Signi **Fire**™

Fike®

Warehouses and distribution centers are ideal candidates for Signi*Fire*. The large volume and high assests per square foot make it imperative that these facilities closely monitor day-to-day operations, provide security, reduce shrinkage and theft, deter arson and detect fire and smoke during their earliest stages.

Signi*Fire* is typically located on loading docks, packing areas, battery and forklift maintenance areas, as well as high hazard areas such as aerosol rooms. In addition, increased security and reduced theft are improved through the use of video image detection technology.

CHALLENGING ENVIRONMENT

Warehouses are typically large volume structures. The large open areas and high ceilings associated with these facilities make traditional fire detection methods impractical and/or ineffective.
Warehouse Fire Statistics:
- 30% of total non-residential structure fires are in storage facilities
- 23% of storage fires are arson
- 60% of fires occur between 6 pm & 6:00 am

Annual Risk Expense -
Probability of Fire X Single Loss Occurrence:
- 1% chance of fire that requires fire brigade intervention Avg. cost $590,000
- 0.25% chance of warehouse fire that causes roof collapse Avg. cost $6,000,000*

Average annual risk expense =
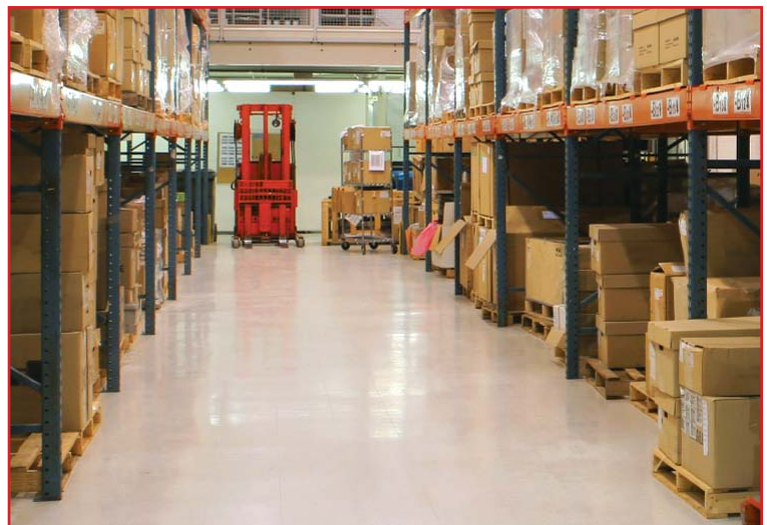(.01 X 590,000 + .0025 X 6,000,000) = $20,900

* *The Probability of Fires in Warehouses and Storage Premises, Hymes & Flynn, 1992*

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 Signi*Fire* camera can cover a large volume which will lead to fewer sensors causing reduced installation and maintenance costs
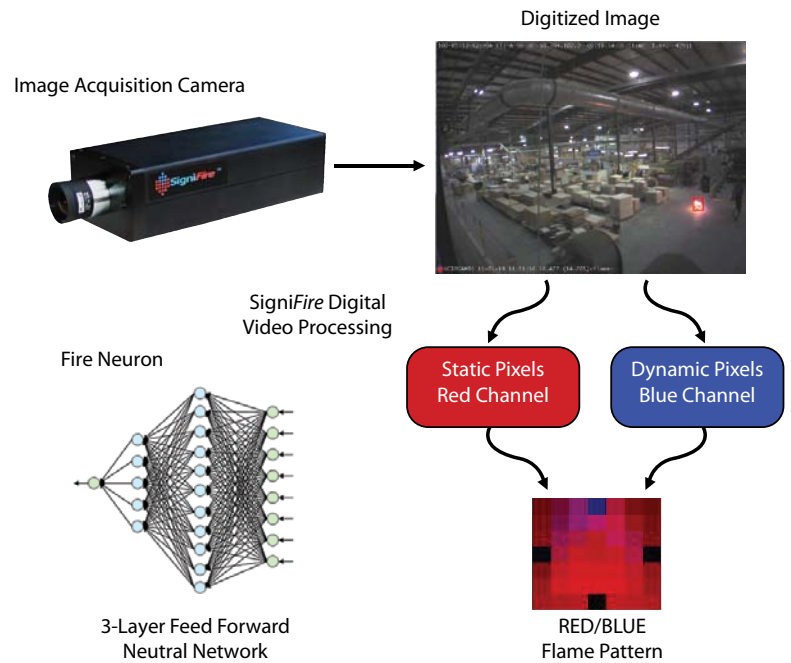
HOW DOES SIGNIFIRE WORK?

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

Image Acquisition Camera

Digitized Image

SigniFire Digital Video Processing

Fire Neuron

Static Pixels Red Channel

Dynamic Pixels Blue Channel

3-Layer Feed Forward Neutral Network

RED/BLUE Flame Pattern

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

| SYSTEM	COMMENTS
SPRINKLERS	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
LINEAR HEAT DETECTORS	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.
BEAM DETECTORS	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.
SPOT DETECTORS	Spot detectors are usually either photo electric or ionization and are placed at the ceiling level which delays detection of smoke.
ASPIRATED SMOKE DETECTORS	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.

VIDEO SMOKE AND FLAME DETECTION PROVIDES A BETTER SOLUTION FOR LARGE WAREHOUSES THAN TRADITIONAL SMOKE DETECTION PRODUCTS. ADDITIONAL SECURITY IS ALSO PROVIDED AS THE CAMERA CAN DETECT UNAUTHORIZED INTRUSIONS.

WAREHOUSES

APPLICATIONS

- Main Storage Areas
- Loading Docks
- Packing Areas
- Battery Rooms
- Forklift Maintenance Areas
- Aerosol Rooms

APPROVALS: FM APPROVED | UL | CE
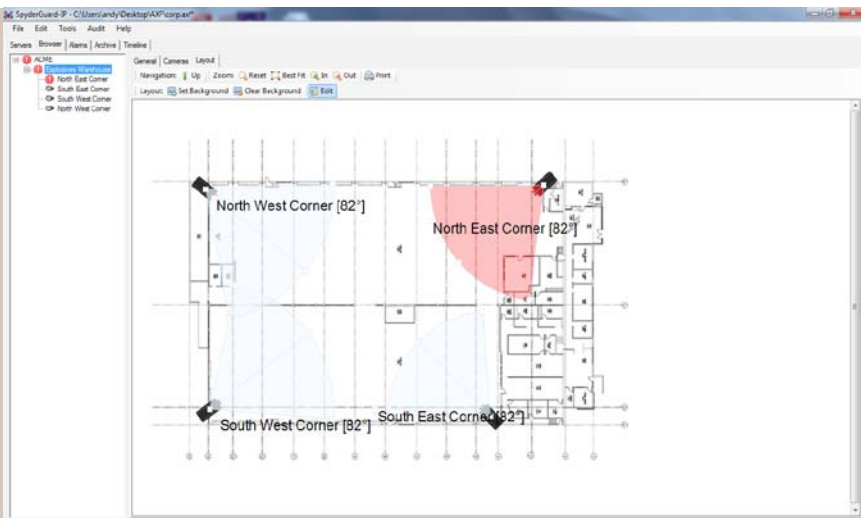
THE TOTAL SOLUTION

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.

FIKE GLOBAL MANUFACTURING, SALES AND SERVICE

AMERICAS

FIKE VIDEO IMAGE DETECTION
Sparks, MD, USA
Tel: +1-410-472-6590
Email: signifire@fike.com

FIKE CORPORATION
Blue Springs, MO, USA
Tel: +1-800-979-3453
Email: fpssales@fike.com

FIKE LATINA LTDA (MERCOSUR)
Jundiai, Brazil
Tel: +55-11-4525-5900
Email: vendas@fike.com.br

CARIBBEAN, CENTRAL, SOUTH AMERICA
Houston, TX, USA
Tel: +1-281-895-0756
Email: ccsasales@fike.com

EUROPE

FIKE SAFETY TECHNOLOGY
Cwmbran, United Kingdom
Tel: +44 (0) 1633 865558
Email: fstinfo@fike.com

ASIA

FIKE ASIA PACIFIC SDN BHD
Selangor Darul Ehsan, Malaysia
Tel: +60-3-7859-1462
Email: fikeap@fike.com

MIDDLE EAST

FIKE CORPORATION DUBAI
Dubai, UAE
Tel: +971 4 (0) 3866455
Email: fike.dubai@fike.com

SigniFire™