

FROST & SULLIVAN

IoTEROP

2022
TECHNOLOGY
INNOVATION
LEADER

*GLOBAL IoT MANAGEMENT
SOLUTIONS IN SMART
METERING INDUSTRY*

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. IoTerop excels in many of the criteria in the IoT management solutions in smart metering space.

AWARD CRITERIA	
<i>Technology Leverage</i>	<i>Customer Impact</i>
Commitment to Innovation	Price/Performance Value
Commitment to Creativity	Customer Purchase Experience
Stage Gate Efficiency	Customer Ownership Experience
Commercialization Success	Customer Service Experience
Application Diversity	Brand Equity

IoTerop: Driving IoT-driven Solutions for Smart Metering

The advent of cellular connectivity-enabled, massive (IoT) solutions drives the evolution of the global smart meter market from limited advanced metering infrastructure applications to increasingly interconnected intelligent ecosystems. However, operating, maintaining, and updating these expanding networks result in substantial operating expenses. Moreover, the interoperability challenges associated with large amounts of data trapped in incompatible, siloed systems lead to vendor lock-in issues, further exacerbating the cost-related burdens on utilities. Additionally, the cybersecurity concerns of managing a large number of devices, meters, and sensors in cloud-connected ecosystems restrain the overall market growth. As a result, there is a growing demand for open, standards-based, technology-agnostic, and secure IoT device management solutions to accelerate the deployment of smart meters globally. These solutions automate device installation, decrease on-site maintenance requirements through remote asset control, and mitigate device risk by remotely updating firmware, ultimately reducing the operating costs.

Founded in 2016 and headquartered in Montpellier, France, IoTerop is a leading software company offering groundbreaking IoT device management solutions across a wide range of industrial applications, such as smart metering, smart lighting, and logistics. The end-to-end technology embedded in the company’s cloud-based device management platform and disruptive software development tools enables utilities, solution providers, and device manufacturers to develop and deploy their IoT devices rapidly and cost-effectively.

Backed by world-class experts, IoTerop developed its powerful IoT device management solutions over the last six years. The company refined its holistic approach to massive IoT, continuously building its platform to accommodate evolving market needs. IoTerop addresses the interoperability challenges associated with managing large numbers of meters and sensors operating with multiple proprietary technologies by developing its software, cloud interface, and products to strictly adhere to the Lightweight Machine to Machine (LwM2M) protocol. Additionally, compliance with this globally-recognized open standards protocol eliminates vendor lock-in, thereby empowering customers with the

“More importantly, IoTerop advocates for open standards across the industry by working diligently with different standards bodies and alliances to ensure IoT is secure, interoperable, and standardized. The company drives these efforts as a significant contributor to the LwM2M standard and an acting member on the board of Open Mobile Alliance SpecWorks, the mobile phone industry standards organization.”

**- Neha Tatikota,
Industry Analyst- Energy &
Environment**

freedom to build their networks independent of proprietary systems. The LwM2M protocol also facilitates Narrowband-IoT (NB-IoT) and Long Term Evolution for Machines (LTE-M) connectivity, allowing customers to connect, monitor, and control their IoT devices remotely. More importantly, IoTerop advocates for open standards across the industry by working diligently with different standards bodies and alliances to ensure the IoT ecosystem is secure, interoperable, and standardized. The company drives these efforts as a significant contributor to the LwM2M standard and an acting member on the board of Open Mobile Alliance SpecWorks, the mobile phone industry standards organization. These initiatives enable IoTerop to stay ahead of industry trends and sustain its position as a leading IoT device management solution company.

With its foundational technology in place, IoTerop offers a comprehensive portfolio of solutions specifically designed for the smart meter and utilities industry and purpose-built to bridge industry gaps. The company uniquely enables rapid IoT development and scalable device management for customers of all sizes through its two flagship offerings;

- **IOWA Software Development Kit:** IOWA encompasses IoTerop’s disruptive IoT development tools and standardized, easy-to-use device management services to facilitate the customers’ development process and accelerate their time-to-market. This ultra-compact solution provides clients with the accessibility to all the LwM2M services on a single tested, supported, and well-documented platform in the form of packaged solutions with notably small memory footprints. Moreover, the IOWA offering is highly commendable for its proven capability to support customers in creating manageable and secure IoT-enabled smart meters in the most cost-effective and energy-efficient manner without maintaining extensive in-house development expertise.
- **ALASKA Device Management Platform:** ALASKA is the company’s highly-optimized cloud-based device management platform that offers remote management capabilities (monitor, control, and update) for the entire lifecycle (from bootstrapping and security to decommissioning) of the customers’ smart meter devices. This flexible and affordable solution is IoTerop’s Java

implementation of the LwM2M server (and uses the most common cloud-based microservices architecture), enabling it to scale from supporting tens to millions of devices throughout their entire lifecycles. Moreover, customers can run the solution on-premise or on any cloud platform to automate device management operations. Also, ALASKA ensures the highest levels of end-to-end security based on LwM2M and Object Security for Constrained RESTful Environments (IETF OSCORE & DTLS/TLS) standards.

IoTerop differentiates itself against its contemporaries due to its products' ability to automate the lifecycle management of the most constrained devices on the most limited communication networks, allowing the company to serve even small-scale clients' affordable devices. Additionally, the company's ALASKA and IOWA solutions significantly accelerate the development and deployment of smart meters. For instance, IoTerop's complete documentation and technological expertise uniquely enable customers to build targeted IoT solutions within an industry-leading time of a few hours. Moreover, IoTerop significantly reduces its customers' operational costs and increases their asset lifespans (10+ year lifespan for smart meters) by lowering their devices' network traffic and power impact by up to 70%.¹ Furthermore, the company offers enhanced protection against cyber-attacks by ensuring secure firmware installation and ongoing access to the latest software and security versions through regular over-the-air updates.

In addition to these unmatched capabilities, IoTerop's solutions are pre-approved for Ericsson, AT&T, and Verizon's networks/equipment, and they are certified (and used) by demanding industrial groups such as Itron and Groupe PSA.² The company continues to expand its robust client base with recent additions, including EDMI, Innotractor, and Intelliport.

Use case example: The leading smart metering solutions provider, EDMI partnered with IoTerop to incorporate LwM2M and NB-IoT capabilities into their newly released DN20 ultrasonic water meters. The DN20 meter features a 20+ year battery life and an STM32 chipset, allowing for very high performance, real-time analytics capabilities, digital signal processing, and low-power and low-voltage operation.³

"LwM2M 1.1 is critical to our strategy. Our analysis considered time-to-market, feature set, code maturity, documentation, support, and total-cost-of-ownership. IoTerop's IOWA was the clear winner."

- David Roe, Product Lead for Smart Water at EDMI Australasia

Frost & Sullivan's research identifies IoTerop as a leading partner, leveraging cutting-edge methodologies to advance the adoption of IoT management solutions in the smart metering market.

¹ <https://ioterop.com/alaska/>, accessed April 2022.

² <https://ioterop.com/>, accessed April 2022.

³ <https://www.edmi-meters.com/news-category/2022/>, accessed April 2022.

Roadmap to Success: Customer-centric, Continuous, Proactive

IoTerop serves smart meter companies across various segments, including water, gas, heat, and power metering. The company helps more than 22 customers and partners with its rapidly growing team in France, Taiwan, Singapore, and Australia. Moreover, IoTerop provides exceptional 24/7 customer service through its dedicated team of client success experts that support customers with thorough

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**- Sama Suwal,
Best Practices Research Analyst**

testing, documentation, and technical support across its solutions. Furthermore, the company offers customers essential resources, including blogs, newsletters, reports, webinars, whitepapers, and detailed tutorials, enabling clients to leverage the maximum potential of massive IoT across their offering portfolios. Moreover, IoTerop provides developer resources specially curated to support customers (both novices and experts) through their product development journeys. This offering provides access to the complete documentation for the IOWA software development kit, the CONNECTicut test server (IoTerop’s free, open LwM2M testing environment), code samples, demonstration applications, and how-to documents.

“Thanks to IoTerop’s IOWA, our meters are LwM2M and NB-IoT compliant. Our use of IOWA allowed for a much shorter time to market, and IOWA’s thorough documentation, simple API, and excellent support were key components of the DN20’s successful launch,”

- David Roe, Product Lead for Smart Water at EDM I Australasia

IoTerop uses client feedback and industry trend monitoring to guide its product roadmap and continuously evolve its solutions to maintain its innovative edge. Moreover, the company adopts a robust partnership approach, working closely with customers at different solution development and deployment stages, allowing them to leverage its market-leading LwM2M and constrained application protocol expertise to future-proof their investments. Furthermore, the company collects regular client feedback to ensure high customer satisfaction, earning a favorable market reputation and an expanding client base.

Conclusion

Technology integration is a critical success factor for the IoT device management in the smart meters industry. Yet, with many options available, market stakeholders need to leverage the most appropriate and best technology-based solutions to optimize their market impact. With its cloud-based ALASKA device management platform and disruptive IOWA software development kit, IoTerop enables utilities, solution providers, and device manufacturers to develop and deploy their IoT-enabled smart meter solutions rapidly and cost-effectively. IoTerop stands out from competitors based on its commitment to innovation, creativity, and ability to launch new solutions with far-reaching impact and application. Moreover, the company's efforts to address the prevalent interoperability challenges by advocating for industry standardization and building its products to adhere to the Lightweight Machine to Machine protocol strictly are notable. The company pairs its technology focus with customer-centric values, thus earning a solid reputation in the IoT device management in the smart meters market.

With its strong overall performance, IoTerop earns Frost & Sullivan's 2022 Global Enabling Technology Leadership Award in the IoT management solutions in smart metering industry.

What You Need to Know about the Enabling Technology Leadership Recognition

Frost & Sullivan's Enabling Technology Leadership Award recognizes the company that applies its technology in new ways to improve existing products and services and elevate the customer experience.

Best Practices Award Analysis

For the Enabling Technology Leadership Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

Technology Leverage

Commitment to Innovation: Continuous emerging technology adoption and creation enables new product development and enhances product performance

Commitment to Creativity: Company leverages technology advancements to push the limits of form and function in the pursuit of white space innovation

Stage Gate Efficiency: Technology adoption enhances the stage gate process for launching new products and solutions

Commercialization Success: Company displays a proven track record of taking new technologies to market with a high success rate

Application Diversity: Company develops and/or integrates technology that serves multiple applications and multiple environments

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

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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)

