avathon.

Customer Success Story

DELIVERING REAL-TIME FIRE SAFETY WITH AI-POWERED CCTV

HOW CAN INDUSTRIAL OPERATORS DETECT FIRES FASTER AND MORE RELIABLY USING AI?

PROBLEM

One of India's leading oleochemical operations lost roughly $400K worth of assets in a massive fire that spread out of control despite traditional heat and smoke detection methods that were in place.

SOLUTION

Avathon Industrial AI platform can detect and pinpoint the location of fires as soon as they start, using visual AI and machine learning to recognize fire signatures and immediately raise real-time alarms.

OUTCOME

The company equipped over 200 CCTV cameras with Avathon Industrial AI platform, allowing them to detect fire signatures in mere seconds and deploy real-time alarm and safety systems immediately.

Traditional fire sensors depend on heat and smoke to detect fire. Yet, by the time such conditions actually trip the alert sensors, fire damage may already be spreading out of control.

In 2015, this unfortunate scenario played out for one of India's leading oleochemicals companies, producing almost three million metric tons of chemical products per year. A small fire started in the thermic fluid boiler at the end of the plant, going unnoticed for several hours in an unstaffed section of the facility.

By the time it was discovered, an abundance of flammable chemicals stored in the plant had provided potent fuel to turn it into a raging inferno. When emergency responders finally extinguished the flames, and insurance adjusters assessed the damage, the company lost $400K in unsalvageable assets in one incident.

THE LIMITATIONS OF TRADITIONAL FIRE DETECTION METHODS

Concerns about industrial safety and compliance in plants, warehouses, and factories are well-founded: estimates put the number of industrial-setting fires in the range of 40K per year in the U.S. alone.

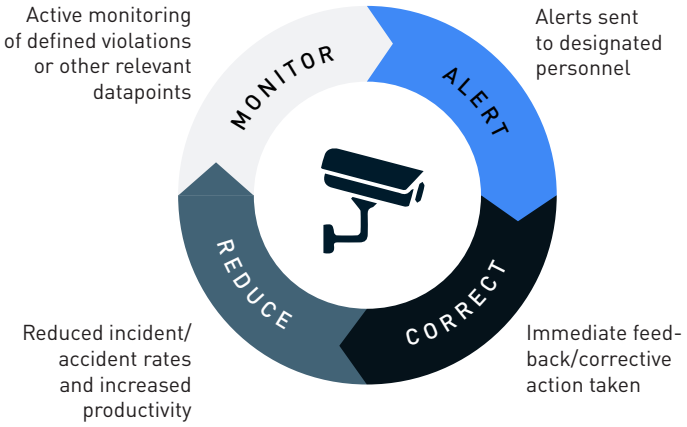
Fire and thermal compliance regulations mandate smoke and thermal sensors as primary safety equipment alongside other fire-safety measures and planning protocols. While fire and smoke detector systems work well for small enclosed spaces like office buildings, in large factories, warehouses, and industrial structures, these devices become less effective. Because traditional fire sensors depend on heat and smoke to detect fire, it can easily take several minutes before sufficient quantities of smoke and heat are present to trigger the alarm warning in these settings. During this time, fire can spread undetected, becoming more difficult and dangerous to contain, especially for industrial operators that produce or use highly combustible and hazardous materials—where any risk of fire carries the potential for catastrophic loss of life and property.

LEVERAGING VISUAL AI TO DETECT FIRES IN REAL TIME

Closed-circuit television (CCTV) cameras have primarily been thought of as security systems, not fire safety systems. That's because unless your basic CCTV camera happens to be pointed at the area where the fire breaks out, plus you happen to have staff watching that camera view all hours of every day to see it—extremely unlikely—the only good CCTV surveillance will do is to retrospectively provide evidence for your fire investigators about when and where the fire occurred.

But if you combine those same CCTV cameras with leading-edge AI capabilities, you transform them into proactive analytical assets that provide actionable insights and automated alerts to better manage risk. By applying machine learning (ML) models to images—like the images captured by CCTV cameras—computer vision allows you to keep watchful eyes on your operation at all times to accurately identify and classify objects and decide the next best action to take based on what your cameras "see."

HOW INDUSTRIAL AI UNLOCKS PROACTIVE ACTIONS AND INSIGHTS

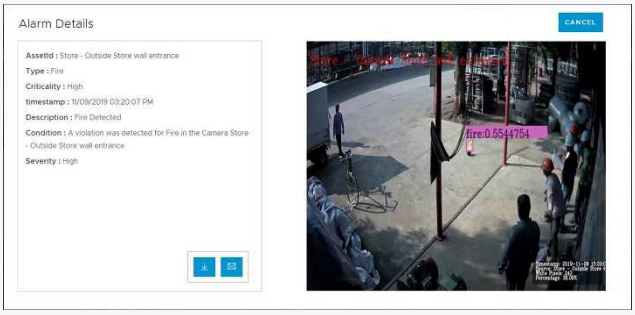


DEPLOYING AVATHON INDUSTRIAL AI PLATFORM

Avathon Industrial AI platform is our highly scalable enterprise computer vision product which enables customers to easily configure and deploy vision-based applications using a low-code/no-code integration framework and our rich library of over 100 pre-existing use cases like fire safety. Through its proprietary ability to understand and react to complex scenes and multi-frame activities, our Industrial AI platform allows our customers to transition from reactive to proactive corrective actions before issues happen.

Determined to improve safety at the plant and protect its multimillion-dollar plant going forward, the oleochemicals company decided to deploy Avathon Industrial AI platform on 200 CCTV cameras. Using these cameras that were previously only dead digital feeds, Our Industrial AI platform is now helping the customer recognize the specific signature of a flash fire in the range of five to fifteen seconds—10-20X faster than traditional fire detection systems—from 50 meters away.

When a possible fire is detected, our Industrial AI platform provides real-time fire detection with a snapshot of the area where the incident occurred. This image is automatically sent to the fire-control room for immediate action. Real-time alarms integrate with local buzzers, hooters, PA systems, display systems, email, SMS, push notifications, and more, warning of the situation instantaneously to key safety engineers and bystanders in the area. Our Industrial AI platform even detects anyone stuck in various areas of the building during a fire outbreak and gives emergency response coordinators rapid headcount information as well as employees' locations in the building.



Industrial AI platform detects a fire and identifies its location, triggering real-time alarms and alert notifications.

Avathon Industrial AI platform has helped our customer move on from the devastating fire incident they suffered towards a safer and more sustainable future—driving operational excellence, reducing exposure to industrial accidents and compliance failures, and safeguarding the well-being of their employees and assets.

ABOUT AVATHON

Avathon, a leader in Industrial AI, extends the life of critical infrastructure while advancing the journey toward full autonomy. Avathon's Industrial AI platform empowers commercial and government customers with scalable, secure, and value-driven solutions that enhance efficiency and resilience across heavy industry.

To learn more about how Avathon's AI solutions can unlock the power in your data, visit www.avathon.com.