



Najciekawsze zastosowania

FAAST zapewnia najwcześniejsze i najdokładniejsze wykrywanie dymu metodą zasysania z obecnie dostępnych. Unikalna kombinacja odporności na uciążliwości, wykrywanie początku pożaru, zintegrowanej komunikacji internetowej i możliwości powiadamiania za pomocą e-maili, otwiera świat nowych możliwości zastosowań. Poniżej znajduje się kilka z wielu przykładów z całego świata instalacji FAAST.



Pomieszczenie MCC Zakłady Chemiczne

FAAST przezwycięża trudności instalacyjne i logistyczne, aby zapewnić ochronę w pomieszczeniu MCC o dużej krotności wymian powietrza w przemysłowych zakładach chemicznych o znaczeniu krytycznym.

„Czujki zasysające FAAST pracowały po raz pierwszy i wszystko poszło naprawdę dobrze.” - John Waldrop, Starszy kierownik projektu w S & S Systemy tryskaczowe



Muzeum Historii w Minnesocie

Muzeum Historii w Minnesocie zainstalowało 13 czujek bardzo wczesnej detekcji pożaru FAAST w swoich galeriach.



Centrum danych w Per Mar

Dostawca rozwiązań z zakresu zabezpieczeń i ochrony pożarowej Per Mar, by zapewnić ciągłość działania i nieprzerwane wsparcie dla swoich klientów, zainstalował w swoim centrum danych najnowocześniejsze czujki

zasysające FAAST firmy System Sensor.

„Daje nam to wczesne lub bardzo wczesnego ostrzeżenie, w zależności od tego, jak sobie skonfigurujemy i rzeczywiście jesteśmy w stanie sprawdzić wystąpienie [potencjalnego] problemu, zanim faktycznie on powstanie... co jest naturalnie korzystne dla centrum danych.” - Daniel Turner, Główne Biuro Informacji, Per Mar



Cancer Treatment Centers of America

Cancer Treatment Centers of America (CTCA) zainstalowało FAASTy w celu ochrony krytycznych informacji i operacji.



Apex Tool Group

Czujki FAAST są idealnie dopasowane do potrzeb zakładu produkcyjnego narzędzi ręcznych Apex Tool Group, ponieważ wyklucza fałszywe alarmy spowodowane przez brud lub kurz.

„Dym sączył się z hali produkcyjnej do pobliskiego pomieszczenia sprężarek, gdzie został zainstalowany FAAST, generując ostrzeżenie. Gdy poszli to zweryfikować, stwierdzili obecność dymu. W dyspozytorni nie został wszczęty alarm, ale była informacja o wczesnym zadymieniu. FAAST naprawdę zrobił dokładnie to, co powinien zrobić.” - Jamie Colley, prezes zintegrowanych służb tech.



Centrum danych w Centrum Innowacji Cybernetycznych

FAAST zapewnia ultra szybkie wykrywanie dla instalacji wstępnego reagowania z podwójnym blokowaniem aktywacji w centrach danych.

„Czujki FAAST były oczywistym wyborem od samego początku... łatwość instalacji, cechy i funkcje, łatwość obsługi dla użytkownika, prostota zrozumienia i niskie koszty utrzymania to czynniki, które nie tyle pasują do tej instalacji, co ją wyróżniają.” - Ronald Case, starszy kierownik projektu w Fire Tech Systems Inc. w Shreveport, Luizjana.



Muzeum Nauki w Minnesocie

Muzeum Nauki w Minnesocie zainstalowało FAASTy, by zapewnić maksymalną ochronę ich powierzchni magazynowej niebezpiecznych płynów i urządzeń.

„Głównym powodem polecenia czujek FAAST System Sensor była pewność, że duża ilość kurzu w magazynach nie spowoduje alarmu.” - Dan Westberg, Wiceprez. wykonawców niskonapięciowych

W załączeniu studia przypadków w języku angielskim.

Tłumaczenie oryginalnego tekstu producenta.



Application Highlights

FAAST provides the earliest and most accurate aspirating smoke detection available. Its unique combination of nuisance immunity, incipient fire detection, integral Internet communications, and e-mail notification capabilities opens up a world of application possibilities. Below is a small sample of the many FAAST installations from around the world.



Chemical Plant MCC Room

FAAST overcomes installation and logistical difficulties to provide protection in a high airflow MCC room at a mission-critical industrial chemical plant.

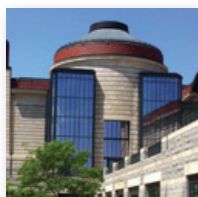
"The FAAST air sampling system worked the first time, and everything flowed really well." — John Waldrop, Senior Project Manager S & S Sprinkler Systems



Apex Tool Group

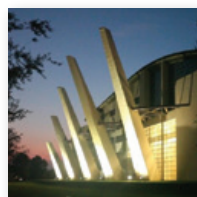
The FAAST system is an ideal fit in Apex Tool Group's hand-tool manufacturing facility because it rejects nuisance alarms caused by dirt and dust.

"Smoke had seeped from the production floor into the compressor room next door, where FAAST was installed, creating an alert. When they went out to investigate it, they determined there was smoke in the area. It didn't initiate in the control room, but it still picked up the early stages of smoke in the area. FAAST really did exactly what it was supposed to do." — Jamie Colley, president of Integrated Technical Services



Minnesota History Museum

The Minnesota History Museum installed 13 FAAST devices for very early fire detection in its galleries.



Cyber Innovation Center Data Center

FAAST provides critical very early warning detection for data center's double interlock suppression system.

"The FAAST system was a clear choice from the onset...the ease of installation, the features and the functions of the system, user-friendly for the end user, simple to understand, and low maintenance are all factors that not only fit the installation, it sets it apart." — Ronald Case, senior project manager for Fire Tech Systems Inc. in Shreveport, La.



Per Mar Security Services Data Center

Security and fire solutions provider Per Mar has installed System Sensor's state-of-the-art FAAST aspiration system in its own data center to ensure business continuity and uninterrupted support for its clients.

"It gives early warning or very early warning, depending on how you configure it and we can actually check into a [potential] problem before it actually arises...which absolutely is beneficial to the data center." — Daniel Turner, Chief Information Office, Per Mar



Cancer Treatment Centers of America

Cancer Treatment Centers of America (CTCA) installed FAAST to protect critical information and operations.



Science Museum of Minnesota

The Science Museum of Minnesota installed FAAST for maximum protection in its hazardous fluids and equipment storage area.

"We recommended System Sensor's FAAST system for a primary reason, to ensure that the high nuisance dust factor in the storage area does not cause an alarm state." — Dan Westberg, VP of Low Voltage Contractors



Case Study: **Chemical Plant**

High Velocity Aspirations



Project:

Chemical Plant

MCC Room



Aspiration Smoke Detection

FAAST overcomes **installation** and **logistical** difficulties at a mission-critical industrial chemical plant.

A large industrial chemical plant needed to install smoke detection in its motor control center (MCC) room, but shutting down the 800-acre stand-alone chemical plant to install the system could cost the plant \$10 million a day in lost productivity. Downtime was not an option, so the system needed to be installed while the plant was still up and running. The question was, "How?"

S & S Sprinkler Systems was engaged to find a solution. When John Waldrop, Senior Project Manager, and designer, Zack Normandin, tuned into a System Sensor FAAST Fire Alarm

Aspiration Sensing Technology® webinar, they realized FAAST could be a "winning solution" for this chemical plant.

S & S had considered other methods, such as water-based or clean agent fire protection for the chemical plant, "...but the use of water or inert chemical agents would have meant a long time for restoration and clean up in an emergency, not to mention the high cost for the volume of clean agent necessary," Waldrop says. Instead, he recommended and chose FAAST because it was user-friendly, especially in the design and cost.



An industrial plant may have many motors and components for motor control that are allocated to a special area or room. An MCC is usually a modular cabinet system for powering and controlling motors. An MCC room may have a 20-foot ceiling with air supply and returns mounted at a lower level. Rows of electrical cabinets are typically 8-feet tall and cable tray tiers are mounted at 12 to 18 feet high.

Standard spot detectors have difficulty sensing fires in MCC rooms because of their air flow patterns, which can heavily dilute smoke and cause it to not reach ceiling-mounted detectors in detectable levels. And because electrical cabinets generally have gaskets on their doors with no vents, fire can potentially develop for a long time inside the cabinet before enough heat and smoke escape to trigger an alarm in a standard detector. Heat buildup in these high-ceilinged rooms could

requirement for protecting the chemical plant's MCC room. Even with its ability to discriminate against nuisance particulate, FFAST has a listed sensitivity rating of 0.00046%/ft (0.0015%/m) obscuration. This level of sensitivity can detect very small quantities of smoke, mitigating the effects of dilution and enabling a response before costly damage or loss can occur. FFAST also offers five fully programmable alarm levels, so strategic responses can be customized to specific smoke thresholds for the facility.

"There was a tremendous amount of surface-mounted, rigid conduit, all types of cable trays, raceways, high voltage and sensitive equipment," Waldrop continues. "Because of FFAST, we were able to install it while the equipment was running. FFAST is especially important because it is easy to angle around and not disturb the raceways."

"The FFAST air sampling system worked the first time, and everything flowed really well."

— **John Waldrop**, Senior Project Manager S & S Sprinkler Systems

also stop the cooler smoke from rising to the ceiling and triggering an alarm.

In the case of the specific MCC room S & S was tasked to protect, huge high-velocity air handlers are used to chill the 7,000-square-foot room's motors and generators. This constant blowing tends to stir up dust, raising the potential for costly nuisance alarms that could shut down production.

"It is a relatively clean environment but has a high velocity of air movement necessary to cool the giant transformers and switchgear. Photo and spot detection would not fit the bill because of the amount of detectors we would need, in addition to servicing them on a 15- to 20-foot ceiling. Spot detectors could also get clouded; the high velocity of air could blow particles right into the photo chambers," Waldrop says.

FFAST's patented Dual Vision sensing technology and advanced particle separation combine to provide high-sensitivity to actual fire with superior nuisance rejection – a critical

Because of a crowded wall, it was difficult to get the hard pipe from the detector up the wall and into the existing installation. Rather than bend the hard pipe around the obstacles, installers threaded the capillaries through without shutting down the plant or putting people at risk.

"The capillaries were the key part to put the detection where we needed it and were a breeze to put in," Waldrop says.

The fire suppression control module to the annunciator is located in the utilities control room a block away. S & S used fiber rather than copper wire to connect the FFAST device to the module because it is easier to use and install. The main control panel was reformatted to RJ45 fiber-optic cable. FFAST easily met the fire marshal's inspection and approval.

"The FFAST air sampling system worked the first time, and everything flowed really well," says Waldrop.

Using Capillary Tubes

Capillary tube sampling locates sampling points remote from the main sampling pipe when the main sampling pipe cannot be routed through the protected area for technical or aesthetic reasons. Capillary tubes can sample equipment cabinets or enclosures within the protected area.

Lacking other guidance, it is recommended to put a minimum of two capillary sampling points in a room to provide redundancy should any one hole become obstructed. Local codes and standards differ on the minimum distance detection points can be positioned from walls and ceilings. It is important to observe local regulatory requirements.

Guidelines for capillary tube use include:

1. Try to keep the length of capillaries the same.
2. Tube length should not exceed 26 ft. (8 m).
3. When sampling enclosures, the sampling point is typically placed at or close to the top of the enclosure's interior.



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Case Study: **Cancer Treatment Centers of America**

Aspiration Detection is a **Valuable Prevention Tool** for Hospital



Cancer Treatment Centers of America (CTCA) installs **FAAST** to protect critical information and operations.

A recent fire and electrical outage at a West Coast data center disrupted three hospitals' access to the Internet, e-mail, phone and pager service, and electronic medical records for four-and-a-half hours. During that time, new records had to be taken manually as a parallel system only allowed reading of medical records.

This incident illustrates the vulnerability of healthcare centers that need 24/7 access to information – and why FAAST Fire Alarm

Aspiration Sensing Technology® is a good choice for hospitals.

"In today's information and technology driven world, a server room fire, especially in a hospital, can be catastrophic," says Ryan Clark of American Fire Equipment in Phoenix, Arizona. "Aspiration technology is one of the best methods of protection for early detection. We compared aspiration technologies and installed System Sensor's FAAST at the Cancer

Project:

**Cancer Treatment
Centers of America**
Phoenix, Arizona

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Aspiration FAAST 8100

 **SYSTEM
SENSOR**
advanced ideas. advanced solutions.™

Treatment Centers of America in Goodyear, Arizona's 2000-sq.-ft. server room." The Arizona facility at Western Regional Medical Center is part of a national network of hospitals, providing a comprehensive, fully integrated approach to cancer treatment.

Beyond data protection, facilities such as the Cancer Treatment Centers require highly accurate, very early warning of incipient fires. Combining these capabilities can prevent damage to expensive equipment, reduce unnecessary evacuations that can endanger patients and create downtime, and protect lives without disrupting expensive and sensitive procedures.

FAAST's advanced filtration, patented particle separation, and unique Dual Vision sensing technology meets these requirements

Protecting medical facilities can pose other challenges as well. MRI systems, for example, can be sensitive to the metal and electronic components in fire detection devices. This, too, is a place where FAAST can be invaluable. The FAAST device can be mounted in a separate location with sampling points run into the sensitive area through a plastic piping network.

Prior to installation, System Sensor PipelQ® software is used to lay out the system's pipe network. The software also provides system configuration and monitoring capabilities. FAAST's monitoring capabilities are further enhanced by the device's integral Ethernet port.

According to Clark, "...any situation at the hospital is known instantly with FAAST's unique onboard Ethernet interface monitor." The interface enables monitoring of the detector

"Aspiration technology is one of the best methods of protection for early detection."

— **Ryan Clark**, American Fire Equipment in Phoenix, Arizona

by eliminating and discriminating against dust and nuisance particulate. This approach reduces false alarms while providing smoke sensitivities as low as 0.00046%/ft obscuration for very early warning detection.

FAAST further reduces false alarms through System Sensor's proven Acclimate™ mode, which enhances performance by automatically adjusting sensitivity based on environmental conditions. The user defines the allowable range of sensitivity levels, and FAAST makes necessary adjustments to provide the most sensitive setting while accounting for environmental baseline conditions.

from any Internet browser, smart phone or mobile device with VPN capability. The system can also be configured to automatically deliver e-mail status updates to appropriate personnel wherever they are.

American Fire Equipment has provided CTCA with a service contract to monitor the system at the hospital on a regular basis, such as changing filters when necessary. American Fire tested the FAAST system after installation and will continue to test it periodically by means that satisfy the Authority Having Jurisdiction.

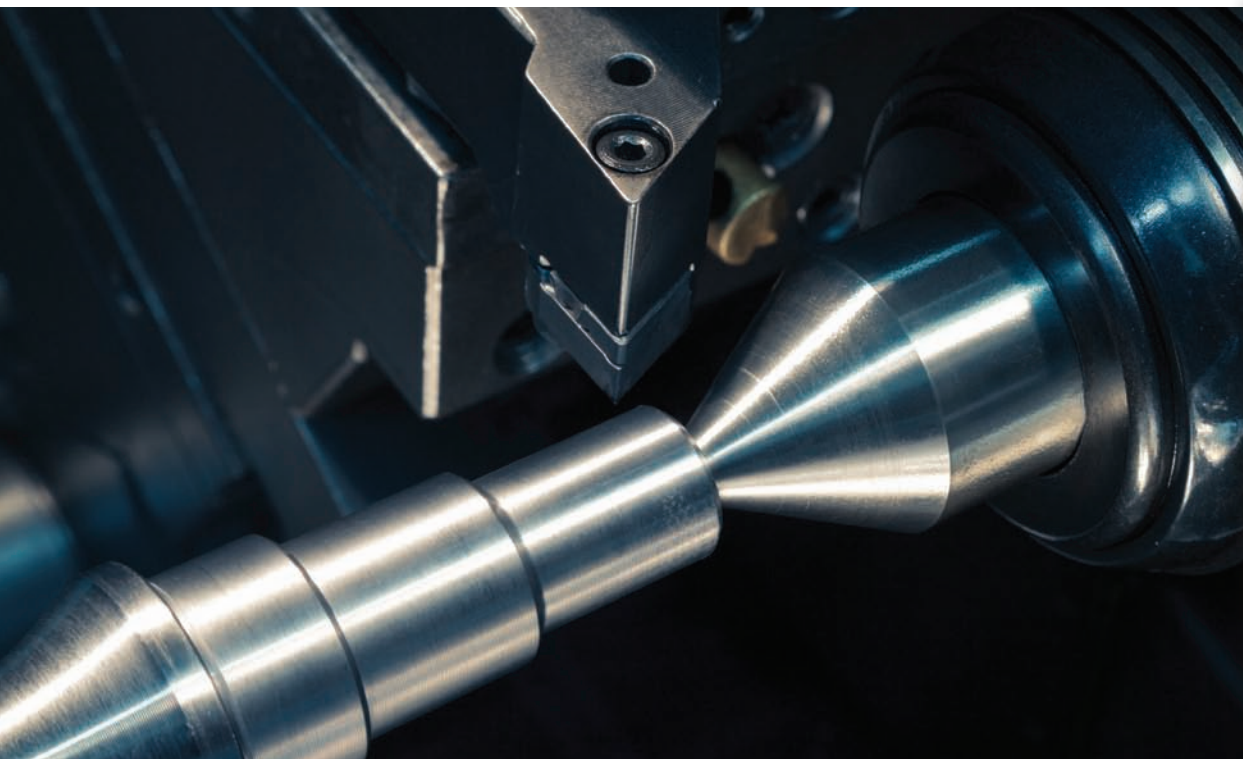


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Case Study: **Apex Tool Group**

FAAST Handles Plant's Dirty Work



Project:

Apex Tool Group
Gastonia, North Carolina

Manufacturing plant

Caustic by-products

Dirty and dusty
environment

Very Early Warning
required

2



Aspiration FAAST 8100

The aspiration detection system is an ideal fit in Apex Tool Group's hand-tool manufacturing facility because it **rejects nuisance alarms** caused by dirt and dust.

The Apex Tool Group is a billion-dollar tool manufacturing company with over 90 manufacturing facilities worldwide. One such facility is its hand tool manufacturing plant in Gastonia, North Carolina. This particular plant specializes in processing raw metal into well-known brands of hand tools and sockets for industrial, commercial and do-it-yourself customers. The manufacturing process to make 30 brands of hand tools creates caustic by-products and an extremely dirty environment.

This posed difficult challenges for Integrated Technical Services, LLC, the company that designed, installed and now maintains Apex's fire system at the Gastonia facility. "The Apex plant is processing latex and other chemicals, causing particles to constantly flow through the air. There's a fine layer of powder (residue) everywhere in the basement that gets into everything," says Jamie Colley, president of Integrated Technical Services.

This type of environment causes many

hazards the company must address, including the difficulty to detect smoke and ultimately a fire. "There was a switchgear room in the basement and a compressor room next to the production floor that were not as clean as an environment should be for smoke detection," Colley adds.

Apex's insurance company required the company to install smoke detection in two of its switchgear rooms. "Conventional smoke detectors in those rooms were counterproductive. They would be having nuisance alarms and dirty detector warnings every couple of months," says Colley.

Colley, who has been working with aspiration systems for over 10 years, looked into the System Sensor FFAST Fire Alarm Aspiration

was well-suited for this project because of its ability to reject nuisance conditions. "We were pretty sensitive to the company not having nuisance alarms. FFAST was the better option for this application," he says.

Colley programmed FFAST to monitor four stages of smoke and trouble conditions. "The way we set it up," he explains, "everything except *fire2* is set up as a supervisory condition. So we tied to the various relays for the various stages of alert – *action1*, *fire 1*, *fire 2*, and *trouble contact* with addressable modules. There were no equipment cabinets, just sampling points in the PVC pipe. There were two sampling points added to the basement room and four installed into the upstairs compressor room. There was an addressable

"Conventional smoke detectors in those rooms were counterproductive. They would be having nuisance alarms and dirty detector warnings every couple of months."

— **Jamie Colley**, president of Integrated Technical Services

Sensing Technology® as an option.

The FFAST 8100 aspirating smoke detector is designed to provide early or very early warning fire detection while minimizing false alarms – both required for a safer working environment in the Apex facility. To achieve this, the detector utilizes a unique dual vision sensing technology that uses a high-sensitivity blue LED to detect incipient fire conditions (with particulate levels as low as 0.00046 %/ft obscuration) and an infrared laser to detect larger nuisance particulate. Advanced algorithms process data from both sensors to provide the earliest and most accurate fire detection available.

"I like the concept and benefit of the FFAST dual technology as a safeguard against false alarms," says Colley. "Any time you are sucking particulates into a unit that sensitive, you want to make sure you are actually creating an alarm when an alarm is needed, not creating nuisances. The dual sensor is a more effective means of filtering out the actual smoke."

Colley, who has worked with aspiration detection in the past, determined that FFAST

fire alarm panel we put in last year, so we were able to connect to it."

The fire panel is at the guard station. When there is an alert, the guard can view the camera monitor to see if there is any smoke in the area and dispatch someone to investigate the area in question without calling the fire department or evacuating the building. If the system would alarm at a *fire 2*, it would set off the horns and notify the fire department – treating it as a building fire.

Soon after installation at the manufacturing facility, FFAST was put to the test. Colley received a call from Apex when FFAST alarmed at an *action 1*. "There was an actual smoke event on the production floor," Colley explains. "Smoke had seeped from the production floor into the compressor room next door, where FFAST was installed, creating an alert. When they went out to investigate it, they determined there was smoke in the area. It didn't initiate in the control room, but it still picked up the early stages of smoke in the area.

"FAAST really did exactly what it was supposed to do," says Colley.



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Case Study: **Cyber Innovation Center**

Innovation Center on **FAAST** Track



Project:

Cyber Innovation Center
Bossier City, Louisiana



Aspiration FAAST 8100

A Louisiana data center **integrates FAAST aspirating smoke detectors with sprinkler systems to protect critical data and equipment.**

Part of the Bossier City, Louisiana, National Cyber Research Park, the Cyber Innovation Center is a state-of-the-art facility that brings together the best from government, industry, research and academia to accelerate technology transfer and develop the necessary workforce to meet growing cyber demands. Its 139,000-square-foot office building includes office space, research labs, high density computing space and meeting facilities.

Protecting its assets is one of the Cyber Innovation Center's highest priorities. Ronald Case, senior project manager for Fire Tech Systems Inc. in Shreveport, La., says this priority was best demonstrated in one of the center's data centers.

For this program Fire Tech Systems elected to integrate System Sensor's FAAST Fire Alarm Aspiration Sensing Technology® with a pre-action sprinkler system to give them the earliest



detection possible. The sprinkler system is a double interlock system that takes two actions for activation: First, there must be smoke to trip the detectors for the pipes to charge with water. Second, heat from a fire is needed to fuse any one of the sprinkler heads, and only then will water discharge.

"To detect smoke for the first trip, we needed a more advanced early warning detection system, and that system is FFAST," says Case.

FFAST utilizes a unique Dual Vision sensing technology that uses a high-sensitivity blue LED to detect incipient fire conditions and an infrared laser to detect nuisance particulate. Advanced algorithms process data from both sensors to provide early and accurate fire

In addition, high-velocity air units are used to regulate and maintain the temperature needed for these rooms. The Cyber Innovations Center chose to adopt a hot aisle/cold aisle cooling strategy with the hot aisles being enclosed by heavy plastic sheeting. Due to the high airflow from the air conditioning and the pressure challenges presented by the large temperature differentials from cold aisle to hot aisle, Fire Tech opted to use four FFAST systems: two for the cold aisles and two for the hot aisles.

"The design involves blowing cold air through the ceiling vents into the area where the hard drives and racks are located. The air is then pulled through the racks, cooling them, and then into the hot aisles where it rises

"The FFAST system was a clear choice from the onset...the **ease of installation**, the **features and the functions** of the system, **user-friendly** for the end user, **simple to understand**, and **low maintenance** are all factors that not only fit the installation, it sets it apart."

— **Ronald Case**, Senior Project Manager for Fire Tech Systems Inc.

detection. FFAST is an ideal fit for the data center because it enables early warning of fires while greatly reducing false alarms from dust or other nuisance situations that could interrupt computer room operations.

"Also, through the FFAST system, we can notify the tenant or the IT department operator via the Internet or email," explains Case. "We could have even put the FFAST systems onto our network to be monitored through smart phones, tablets and iPads, as well as receive emails giving the status of the detector."

through the ceiling and is recirculated,"

Case continues. "So, it's basically high flow, high air movement. And FFAST can be programmed to adjust to that high air flow."

Overall, it was all a hand-in-hand project between Fire Tech Systems and System Sensor according to Case. "The FFAST system was a clear choice from the onset...the ease of installation, the features and the functions of the system, user-friendly for the end user, simple to understand, and low maintenance are all factors that not only fit the installation, it sets it apart."



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Case Study: **Science Museum of Minnesota**

Science's Answer to Critical Protection



Project:

Science Museum of Minnesota
St. Paul, Minnesota

Connected storage area
Volatile materials
Challenging architecture
Dusty environment
Very Early Warning required



Aspiration FAAST 8100

The Science Museum of Minnesota installed **FAAST™**
Fire Alarm Aspiration Sensing Technology for maximum protection in its hazardous fluids and equipment storage area.

Fire protection for a mission-critical facility, such as the Science Museum of Minnesota, is not limited to the exhibit space; it extends to other buildings. For instance, maintaining a museum with irreplaceable and invaluable artifacts requires sophisticated equipment, many cleaning and maintenance supplies and a first-rate storage facility to service the museum.

"Because of the proximity of the storage facility to the museum, fire safety and protection have to be top rated," says Don Hedin, Assistant

Director of Facilities at the Science Museum of Minnesota in St. Paul, Minn. That led the museum to install the FAAST Fire Alarm Aspiration Sensing Technology in its storage facility.

"We store fuel and other volatile liquids in secured safety cabinets," he continues. "We also store our tractors, garden and snow removal equipment, vehicles and other maintenance equipment there." The 1,225 sq. ft. locked storage area is located in the museum's adjoining 810-vehicle parking structure.



"The storage area's unusual concrete ceiling," Hedin says, "consists of 18 pre-cast double tee ceiling panels that are roughly 3 ft. x 4 ft. x 25 ft. each." Smoke easily could collect in the concave-shaped ceiling before an alarm would be signaled. Further complicating fire detection, the storage facility can be a dirty and dusty environment.

"We researched various methods of detection and needed a very early warning system," Hedin continues. "We didn't want to trigger unnecessary false alarms, disturb our visitors or possibly endanger our priceless exhibits. We chose aspiration technology not only for the safety factor, but for cost savings. The museum couldn't jeopardize its mission-critical exhibits by triggering nuisance false

information, facility personnel can view the FAAST device display, which provides a clear indication of the system status, particulate levels, alarm levels, airflow and faults.

Because of FAAST's tolerance to dusty and dirty environments, it reduces nuisance alarms while providing the very early warning of fires the museum requires. First, FAAST's multi-stage filtering process helps to remove contaminants. After being drawn into the pipe network's sampling ports, the air sample moves through a patented particle separator that removes larger nuisance contaminants. Then, a replaceable filter further removes nuisance particulate before the sample enters the detection chamber. This four-year filter is easily replaceable through the front panel door of the FAAST device.

"We recommended System Sensor's **FAAST** system for a **primary reason**, to ensure that the high nuisance dust factor in the storage area **does not cause an alarm state.**"

— Dan Westberg, VP of Low Voltage Contractors

alarms because of the storage room's dusty environment."

Hedin relied on Dan Westberg, Vice President of Low Voltage Contractors (LVC) of Minneapolis, to select a fire alarm aspirating system. "We recommended System Sensor's FAAST system for a primary reason, to ensure that the high nuisance dust factor in the storage area does not cause an alarm state," Westberg says. The piping and system installation took only eight hours as only one unit was installed, as opposed to installation of multiple area detectors. The system was tested and approved by the city of St. Paul.

When designing the system, LVC used System Sensor PipeIQ™ software that is included with FAAST as a guide to the pipe layout. (Note: All pipes must be installed in accordance with local and national codes and regulations.) The software provides intuitive control over pipe design layout, system configuration and ongoing system monitoring.

The FAAST system is monitored by a NOTIFIER® control panel, which is in the museum's security office. For quick-read

Next, the detector utilizes a unique dual vision sensing technology that uses a high-sensitivity blue LED to detect incipient fire conditions (with particulate levels as low as 0.00046 %/ft obscuration) and an infrared laser to detect larger nuisance particulate. Advanced algorithms process data from both sensors to provide the facility with the earliest and most accurate fire detection available.

Finally, FAAST includes an Acclimate mode, which initially adapts to the environment in 24 hours. It then continuously adjusts to the environment, greatly reducing susceptibility to nuisance alarms. This is especially important if the storage facility's environmental conditions fluctuate.

For anyone hesitant to use aspirating detection based on early generation products from other manufacturers that did not deliver as promised, the technology has been perfected to the point where it is now a "go to" system. According to Westberg, aspiration detection requests have been growing steadily. "Aspiration detection is a must in fire protection design," he concludes.



The **Science Museum of Minnesota**, founded in 1907, is a large regional science museum located in downtown St. Paul. The Science Museum campus includes research and collection facilities, a public science education center and an IMAX Convertible Dome Omnitheater to provide science education to more than a million people per year. The Science Museum's building is 370,000 square feet, built into the bluffs overlooking the Mississippi River.

The museum's 70,000 square feet of exhibition space includes a 10,000- square-foot temporary exhibit gallery and five permanent galleries covering the topics of paleontology, physical science and technology, the human body, peoples and cultures of the Mississippi River, and the museum's collections. The Mississippi River flows just outside the windows of the museum and past the museum's 10 acres of outdoor exhibits and programming space.



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