



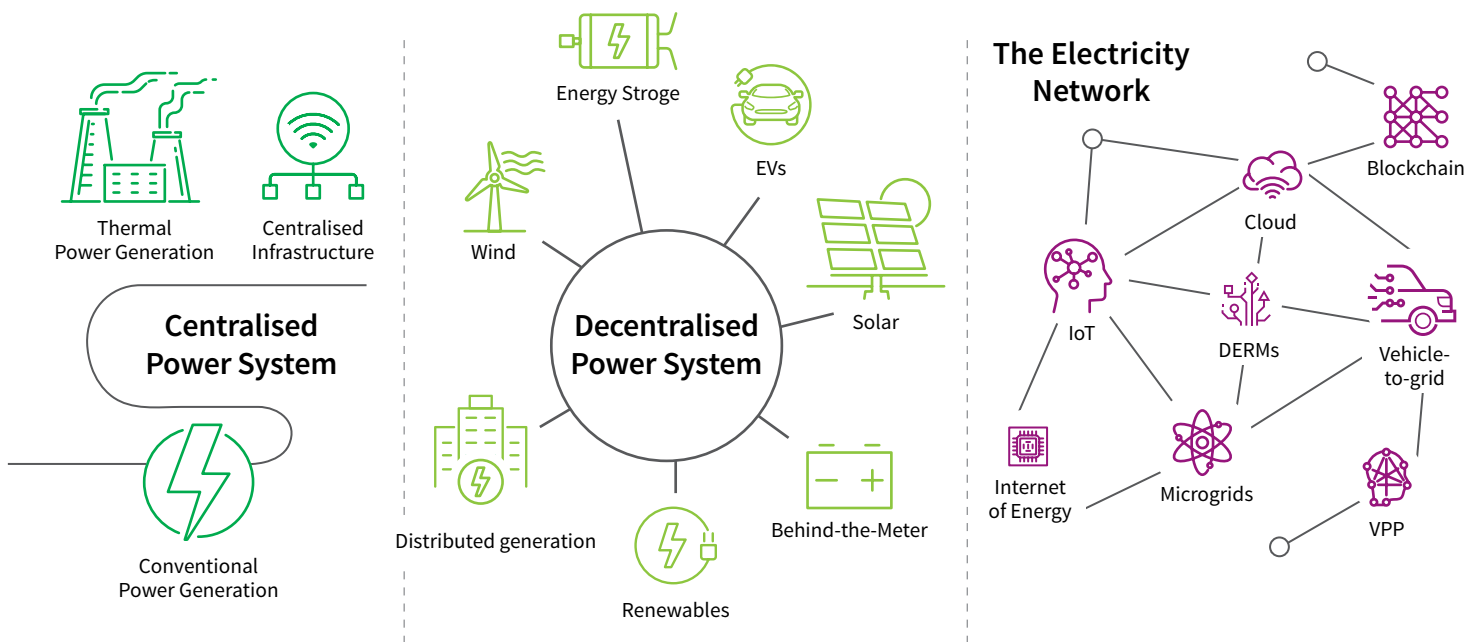
IHS Markit®

Industrial IoT for Utilities – Digitalization Challenges and Trends

Introduction

The energy industry is on the cusp of a 100-year change away from oil and coal hydrocarbons towards renewables and natural gas. The utilities sector is therefore undergoing a fundamental shift as the three D's of transition take hold; Decarbonization, Decentralization, and Digitalization.

To identify digitalization related trends in industrial sectors IHS Markit conducted a survey for Cisco of technology buyers to understand key issues. This survey was based on a sample of 300 respondents equally split between three industries, with 100 directed to the Utilities industry; specifically Distribution Utilities in the United States.



Scalability

Connection but not cohesion

As part of the digitalization process, utilities are dealing with new challenges their organisation may never have previously faced. In particular, an increasingly large network of sensors, communication technology and data storage/management.



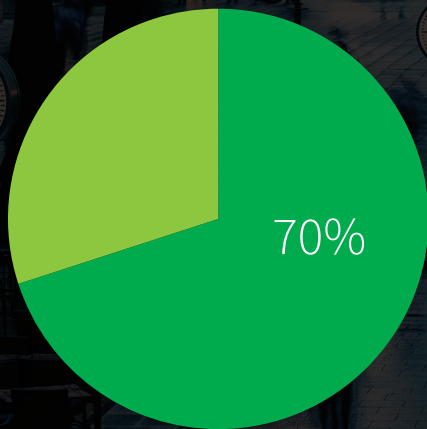
Data

There are **800 million smart meters** installed worldwide, and shipments of fixed network solutions for smart metering are growing **10x faster** than those of mobile read/walk-by solutions. (Analysis from IHS Markit Smart Utility Meter Intelligence Service)

70% of utility respondents say they will implement a Distribution Automation project in the next 3 years.

Yet many utilities perceive they **haven't yet started adopting IoT**.

Changing a utilities mentality, especially breaking through data and departmental siloes are some of the biggest challenges for adopting technology.



70% of Utility respondents who are not currently making data driven business decisions (e.g. cross-domain correlation and actions). Utilities are not making the most of the valuable data they have.

Complexity

The utility network pain points

Justifying ROIs can be complex for a utility, but reducing operational expenditure is a clear winner for utilities.



Survey highlights:

62% say physical network issues are the biggest challenges in data acquisition and management. This means network hardware issues, build out problems or downtime. Avoiding truck rolls is key to utility ROIs.

68% see **'better software/platform integration'** as one of the key technical advances for helping their digitalization strategy. High internal operation cost through inefficiency hurts a utility's profitability.

Despite these clear goals, there will be **competing goals for different utility departments**; IT and OT teams may have differing views of the top business outcomes for a given digitalization project.

Top 3 outcomes for IT v OT



IT

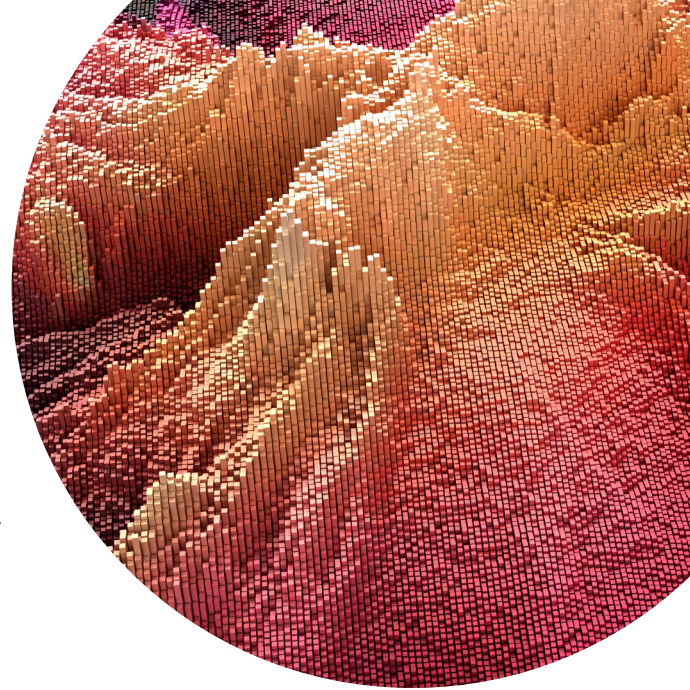
1. Reduced operational cost/efficiency
2. Improved cybersecurity
3. Increased revenue/new revenue streams



OT

1. Reduced outages/better grid resilience
2. Reduced operational cost/efficiency
3. Increased customer satisfaction/engagement

Some common goals exist across the utility – for example, both IT and OT personnel recognise reduced operational cost/efficiency as a key outcome. However, the primary goal for the OT team will always be focused on maintaining uptime, with reduced outages/better grid resilience the number one desired outcome.



Cybersecurity

Fear of the unknown

Utilities are not IT companies, and fear of cybersecurity risks is gaining mind-share with decision makers



Survey highlights:

59% Choose 'fear of cybersecurity' as one of their top challenges in digitalization, higher than any other category in the survey. Cybersecurity is the greatest perceived risk for the utility industry in IoT.

Interestingly, almost **1 in 3 of OT respondents choose cybersecurity** as their number one challenge, more than any other answer. Comparatively, IT respondents selected 'Lack of Executive/Leadership support' as their top answer.

66% Utilities who say they are likely to outsource 'Cybersecurity as a Service' to a third-party vendor in the next three years. Utility regulation means they typically prefer capex to opex; this answer shows how much they are willing to differ from spending norms in order to address cybersecurity concerns.



Conclusion:

Cybersecurity of an increasingly large and complex network is an area of concern for the utility that fall outside of their traditional role (i.e. the building and maintenance of the physical distribution grid). Utilities already recognise cybersecurity as the area they need the most third-party vendor support on an ongoing basis for future projects; for example by choosing communication networks with cybersecurity 'built in' by their vendor.

Find out more

IHS Markit provides timely insight and analysis for more than 30 connectivity technologies in 34 application segments used for the Internet of Things.

For more information on wired and wireless connectivity technologies and the opportunities offered by the IoT, please see our [Comprehensive IoT research](#)

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