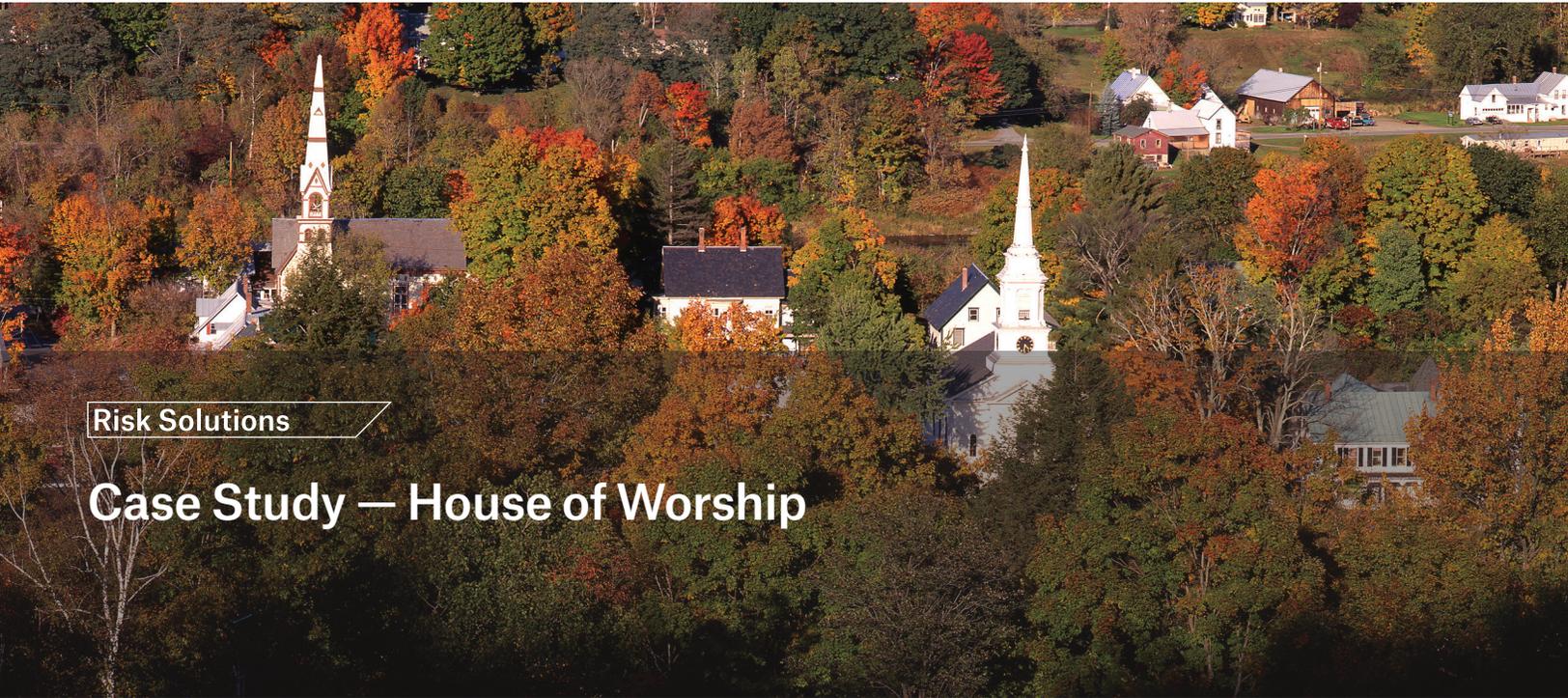




Hartford Steam Boiler



Risk Solutions

Case Study — House of Worship

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New technology from Hartford Steam Boiler helps prevent freeze and water damage

Advanced monitoring system reduces risk for houses of worship

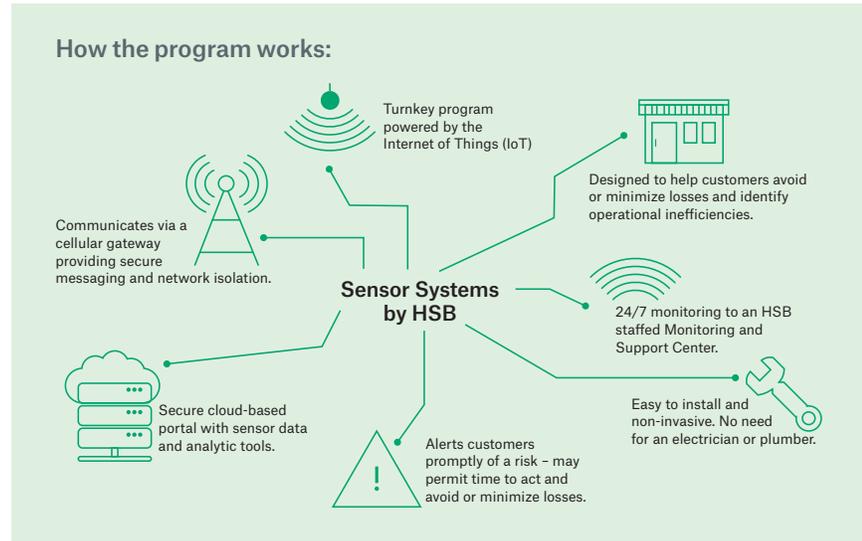
Millions of dollars saved through “virtual watchdog” technology

Many houses of worship are frequently empty. Since clergy and staff can't be in each building all the time, with some facilities empty for days, it's often impossible to detect damage from potentially disruptive incidents, like pipe bursts or water intrusion.

The problem is significant, especially since severe weather incidents are increasing around the country. In years where there is high hurricane activity, intense winter storms or extended periods of sub-freezing temperatures, there is a rise in claims as a result of those natural events. In one year with that type of increased activity, one insurance company serving houses of worship saw losses more than triple from pipe bursts alone, from approximately \$9 million to over \$30 million.

Hartford Steam Boiler (HSB) is providing its property insurers and insureds with an innovative, 21st century approach to reducing these risks through the Sensor Systems by HSB program, technology that is part of Internet of things (IoT) solutions for the insurance industry. By leveraging detailed data from sensors and local weather conditions, the program provides precise monitoring capabilities that can detect environmental changes and help to reduce or mitigate freeze and water losses.

In a two-year period from 2016 – 2018, one program that had deployed Sensor Systems by HSB saw an estimated \$9 million in losses prevented. During the active hurricane period in the summer of 2018, a single insurer avoided over \$600,000 in claims.



Creating a customized solution

To create a cost-effective program for houses of worship of varying sizes and construction, HSB develops customized IoT plans. Leveraging claims data from the applicable insurer, HSB pinpoints geographic locations that are more susceptible to risk. From there, a program is designed around the specific needs of the insurer.

For the insureds, the program includes sensor technology, a “virtual watchdog” system, comprised of sensors placed in strategic locations to monitor facilities 24/7. The sensors are easy to install and long lasting, up to 5 years on batteries. As they never sleep, they are always on duty to detect water, freezing temperatures, power outages, and more.

The sensors deliver alerts when critical adverse conditions are detected, such as dangerously low temperatures or the presence of water. HSB utilizes proprietary algorithms and live weather data to deliver accurate and actionable alerts.

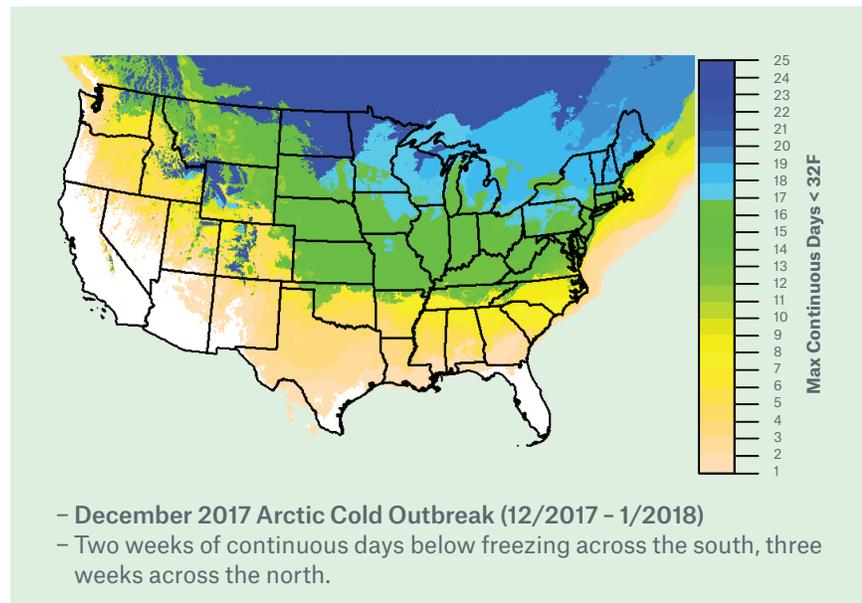
Responding before damage occurs

Alerts are sent to a designated list of people when an adverse condition is detected. Sensors report conditions through a cellular gateway, without interfering with, or relying on, the policyholder’s Wi-Fi network, keeping messaging and data independent and secure. When a risk condition is detected, an alert is sent directly to sensor contacts through email, text or phone.

In addition, HSB’s Monitoring and Service Center provides 24/7 monitoring service and technical expertise for sensor related questions. And HSB’s engineering team performs tests, sets specifications, monitors alerts and communicates with customers on the ground to help resolve problems, should they arise.

This technology is particularly useful as weather patterns change around the country. Many of the southern and western states, for example – like the Carolinas, Tennessee and Arizona – are experiencing unprecedented winter conditions, once typically found only in the north.

“Some areas of the country may not be used to such significant temperature drops, which may lead to increased claims,” says Jack Volinski, Senior Vice President, IoT. “Using our Location Risk Score, we’re able to identify specific areas of greater risk based on claims data. For example, we found upper Tennessee to be a specific area that experienced greater loss, signaling an immediate need for our technology.”



“In addition, the innovative sensor program we are providing to our insurers is a market differentiator for them,” continues Jack. “Sensor Systems by HSB provides an active risk management tool that may reduce claims and strengthen relationships. It gives our clients another opportunity to talk to the policyholders outside of a renewal or claim. This program helps our insurers stand apart from their competition.”

“If we had had something like this sensor program a few years ago, a lot of damage and time lost could have been avoided,” said one church trustee in Massachusetts. “Anything we can use as a forewarning is a good thing. It is another tool I can use to reduce risk at our church.”

In another case in point, a church received a water sensor as part of an insurer’s program and was able to avoid a significant problem.

Initially they were notified about the presence of water, but couldn’t find anything. After the second notification, they brought in a plumber who couldn’t find anything, and by the third notification they thought the sensor was faulty. But the pastor went with several church members to look again. They saw that a water heater had flooded a closet between the church and fellowship hall.

There was a slow leak all along and no one had noticed it. But the sensor detected it before it did significant damage, so they didn't need to make a claim.

As this instance suggests, customers with high deductibles often have to pay for repairs out of pocket when the costs of less severe incidents fall below the deductible. But having the sensors may help reduce the number of such costly, yet smaller incidents that require repairs.

Providing a range of useful features

The HSB sensor program has important core features, already outlined, such as the use of a separate cellular connection, risk assessment using the Location Risk Score, and HSB's monitoring and engineering services to assist customers.

Additional unique features include:

- Risk modeling to identify specific needs at targeted locations.
- Easy installation for do-it-yourselfers who can use an installation guide for sensor placement and activation without an electrician or plumber.
- Use of proprietary algorithms developed by HSB's engineering team to create quality and accurate alerts.
- A reliable battery back-up system so that sensors keep working to monitor conditions even if the power goes down.
- An online portal and mobile app that provide analytical tools and a historical and holistic view of data from all sensors and current conditions, especially for clients with multiple locations.
- A customized mobile app so location managers don't have to be tied to a computer and can access facility conditions anytime, anywhere.
- A US-based live customer support center, which not only answers calls but alerts customers about situations that may need attention or equipment issues.
- Data analysis that provides insights to policyholders about such factors as heating, energy efficiency and behavior patterns. With the ability to track the temperature of a facility during different use periods, they can adjust temperature settings and optimize energy costs.
- HSB's risk management and engineering expertise for assistance with workflow management and budget prioritization.

Expanding future capabilities

With the data that can be gained and analyzed from this sensor system, insurance companies gain valuable insight to their customers businesses. It may improve risk modeling and enhance underwriting. In addition to water and freeze sensors, IoT technology will be able to monitor other environmental concerns, like humidity and motion, to help prevent losses, and vibration sensors which will help predict when equipment needs servicing.

In addition to the house of worship program, HSB has sensors installed in 20 other types of use cases including schools, campuses, apartments and condominiums, restaurants and agriculture.

About HSB

Hartford Steam Boiler (HSB), part of Munich Re, is a multi-line specialty insurer and provider of inspection, risk management and IoT technology services. HSB insurance offerings include equipment breakdown, cyber risk, specialty liability and other coverages. HSB blends its engineering expertise, technology and data to craft inventive insurance and service solutions for existing and emerging risks posed by technological change.

Throughout its 150-year history HSB's mission has been to help clients prevent loss, advance sustainable use of energy and build deeper relationships that benefit business, public institutions and consumers.

This document is intended for information purposes only and does not modify or invalidate any of the provisions, terms or conditions of the applicable sensor program agreement

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