines/robots</li> <li>• Remote tracking of physical assets</li> </ul>	<ul style="list-style-type: none"> <li>• Decision support through real-time, multi-dimensional data analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated video collaboration</li> </ul>



The largest opportunity areas for manufacturers are “intelligent” robots, remote tracking of physical assets, decision support, and integrated video collaboration

# Energy Firms: Integration of Sensor Data Can Increase Value Realized from IoE

Type of connection	M2M	M2P	P2P
Share of VAS	49.0%	23.6%	27.5%
Top use cases	<ul style="list-style-type: none"> <li>Smart factories / automation</li> <li>Smart grid</li> </ul>	<ul style="list-style-type: none"> <li>Faster time-to-market</li> </ul>	<ul style="list-style-type: none"> <li>Next-gen workers</li> <li>Smart buildings</li> </ul>
IoE enablers: current strengths	<ul style="list-style-type: none"> <li>Proactively monitoring energy production and supply equipment</li> </ul>	<ul style="list-style-type: none"> <li>Analyze and use large amounts of data</li> </ul>	<ul style="list-style-type: none"> <li>Unified communications</li> </ul>
IoE enablers: largest opportunities	<ul style="list-style-type: none"> <li>Making operations more sustainable through sensor data</li> </ul>	<ul style="list-style-type: none"> <li>Predictive analytics</li> </ul>	<ul style="list-style-type: none"> <li>Ability to locate experts</li> </ul>



The largest opportunity areas for energy firms are sustainable operations, predictive analytics, and expert location



# Retailers: Data Visualization and Predictive Analytics Can Increase Value Realized from IoE

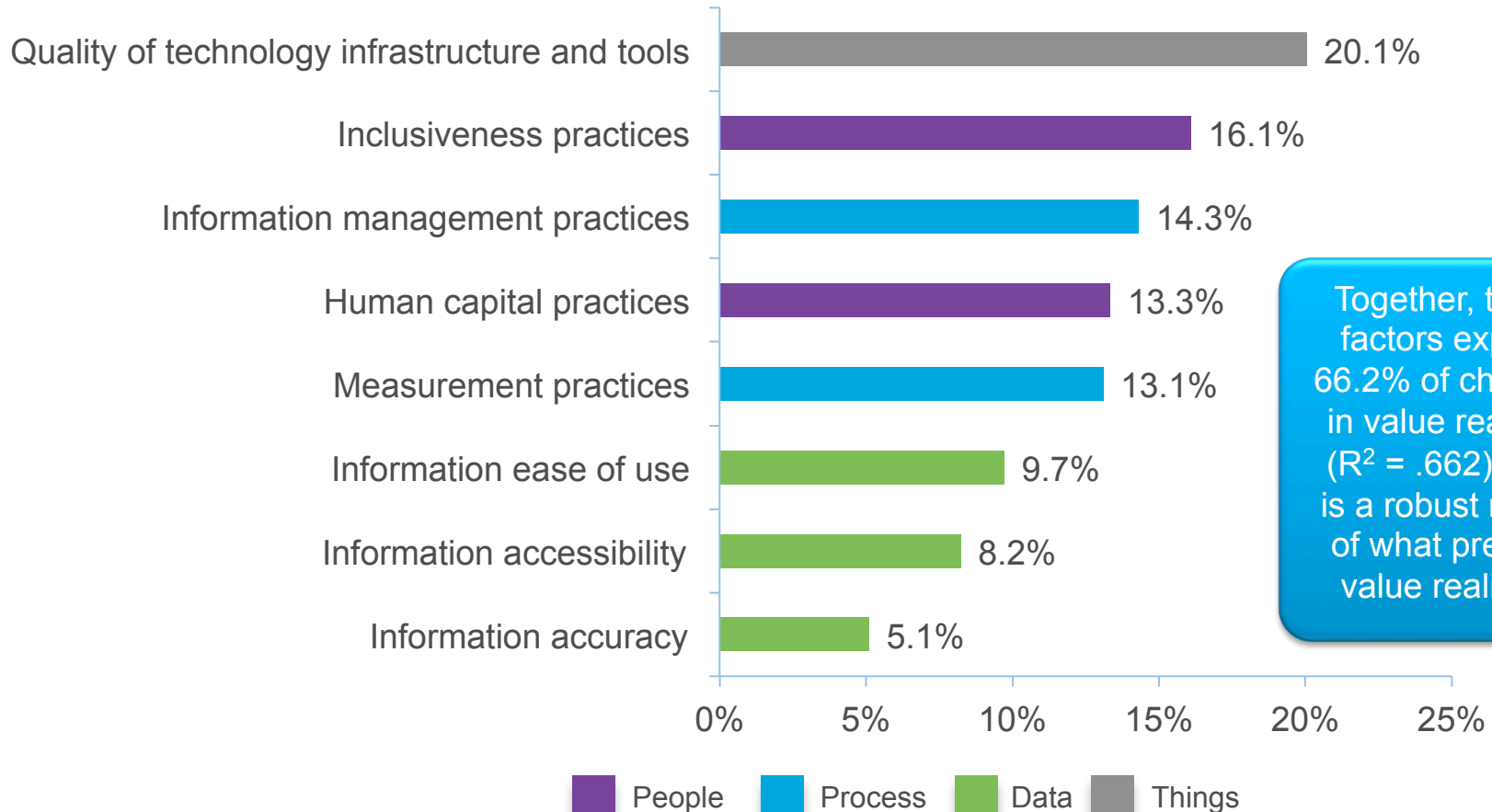
Type of connection	M2M	M2P	P2P
Share of VAS	21.5%	47.7%	30.8%
Top use cases	<ul style="list-style-type: none"> <li>Innovative payments</li> <li>Supply-chain efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Connected marketing and advertising</li> <li>Connected vending</li> </ul>	<ul style="list-style-type: none"> <li>Next-gen workers</li> <li>Virtual attendants</li> </ul>
IoE enablers: current strengths	<ul style="list-style-type: none"> <li>Remote inventory tracking</li> </ul>	<ul style="list-style-type: none"> <li>Viewing KPIs on information dashboards</li> </ul>	<ul style="list-style-type: none"> <li>Unified communications</li> </ul>
IoE enablers: largest opportunities	<ul style="list-style-type: none"> <li>Mobile payments</li> <li>Remote customer monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Predictive analytics</li> <li>Data visualization</li> </ul>	<ul style="list-style-type: none"> <li>BYOD</li> <li>Rich-media customer interactions</li> </ul>



The largest opportunity areas for retailers are mobile payments, predictive analytics, and BYOD

# To Increase Value Realized, Firms Must Integrate IT & Management Best Practices

## Relative Importance of IoE Enablers in Predicting Value Realized



# IoE Is Raising the Stakes, While Presenting New Opportunities ...

- Firms will capture just 53% of IoE's Value at Stake for 2013, **leaving \$544B of unrealized value**
- **IoE is driving competitive parity, raising the stakes for differentiation** among companies and countries:

Emerging-market countries and midsize companies are poised to realize significant value from IoE, enabling them to quickly achieve parity with — or even outpace — developed countries and larger firms

Smaller companies are already realizing as much IoE Value at Stake as some enterprises

- To capture maximum value from IoE, firms should focus on the IoE-driven capabilities that will benefit their industries most:

**Manufacturing firms:** real-time, multidimensional data analysis; integrated video collaboration; remote tracking of physical assets; intelligent robots

**Energy firms:** integration of sensor data; ability to locate experts; predictive analytics

**Retailers:** predictive analytics and data visualization; BYOD and interacting with customers using rich media; mobile payments and remote customer monitoring



# ...Making It Essential To Adopt a Strategic Approach for Maximizing IoE's Value

- To capture more **value in the IoE Economy**, companies must:
  - Invest in high-quality technology infrastructure and tools
  - Adopt and follow inclusive practices
  - Develop effective information-management practices

## Move from...

Bigger is better

Clout

Access to information

Big data

Business intelligence

Connectivity

## To ...

Better is better

Cloud

Expertise everywhere

Big judgment

Intelligence at the point of decision

Connectedness

Thank you.

