

Effective and Reliable Asset Protection: Real-Time Water Leakage Monitoring System for a 38-Story Condominium and Rental Building in Canada



Location: 1111 Atwater St., Montreal, Quebec, Canada

Milesight Partner Thingsfactory	Location 1111 Atwater St., Montreal, Quebec, Canada	Number of Devices Deployed EM300-SLD*1200 UC1114*100, UC300*40 UG56, UG65, UG67	Applications Water Leakage Detection, Smart Buildings
---	---	---	---

Background

Water leaks can be caused faulty plumbing, overflowing bathtubs, sprinkler incidents or roof leaking. Serious events can have far-reaching consequences for occupants and facility managers. If not properly addressed in a timely manner, they can lead to property depletion and health risks. The severity of these risks depends on the extent of the water damage, the source of the water, and how quickly the water damage is mitigated. To minimize the dangers associated with water leaks, it is recommended that facility managers act quickly to address the issue at hand. In many cases, it is advisable to seek the services of a professional.

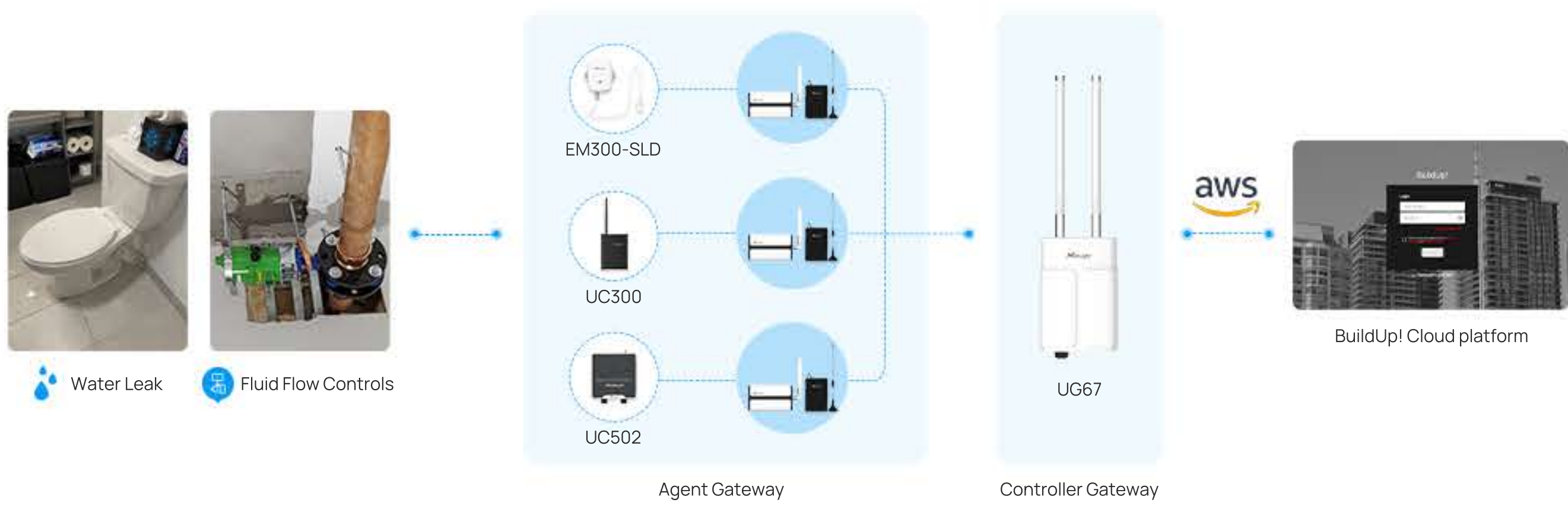
1111 Atwater St. is a marquee 38-floor condominium and rental building with 238 units, located in the heart of Montreal. Construction began in early 2020, and in early 2021, our partner, Thingsfactory, was asked to provide a comprehensive solution for water leak detection and protection. Collaborating with the building engineers and developers, Thingsfactory proposed a state-of-the-art solution featuring its BuildUp! building vital signs monitoring platform and Milesight LoRaWAN detection and control equipment.



Challenges

Preventing water leak damages in a 38-story building in a traditional way is challenging. Water leakages could go unnoticed until it's too late, causing significant damage to the property. According to the insurance industry, water damage claims are one of the most frequent and expensive types of claims filed by property owners in the last 5 years.

Solution



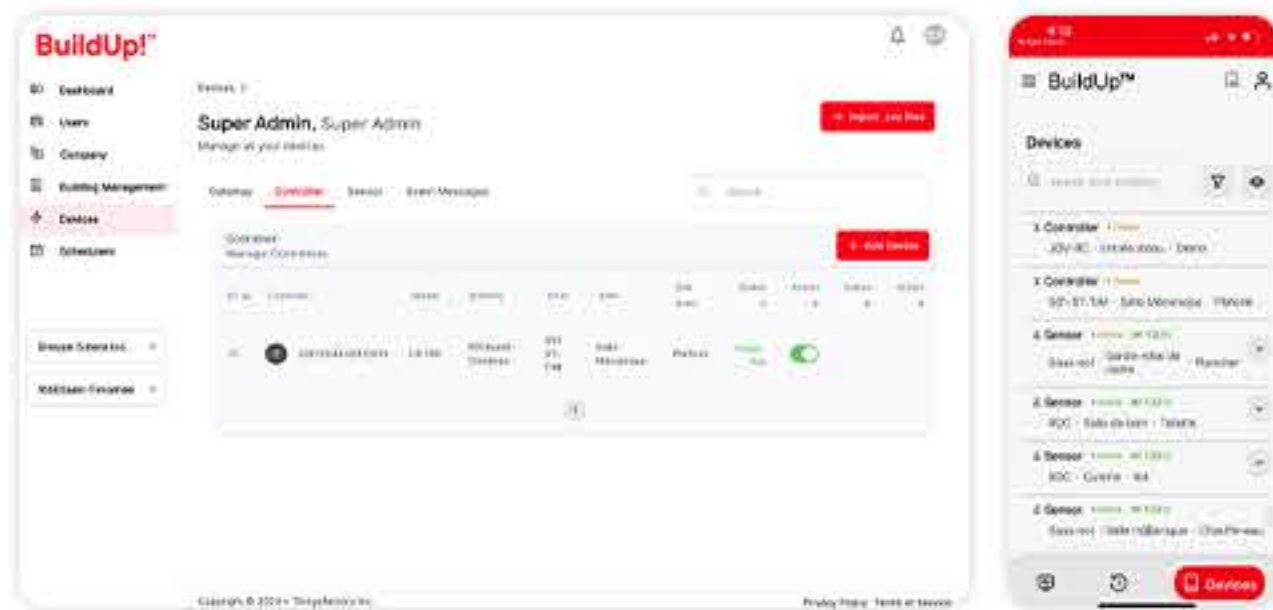
Installation began in 2020 and was completed in late 2023, coinciding with the building's grand opening. Over 1,200 Milesight EM300-SLD Spot Leakage Detection Sensors were installed in bathrooms, laundry rooms, kitchens, and mechanical rooms.

Thingsfactory also deployed more than 140 UC1114 and UC300 controllers, along with 15 Milesight LoRaWAN gateways, including UG56 Industrial LoRaWAN Gateway, UG65 Semi-industrial LoRaWAN Gateway and UG67 Outdoor LoRaWAN Gateway. The Milesight controllers operate over 150 electromechanical ball and butterfly domestic water valves located in the building's risers and condominiums. Since then, additional Milesight sensors have been added, making this building the smartest and most advanced risk-protected dwelling in Canada.

*The Milesight UC1114 is now upgraded to Milesight UC502 Multi-Interface Controller.



Following this success, Thingsfactory has installed BuildUp! systems in over 20 buildings in Montreal, Quebec, and Ottawa, significantly reducing water damage, increasing property values, and lowering insurance risks for large multi-dwelling property developers.



The basic principle of the solution is that each apartment, condominium, and mechanical room is equipped with EM300-SLD Spot Leakage Detection Sensors, including bathrooms, kitchens and laundry rooms. When a leak is detected, the MQTT message is decoded by the BuildUp! platform from Thingsfactory, and the corresponding controller shuts off the assigned hot and cold-water valves. UC1114 IoT Controller control 1.5 inches ball valves and 2 1/2 inches butterfly valves on risers. UC300 IoT Controller also control dual hot and cold 3/4 inches ball valves in condominiums.



*The Milesight UC1114 is now upgraded to Milesight UC502 Multi-Interface Controller.

A UG56 Industrial LoRaWAN® Gateway or a UG65 Indoor LoRaWAN® Gateway is installed every two floors in the garbage chute rooms ceiling, connected to a dedicated building VLAN. Additionally, a UG67 Outdoor LoRaWAN Gateway is located at the top of the building, acting as a master (in fleet mode) and providing a backup cellular connection to the Internet. Each Milesight controller and gateway is connected to the generator, ensuring they remain active in case of a power failure.



The Internet access has triple redundancy. All Milesight device information, MQTT traffic, and time series data are stored on AWS BuildUp! servers, with 30 days of data retained for the customer. The typical time to detect, transmit, activate the valve, and send SMS/email notifications is less than 3 seconds. Although the exact number of detections and valve closures is confidential, the system has provided immediate protection since its pilot and installation began in late 2021, significantly reducing potential damage.

Results

<p>Decrease in Property Losses</p> <p>Finding and fixing water leaks and any subsequent damage caused can be confusing, complicated and costly. Early detection of leaks can save time and money in the long run, as administrators can take steps to prevent further damage.</p>	<p>Getting Informed in Real-Time</p> <p>With IoT solutions, facility managers can be informed as sensors can detect leaks before they cause major damage. Alerts to the facility managers' smartphone or email, ensuring that the staff receives notifications events.</p>	<p>Data-Driven Insights with Visibility</p> <p>Real-time monitoring of your building's vital signs with BuildUp! – a groundbreaking solution that didn't exist before. BuildUp! safeguards your property, eliminate water damage, enhance occupant satisfaction, and protect your assets like never before.</p>
--	---	--

Why Choose Milesight



"Overall quality, price and value. It is noteworthy that out of the 1,200 Milesight EM300-SLD units deployed since 2022 at 1111 Atwater, not a single unit has failed or fallen short of our expectations. Furthermore, since the first unit was deployed during PoC tests in 2021, we are still operating on the original batteries - with a 1080 mins refresh rate - and an average depletion of 1% every 24 months."

—Thingsfactory



THINGSFACTORY

Milesight Partner

About Thingsfactory

Thingsfactory is an Internet of Things (IoT) and Artificial Intelligence (AI) product development company specializing in real-time monitoring and data collection for critical systems to prevent losses. With over 25 years of expertise in product development, operations management, and software development, Thingsfactory is dedicated to monitoring the vital signs of buildings. Based in Montreal, Canada, at the heart of the Artificial Intelligence research hub, the company is experiencing unprecedented growth in North America, thanks to its unique partnership with Milesight.

Milesight

Tel: +86-592-5085280

Email: iot.sales@milesight.com

Web: www.milesight.com

Address: Building C09, Software Park Phase III Xiamen, Fujian, China

