

IoT 2020 Business Report

The future of the Internet of Things:
From sensor to business sense

Life Is On

Schneider
Electric





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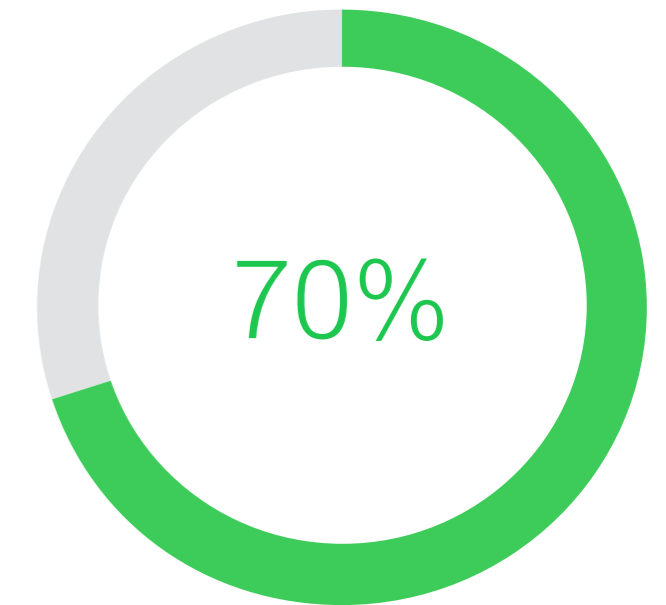
A new era of
MEANINGFUL
OPPORTUNITIES

The Internet-connected, Internet-dependent world already is upon us.

Connected sensors. Control from the field. An astounding level of granularity to real-time data.

Business decision-makers are taking note. What can a single chip embedded deep within a device do for the enterprise at large? In the recent Schneider Electric Global IoT Survey of more than 2,500 business decision-makers indicated that they believe IoT makes business sense. It will ...

- create new opportunities for their companies in the near future
- improve the efficiency of their businesses and others
- deliver long-term business benefits
- become the critical interface between companies and their customers



of decision-makers see the **business value** of IoT.



The future of IoT:
OUR FIVE PREDICTIONS

Advancements from
product to planet ...



01
The next wave
of digital
transformation

02
Insightful data




03
Site-to-cloud
confidence



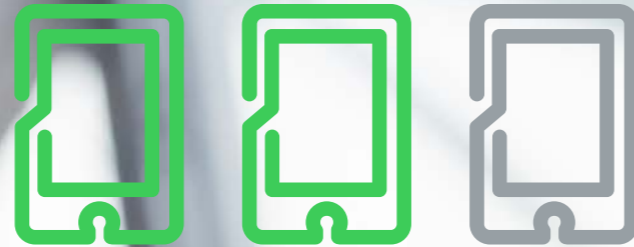
04
Innovations that
leapfrog existing
infrastructure



05
A better planet

A man in a blue checkered shirt is shown in profile, smiling and looking at a tablet device he is holding. The background is a blurred industrial or construction site with metal structures.

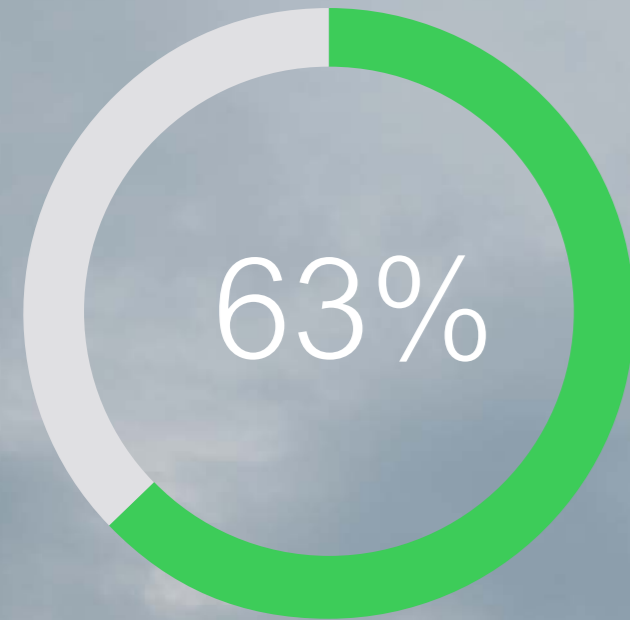
2/3 of organizations plan to implement IoT solutions via mobile applications in 2016.



01 | The next wave of DIGITAL TRANSFORMATION

A robust network of connected devices. The cost of connected sensors has plummeted, allowing companies to deepen their digitization programs and leverage a highly mobile work force. IoT enables ...

- faster, more agile communication networks
- quicker adoption of cloud and edge computing
- advanced data analytics
- speedy delivery of meaningful information at the right time



63% of surveyed organizations plan to leverage IoT to better analyze customer behavior and improve service levels.

02 | INSIGHTFUL data

Taking the customer experience to new levels. Access to data — including previously untapped and highly granular data — and the ability to translate it into actionable insights is the hallmark of IoT. Expect ...

- the transformation of customer service
- new opportunities to build brand/service loyalty
- highly enhanced customer satisfaction

03

SITE-TO-CLOUD confidence

Meeting mission-critical computing needs. IoT will promote an open, interoperable, and hybrid computing approach, fostering collaboration on cybersecurity standards. As a result, IoT will ...

- flourish across systems, both at the edge and on premises, as part of both private and public clouds
- help end users adopt IoT solutions in the way that best suits their security and mission-critical needs
- offer those with legacy technology infrastructures a logical and manageable path forward, allowing them to transform over time



of respondents anticipate that **cybersecurity** threats will be a critical challenge.



04

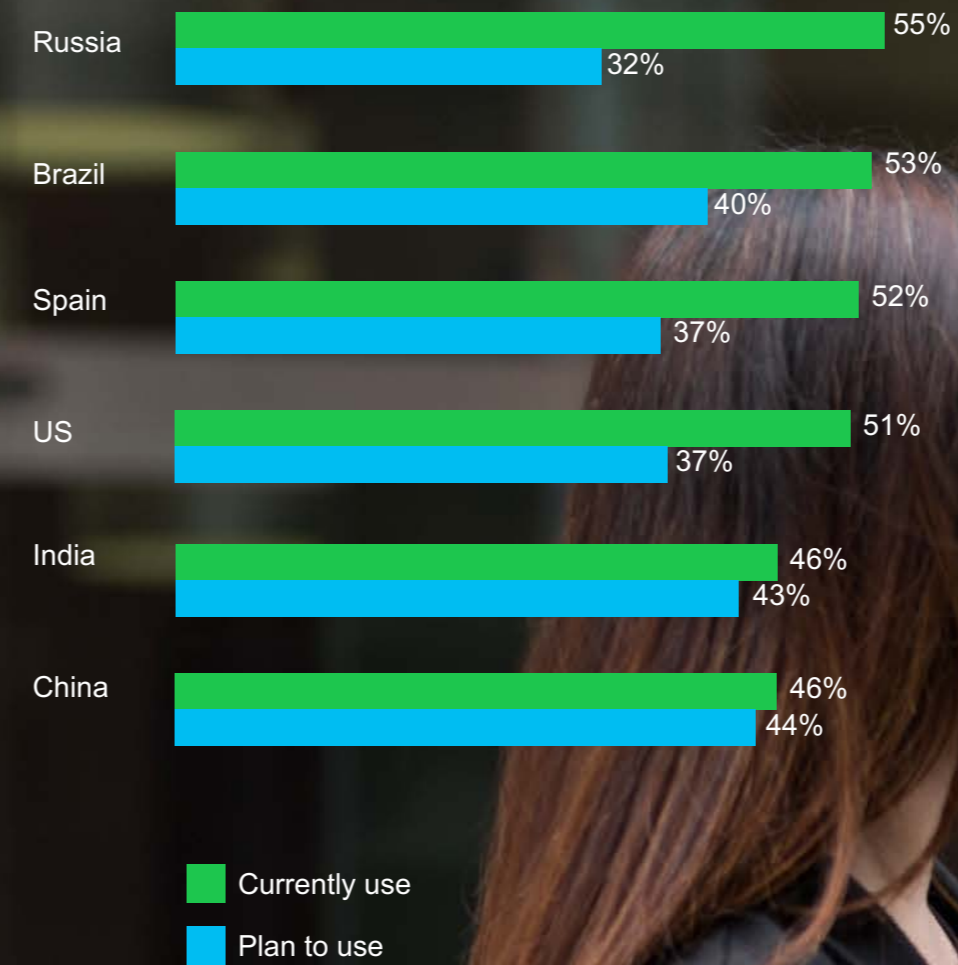
Innovations that LEAPFROG INFRASTRUCTURE

Fueling disruptive innovation. IoT enables enterprises, cities, and emerging economies to work with systems of the past in ways that don't preclude them from integrating systems of the future. Look for:

- new business models and spurred growth
- profitable and productive IoT-enabled services
- freedom from weighty, legacy infrastructure — particularly in emerging economies

IoT in use by country

This data is aggregated for all types of IoT use.



Optimism for IoT

Survey respondents identified the top societal benefits of IoT:

18%

Increased safety

12%

Enhanced consumer experiences

16%

Changing the way we work and live

10%

Increased leisure time

20%

Improved resource utilization

14%

Connected living

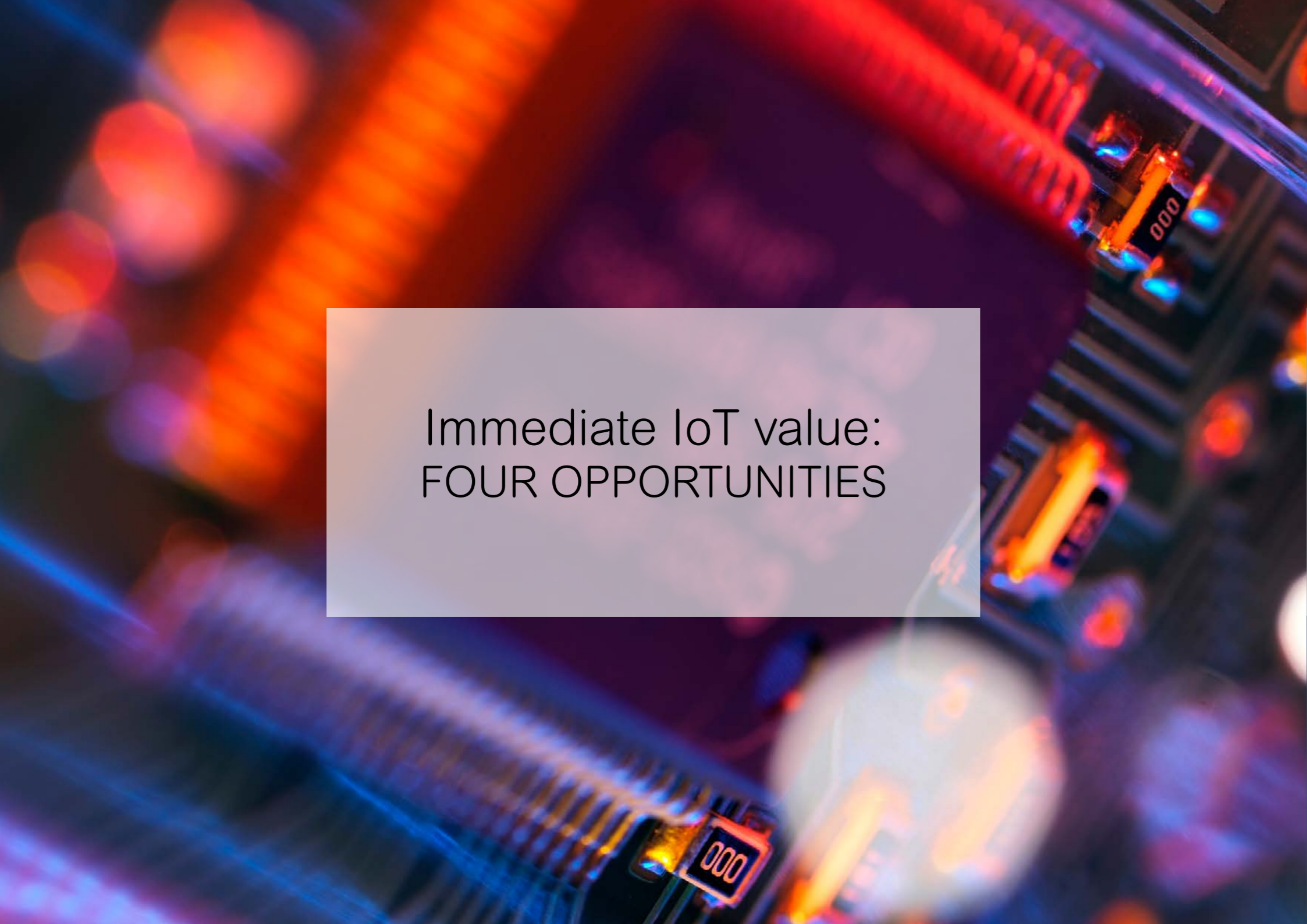
10%

Reduced pollution

05

A BETTER planet

Solving societal and environmental issues.
IoT empowers countries and their economies to respond to the biggest challenges facing our planet. Global warming. Water scarcity. Pollution. IoT can help the 195 countries that pledged their commitment to the COP21 agreement meet their objectives.



Immediate IoT value:
FOUR OPPORTUNITIES

From energy savings to
improved productivity ...



01
Maximum energy
efficiency and
sustainability

02
Optimized asset
availability and
performance



03
Smart,
productive,
profitable
operations



04
Mobile insight
and proactive
risk-mitigation



01

Maximum energy EFFICIENCY AND SUSTAINABILITY

Energy and sustainability professionals, as well as IT and operations management leaders alike, must balance energy and operational efficiency at all times. Buildings, factories, global supply chains, cities. IoT gathers precise data from these environments, turning it into actionable information that enables:

- quick knowledge of the efficiency status of an individual machine on a production line
- the collection of operational intelligence through IoT and data analytics
- enhanced decision-making capabilities to prioritize projects
- the development of business strategies that drive profitability and performance within the context of sustainability

CASE STUDY ON TRACK

Do you know where your shoes and clothes come from? You should. The Sustainable Apparel Coalition (SAC) represents more than one-third of the global market share of the apparel and footwear industry. Leveraging Schneider Electric's Resource Advisor™, it created a common approach to measuring and evaluating social and environmental sustainability throughout the retail industry's supply chain.

IoT enabled SAC to turn cumbersome spreadsheets into a powerful, Web-based, user-friendly platform, thus encouraging greater adoption throughout the apparel and footwear industry.



02 | Asset availability AND PERFORMANCE

IoT delivers value in asset availability and performance. Through predictive analytics, mission-critical machinery can operate continuously, avoiding costly shutdowns. It also can run more efficiently, using less power and performing within specifications, to extend product life.

CASE STUDY TAKING ACTION

A major power utility in the U.S. is experiencing great success using IoT-enabled software to enhance asset performance through conditional monitoring and predictive analytics. With sensors on critical equipment throughout its operations, the utility has been able to translate data (such as temperature change patterns) into actionable information, preventing downtime and saving millions.

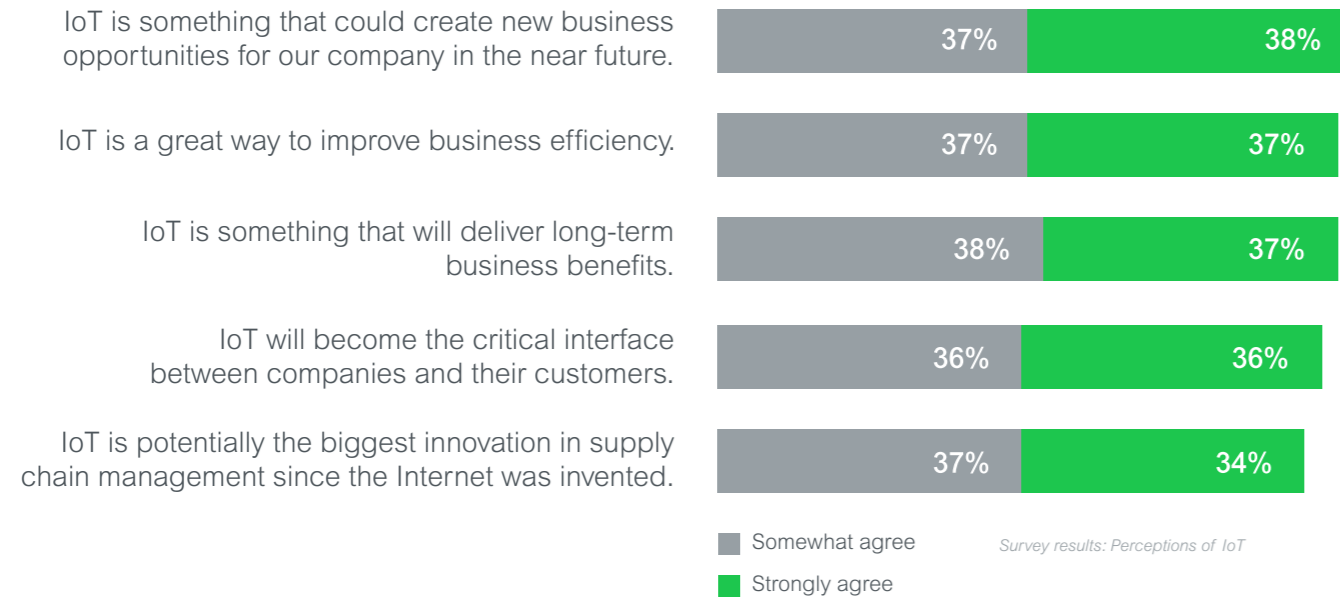
Thanks to the predictive modeling enabled by IoT, the utility initially saved over €397,000 in estimated avoided costs and ultimately uncovered opportunities to save more than €4.4 million.



03

Smart, productive, PROFITABLE OPERATIONS

IoT delivers the long-standing barriers between the worlds of OT and IT, opening up better ways to operate a business. Essentially every asset across an enterprise now has “a voice,” shedding light on every corner of operations. Valuable information from field operations reaches the the CEO suite for effective decision making.



CASE STUDY

CHEERS TO IoT

As demand for its products grew, the New Belgium Brewing Company wanted to find a way to get more from its existing process rather than making large new investments in additional production lines. IoT-enabled manufacturing software lets the company analyze asset and production capacity utilization and overall equipment effectiveness in real time for quick decision making. A worthy investment.

"We decreased our machine downtime by more than 50 percent. We now have technicians on shift 24/7 addressing issues identified by the software."

Joe Herrick
Packaging Systems Manager
New Belgium Brewing Company



04

Mobile insight and PROTECTIVE RISK-MITIGATION

One of the toughest jobs in any plant is troubleshooting and fixing machine problems. IoT facilitates a more user-centric plant. For example, dynamic QR code maintenance allows plant workers to access information about the product at their fingertips, thereby optimizing field service operations and productivity. The operator can know immediately what needs attention or service.

CASE STUDY AT YOUR PUBLIC SERVICE

Carson City, Nevada (U.S.) public works department leverages IoT advancements to maintain and repair the city's water, wastewater, transportation, landfill, vehicle fleet, and renewable power systems. Smart devices run software that provides centralized, real-time equipment status and job scheduling.

Managers and workers have found that the initial investment in digitization and IoT has made them more mobile, increased their situational awareness, and improved their responsiveness and efficiency.





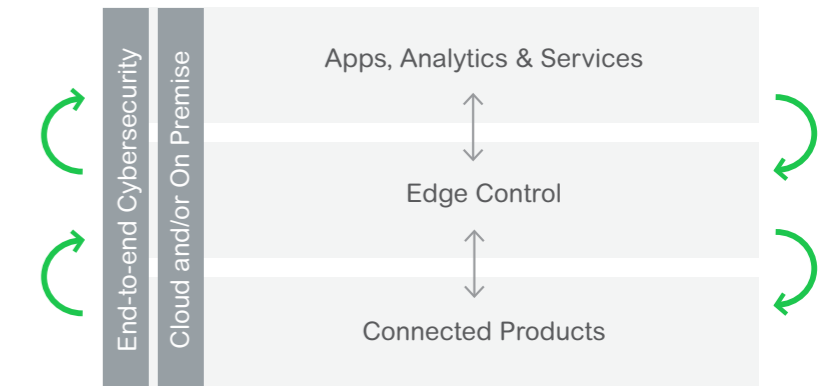
How can organizations drive IoT AT EVERY LEVEL?

HARNESS the possibilities in incremental steps.

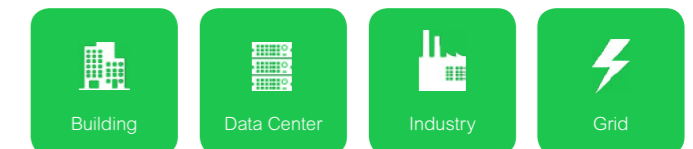
The future of IoT is clear. But where can organizations begin?

The Schneider Electric Global IoT Survey indicates that organizations are struggling with this question. No enterprise can just rip and replace existing IT/OT infrastructure.

Innovation at every level makes it possible to harness the power and possibilities of the IoT revolution in incremental steps.



At every level, Schneider Electric provides our markets with tailored solutions through our EcoStruxure™ Architecture.



BEST PRACTICES toward IoT integration

IoT integration, especially in the industrial world, requires incremental changes that supplement legacy investments while delivering significant transformation in business processes and results over time.

01 Start small with pilot projects and stay focused.

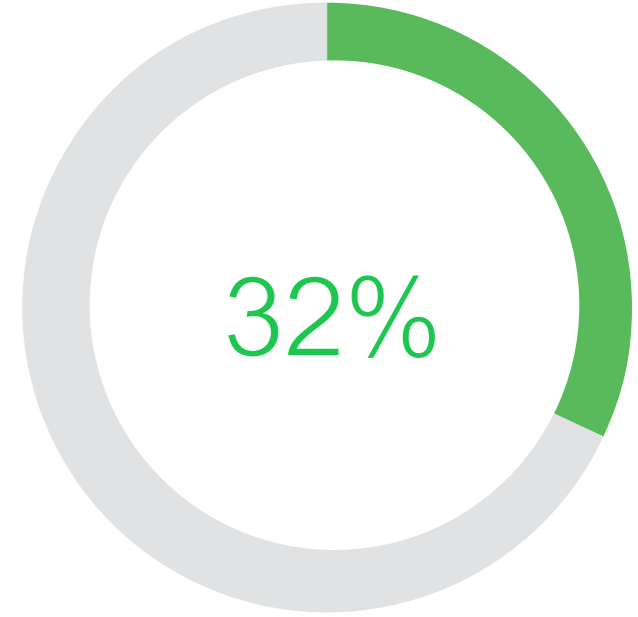
02 Evaluate ROI before broadening project scope.

03 Make early strides with energy efficiency projects.

04 Integrate asset monitoring and management projects.

05 Move to comprehensive asset coverage within a dynamic network.

Survey respondents who plan to start using IoT in mobile applications within **6 months**





Co-creating
THE FUTURE

We have an opportunity
to leverage IoT as our
world becomes ...

More electric

2x faster growth of
electricity compared to
energy demand by 2040¹

More digitized

4x as many connected
devices by 2020 compared
to 2010²



More decarbonized

82% of the economic
potential of energy
efficiency in buildings and
more than half in industry
remains untapped³



More decentralized

50% of new capacity
additions accounted for
solar PV and storage⁴



¹IEA, World Energy Outlook 2014
² Cisco IBSG April 2011/Internet World Statistics
³IEA, World Energy Outlook 2012, internal analysis
⁴ Bloomberg New Energy Finance

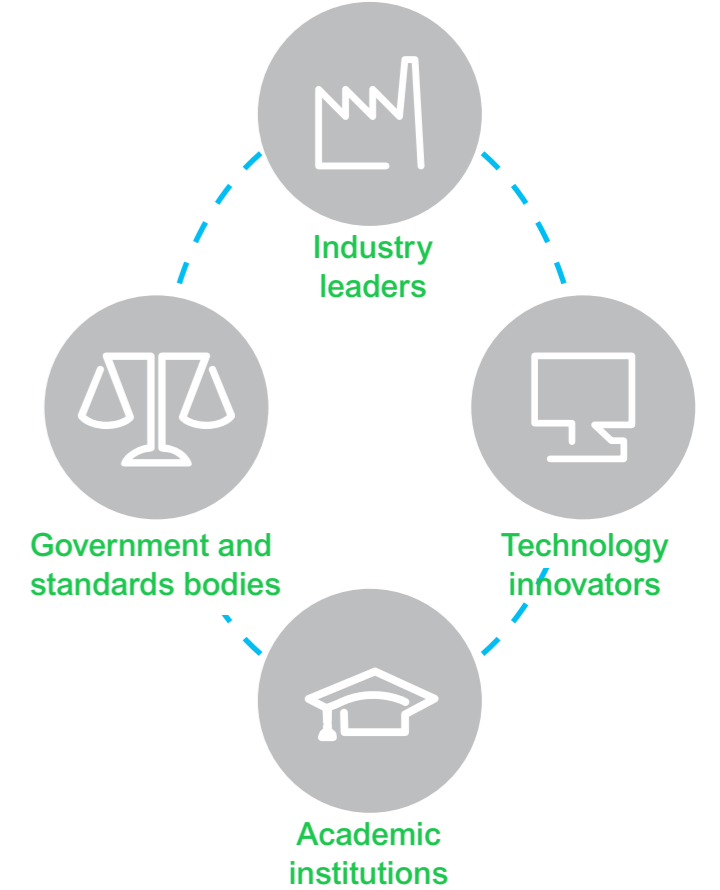


An ecosystem of:
PARTNERSHIPS AND
PLATFORMS

The power of COLLABORATION

Strong partnerships are essential to advancing IoT solutions.

IoT has many facets. Connectivity. The cloud. Big data. Cybersecurity. Industrial automation. Engineering. Integration. The list goes on. A dynamic ecosystem of partnerships and platforms that develops, implements, monitors, and services IoT solutions can lead to additional value more quickly and cost effectively than going it alone.



Three observations of success

- 01 Companies are piloting IoT initiatives to get more from their existing OT and IT investments and processes — and this approach is working.
- 02 Adopters are finding asset and energy management to be fertile ground for IoT initiatives that deliver meaningful results quickly and at relatively low cost.
- 03 Businesses are closing the gap between OT and IT and are gaining access to a rich new data set that will produce higher quality insights across the enterprise.

Looking ahead, IoT must be used to connect the entire enterprise to enable truly informed decisions that are made in collaborative, digital ecosystems.

FROM SENSOR TO BUSINESS SENSE,
IoT indeed has transformative value.

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To learn more about the transformational impact of IoT, explore this sampling of Schneider Electric™ white papers.

- *The Industrial Internet of Things: An Evolution to a Smart Manufacturing Enterprise*
- *Predictive Maintenance Strategy for Building Operations: A Better Approach*
- *How the Convergence of IT and OT Enables Smart Grid Development*

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This survey was commissioned by Schneider Electric in November 2015 to gather information on how businesses are currently using or plan to use Internet of Things. With input from Schneider Electric, Redshift Research conducted 2,597 online interviews amongst business decision makers in companies employing 100 or more people. The research was conducted in 12 countries, including: Australia, Brazil, China, France, Germany, India, Italy, Russia, Spain, Sweden, the U.K., and the U.S. The survey, which provided respondents with a uniform definition of Internet of Things, comprised 18 multiple choice questions. Responses have been analyzed by Redshift Research in association with Text100.