

HOW THE INTERNET OF THINGS HELPS MITIGATE COSTLY PROPERTY DAMAGE RISKS

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COVID-19 has emptied many office towers, retail stores, educational institutions, and houses of worship throughout most provinces.

Many companies have either had to close their doors until the situation has improved or have instituted work-from-home policies to help keep their employees safe and healthy. This has left their buildings either vacant or staffed by a small group of dedicated employees. Without the usual foot traffic, an operation in this situation could have an overflowing toilet or burst pipe left undetected for days,

potentially causing hundreds of thousands of dollars in water damage. Pair pandemic unoccupancy with the arrival of winter and extreme cold and the opportunity for loss due to freezing and bursting pipes rises dramatically.

It is little wonder that ‘water is the new fire’, with billions paid out in water damage claims each year.

Sensor programs are designed to help mitigate such loss scenarios, using the power of the Internet of Things to detect and predict loss events, providing an added layer of peace of mind to insurers and insureds alike. While there are different types of sensor offerings currently in the

marketplace, it is important to consider programs developed specifically with insurers' and insureds' needs in mind. Our clients prefer a turnkey solution that is easy to scale, without requiring additional investment or burden on personnel.

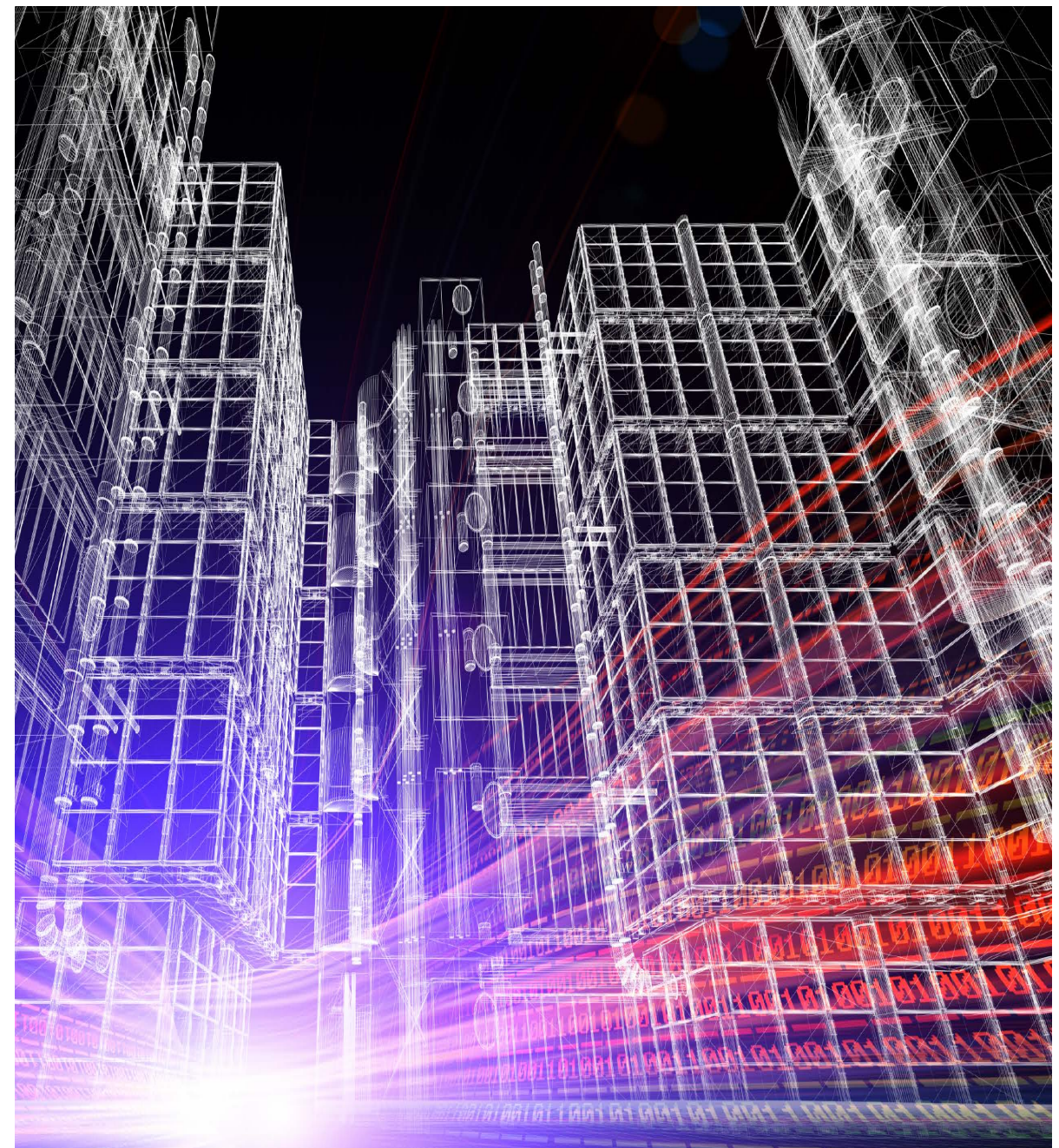
Office tower mitigates loss

We recently deployed our new Sensor Systems by HSB program with an office tower landlord. Aging infrastructure is a common challenge in most established buildings and can contribute to a higher propensity for water damage incidents.

In a loss occurring before the sensor program was installed, water escaping from pipes in a third-floor office suite percolated through to the basement and found its way to the building's retail tenants on the lower level. The event happened on a weekend and flooding was not detected until the following Monday morning, causing those retailers to close their doors and for landlord and tenant alike to deal with the mess.

The landlord was eager to find ways to mitigate risk associated with not only water damage and freezing temperatures but other typical building-related losses caused by rising temperatures in electrical rooms and equipment.

We deployed our *Applied Technology Solutions* team to assist the building's maintenance personnel to install water, temperature and pipe sensors throughout the premises, in critical



areas such as mechanical rooms, HVAC, electrical equipment, washrooms, and kitchens. The program is designed to alert staff of any abnormalities – when the heat is off, where water is detected, and where pipe and ambient temperatures vary from the norm.

Analytics help predict risk situations

Proprietary algorithms and analytics convert temperature, humidity levels, and other metrics into valuable data to help predict failures before they occur. A fully integrated support program includes a real-time desktop dashboard, mobile app, a 24/7 in-house monitoring support centre reporting

critical alerts in-person, and an advanced technical support team.

To date, the program has seen much success for different types of occupancies.

Educational campus avoids freezing and water losses

A religious educational campus comprising a variety of multi-use spaces, including a church, three schools, and a manse, and employing three full-time maintenance staff, saw immediate payback from their sensor program. In institutions like this, it is unviable to have people always on-site or to inspect every part of each building daily. However, since deploying the sensor program, the building's systems are monitored around the clock, and staff is alerted to potential freezing conditions and water leakage in the buildings. In one instance, pipes in the main church froze and burst, but before the water damage could become too wide-spread, an alert allowed an emergency response to stop the water flow. In another situation, leaking water was detected by the sensors and staff were able to mop it up and remedy the situation before it could damage flooring and furnishings.

Restaurant alert mitigates spoilage

Refrigeration is a restaurant's most critical equipment to ensure food safety and freshness. For our restaurateur customer, sensors continually monitor temperatures day and night and send an alert to his phone should a problem occur.



Recently an alert was triggered in his walk-in cooler saying it was running too warm. The owner was able to call the refrigeration repair service which was able to come in and make necessary repairs before all the inventory in the cooler spoiled.

In another incident, the same restaurant almost lost its entire gelato inventory but for the alert the owner received, advising him of rising temperature due to the breakdown of the freezer's capacitor.

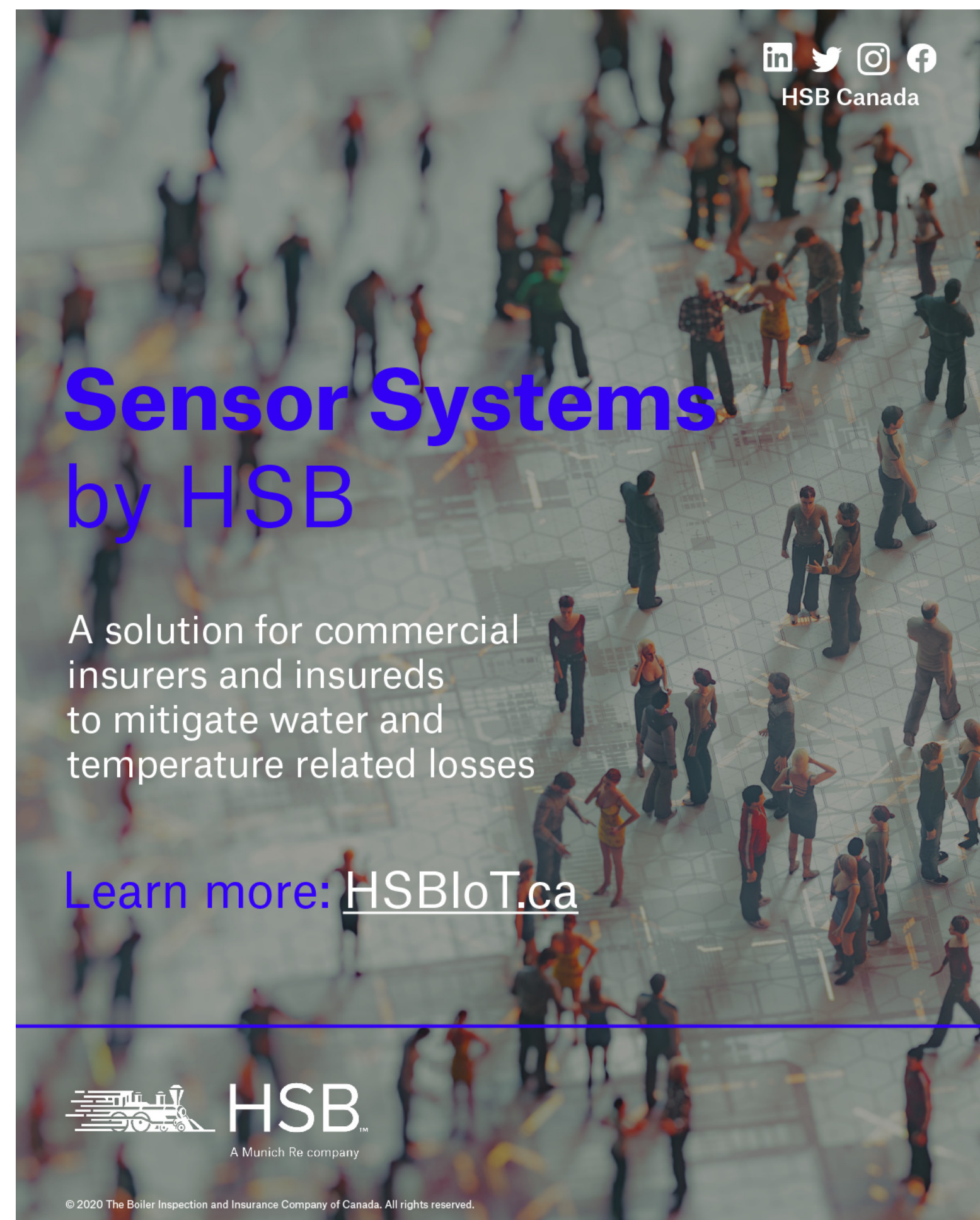
Grocery store saves frozen inventory

A specialty grocery store with dozens of refrigerators and freezers had experienced numerous chiller

breakdowns over the years, resulting in spoiled inventory. The sensor program was deployed in all its chilling equipment, continually monitoring the risk of temperature rise. In one case, the ice cream freezer stopped working, but before the food could melt, they were able to move inventory to another freezer due to the alert the owner received from the app.

What to look for in a loss mitigation sensor program

For any insurer or insured looking to implement a sensor program, there are a few important features to consider. Firstly, ease of installation is key, so that no additional plumbing or electrical work is required to implement the program. Look for a scalable, turnkey solution built specifically for insurance applications. 24/7 real-time human monitoring with tiered notifications are vital, to escalate the most urgent alerts, such as electrical fires, water damage, and burst pipes to live in-person phone calls and resolutions. Sensors should be of commercial grade and long-range, able to communicate through multiple buildings and floors, and connect directly to the cellular network rather than Wi-Fi. There are a few networking protocols available, but we have found LoRaWAN, (Long Range, Wide Area), to be the most robust and secure, economical and simple. Since constant power supply is vital, look for multi-year battery life, to enable customers to ‘set and forget’ their devices.



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HSB Canada

Sensor Systems by HSB

A solution for commercial insurers and insureds to mitigate water and temperature related losses

Learn more: HSBIoT.ca

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Since 2016, HSB's IoT programs for business, industry, institutions and homes have collected more than 13 billion sensor readings from client locations.

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