



UTILITY INNOVATION
SERIES REPORT

Water Utility Outlook
Presented by Zpryme
September 2016



Table of Contents

• Executive Summary	3
• Methodology	4
• Key Findings	5
• 2016 Survey Results	7
• Respondent Information	7
• Smart Water Overview	13
• Smart Water Technology	18
• Smart Water Challenges	25
• Smart Water Spending	28

Executive Summary

Sponsored by Sensus, this report comes from a smart water survey of 85 U.S. water utilities completed by Zpryme and the Smart Water Summit (SWS). Nine out of 10 water utilities have a smart water plan, and many water utilities are beginning to embrace smart water technologies, including AMI as well as analytics.

Key Takeaways

- The focus now is on smart meters and billing, but those capabilities will expand as utilities gain more experience with smart water technologies such as IoT, Machine Learning, and Smart Cities.
- Cost continues to be the top concern for smart water efforts, but the challenges are more than financing, including finding the right business model to implement smart investments and keeping them secure (i.e., cybersecurity).
- Many water utilities use traditional forms of customer engagement, such as door hangers and paper bills, but are looking to expand their customer engagement efforts to include social media.

Methodology

Zpryme and the Smart Water Summit (SWS) conducted the survey from August through September 2016. The survey consisted of 45 questions about smart water initiatives in the U.S. A total of 85 water utilities responded to the survey.

- Data reported in this report are a percent of the total respondents.
- Water utilities in this survey came from all over the U.S., with the largest representation from the South Atlantic (43%).
- In terms of water production, most respondents produced between 10 and 100 MGD.
- In terms of expertise, many respondents were operations (65%) as well as a good representation of the different disciplines, including infrastructure project management (54%) and engineering (44%). Many participants felt they wore “multiple hats” in their organizations.

Key Findings

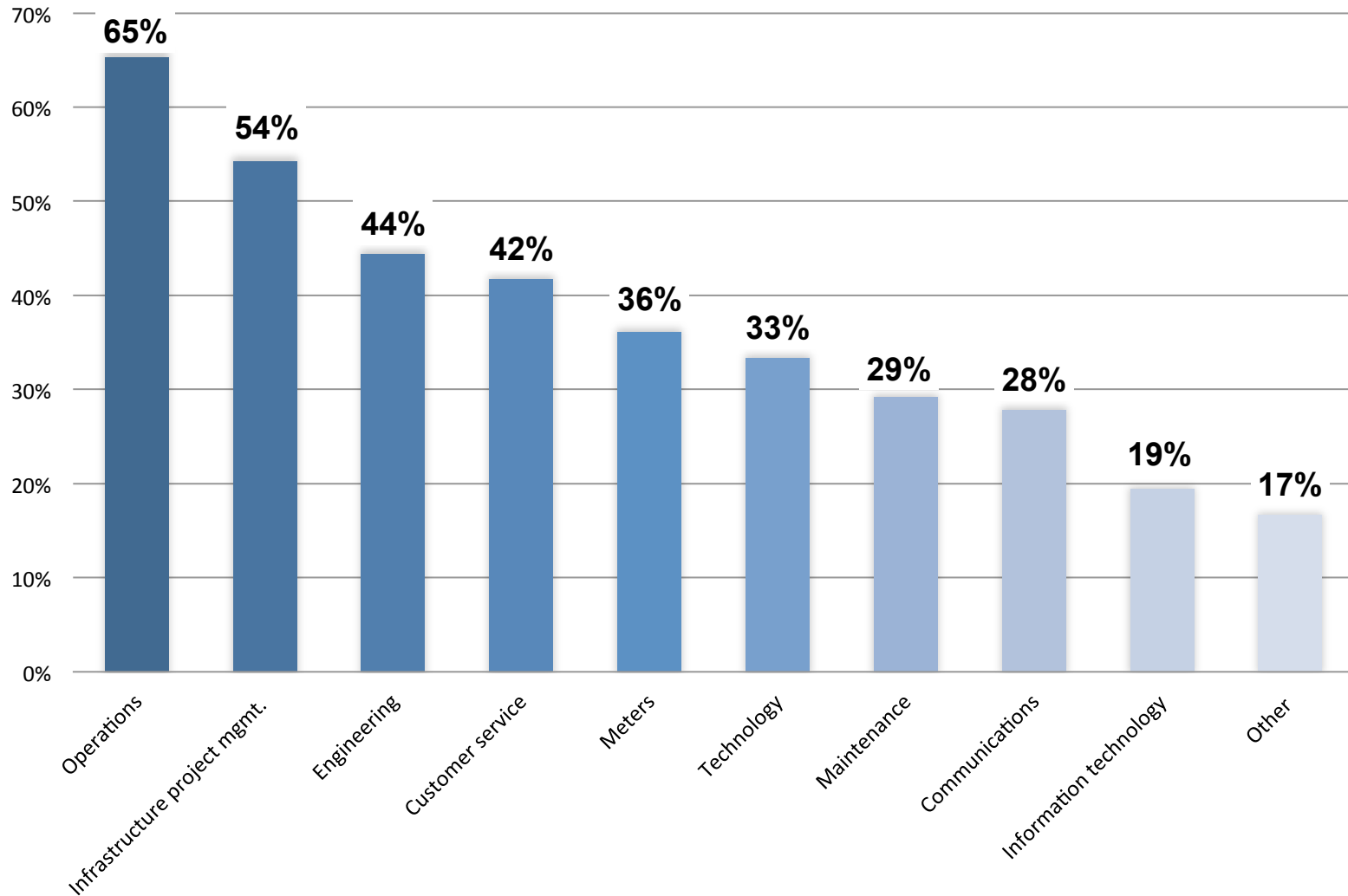
- Although basic benefits of smart water are still important, such as automating meter reads (69%) and improved customer service (64%), water utilities are finding more advanced benefits like analytics-based decision making (50%).
- Respondents agreed that smart water infrastructure should cover a variety of technologies, including leak detection (96%), data analytics (94%), and GIS (93%).
- Many respondents are still in the planning/investigation stage (36%) for smart water systems, but most (53%) are undertaking at least some smart water efforts with the majority having large-scale deployment (29%).
- Water utilities are taking on a variety of smart water technologies, including AMR (47%). A third of respondents are working on AMI, MDM and leak detection. More traditional technologies, such as CIS (62%) and GIS (72%), have greater usage within water utilities than newer smart water technologies.
- Smart water systems also include customer engagement tools. Water utilities use their website the most, followed by email and social media. Many admitted that they need to increase their customer engagement efforts.

Key Findings

- Most utilities understand IoT is an important technology trend (79%), however only roughly a third have a good understanding of what IoT can do for their organization (37%).
- Machine Learning is a rising technology trend with most utilities understanding its importance to their organization (67%), but only a fourth understand what ML can do for their organization (25%).
- Nearly all utilities understand Smart cities are an important technology trend (90%), however only some have an understanding of what it can do for their organization (31%).
- Even with the opportunities and benefits of smart water systems, there are still challenges, primarily cost (78%). Business model (43%) and cybersecurity (36%) round out the top concerns.
- Smart water isn't just about technology; people are an important part of it, too. The biggest skill gaps facing water utilities include systems integration (65%) and data analytics (51%) skills.
- Most water utilities are planning to spend up to \$1M on smart water in the next 12 months (75%), with slightly less than half (43%) planning to spend between \$1M and \$5M in the next 24 months.

Respondent Information

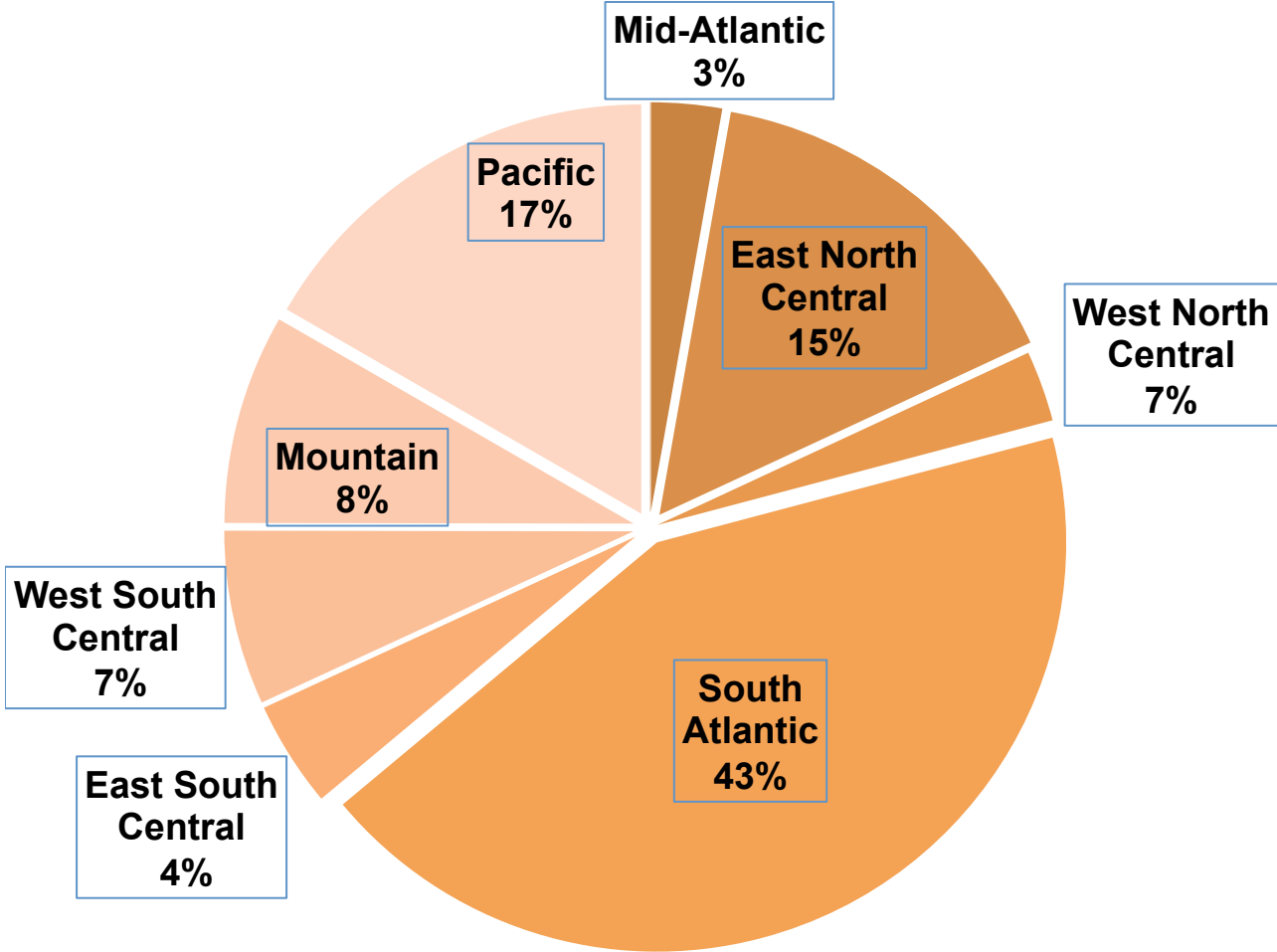
What is Your Functional Expertise?



In terms of expertise, many respondents were operations (65%) as well as a good representation of the different disciplines, including engineering (44%). Many participants felt they wore “multiple hats” in their organizations.

Source: 2016 Zpryme/SWS Survey of 85 Utilities Conducted in August/September 2016

Location of Utility

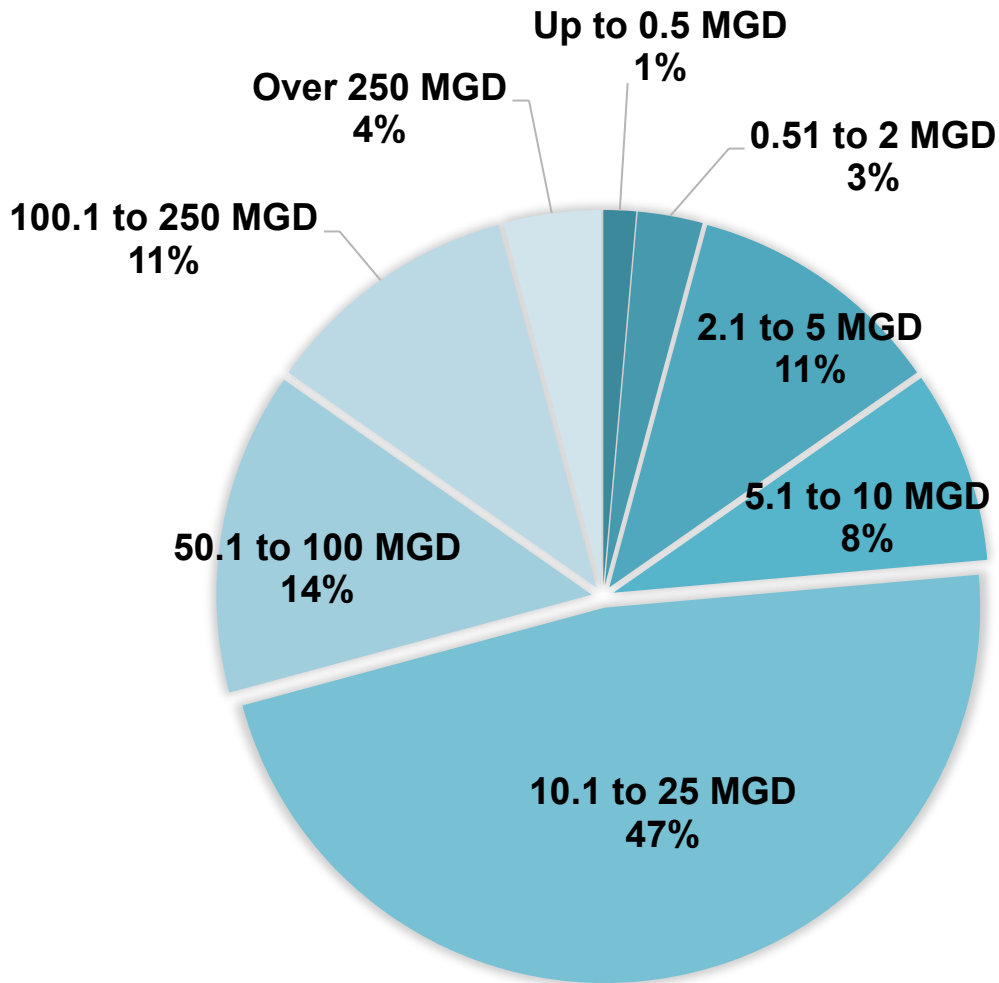


Water utilities in this survey came from all over the U.S., with the largest representation from the South Atlantic (43%).

Source: 2016 Zpryme/SWS Survey of 85 Utilities Conducted in August/September 2016

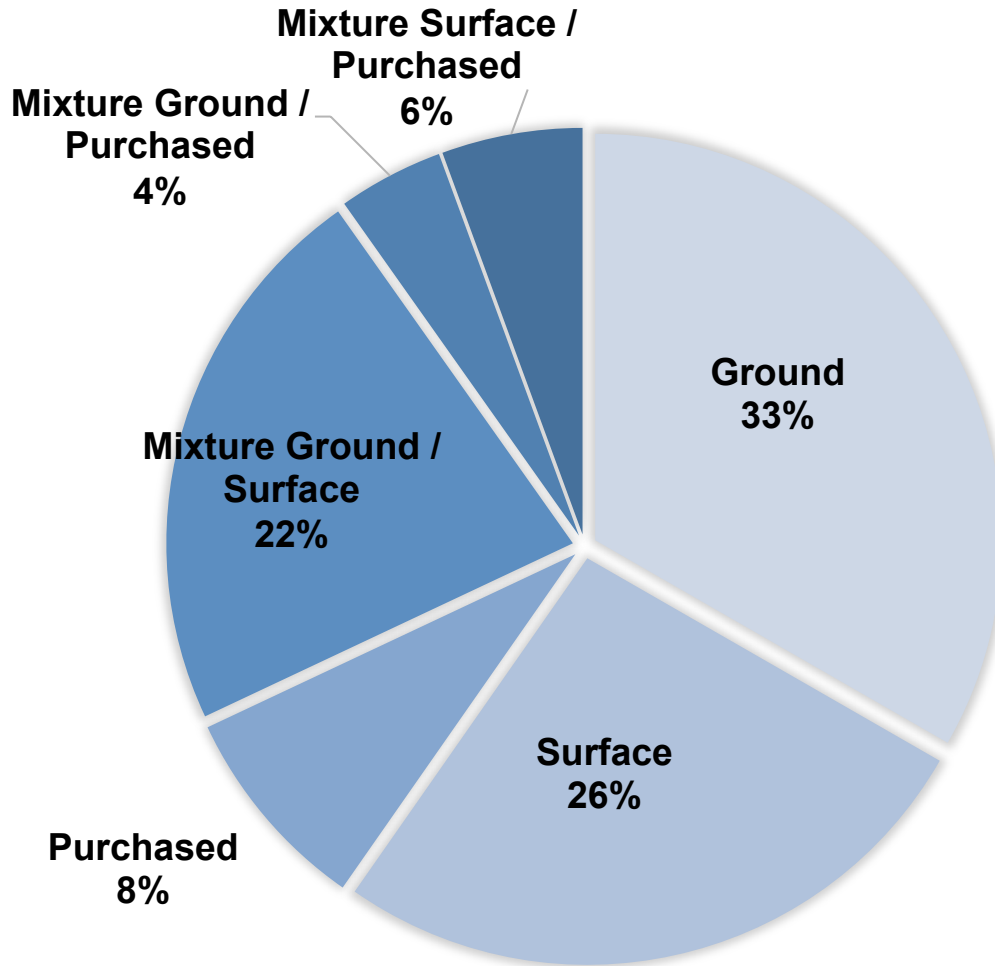


Average MGD Produced by Water System



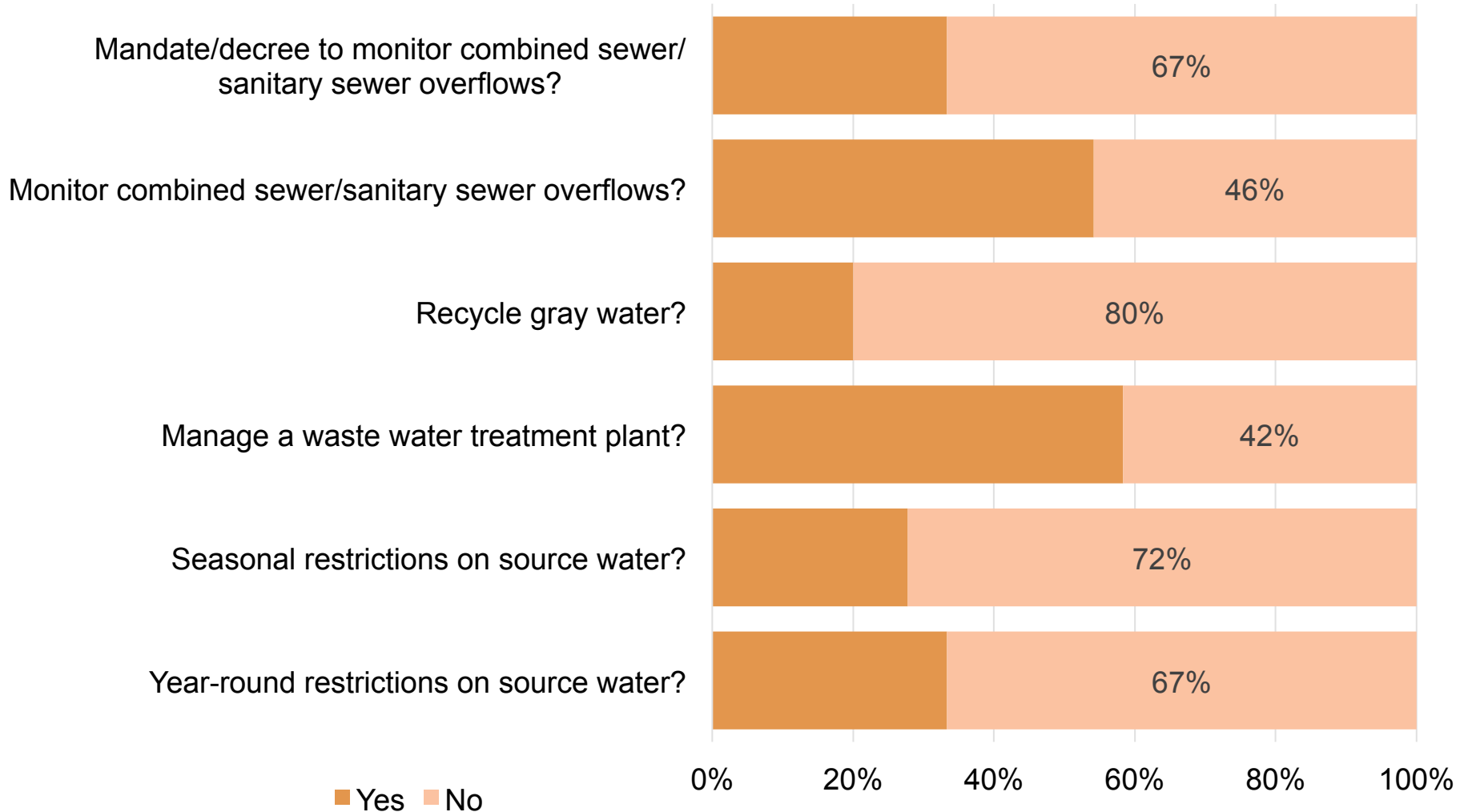
In terms of water production, most respondents produced between 10 and 25 MGD

Source Water



Most respondents relied on surface (26%) and ground (33%) water, or a combination of the two (22%).

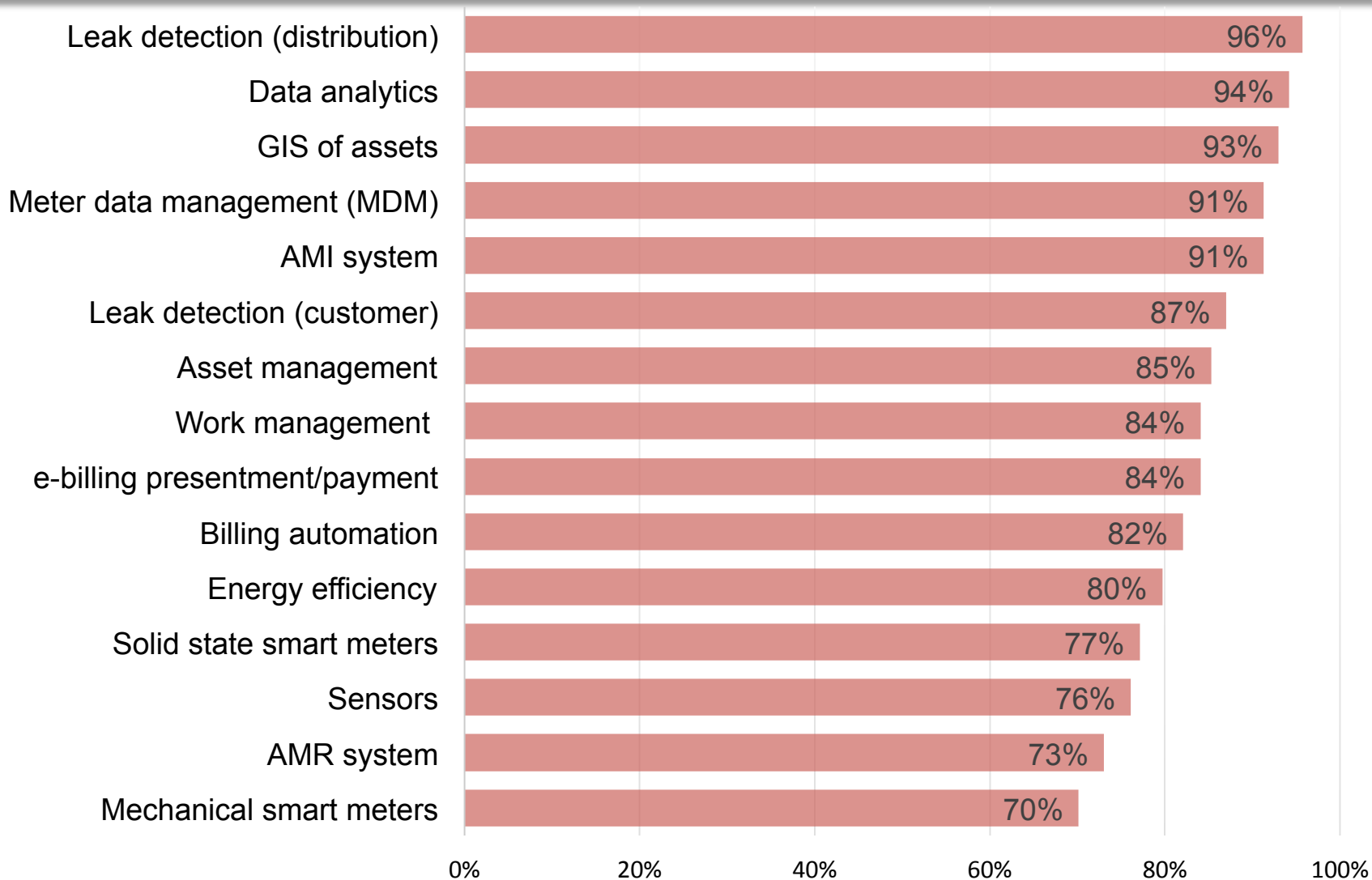
Does Your Utility:



Respondents faced a variety of pressures and responsibilities from mandates to monitor combined sewer/sanitary sewer overflows (54%) to managing wastewater treatment plants (58%).

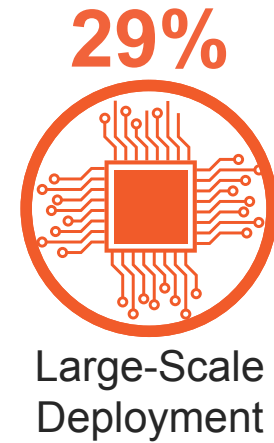
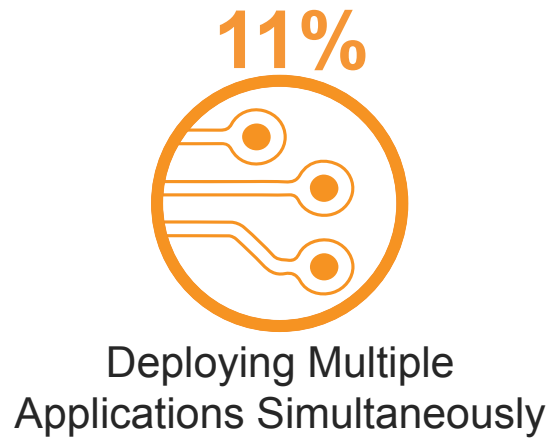
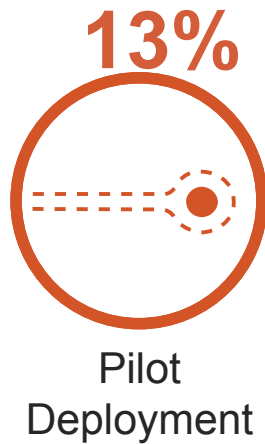
Smart Water Overview

Importance for Smart Water Infrastructure



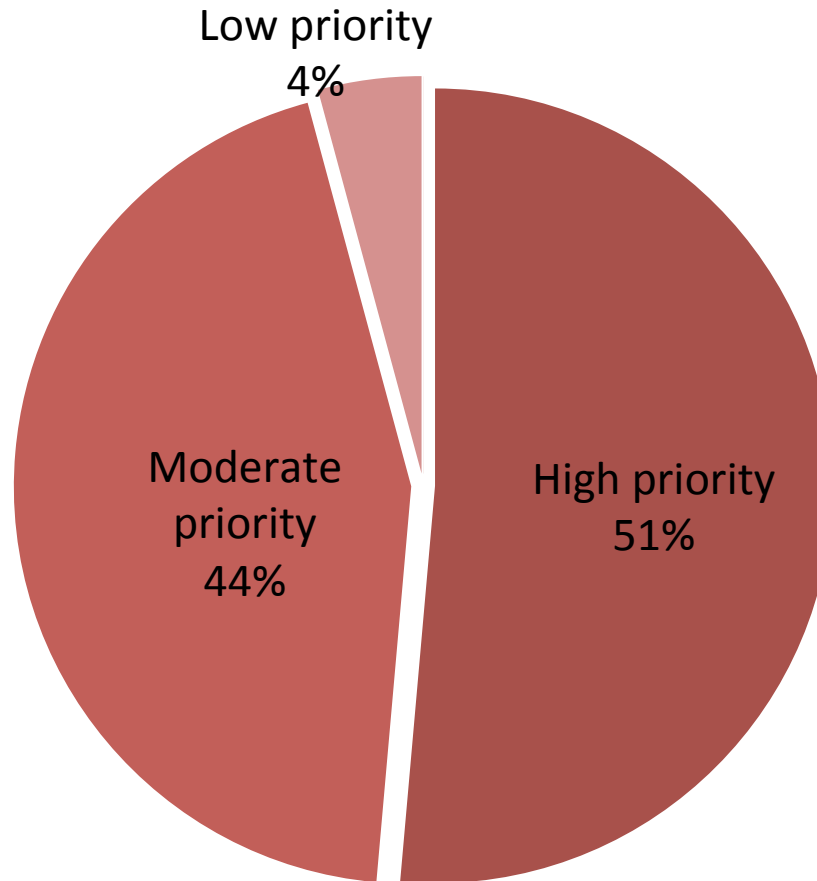
Respondents agreed that smart water infrastructure should cover a variety of technologies, including leak detection (96%), data analytics (94%), and GIS (93%).

Status of Smart Water Infrastructure Deployment



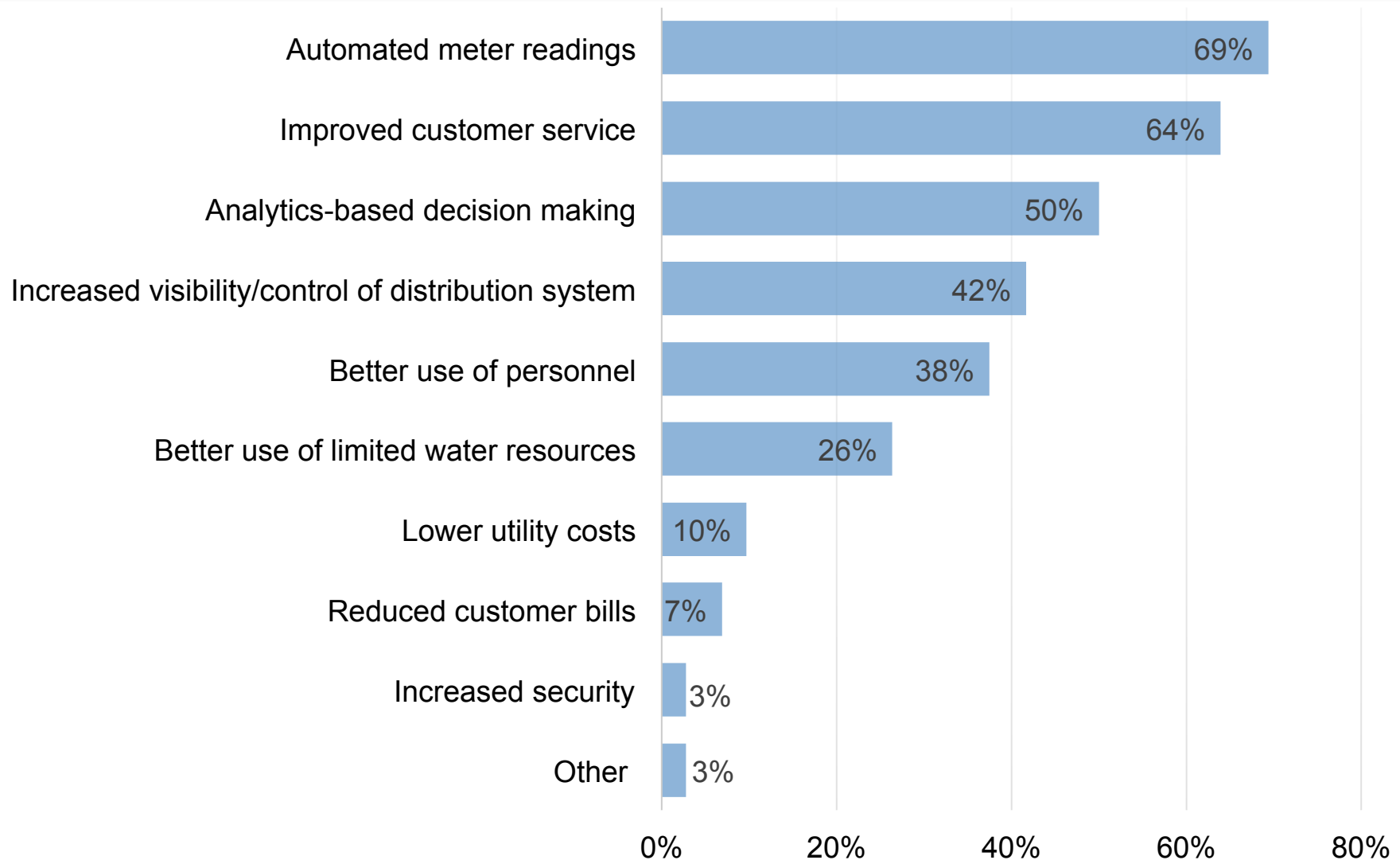
Many respondents are still in the planning/investigation stage (36%) for smart water systems, but most (53%) are undertaking at least some smart water efforts, including pilot programs.

Importance of Smart Water in the Next 24 to 36 Months



Smart water systems are priorities in the plans of most water utilities in the next 24 to 36 months. Many utilities rate smart water systems as high priorities (51%) and moderate priorities (44%) in their plans.

Top Three Benefits of Smart Water Technology

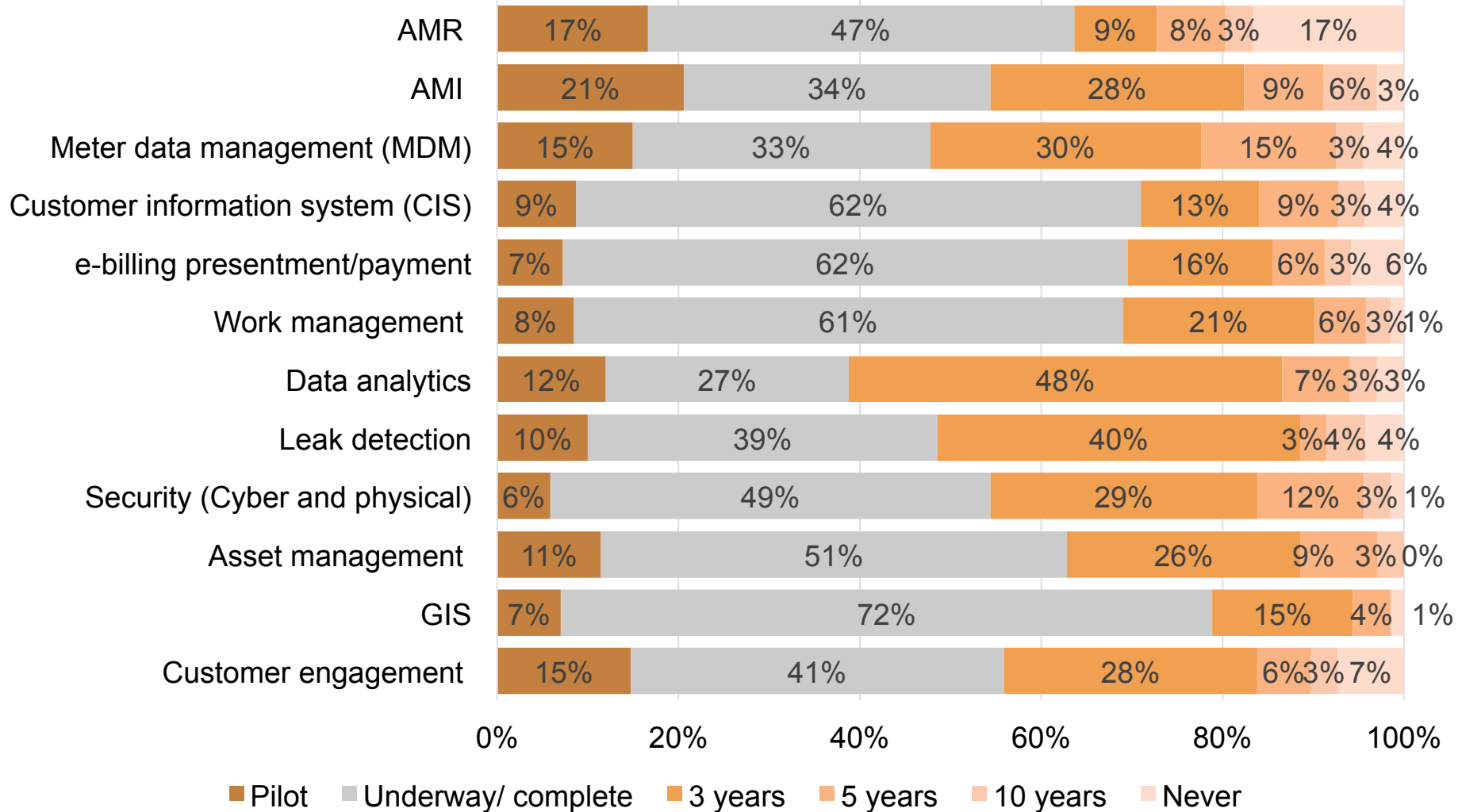


Although basic benefits of smart water are still important, such as automating meter reads (69%) and improved customer service (64%), water utilities are finding more advanced benefits like analytics-based decision making (50%).

Source: 2016 Zpryme/SWS Survey of 85 Utilities Conducted in August/September 2016

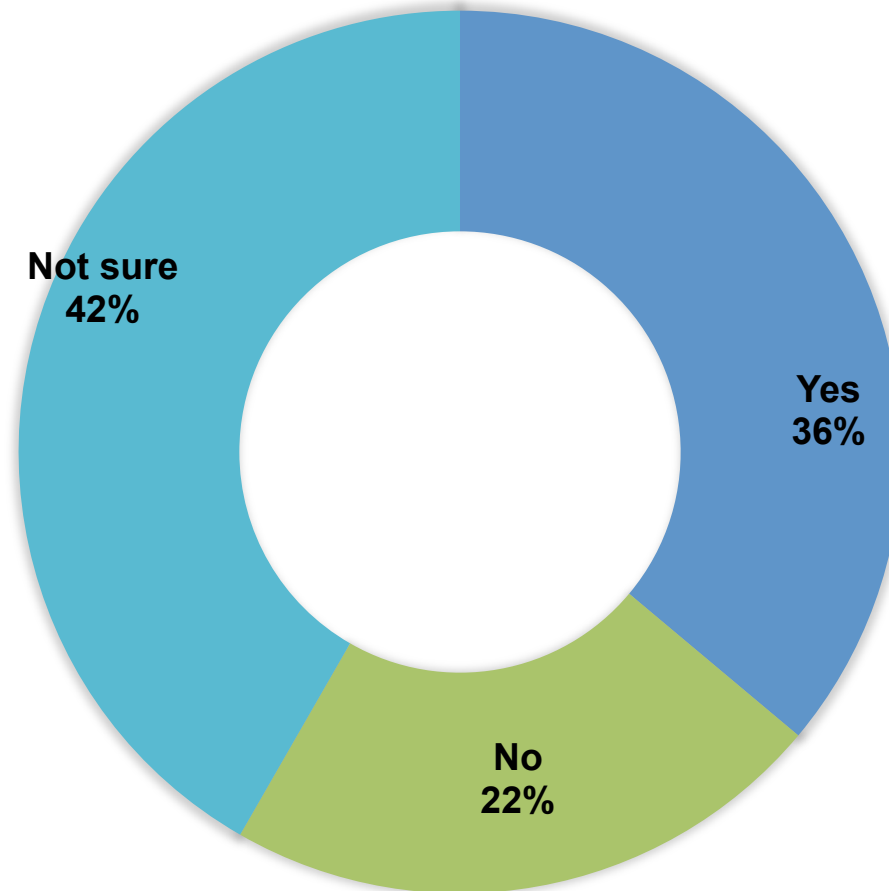
Smart Water Technology

Technology Status



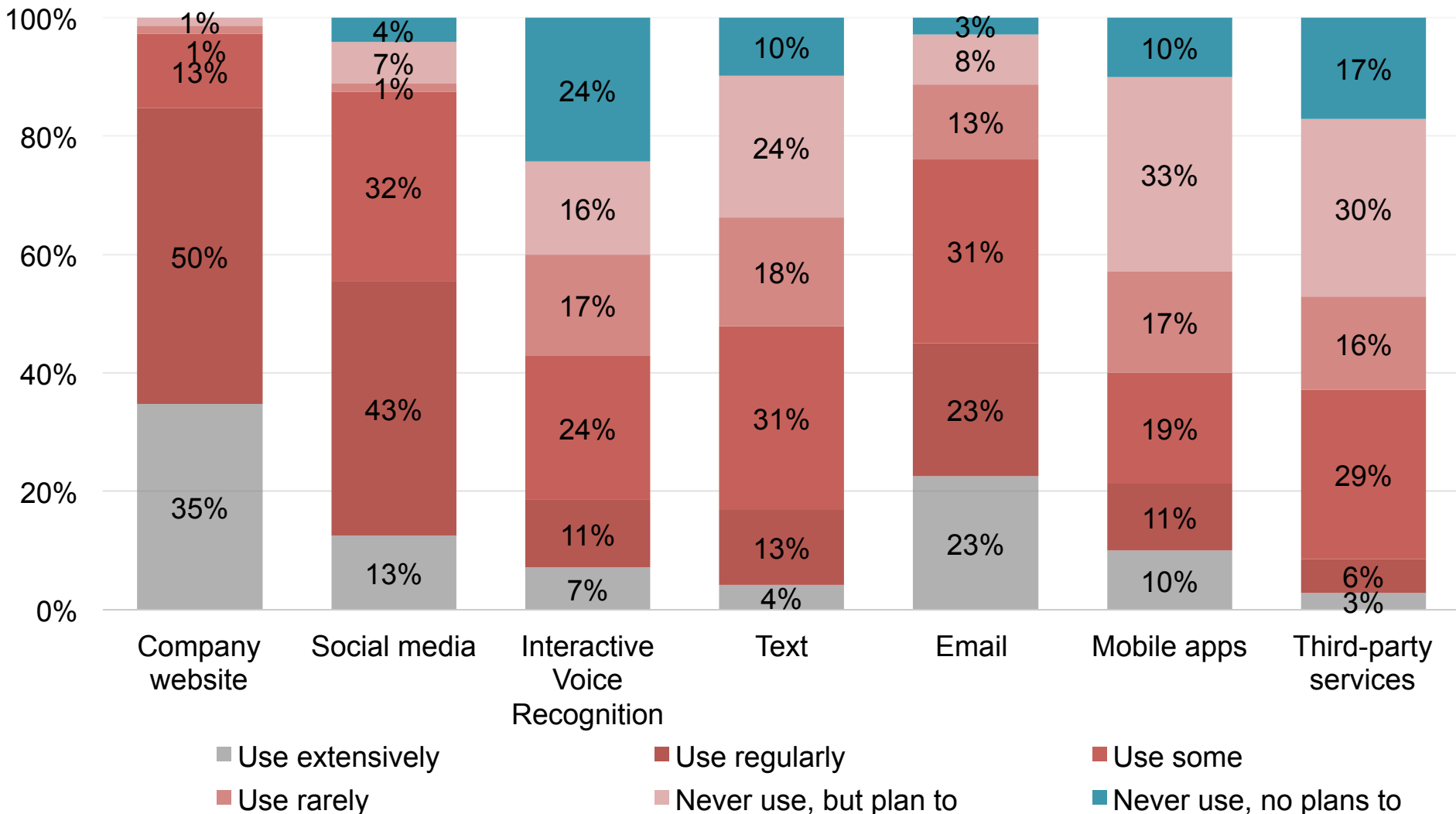
Water utilities are taking on a variety of smart water technologies, including AMR (47%). A third of respondents are working on AMI, MDM and leak detection. More traditional technologies, such as CIS (62%) and GIS (72%), have greater usage within water utilities than newer smart water technologies.

Would You Consider Managed Services?



Some utilities are considering managed services (36%), but nearly half are not sure about managed services (42%). Some respondents weren't sure because they did not understand managed services.

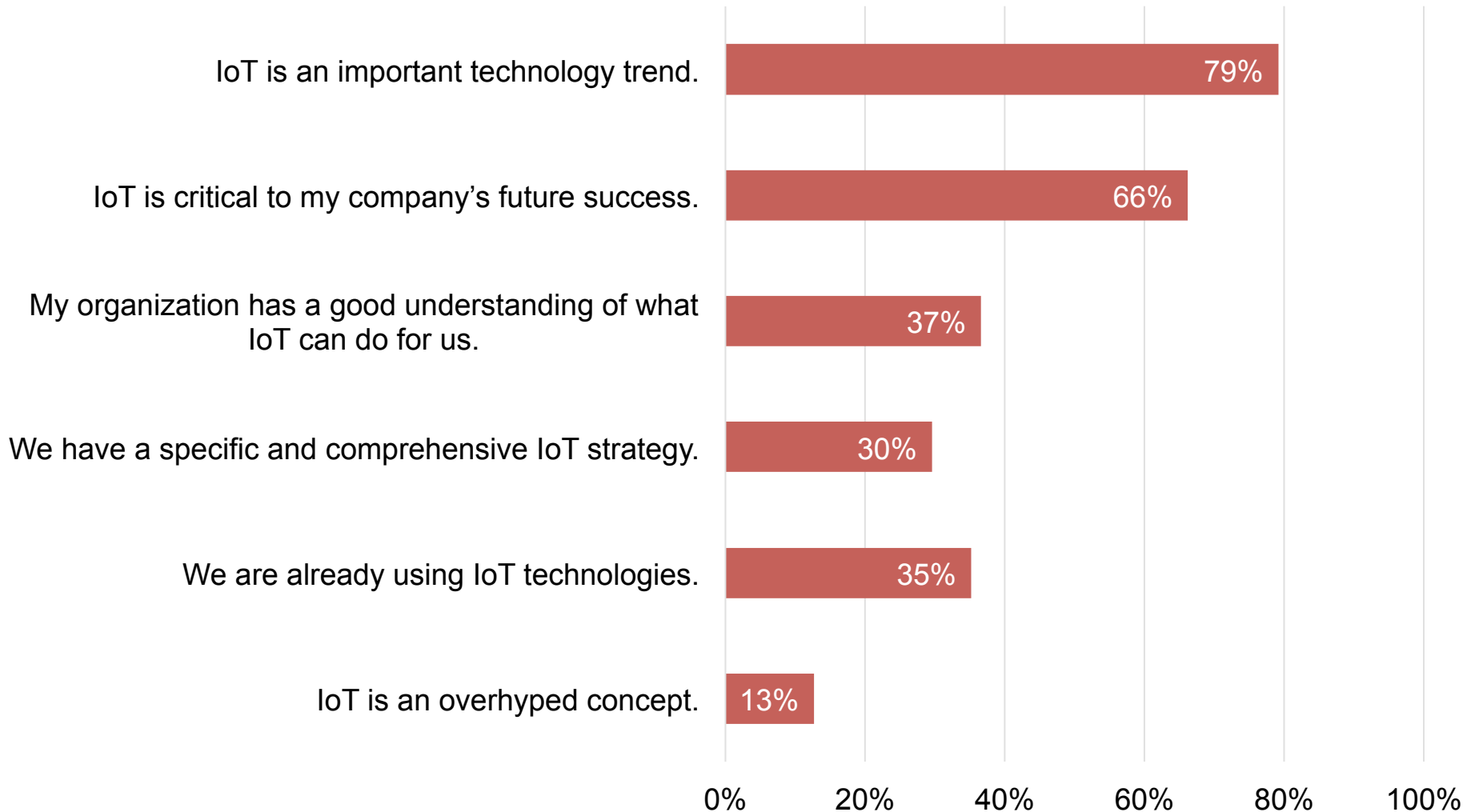
Use of Customer Engagement Tools



Smart water systems also include customer engagement tools. Water utilities use their website the most, followed by email and social media. Many admitted that they need to increase their customer engagement efforts.

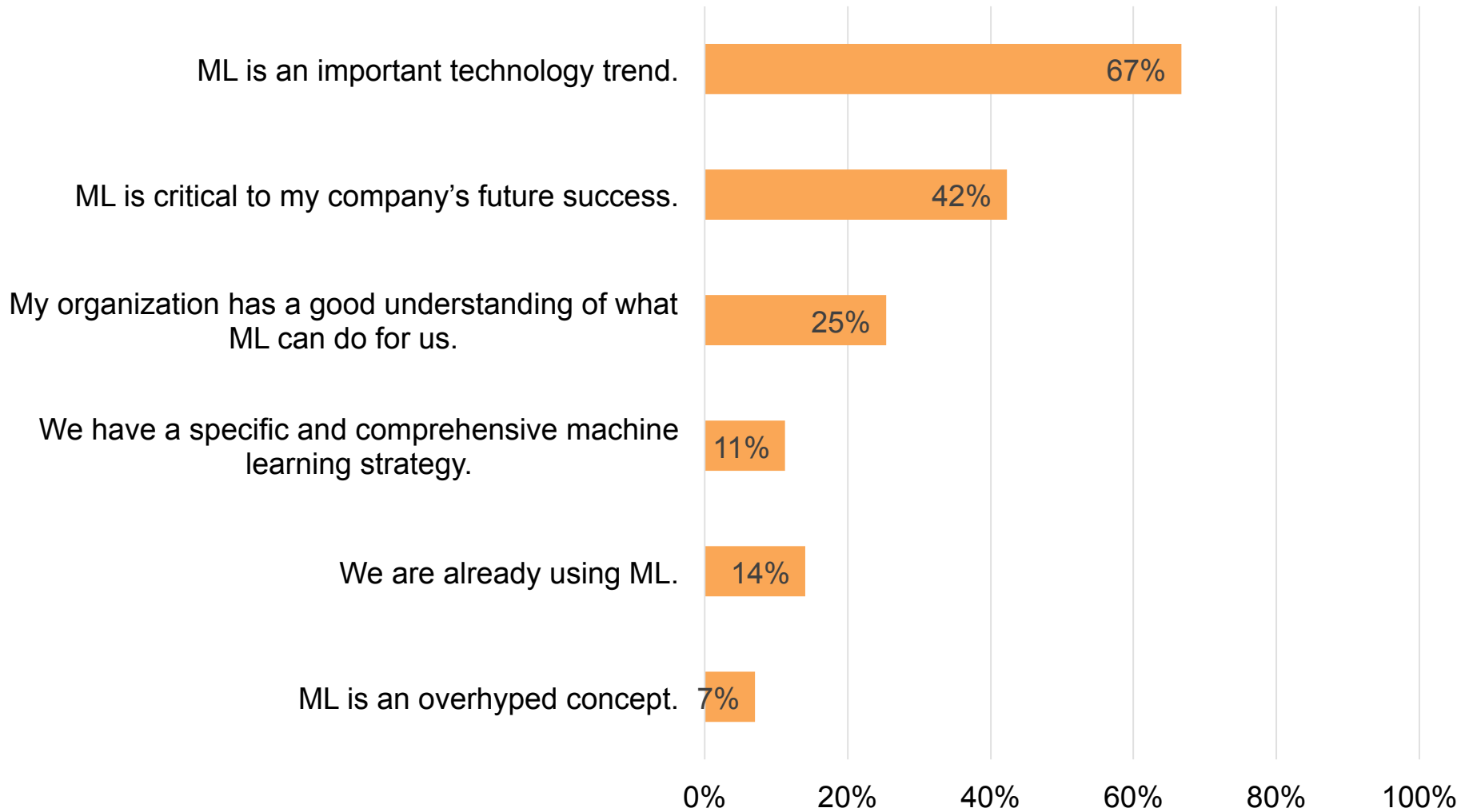
Source: 2016 Zpryme/SWS Survey of 85 Utilities Conducted in August/September 2016

Internet of Things (IoT) Investments



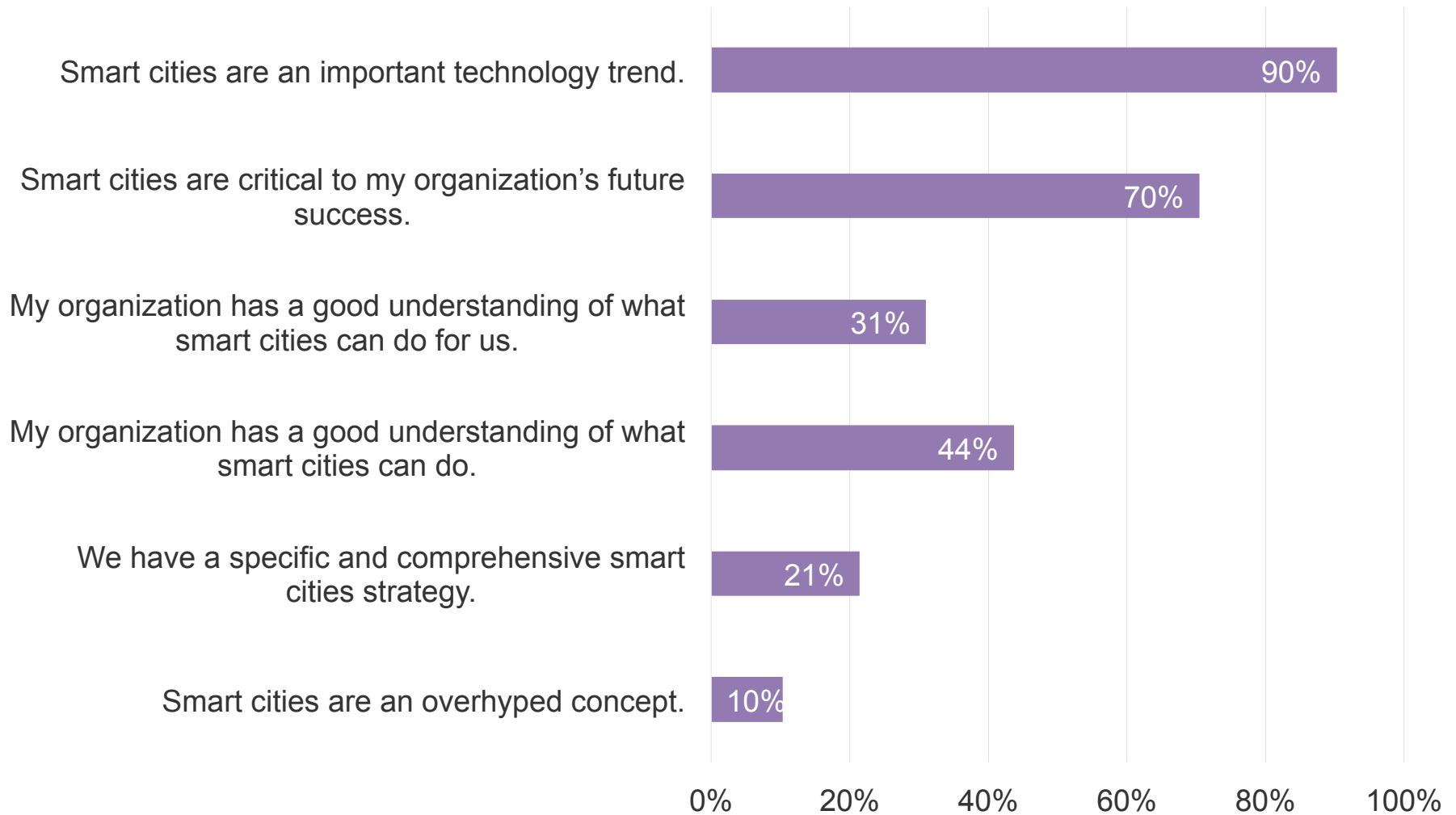
Most utilities understand IoT is an important technology trend (79%), however only roughly a third have a good understanding of what IoT can do for their organization (37%).

Machine Learning (ML) Investments



Machine Learning is a rising technology trend with most utilities understanding its importance to their organization (67%), but only a fourth understand what ML can do for their organization (25%).

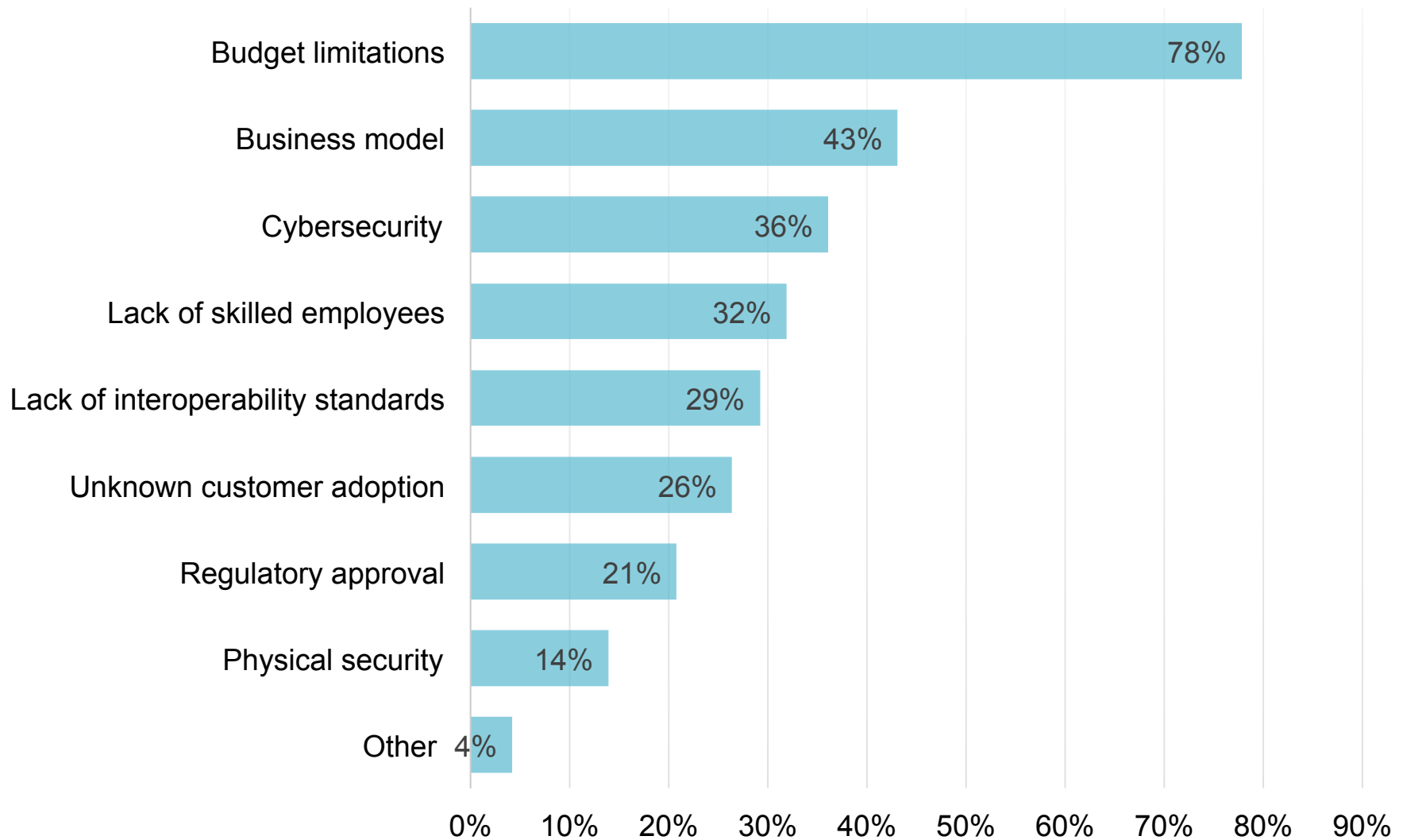
Smart City Investments



Nearly all utilities understand Smart Cities are an important technology trend (90%), however only some have an understanding of what it can do for their organization (31%).

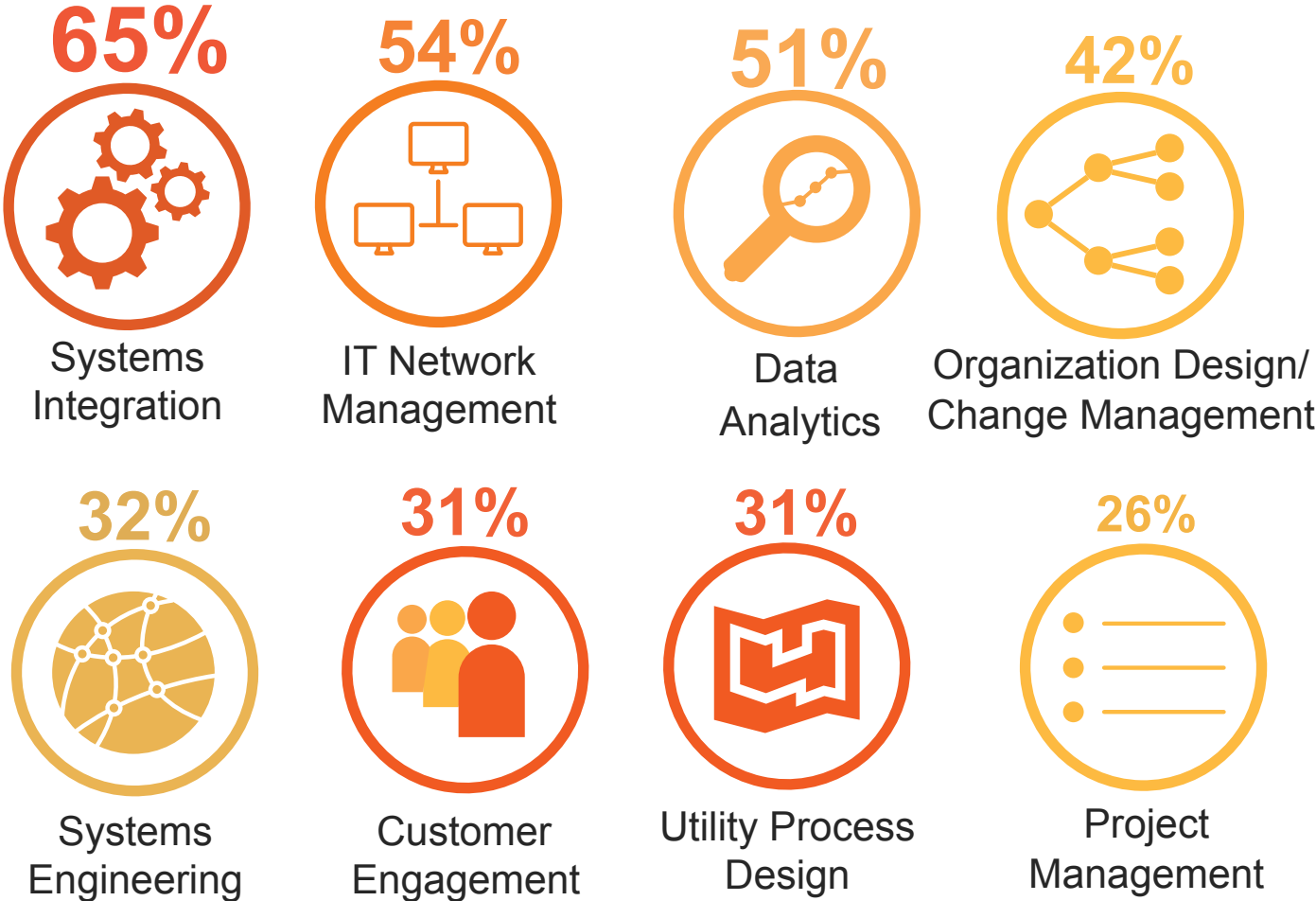
Smart Water Challenges

Top Three Concerns for Implementing Smart Water



Even with the opportunities and benefits of smart water systems, there are still challenges, primarily cost (78%). Business model (43%) and cybersecurity (36%) round out the top concerns.

Smart Water Skill Gaps for Existing Workforce

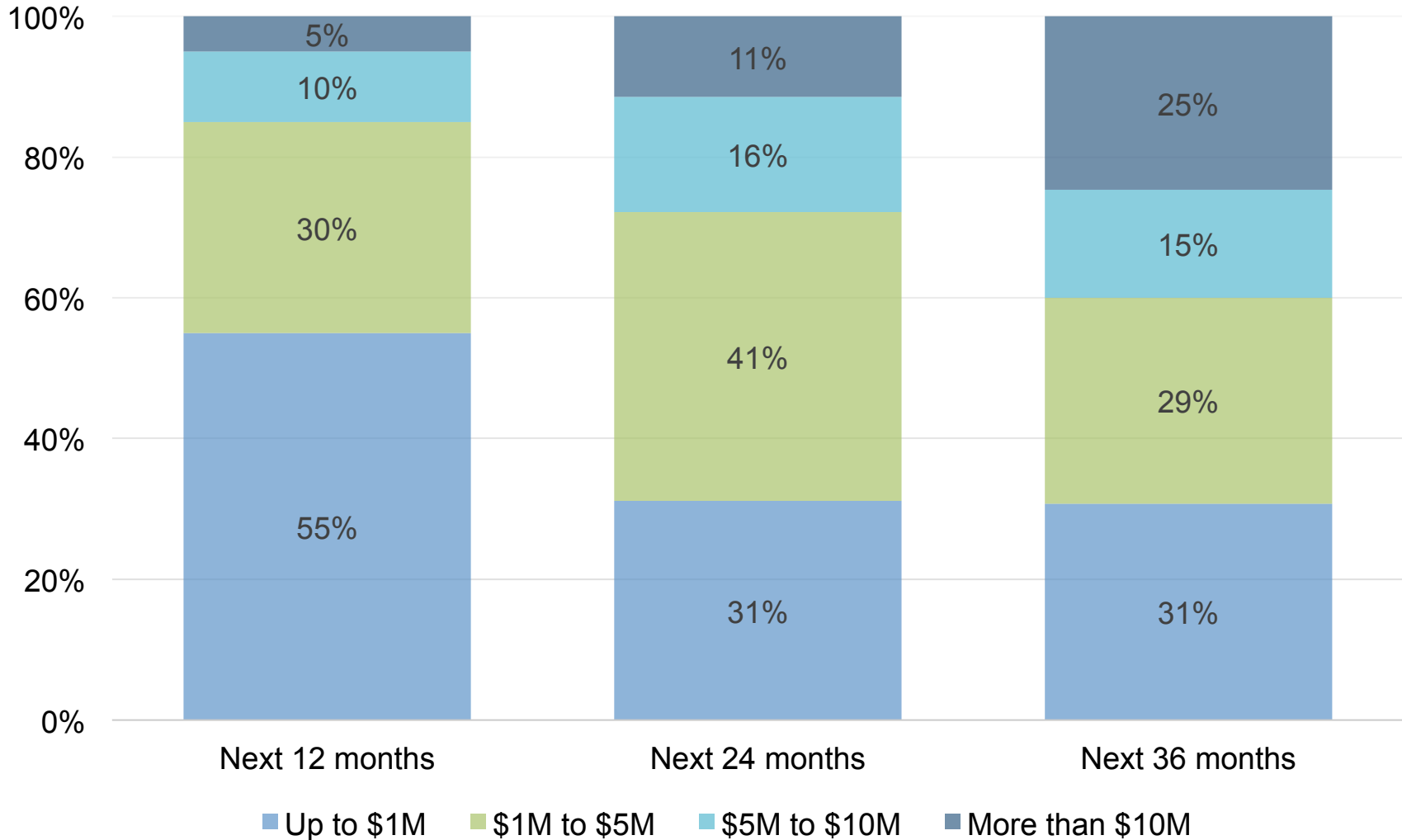


Smart water isn't just about technology; people are an important part of it, too. The biggest skill gaps facing water utilities include systems integration (65%) and data analytics (51%) skills.

Source: 2016 Zpryme/SWS Survey of 85 Utilities Conducted in August/September 2016

Smart Water Spending

Smart Water Spending Trends



Most water utilities are planning to spend up to \$1M on smart water in the next 12 months (55%). A fourth of organizations plan to spend more than \$10M on smart water in the next 36 months (25%).

Sensus

About Sensus

Sensus helps a wide range of public service providers—from utilities to cities to industrial complexes and campuses—do more with their infrastructure to improve quality of life in their communities. We enable our customers to reach farther through the application of technology and data-driven insights that deliver efficiency and responsiveness. We partner with them to anticipate and respond to evolving business needs with innovation in sensing and communications technologies, data analytics and services.



zpryme

etsinsights.com

SENSUS



UTILITY INNOVATION
SERIES REPORT

About the Utility Innovation Series Reports

Smart grids and smart networks have the power to transform the utility industry, but what progress is being made by utilities? What are leading utilities doing to drive change?

The Utility Innovation Series Reports are designed to keep utilities informed of how their peers are approaching this quickly evolving space. Zpryme produces comprehensive annual research reports based on survey findings from 80+ utilities in the industry. Reports in this series include:

- Investor-owned utility outlook
- Municipal utility outlook
- Natural gas smart network outlook
- Water smart network outlook
- Rural cooperative outlook