VIPER IMAGING

Remotely monitor your wood processing and storage areas with Viper's Early Fire Detection system.

Monitoring Solution for Hot Spot Detection

- Bulk Storage
- OSB Mills
- Log Vats
- Paper/Bulk Materials
- Wood Processing
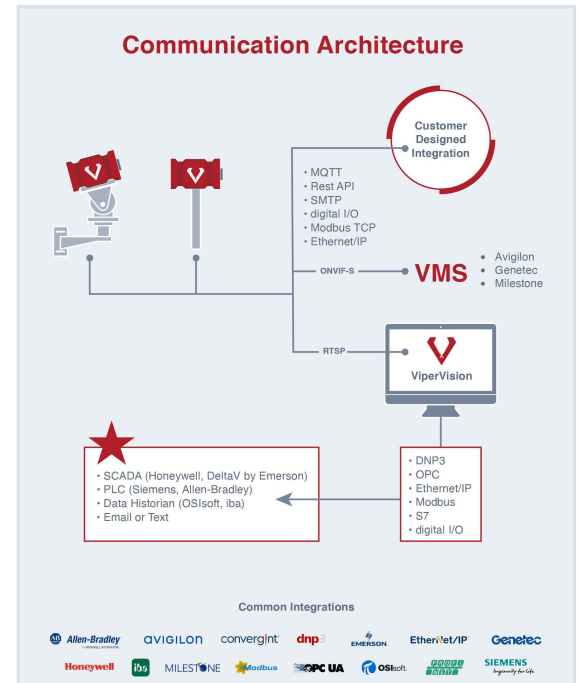- Planer Rooms
- Dusty Machinery
- Building Materials

Wood processing facilities are especially susceptible to fire because lumber materials and the byproducts of processing (i.e. dust) are exothermic without exposure to an external stimulus. In storage areas, the internal temperature of the material can increase to the point where it begins to burn spontaneously. Fine dust covers machinery and mechanical bearings in planer rooms and other points in the process. If not properly maintained, the bearings can combust or even explode. The resulting fire and intense heat can ignite nearby material. If not caught in time, an entire building or storage area and the product contained in it can be destroyed.

Although most warehouses, storage areas, and processing facilities are equipped with smoke or spark detectors and fire-fighting systems, these systems only initiate when a fire already exists. **Thermal imaging helps to detect hot spots before a fire occurs** so that the necessary measures can be taken.

FOR YOUR PEOPLE

FOR YOUR COMPANY

FOR YOUR EQUIPMENT

Overview & Communication Architecture

Viper's system includes FLIR thermal imaging cameras, placed in robust housings, installed in positions where they have a clear field of view of the storage area or point in the process. These cameras capture video images in real time while constantly calculating temperature. FLIR thermal imaging cameras clearly reveal hot spots and provide precise temperature and locations of these spots.

FLIR cameras are integrated with ViperVision Software to directly communicate with most industrial platform controllers. The software will analyze and compare the data against the predefined parameters, and will trigger an alarm if warranted. When an alarm occurs, personnel can verify the problem and see its exact location using the visual display in **ViperVision software**. Parameters can be adjusted based on specific application needs. Defining alarm parameters also allows ViperVision software to ignore high temperatures from objects around the region of interest that are still within the camera's field of view. This increases the system's dependability by reducing the number of false alarms.

Communication Architecture

Customer Designed Integration

- MQTT
- Rest API
- SMTP
- digital I/O
- Modbus TCP
- Ethernet/IP

ONVIF-S

VMS
- Avigilon
- Genetec
- Milestone

RTSP

ViperVision

- SCADA (Honeywell, DeltaV by Emerson)
- PLC (Siemens, Allen-Bradley)
- Data Historian (OSIsoft, iba)
- Email or Text

- DNP3
- OPC
- Ethernet/IP
- Modbus
- S7
- digital I/O

Common Integrations

Allen-Bradley · Avigilon · convergint · dnp3 · EMERSON · EtherNet/IP · Genetec · Honeywell · iba · MILESTONE · Modbus · OPC UA · OSIsoft · SIEMENS

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TELEDYNE FLIR
PLATINUM PARTNER

Constant remote monitoring will detect hot spots in dust piles, wood chip piles, and other bulk storage.

Constantly monitor temperature of machinery and motor bearings to prevent combustion from dust buildup.

A FLIR thermal imaging camera is installed outside the control room to "see through" steam - preventing blockages in a log vat.

Use Case Examples

There are multiple applications in the lumber industry for Viper Early Fire Detection systems. FLIR A-series thermal imaging cameras integrated with ViperVision software are the basis of the monitoring solution. Cameras are installed to ensure the most complete thermal map possible. The camera's digital data stream is transmitted to ViperVision software for analysis and storage. The software also controls all camera functions, displays thermal images, and generates reports.

**Viper Systems are designed for hazardous environments.** Our thermal imaging camera enclosures are application-specific and include the appropriate purge and pressurization to protect the camera equipment. Viper Imaging provides solutions for Class 1, Division 1 and Division 2 environments - as well as a variety of other industrial settings.

Key Benefits

- Improved safety for plant personnel
- Detect fires at a very early stage
- Reduced risk of product loss and damage to plant equipment
- Reliable and rugged system designed for harsh environments
- Easy integration into existing plant control system

ViperVenom camera enclosure
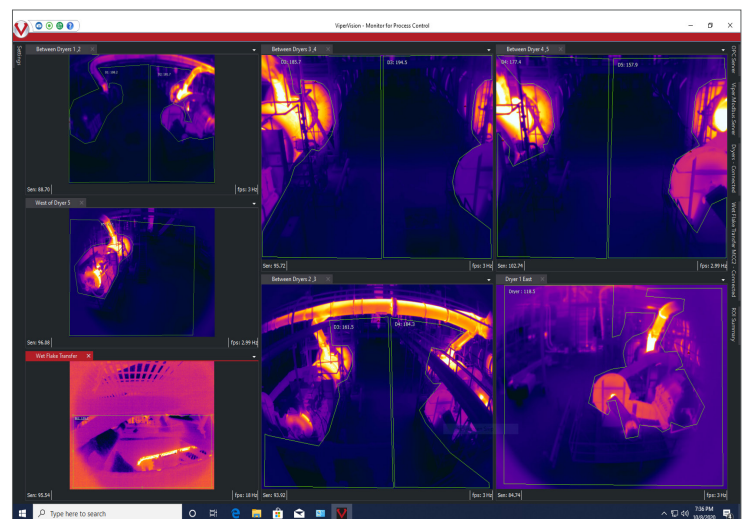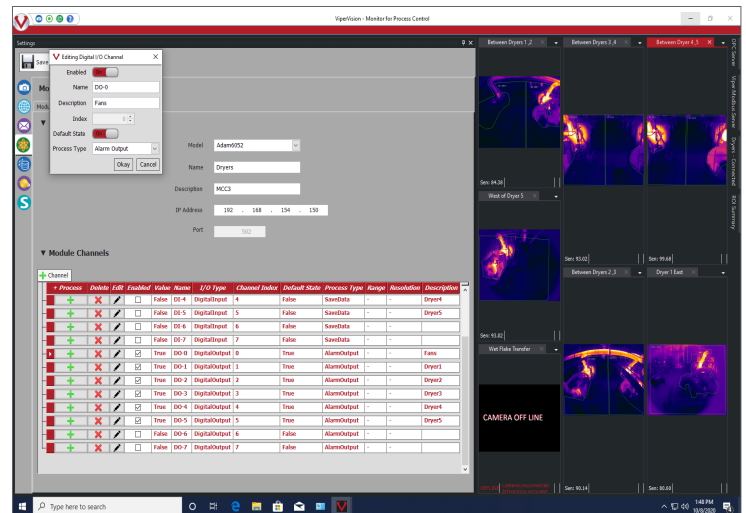
An OSB mill implemented a multi-camera system for simultaneous monitoring of specific areas. Cameras are placed at key points in the production process.