

Stories from the Field

Early Adopters of IoT Sensors to Mitigate Risk

How SPELL member districts are using sensor technology to detect water, power, and environmental risks before they become costly claims.

Moderated by:

Rick Hillman

Safety 360 Director

The Problem: Water Claims in K-12 Schools

Why early detection is essential — and why it pays off

High Frequency

Water claims are one of the most frequent and costly loss categories for SPELL and public school JIFs nationwide.

Extended Exposure

Leaks that go undetected over a weekend, holiday, or break can result in exponentially greater damage.

Mold & Structural Risk

Undetected moisture leads to mold remediation, structural repairs, and potential displacement of students.

Your Opportunity

Up to \$1,000 Reimbursement

*Know when your leak starts
— not after the damage is done.*

Listen to your peers.

Today you'll hear firsthand stories
from districts that have
already made the leap.

How It Started: SPELL + Travelers Insurance

A partnership that planted the seeds of proactive risk management

~2019

Travelers Partnership

SPELL partnered with Travelers Insurance to explore IoT sensor technology in K-12 schools.

Pilot

2-District Pilot

Travelers funded a pilot with two member districts — sensors installed, tested, and documented in a use-case video.

Program

Proof of Concept

The pilot demonstrated that sensors could detect water and environmental risks before they escalated into costly claims.

Now

Expanded Program

SPELL has grown the program, offering up to \$1,000 reimbursement per district for sensor deployment.

IoT: Moving from Reactive to Proactive Risk Management

Why sensors matter in K-12 school facilities

REACTIVE

The Old Way

- Damage discovered after a weekend or holiday break
- Water intrusion spreads undetected behind walls
- Mold and structural damage compound costs
- Claims are larger — and more disruptive to operations
- Manual inspection is the only early warning system

PROACTIVE

The IoT Sensor Approach

- Real-time alerts when water, temperature, or power anomalies are detected
- Know when a leak starts — not hours or days later
- Automated notifications to facilities staff on any device
- Smaller claims, faster response, less disruption
- Data-driven insight into recurring risk patterns

IoT: Type of Sensors - Temperature

Travelers has partnered with Monnit

Standard Temperature



High Temperature



Low Temperature



Duct Temperature



Digital Temperature



Motion Temperature



IoT: Type of Sensors - Moisture/Water

Travelers has partnered with Monnit

Humidity



Water - Rope



Water Puck



Water Detection



IoT: Type of Sensors - Other

Travelers has partnered with Monnit

Open/ Close



Power - Single Phase



Power Three Phase



Themocoupler



CO Detection



CO2 Detection



IoT: Type of Sensors - Air Quality

Travelers has partnered with Monnit

Indoor Air Quality



Key Features

- ▶ Measurement Sensitivity:
- ▶ PM1: 0.3 to 1.0 μm
- ▶ PM2.5: 1.0 to 2.5 μm
- ▶ PM10: 2.5 to 10 μm
- ▶ Effective Range: 0 to 500 $\mu\text{g}/\text{m}^3$
- ▶ Maximum Range: 0 to 500 $\mu\text{g}/\text{m}^3$

IoT: Type of Sensors - Gateways

Travelers has partnered with Monnit

Ethernet



Cellular



IoT: Type of Sensors - Software

Travelers has partnered with Monnit



2025 SPELL Sensor Pilot Program

3

Districts in
Initial Pilot

15

Members
Eligible

\$1,000

Max
Reimbursement

In 2025, SPELL launched a formal sensor pilot program with three member districts.

The program expanded funding to allow up to 15 member districts to receive reimbursement of up to \$1,000 toward the cost of deploying IoT sensors in their facilities.

Sensor types deployed include: Water leak pucks · Rope-based water sensors · Temperature sensors · Current/power sensors

Meet the Panel

Early adopters sharing their real-world sensor experiences

Eastern Camden County Regional

Ken Verrill & Don Hobbs

Eastern Camden County Regional High School District

Salem County Special Services

Frank Maurer & Randy Wentzell

Salem County Special Services School District

Upper Township

Laurie Ryan & Anthony Priest

Upper Township Public Schools

Northern Burlington Regional

Jamie Williams, Steve Lee & Jason Vickers

Northern Burlington Regional School District

Moderator: Rick Hillman, Safety 360 Director

Thank You to Our Early Adopters

These SPELL member districts stepped up — and are sharing what they learned.

1

Eastern Camden County Regional High School District

ECCRHS

Underground HVAC piping · Rope-based sensors

2

Salem County Special Services School District

SCSSD

Power monitoring · Remote locations · Water pucks

3

Upper Township Public Schools

Upper Twp.

Recurring water intrusion · e911 / Sielox integration

4

Northern Burlington Regional School District

NBRSD

Water intrusion · Refrigeration monitoring

Eastern Camden County Regional High School District

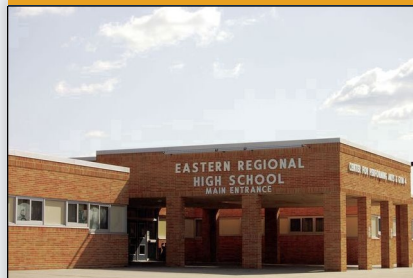
Ken Verrill & Don Hobbs · Underaround HVAC Pipina Challenae

THE ISSUE

Underground HVAC piping runs beneath long hallway corridors. These pipes are not visible without physically going below to inspect — meaning leaks could go undetected until serious damage has already occurred.

THE SOLUTION

Deploy rope-based water leak detection sensors along hallway pipe paths. These sensors trigger alerts indicating where water is detected — enabling immediate, targeted response.



Discussion Questions

1. Can you describe the challenging area you are monitoring with sensors?
2. What type of incidents or claims are you hoping to stop with the use of sensors?
3. Can you describe the process of installing the sensors?
4. Are you considering additional sensors?

Salem County Special Services School District

Frank Maurer & Randy Wentzell · Power & Remote Location Monitoring

THE ISSUE

Monitoring for power outages and water leaks at remote facility locations — sites that are not constantly staffed and where problems may go unnoticed until significant damage or loss has already occurred.

THE SOLUTION

Current Sensors

Temperature Sensors

Water Pucks

A combination of sensor types provides comprehensive coverage — detecting power loss, temperature anomalies, and water intrusion across remote sites with real-time alerting.



Discussion Questions

1. How was the installation process?
2. How are the different sensor types configured and managed?
3. How has this changed your facilities team's workflow?
4. What would you do differently if starting over?

Upper Township Public Schools

Laurie Rvan & Anthony Priest · Recurring Water Intrusion & System Integration

THE ISSUE

Recurring water intrusion events in district facilities — the challenge was knowing when intrusion was happening in real time, not discovering the damage after the fact, sometimes well into the next school week.

THE SOLUTION

Temperature Sensors

Water Pucks

Temperature sensors and water pucks deployed at intrusion-prone locations, with integration into e911 and Sielox access control systems for coordinated response.



Discussion Questions

1. Describe the purchase process to get started?
2. How has the process worked day-to-day?
3. Can you walk us through your integration with e911 and Sielox — how does that work in practice?
4. Has the system changed how your team responds to intrusion events?

Northern Burlington Regional School District

Jamie Williams, Steve Lee & Jason Vickers · Water & Refrigeration Monitoring

THE ISSUE

Recurring water intrusion events and the risk of food spoilage from failed refrigeration — two distinct but equally impactful risk vectors that required real-time monitoring and alerting.

THE SOLUTION

Temperature Sensors

Water Pucks

Temperature sensors monitor kitchen refrigeration units and detect environmental anomalies. Water pucks provide early warning for intrusion events before damage compounds.



Discussion Questions

1. Describe the support available from SPELL?
2. Where and how are the sensors deployed across your facilities?
3. How has the day-to-day operation been?
4. Can you explain the setup from an IT perspective — connectivity, alerts, management?

Open Panel Discussion

11:30 a.m. – 12:00 p.m.

Q1 What's the #1 lesson learned you'd want other districts to know before they start?

Q2 What sensor types have proven most valuable, and why?

Q3 How did you get facilities staff and IT to embrace the technology?

Q4 What does the ROI look like — have sensors prevented a claim yet?

Q5 What's next for your sensor program? Are you expanding?

Q6 For districts just getting started — what's the first step?

The SPELL Sensor Program: Your Next Step

**Up to \$1,000
Reimbursement Available**

1

Talk to Your Facilities Team

Identify locations where water, temperature, or power monitoring would add value.

2

Choose Your Sensors

Water pucks, rope sensors, temperature sensors, and current/power sensors are all reimbursable.

3

Deploy & Connect

Work with your IoT vendor to install and connect sensors to your alerting platform.

4

Submit for Reimbursement

Contact SPELL JIF to claim up to \$1,000 in reimbursement for your sensor investment.