

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

TAKADU

2022 NEW PRODUCT INNOVATION

*GLOBAL DIGITAL
WATER UTILITY MANAGEMENT
SOLUTIONS 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. TaKaDu excels in many of the criteria in the digital water utility management solutions space.

AWARD CRITERIA	
<i>New Product Attributes</i>	<i>Customer Impact</i>
Match to Needs	Price/Performance Value
Reliability	Customer Purchase Experience
Quality	Customer Ownership Experience
Positioning	Customer Service Experience
Design	Brand Equity

Match to Needs and Positioning

The World Bank estimates global physical non-revenue water (NRW) losses at approximately 32 billion cubic meters yearly, with almost 50% of losses occurring in developing countries. Water utilities worldwide experience revenue losses of up to \$3 billion annually, with NRW losses primarily due to leakages in central water transmission and distribution systems, overflows and leakages in storage tanks, and leakages in individual service connections from customers. Undetected leakages in utilities waste million liters of water annually. Frost & Sullivan notes that secondary challenges resulting in NRW losses include unauthorized water consumption and inaccurate individual customer meters due to meter degradation. Other challenges include improper data collection and transmission due to the low operational efficiency of the water utility management system. Mitigating NRW losses is quite critical to protecting the precious freshwater resource, and modern water management technologies can enable operators to improve the quality of service and financial performance of water utilities. Frost & Sullivan points out that the latest technologies can also augment climate resilience and reduce the energy consumed by water utilities.

TaKaDu is an Israel-based software as a service provider for the water utility industry. Its proprietary central event management (CEM) solution enables water utilities to detect, analyze, and manage untoward network events and incidents, including leakages, bursts, faulty assets, data issues, and operating failures. The CEM solution provides actionable real-time insights to enhance the operational efficiency of water utilities, decrease NRW losses, and manage industry challenges with quicker response

times and event resolutions as well as the effective handling of customer queries. Built on a patented

analytics technology and internet of things (IoT) cloud-based software, the solution is equipped with big data analytics to improve the event detection and decision-making process of water utility operators. The CEM software has reduced NRW losses by 30% and shortened the average repair cycle time by 60%. It is deployed globally in leading water utilities in the United States, Australia, Latin America, the Middle East, and Western Europe.

TaKaDu's centralized water utility management platform is a one-stop solution that monitors the water network to make relevant information available for operators, who can capitalize on powerful analytics to derive real-time insights to minimize risks

and NRW losses, optimize costs, and enhance profitability.

The solution's robust and unique capabilities include the following:

- **Water savings due to reduced water losses** – By automatically and continuously detecting leakages, the CEM software enables annual water savings of about 7 million liters per kilometer. Competing utility software only saves about 2 to 3 million liters per kilometer annually. The CEM software also mitigates NRW losses by 200 cubic meters per kilometer annually, a feat not replicated by competing solutions due to inadequate and low-quality data.
- **Accelerated response times** – Response time is the average time lag between detecting the start of a hidden leak and fixing it. Compared to operators that do not use a single utility management software, the CEM platform has sped up response times by almost 75%, resulting in million liters of water saved annually and improved up time of the water service.
- **High-quality data availability** – An effective water utility management system must have real-time, high-quality data, and high data availability. Transmission latency defining the delay between event detection time and the current time is primarily due to the lag in sensor transmission frequency. With better-quality sensors, the CEM solution possesses shorter latency and eliminates blind spots within the water utility system, increasing the high availability of high-quality data by 60% (compared to other utility software solutions).
- **High visibility to network incidents** - providing the utility operators information to allow prioritization and proper event handling... which directly impacts the operations efficiency.

Frost & Sullivan commends TaKaDu for developing a unique, integrated, one-stop platform for water utility management that clearly distinguishes the company in the industry.

Quality and Reliability

TaKaDu's proprietary CEM platform empowers water utility operators to reduce operational cost and water loss, improve human resource utilization, and rapidly handle telemetry and faulty meters. The CEM software also undergoes consistent upgrades to maintain system quality, with the latest upgrade completed in Q2 2022.

Frost & Sullivan notes that the clear benefits of the CEM solution in enhancing the reliability and quality of water utility monitoring are demonstrated as follows:

- For a centralized city-scale water utility network of not more than 2,000 kilometers in size (further divided into 50 to 80 district metered areas), the CEM software has enabled annual water savings of around 1.31 billion liters.
- Compared to water utilities without a management platform, the CEM software has lowered average repair costs by 50% due to the early detection of bursts, hidden leakages, and other collateral damages.
- Significant reductions in NRW losses and operational costs will decrease associated employee costs based on the number of employees per shift, shift length, and average intervention time required. The CEM software has cut down human resources costs by 40% compared to utilities not using any management platform.
- The CEM software's ability to manage telemetry and meter faults accelerates the early detection of untoward events by 50% compared to utilities with no platform
- Data quality improved by 40%.

Hence, keeping in mind the above-mentioned crucial factors, TaKaDu's proprietary CEM software enables the end users to save as much as \$1 Million (i.e., a conservative estimate) annually.

Frost & Sullivan appreciates how these features nicely reflect how TaKaDu's CEM platform can enhance the decision-making of water utility operators in mitigating NRW losses. Operators can expect increased returns on investment as high as 5 to 10 times from the initial investment within the first year of deploying the CEM platform.

Queensland Urban Utilities, the water utility company in Queensland, Australia, has deployed the CEM platform since 2013 to monitor all utility assets and detect leakages before bursts. In 2021, Queensland Urban Utilities saved about 1,200 million liters of water and optimized its operations, translating to monetary savings of \$2.6 million. Queensland Urban Utilities has saved 6,300 million liters of water and around \$13.4 million since deploying the CEM platform. Similarly, another Queensland-based water utility provider, Unitywater, adopted TaKaDu's CEM platform in 2013 and saved about 8,700 million liters of water and \$19 million in monetary savings. Frost & Sullivan analysts firmly believe that TaKaDu's customer-centric platform adds value to utilities through reliable features and demonstrated use cases.

Brand Equity and Customer Purchase Experience

TaKaDu has broadened its partnership network in major markets, including Europe and Asia-Pacific, in the

"TaKaDu's CEM platform has reduced hidden leakages by 20% and accelerated early detection of faulty meters by 50%, enhancing the decision-making of water utility operators in mitigating NRW losses. Operators can expect increased returns on investment as high as 5 to 10 times from the initial investment within the first year of deploying the CEM platform."

*– Sharath Thirumalai,
Industry Analyst*

last two years. Deploying its CEM platform, it has recently partnered with Tasmanian water and sewage utility company TasWater to find leakages and bursts proactively to reduce water losses and energy costs while improving customer service. TaKaDu has also collaborated with the Water Authority of Fiji (WAF) to provide clean and safe water to residential and non-residential metered customers in Fiji's urban areas. The CEM platform will be deployed in a wide network comprising more than 4,900 kilometers of pipes handling 136 million liters of water. The WAF aims to decrease NRW losses from

45% to less than 20% in the next three to four years.

TaKaDu's ability to demonstrate tangible results through its CEM platform ensures client satisfaction and retention. Sydney Water is Australia's largest water utility company, with a network consisting of over 21,000 kilometers of water pipes, 251 reservoirs, and 164 pumping stations. Sydney Water has been using TaKaDu's CEM platform since 2015 to reduce NRW losses and improve operational efficiency. In December 2018, the CEM platform detected an unusual water flow pattern and located a hidden leakage in the water utility network near Sydney Harbor that could have resulted in 1.3 million liters of water lost per day. The platform's timely alert enabled Sydney Water to prevent significant NRW losses and other collateral damages equating to about \$0.7 million.

Frost & Sullivan is impressed by TaKaDu's track record and believes its strategic expansion plans and continuous client growth will ensure that the company stays ahead of the competition.

Conclusion

Reducing NRW losses and associated damages arising from unidentified pipe bursts and leakages is imperative to addressing global water utility management challenges. TaKaDu has introduced its unique and robust CEM platform as a one-stop solution that streamlines water utility management. The software provides real-time early detection alerts that aid water utility operators in mitigating NRW losses – all while enhancing the network's operational efficiency. Deployed globally, the CEM software has demonstrated significant results, impressive high ROI of X10, including decreasing NRW losses by 30% and accelerating the average repair cycle time by 60%.

With its strong overall performance, TaKaDu earns the 2022 Frost & Sullivan Global New Product Innovation Award in the digital water utility management solutions industry.

What You Need to Know about the New Product Innovation Recognition

Frost & Sullivan's New Product Innovation Award recognizes the company that offers a new product or solution that uniquely addresses key customer challenges.

Best Practices Award Analysis

For the New Product Innovation Award, Frost & Sullivan analysts independently evaluated the criteria listed below.

New Product Attributes

Match to Needs: Customer needs directly influence and inspire product design and positioning

Reliability: Product consistently meets or exceeds customer performance expectations

Quality: Product offers best-in-class quality with a full complement of features and functionality

Positioning: Product serves a unique, unmet need that competitors cannot easily replicate

Design: Product features an innovative design that enhances both visual appeal and ease of use

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

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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)**

