NRW Smart Leak Management - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The NRW Smart Leak Management Market size is estimated at USD 1.28 billion in 2025, and is expected to reach USD 2.08 billion by 2030, at a CAGR of 10.21% during the forecast period (2025-2030).

Key Highlights
- The global water demand is anticipated to rise continuously at a similar rate until 2050, accounting for an increase of 20%-30% above the current level of water use, primarily due to the rising demand in the industrial and domestic sectors.
- The gap between water availability and water needs increases on the supply side. Still, when considering all urban water distribution systems, water losses may reach a staggering number of 346 million cubic meters per day. This is equivalent to 30% of water system input volumes globally and would be enough to provide water to an additional 2 billion people.
- A smart utility network is one of the most useful technology investments. Utilities with remote monitoring and management seamlessly provide customer service while keeping their workers safe by limiting customer interaction.
- Usage of advanced technologies, including artificial intelligence, is also increasing, as utility providers seek more advanced solutions for leakage prevention. For instance, North WestWater Company, which introduced the United Kingdom's first water sniffer dogs, announced another new trial. In line with this, the United Utilities collaborated with inventors for developing artificial intelligence capable of hunting leaks across its pipe networks.
- Furthermore, FIDO, the cutting-edge AI platform, and in-field device use rapid machine learning to listen and interpret the unique data trail left by leaks. Then, it tracks down the leaks to pinpoint the exact location of a leak.

NRW Smart Leak Management Market Trends

Non-invasive Technologies to be on Demand

The NRW Reduction Co-management Program is an emblematic operation that received wider recognition from associations of water professionals internationally. It positively impacts communities by reducing the system input volume and granting a much more efficient water distribution within the network. It boosted the billed water volume to 92 MLD in June 2020, bringing substantial economic benefits by increasing the billed water by USD 5.8 million per year to the NWC and Jamaica. The non-invasive technologies mainly include aerial imagery, pressure sensors, and acoustic sensors.

- Due to temperature differences between the natural gas and the local surroundings, aerial imagery identifies natural gas leaks from pipelines. This technology can cover several miles or hundreds of miles of pipeline per day using moving vehicles, helicopters, or portable devices. Liquid leaks in water pipelines can also be detected using similar methods.
- The airborne lidar device can gather high-resolution, long linear ground features and use 3D data to identify any security issues. The sensor-equipped UAV may also be used to monitor the state of pipes, such as irrigated spots with a high risk of corrosion and pipeline heat traces.
- Furthermore, pressure sensors are the most common instrument used to measure water pressure in a pipe network, and they are subject to the same measurement mistakes as any other equipment. Differences between observed and expected data can prove leaks, but due to the probable range of inaccuracies for these devices, there is sometimes doubt in using these results.
- Acoustic sensors are used to detect the water pouring sound from the pipeline rupture, high-pressure fluid escaping from the perforated location, and a pipeline leak that generates elastic waves in the frequency range of up to 1 MHz. The time lag between two sensors' acoustic outputs is used to determine the leaking position.
- Acoustic leak detection is the process of listening for leaks. However, different sorts of leaks make distinct sounds; therefore, one must be skilled in this area. A pinhole leak sprays water at high pressure, making it easier to spot; however, larger leaks, as well as splits, are more difficult to spot because they "feather out" as they spray. It is a century-old method that is insufficient and antiquated in the complicated and huge piping network. The derived principle, however, stays the same.

Asia-Pacific to Witness the Fastest Growth with New Innovations

Technological advancements have led to the development of advanced sensors that help utility companies detect leaks. Utilities in Asia-Pacific have increased due to improved development in the region with a high population, thus, driving the region to innovate new products.

- Asia-Pacific's water networks are getting more complex and extensive. Rapid urbanization, climate change, non-revenue water, underdeveloped, or aging water infrastructure are some issues regional water leaders are addressing.
- The Asia-Pacific region is also witnessing the development and introduction of new leak detection technologies. For instance, in September 2021, Landis+Gyr, an integrated energy management solutions provider for utilities, announced to partner with Iota, the commercial domain of Southeast Water. The partnership aimed at offering a network leak detection sensor to help water utilities in Australia and New Zealand reduce non-revenue losses.
- China's average non-revenue water (NRW) ratio, a key measure of water loss and leakage in the distribution network, is estimated at 20% across the country by the Chinese Waterworks Association and at just 10% for the best-performing utilities.
- Acoustic leak detection is also increasingly being used by utility companies. For instance, in July 2021, Aquarius Spectrum, a water leak detection and pipe condition assessment solution provider, announced to deploy its acoustic monitoring system (AQS-SYS) on Singapore's drinking water supply network. As per the initiative, Aquarius Spectrum will provide 900 hydroponic sensors for the installation on Singapore's large water mains, with diameters ranging from 500 mm to 2,200 mm. These sensors, designed particularly for underground installation, are deployed to perform leak monitoring on approximately 400 km of the water

pipeline for the next five years.
- Furthermore, Isle Utilities Asia-Pacific is providing Australian and global water utilities with the expertise required to reduce water leakage and conserve water through its leakage management benchmark. Isle's leakage management benchmark was developed in Australia and adopted by nearly 20 participants worldwide.

NRW Smart Leak Management Industry Overview

The non-revenue water market is fragmented with the presence of major players, such as Honeywell International Inc., ABB Ltd, Suez Group, Itron Inc., and Arad Group. These companies are upscaling the market with investments and innovating new products to reduce the loss of water wastage due to leaks and ruptures in the pipelines.

- February 2021 - Electro Scan Inc., a water sector clean-technology inventor, announced that recent pipeline survey results have shown that the company's unique machine-intelligent tethered-based pipe inspection system locates and quantifies an average of 750 leaks per mile. As a result, the company's Focused Electrode Leak Location (FELL) inspection technology is dubbed the "Most Accurate Leak Detection" solution in the water sector. According to results disclosed separately by suppliers, these results compare to two leaks per mile of pipe from acoustic balls that are not tethered.
- September 2021 - The Dubai Electricity and Water Authority (Dewa) teamed up with the Global Manufacturing and Industrialization Summit (GMIS), to promote the use of sophisticated energy-saving technology and accelerate the sustainable use of water in the industrial sector.
- December 2021 - Suez and Acea partnered for the digitalization of after-service metering systems. The project is considered strategic for both the involved companies, which are among the most important players, at the international level, in the water sector.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

Table of Contents:

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