LIQUID LEAK DETECTION SYSTEMS

Case Study

TTK WATER LEAK DETECTION SYSTEM IN A FINANCIAL OFFICE BUILDING, SINGAPORE

About The Client

Our client is a global financial services group headquartered in Japan, providing a wide range of investment banking, asset management, and securities services to worldwide clients.

Project Requirement

In this sleek office building, the existing leak detection system covers four levels but no longer meets the client's exigencies.

The client is seeking a reliable, high performance leak detection solution that can provide enhanced sensitivity and fast response times, ensuring maximum security and protection of their critical infrastructure.

PROJECT OVERVIEW

Project	A global financial services group headquartered in Japan* *: Due to client confidentiality, the client name has been removed from this project study.
Location	Singapore
Application	Office building
Project Type	Retrofit Project
Project Managed by	TTK Pte Ltd (Singapore)
Contract Scope	TTK provided design, engineering expertise and material delivery for the comprehensive leak detection system.
Completion Date	June 2024
Technology	Digital monitoring units such as FG-NET, satellite device FG-BBOX, FG-EC water sensing cables, ECP-L water point sensors.

Areas of Focus for Protection

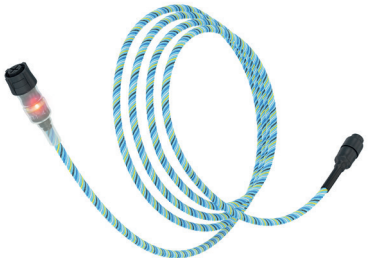
Some examples of areas protected by the TTK water leak detection system are critical rooms/areas in 4 storeys, such as Trading Areas, Computer Room Air Handler (CRAH) Rooms, Mechanical, Electrical, and Plumbing rooms (MEP), but also First Aid Rooms, Water Heaters, Pantries and Sinks.

TTK's Solutions

Sensing cables:

To safeguard various technical environments across four levels of this modern building, over 600 meters of water sensing cables and more than 50 point sensors have been installed. The linear water sensing cables (FG-EC) are strategically placed along the perimeter of the equipment and rooms, while point sensors (FG-ECP) monitor the Fan Coil Units (FCUs), water heaters, sinks, pantries enable efficient and precise monitoring.

The patented and unique structure of these sense cables allows them to sense water, but not to be disturbed by the presence of condensate, dust or metal, allowing reliable detection in an environment where condensate and dust are commonly present.



FG-EC addressable water sense cable

FG-ECP-L water point sensor

Monitoring Panel and Powerful Satellite Device

At the control panel level, an FG-NET digital monitoring panel, along with an FG-BBOX satellite panel, oversees all sensing cables and point sensors. The FG-BBOX, an extension of the FG-NET, is connected via a standard Ethernet network, allowing the system to manage two additional circuits with up to 1200 meters of extra sensing cables or probes.

In the event of a fault on the sensing cables or probes connected to the FG-BBOX, the corresponding relay contact is activated, and the LED for that circuit switches to red. The dual-panel architecture of the FG-NET and FG-BBOX, along with the system's capabilities, has been highly valued by the client.

The FG-BBOX shares the same advanced features as the FG-NET, including simultaneous leak location accuracy within 1 meter. All commands and controls are centralized through the FG-NET, with the FG-BBOX discreetly installed due to its lack of a display.

Solenoid valves are electrically linked to TTK system to shut off the water supply in the event of a leak or system alarm, allowing considerably reduce any down time.

The system is designed for easy extension and upgrades. In this project, spare circuits on the panels are available for future expansion.

FG-NET monitoring control panel (left) and its satellite device FG-BBOX (right)

■ **TTK Headquarters** / 19 rue du Général Foy / 75008 Paris / France / T : +33.1.56.76.90.10 / F : +33.1.55.90.62.15 / **www.ttk.fr** / **ventes@ttk.fr**
■ **TTK Pte Ltd** / #10-08, Shenton House, 3 Shenton Way / Singapore 068805 / T : +65-6220.2068 / **www.ttk.sg** / **sales@ttk.sg**