

F R O S T & S U L L I V A N

2024 COMPANY OF THE YEAR

*IN THE EUROPEAN
SMART WATER METERING
INDUSTRY*

F R O S T & S U L L I V A N

BEST
2024 PRACTICES
AWARD



Best Practices Criteria for World-Class Performance

Frost & Sullivan applies a rigorous analytical process to evaluate multiple nominees for each award category before determining the final award recipient. The process involves a detailed evaluation of best practices criteria across two dimensions for each nominated company. Vodafone excels in many of the criteria in the smart water metering space.

AWARD CRITERIA	
<i>Visionary Innovation & Performance</i>	<i>Customer Impact</i>
Addressing Unmet Needs	Price/Performance Value
Visionary Scenarios Through Mega Trends	Customer Purchase Experience
Implementation of Best Practices	Customer Ownership Experience
Leadership Focus	Customer Service Experience
Financial Performance	Brand Equity

Smart Water Metering Overview in Europe

Smart water metering has emerged as a pivotal technology in Europe's ongoing efforts to modernize water infrastructure, enhance efficiency, and tackle water resource challenges. These advanced systems leverage cutting-edge technologies to monitor and manage water consumption remotely, offering real-time data that is invaluable for utility providers and consumers.

The remote monitoring and management capabilities of smart water metering systems contribute to operational efficiency and productivity for water utilities. This technology reduces the reliance on traditional, time-consuming data collection methods and allows for prompt responses to issues such as leaks or abnormal usage patterns. Moreover, these systems align with broader smart city initiatives by integrating water data with other urban infrastructure systems. This incorporation enhances overall city efficiency, resilience, and sustainability, contributing to a holistic approach to urban development and resource management.

Beyond operational concerns, smart water metering also meets the demand for increased customer engagement. By offering real-time water usage information, these systems empower consumers to make informed decisions about their consumption habits, fostering awareness and responsibility. The wealth of data generated by these systems allows utilities to make choices based on consumption patterns, identify trends, and predict future demand. Additionally, advancements in sensor technologies and

communication protocols are driving the trend toward more sophisticated and interconnected smart water metering systems.

Vodafone's Profile

Vodafone Group Plc (Vodafone), based in London, England, is a major global telecommunications (telecom) company. It operates in many countries globally, providing mobile services to millions of people and offering various business solutions. Known for its focus on innovation and connectivity, Vodafone aims to create an inclusive digital society.

Vodafone is a leader in the Internet of Things (IoT) telecom technology, connecting over 182 million

“Vodafone focuses on providing an open and adaptable solution for water distribution companies, allowing it to customize components based on their unique requirements. Collaborations with key manufacturers ensure ongoing innovation, making the company's offerings valuable throughout contractual periods. The emphasis on technical aspects, including efficiency and cybersecurity, underscores Vodafone's dedication to delivering innovative and reliable IoT solutions in the domain of smart water metering.”

**- Fredrick Royan
Environment & Sustainability Research VP**

devices across 190 countries. This capability highlights its expertise in advancing connected technologies. Vodafone Spain was the first European market to deploy narrowband IoT, emphasizing the company's long-term perspective and strategic planning.

Apart from traditional services, Vodafone excels in smart water metering solutions. Using its technological know-how, the company offers innovative tools for efficient water monitoring, contributing to conservation efforts and improving billing accuracy. This approach showcases Vodafone's commitment to using technology for improved services and customer engagement in communities and driving the key outcome of

sustainable resource management.

Vodafone's Innovation Journey in Smart Water Metering

As a trailblazer in the telecom industry, Vodafone, is synonymous with innovation, continuously exploring new technologies to maintain its leading position. This technology-driven company invests substantially in cutting-edge solutions to elevate its networks, products, and services, ensuring a seamless and efficient experience for its customers.

The deployment of narrowband IoT (NB-IoT) posed unique challenges, diverging from conventional technologies such as third generation, fourth generation, and fifth generation of mobile technology, primarily due to an extended payback period. Vodafone also encountered challenges during the NB-IoT deployment for water metering, particularly in device efficiency and battery life optimization. In response, the company collaborated with labs to fine-tune firmware, achieving an impressive 12-year battery life. Vodafone recognized its pivotal role as a network operator in maintaining service level agreements for battery life, emphasizing the importance of minimizing battery consumption through power-saving modes.

Amidst growing challenges, Vodafone's team is embarking on a transformative journey that will unfold critical milestones. The company's substantial NB-IoT deployment for water metering, which commenced in 2020, marked a significant achievement, with the company set to install over 10,000 water meters in a city with 40,000 households.

“Vodafone demonstrates a commitment to innovation through its comprehensive end-to-end IoT solutions covering gateways and meters. The company presents its water metering solution as an integrated and robust package designed for seamless data collection and delivery. This innovative technology is designed to elevate water companies’ monitoring and detection systems, with goals encompassing enhanced efficiency, waste minimization, and regulatory standards compliance.”

- Norazah Bachok
Best Practices Research Analyst

Vodafone focuses on providing an open and adaptable solution for water distribution companies, allowing it to customize components based on their unique requirements. Collaborations with key manufacturers ensure ongoing innovation, making the company's offerings valuable throughout contractual periods. The emphasis on technical aspects, including efficiency and cybersecurity, underscores Vodafone's dedication to delivering innovative and reliable IoT solutions in the domain of smart water metering.

The company attributes its success to factors such as receiving strategic capital expenditure to improve narrowband coverage, and collaborations with partners like ScienceCom. Through shared resources and expertise, the collaboration streamlines water

metering processes, optimizing operations and resource utilization. Furthermore, this partnership is designed to proactively address upcoming regulations, including the Information Technology Cyber Security Act, ensuring the company remains compliant and resilient against cybersecurity challenges. In essence, these collaborations not only bolster water metering capabilities but also play a crucial role in simplifying business operations, enhancing efficiency, and navigating evolving regulatory landscapes.

Additionally, E.ON, a major energy infrastructure operator in Europe, has teamed up with Vodafone to address the prevalent issue of water pipe bursts in Germany. With pipes bursting every 30 seconds and causing significant damage, the partnership aims to utilize smart meters, and IoT technology to detect and mitigate water-related damages promptly. The initiative focuses on installing digital technology directly on water meters to transmit data through the existing mobile network, with the Ruhr region already experiencing its immediate deployment.

The collaboration extends beyond water meters, with plans to implement similar solutions for electricity and gas meters in the future, reflecting a comprehensive approach to resource conservation. Smart meters play a crucial role in early detection, allowing for swift intervention and aligning with sustainability goals. Vodafone's expertise contributes to the partnership by providing a secure and efficient mobile network for data transmission, showcasing a commitment to advancing digitalization and sustainability. The partnership also envisions user-focused solutions, such as the "Water Heroes" application, empowering consumers to monitor water consumption and receive alerts on their smartphones. The technology's scalability and retrofitting capabilities demonstrate a dedication to practicality and cost-effectiveness, with a focus on professional data processing to maximize benefits for customers and companies while adhering to industry standards.

Frost & Sullivan analysis finds that Vodafone emerges as an optimal choice for smart water metering providers due to its strategic approach and technical prowess. Despite challenges associated with deploying narrowband IoT and its longer payback period, Vodafone's foray into industrial verticals, specifically water metering, showcases a deep understanding of business environment and its related challenges and associated investment plans.

Revolutionizing Water Management: Vodafone's Leading Role in Smart Water Metering

In the dynamic smart water metering landscape, Vodafone emerges as the frontrunner, distinguished by its strategic vision and technical prowess. The company's unwavering commitment to integrating IoT technology into smart meters also facilitates efficient energy and water consumption monitoring and yields invaluable insights for implementing cost-saving measures. Vodafone's substantial contribution to the United Kingdom (UK) smart metering programs for major energy companies underscores its profound impact on the industry.

Embracing the widespread NB-IoT adoption, Vodafone actively collaborates with the UK Water industry to tailor solutions to diverse smart metering deployment needs. The company's collaborative strategy ensures alignment with the unique challenges and demands of the UK water sector, delivering tailored and efficient solutions.

In response to Spain's intensified focus on water management, Vodafone adapts its strategies to varying technology preferences across regions. Spain's preference for NB-IoT and Italy's diversified approach incorporating a hybrid solution highlight Vodafone's flexibility in integrating technologies from different manufacturers into its IoT solutions. This adaptability accelerates growth and broadens appeal to a diverse customer base.

Frost & Sullivan applauds Vodafone's groundbreaking IoT solution, designed to catalyze transformation in the European water industry, marking a significant milestone. Meticulously crafted, this innovative technology aims to elevate monitoring and detection systems for water companies, with a focus on enhancing efficiency, minimizing waste, and ensuring regulatory standards compliance.

Expanding Reach and Anticipating Future Initiatives

Vodafone demonstrates a commitment to innovation through its comprehensive end-to-end IoT solutions covering gateways and meters. The company presents its water metering solution as an integrated and robust package designed for seamless data collection and delivery. This innovative technology is designed to elevate water companies' monitoring and detection systems, with goals encompassing enhanced efficiency, waste minimization, and regulatory standards compliance. Rather than imposing a rigid operational model, Vodafone provides an abstraction layer, allowing customers flexible component selection. This approach garners recognition from Frost & Sullivan, applauding the company's openness to integrate various manufacturers into its ecosystem and emphasizing flexibility to meet customer preferences. Vodafone's new solution offers a unified data management platform that seamlessly integrates legacy and new sensors into a single system, markedly improving operational efficiency.

Devices: Vodafone procures and integrates various devices, such as smart meters and data loggers, into a cohesive management platform. By incorporating diverse devices, Vodafone ensures a comprehensive approach to data collection and monitoring.

Connectivity: The solution ensures robust connectivity by leveraging Vodafone's NB-IoT coverage, spanning 98% of the UK geography. This extensive coverage is vital for establishing a reliable connection between the integrated devices and the centralized platform. With a focus on NB-IoT, Vodafone guarantees a secure and efficient data transfer, contributing to the overall success of the unified platform.

Data Management: A unified platform enables users to manage new and legacy devices, securely integrating all data sets. This includes acquisition, orchestration, storage, analysis, and data visualization from diverse devices. By unifying data management, Vodafone addresses the challenge of handling information from various sources. The secure integration of data sets ensures a streamlined process from data acquisition to visualization, enhancing overall efficiency.

Service: Vodafone provides ongoing advice and collaboration to optimize the value derived from the IoT deployment, ensuring a swift return on investment. The user-friendly technology simplifies deployment and management for water companies seeking to enhance surveillance, telemetry, and regulatory compliance. As part of its service, Vodafone offers continuous support to maximize the benefits of the IoT deployment. This includes advice and collaboration, making it easier for water companies to implement and manage the technology for improved surveillance, telemetry, and compliance.

Through these cutting-edge technologies, Vodafone secures substantial contracts in the smart water metering business segment. The company's success in delivering innovative solutions solidifies its position as a key player in the industry. These secure contracts underscore the trust stakeholders place in Vodafone's smart water metering capabilities. Through this trust, the company has secured key projects in 2023.

Canal de Isabel II¹:

Vodafone secured a contract valued at over €25 million, involving the supply of 315,000 advanced IoT meters integrated with NB-IoT technology for automatic remote reading. This initiative aims to enable remote reading capabilities for more than six million users in Madrid over the next five years. Vodafone's engagement extends beyond fulfilling the specifics of the contract, contributing to the creation of the Vodafone Water Metering solution. This innovative solution addresses broader digitization needs, promising improved water use efficiency and environmental impact, while creating employment opportunities in Madrid.

SUEZ²:

A five-year partnership with SUEZ aims to enhance smart metering network technology for water utilities resource management. The collaboration focuses on a cost-effective Advanced Metering Infrastructure

¹ <https://www.datacenterdynamics.com/en/news/vodafone-spain-wins-five-year-iot-deal-with-water-firm-canal-de-isabel-ii/>

² <https://www.suez.com/en/uk/news/press-releases/suez-and-vodafone-partner-connectivity-next-generation-smart-water-meters>

based on NB-IoT network technology, addressing challenges in smart meter connectivity and hardware variety. The tailored network design combines Wize technology and NB-IoT, ensuring comprehensive coverage for each water company, contributing to water conservation and operational efficiency.

Beyond these secured projects, Vodafone's reach extends to other parts of Europe, with confirmed contracts and ongoing deployments in the UK and Italy. The company anticipates a surge in roughly 30 new initiatives in Spain within the next 12 months, emphasizing its openness, ability to anticipate market needs, and success in addressing challenges related to NB-IoT applications for water metering.

Vodafone's prowess in smart water metering is evident through its strategic collaborations, innovative solutions, and the successful execution of key projects. The company's commitment to technological excellence positions it as a leader in shaping the future of water management, in Spain and beyond.

Conclusion

Vodafone Group Plc's (Vodafone) global impact is evident in its success stories, with Spain's heightened focus on water management serving as a prime example. The company adeptly navigates varying technology preferences across regions, such as Spain's preference for narrowband Internet of Things and Italy's adoption of a hybrid solution. Vodafone's emphasis on flexibility in integrating technologies from different manufacturers into its IoT solutions positions the company as an adaptive industry leader, catering to diverse customer needs and accelerating growth.

Vodafone's leadership in smart water metering is a testament to its unwavering commitment to innovation, strategic collaboration, and the seamless integration of cutting-edge technologies. The company's success stories, global impact, and ability to adapt to regional preferences position it as a trailblazer in the industry, shaping the future of water management with a visionary and customer-centric approach. Vodafone's journey in smart water metering marks a significant milestone in the industry and sets a benchmark for excellence, showcasing its capacity to address challenges, collaborate effectively, and deliver groundbreaking solutions consistently.

With its strong overall performance, Vodafone earns Frost & Sullivan's 2024 European Company of the Year Award in the smart water metering industry.

What You Need to Know about the Company of the Year Recognition

Frost & Sullivan's Company of the Year Award is its top honor and recognizes the market participant that exemplifies visionary innovation, market-leading performance, and unmatched customer care.

Best Practices Award Analysis

For the Company of the Year Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Visionary Innovation & Performance

Addressing Unmet Needs: Customers' unmet or under-served needs are unearthed and addressed by a robust solution development process

Visionary Scenarios Through Mega Trends:

Long-range, macro-level scenarios are incorporated into the innovation strategy through the use of Mega Trends, thereby enabling first-to-market solutions and new growth opportunities

Leadership Focus: Company focuses on building a leadership position in core markets and on creating stiff barriers to entry for new competitors

Best Practices Implementation: Best-in-class implementation is characterized by processes, tools, or activities that generate a consistent and repeatable level of success

Financial Performance: Strong overall business performance is achieved in terms of revenue, revenue growth, operating margin, and other key financial metrics

Customer Impact

Price/Performance Value: Products or services provide the best value for the price compared to similar market offerings

Customer Purchase Experience: Quality of the purchase experience assures customers that they are buying the optimal solution for addressing their unique needs and constraints

Customer Ownership Experience: Customers proudly own the company's product or service and have a positive experience throughout the life of the product or service

Customer Service Experience: Customer service is accessible, fast, stress-free, and high quality

Brand Equity: Customers perceive the brand positively and exhibit high brand loyalty

About Frost & Sullivan

Frost & Sullivan is the Growth Pipeline Company™. We power our clients to a future shaped by growth. Our Growth Pipeline as a Service™ provides the CEO and the CEO's growth team with a continuous and rigorous platform of growth opportunities, ensuring long-term success. To achieve positive outcomes, our team leverages over 60 years of experience, coaching organizations of all types and sizes across 6 continents with our proven best practices. To power your Growth Pipeline future, visit Frost & Sullivan at <http://www.frost.com>.

The Growth Pipeline Engine™

Frost & Sullivan's proprietary model to systematically create ongoing growth opportunities and strategies for our clients is fuelled by the Innovation Generator™.

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Key Impacts:

- **Growth Pipeline:** Continuous Flow of Growth Opportunities
- **Growth Strategies:** Proven Best Practices
- **Innovation Culture:** Optimized Customer Experience
- **ROI & Margin:** Implementation Excellence
- **Transformational Growth:** Industry Leadership



The Innovation Generator™

Our 6 analytical perspectives are crucial in capturing the broadest range of innovative growth opportunities, most of which occur at the points of these perspectives.

Analytical Perspectives:

- **Mega Trend (MT)**
- **Business Model (BM)**
- **Technology (TE)**
- **Industries (IN)**
- **Customer (CU)**
- **Geographies (GE)**

