WHAT IS AT STAKE?

Priceless, irreplaceable contents of cultural facilities are easily damaged by smoke, and the water associated with sprinkler fire protection. In addition, many museums have high ceilings that reduce the effectiveness of conventional fire detection. It is imperative that these facilities closely monitor day-to-day operations, provide security, reduce theft, deter arson, and detect fire and smoke during the earliest stages.

CHALLENGING ENVIRONMENT

Cultural properties are typically large volume, aesthetically pleasing facilities. Conventional smoke detection such as spot detectors, beam detectors, and aspirated smoke detection are difficult to install and maintain. They are usually mounted near the ceiling which makes smoke diffusion, stratification, and propagation major issues for early detection times. SigniFire is an easily retrofitted solution for early warning smoke and fire detection.

WHY VIDEO FLAME AND SMOKE DETECTION?

Video smoke and flame detection has several advantages over traditional types of smoke detection.

- **EARLIER DETECTION** - Because the cameras ‘see’ the fire at the source, they detect earlier than traditional smoke detectors that require the smoke to reach the sensor.
- **IMMEDIATE SITUATIONAL AWARENESS** - Because the camera is a true network security camera, images can be viewed in real time at a guard station so an immediate suppression response can be initiated.
- **LESS DEVICES TO INSTALL** - Each SigniFire camera can cover a large volume which will lead to fewer sensors causing reduced installation and maintenance costs.
HOW DOES SIGNIFIRE WORK?

Artificial Intelligence using Video Analytics Software

- Scans 640 x 480 pixel images at a rate of 15 times a second
- 4.5 million data points analyzed by Texas Instruments Digital Signal Processor
- Software develops temporal patterns based on pixel DSP filters
- Patterns processed by Neural Network to identify flame and smoke
- Alarms communicated through dry contacts or IP based video management

WHICH FIRE PROTECTION SYSTEMS HAVE BEEN TRADITIONALLY USED IN CULTURAL PROPERTY PROTECTION?

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRINKLERS</td>
<td>Sprinklers are typically mandated by code and are triggered based on high temperature. They are designed to save the building shell but not the contents of a building</td>
</tr>
<tr>
<td>LINEAR HEAT DETECTORS</td>
<td>Linear heat can be used as a pre-action for sprinklers but are again activated by high temperature and will not detect fires at the early stage.</td>
</tr>
<tr>
<td>BEAM DETECTORS</td>
<td>Beam detectors are placed at ceiling level and can cause nuisance alarms based on blockage or misalignment. High ceilings can mean smoke stratification and diffusion issues.</td>
</tr>
<tr>
<td>SPOT DETECTORS</td>
<td>Spot detectors are usually either photo electric or ionization and are placed at the ceiling level which delays detection of smoke.</td>
</tr>
<tr>
<td>ASPIRATED SMOKE DETECTORS</td>
<td>Aspirated smoke detection (where smoke is drawn through a series of tubes back to a central detector) is normally faster than spot and beam detectors but still can have issues with smoke stratification and diffusion as well as smoke transport time and installation costs.</td>
</tr>
</tbody>
</table>
CULTURAL PROPERTY

APPLICATIONS

- Museums
- Libraries
- Government Buildings
- Heritage Properties
- Cathedrals & Churches

THE TOTAL SOLUTION

Fike has long been known for being a leader in service, support and delivery in the fire protection industry. No matter what the concern, no matter what the time, we make it easy to reach a trained, knowledgeable Fike representative who will assist you quickly. Combine that with the most advanced technology available in fire alarm systems, competitively priced to meet all your application needs, and you have a total solution for all your fire alarm and fire protection needs.

APPROVALS:

FIKE GLOBAL MANUFACTURING, SALES AND SERVICE

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