

# Video Fire Recognition



**Protecting people,  
property & processes**

# Protect your facility with a camera that warns you of smoke and flames

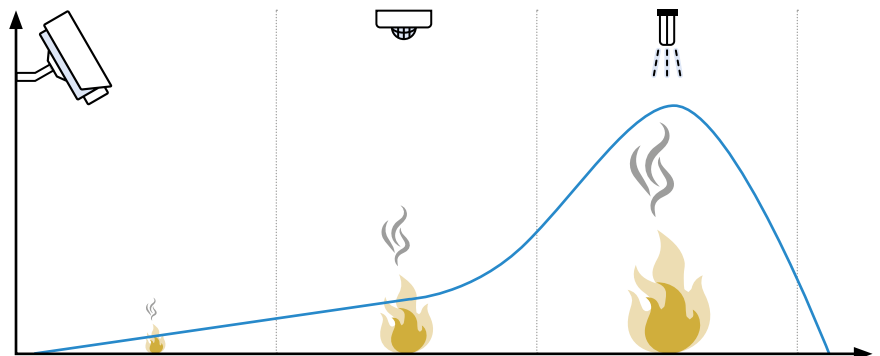
Smart video analytics from Araani make it possible to recognize smoke and fire in a very early stage. In challenging environments, Araani's video analytics are a reliable, failsafe solution to protect your people, property and processes. The software is designed for Axis cameras, with the analytics taking place within the camera, on the edge of the network, without needlessly burdening the network.

Video Fire Recognition allows security operators and fire specialists to make better decisions when things get critical.



## Detection at the source

Traditional smoke detectors need to make direct contact with heat or smoke to be activated. But by the time that happens, it can already be too late. Araani's video analytics do not wait for this, but immediately see starting fires at the source. This saves valuable time, which allows you to intervene much quicker and prevent fire damage from spreading.



## See what happens

When alerted, Araani's video analytics allow you to see immediately what is going on in the camera image. This allows you to assess the situation and make better decisions. Without the need to go on site, the Araani-enabled camera allows you to see the exact location and the nature of the fire, verify the presence of people/victims, and assess the progress of the incident in real time. Recorded incidents as seen by Araani video analytics provide valuable footage that you can use to identify causes, evaluate safety procedures and take appropriate actions to avoid future incidents.

# Plan for business continuity by investing in early fire warning.

A major fire incident at your premises can possibly cause huge physical damage and bring your business to a standstill, leading to major profit loss. Company owners are often confronted with unexpected costs that come with a fire incident: smoke & water damage, production stops, raw material shortage, moving stock and machinery, data loss, impact on brand image, ecological damage and more. These costs can threaten the continuity of your business, and in worst case lead to bankruptcy.

Video Fire Recognition is your additional insurance against these disasters. By installing a Video Fire Recognition system from Araani, you plan ahead for business continuity. And being able to react faster to fire incidents, you can prevent the worst from happening.



## Designed for harsh and high-risk environments

Araani's fire monitoring and detection solutions work flawlessly in environments where chemicals, dust, dirt or vapor are present every day, so the system does not generate false alarms for these reasons. The analytics are also not affected by bright arc welding flashes, flashlights or other typical workplace activities.



## Ideal for great heights

Araani-enabled cameras are ideal for use in tall buildings or large indoor spaces. In these environments, smoke might never reach your traditional smoke detector, because of a process called stratification, which stops the upward movement of smoke.



# Intelligent Fire Monitoring and Detection

Araani's video fire recognition come in two flavours: **Araani Fire Guard** intelligent Video Fire Monitoring and **FireCatcher** Video Fire Detection. Video Fire Monitoring is supporting your fire safety measures in situations where no fire detection is mandatory and/or is used to generate an early warning where conventional fire detection is already installed. Video Fire Detection on the other hand can be used as a primary detector, linked to your Fire Alarm Control Panel. Both solutions are designed for Axis cameras.



## ARAANI® Fire Guard

### VIDEO FIRE MONITORING

With the intelligent Araani Fire Guard software for Axis cameras, you can enhance your security camera network by allowing it to recognize fire outbreaks in the earliest stage. Although Araani Fire Guard does not replace a certified detection solution, it does recognize and warn you of smoke and flames much earlier than a conventional smoke detector. An Axis camera enhanced with Araani Fire Guard improves your chances of getting ahead of the fire and preventing worse from happening.

- Flame recognition
- Smoke recognition
- Configurable sensitivity
- Configurable detection zones
- Burnt-in metadata overlay
- Alarm event control





## FireCatcher®

### VIDEO FIRE DETECTION

FireCatcher is a field-proven smoke and flame detection application, based on previously CNPP and BOSEC-certified SmokeCatcher Certified and FlameCatcher Certified products. FireCatcher delivers excellent smoke and flame detection and can connect to your Fire Alarm Control Panel. Tamper detection, image quality control and activity monitoring contribute to a fail-safe and reliable detection.



FireCatcher Video Fire Detection:

- seamlessly connects with your Fire Alarm Control Panel (FACP).
- is only installed by Araani Certified Integrators, who have followed a comprehensive training program and have access to Araani's quality tools, manuals and support.

- Flame detection
- Smoke detection
- Fire Alarm Control Panel connection
- Advanced fine-tuning
- Configurable detection zones
- Burnt-in metadata overlay
- Image quality control
- Activity monitoring

"Araani enables us to detect fires very fast, even before they have a chance to develop. We are now more confident that our company is a safer place, and we are sure that our manufacturing process is not interrupted."

TIAGO SIEUW, UNILIN

# Reliable video surveillance and fire detection for critical environments

## Airports & aviation infrastructure

The slightest fire outbreak in an airport can lead to huge interruptions of passenger flows and air traffic, resulting in even greater business losses and safety risks. The challenge here is to recognize and detect fires in a very early stage, before they have the chance to develop into something that is business-critical.

- Passenger halls
- Airport terminals
- Baggage areas
- Offices
- Cargo and storage buildings
- Fuel tanks
- Hangars and maintenance buildings

Conventional smoke detectors are too unpractical or ineffective to handle the complex building layouts and high spaces that are typical of airport environments. And yet, tall spaces with limited compartments are highly susceptible to fire propagation.

Whether it's an electric vehicle catching fire in a parking space, an inflammable product in the baggage area, or hot equipment in the catering area, Araani's video analytics will see the starting fire in a matter of seconds.



## Public transportation

Transportation companies want to guarantee the safety of their passengers and the continuity of their services at all times.

Any interruption caused by fire can have a serious economic impact. Whether it's a fire started by an illegal or uncaredful smoker, an inflammable product in one of the surrounding commercial areas, or an overcharged battery of an electric vehicle, the fire risks in public transportation areas are very real.

Araani video analytics are an ideal fire monitoring and detection solution for a wide range of passenger, parking or technical areas that have a tall or complex layout. Araani will not react to most factors that cause unwanted alarms with traditional smoke detectors, such as dust, vapor or chemicals.

- Train stations
- Subway stations
- Bus terminals
- Tunnels
- Technical rooms
- Parking areas





## Industrial facilities

A fire in an industrial building can have devastating consequences, including damage to your production equipment and infrastructure, loss of inventory, and interruption of business, all of which can have a huge financial impact.

Potential fire sources include heat dissipation from overloaded electrical installations, industrial processes like soldering, welding or melting, moving mechanical parts that ignite sparks, charging stations for electrical vehicles or forklifts, and inflammable products in your storage area.

A starting fire in an industrial setting will often not be able to reach a conventional smoke detector or detection equipment, due to the great heights of many industrial buildings or silos, and because of a process called 'smoke stratification', which stops the upward movement of smoke. Araani's video analytics on the other hand can see any starting fire from a great distance, and are not hindered by typical industrial processes that generate dust or steam.

- Factories
- Processing industries
- Chemical installations
- Assembly halls
- Warehouses
- Depots for raw materials
- Fuel tanks

"With Araani's accurate smoke detection, we can reduce the risk of fire to a minimum. Araani offers an ideal early warning system for companies that have areas with a high fire risk and low people traffic."

WOUTER VANDERSTRAETEN, PURATOS

## Heritage

Historic buildings, monuments, or other heritage attractions need to be kept intact for future generations at all costs. However, the recent fire incident at the Notre Dame in Paris only demonstrates that disasters can happen in these environments.

Unfortunately, historic buildings and monuments are not always easy to protect with traditional fire detection technology. Old and valuable building materials are often highly vulnerable to fire. In addition, high or voluminous buildings like churches will have issues with the stratification of smoke whereby smoke will not rise high enough or quickly enough to reach ceiling-mounted point or beam detectors.

Araani Video Fire Monitoring and Detection solutions can overcome the limitations of these traditional detection solutions, hereby helping you preserve our heritage for future generations.

- Historic buildings
- Monuments
- Museums
- Works of art

### CASE

## Devastating consequences for Paris Notre-Dame after disastrous fire

On 15 April 2019, a fire broke out beneath the roof of the cathedral Notre-Dame de Paris. The fire made the spire of the iconic building collapse, destroyed most of its roof and severely damaged the upper walls.

The cathedral contained a large number of artworks, religious relics, and other irreplaceable treasures, many of which had to be moved for safety reasons early in the emergency. Other artwork suffered smoke damage, and some of the exterior art was damaged or destroyed. Three emergency workers were injured and the fire resulted in the contamination of the site and nearby areas of the city with toxic dust and lead.

The heritage conservation organization *Fondation du Patrimoine* estimated the damage in the hundreds of millions of euros. French president Emmanuel Macron said that the cathedral would be restored in time for the 2024 Paris Summer Olympics, although architects estimate that a complete restoration could require twenty years or more.

On 25 December 2019, the cathedral did not host Christmas Mass for the first time since 1803.







## Critical infrastructures

Both the public and the industry rely on vital services like the distribution of oil and gas, electricity, water or the ability to communicate. A fire incident in a critical infrastructure that provides such a service can have far-reaching consequences for society and business.

- Oil and gas utilities
- Pipeline infrastructure
- Electrical utilities
- Server rooms or data storage centers

Overcharged machinery, leaks with inflammable gases or liquids, or failing equipment can quickly set fire in motion. Araani's video analytics will provide an early warning of those starting fires, enabling you to limit downtime to a minimum and prevent worse from happening. Araani will exclude most factors that cause unwanted alarms with traditional smoke detectors, such as dust, vapor or chemicals.

### CASE

## Fire incident leads to increased prices of raw materials

In October 2016, BASF halted production at 20 manufacturing plants at its site in Ludwigshafen, Germany, after an explosion and fire damaged pipelines used to transport the chemical intermediates ethylene and propylene. BASF's Ludwigshafen site is their largest chemical plant and by their declaration of force majeure, there were significant ramifications for the chemical industry. In a notice published October 19, 2016, BASF formally declared force majeure on deliveries of all their acrylic monomers. BASF noted that there would be great impacts on logistics and raw material availability as a result of this accident.

This fire incident, in combination with a number of other factors, including increased market demand, caused increasing price pressure on certain raw materials. For example, in the insulation market, this led to increased prices for MDI, an essential component of certain insulation products, and to the unavailability of other insulation products in 2017.



## Retail environments

Fires in retail environments put customers and staff at risk, and can result in serious business losses. The daily risks of ignition are plenty: storage of inflammable goods, malfunctioning electrical equipment, defect electric vehicles in the parking area, uncared-for smokers, or hot catering equipment.

Complex building layouts or customers who are unfamiliar with the environment can make the evacuation of large groups of people very difficult, making the need for a high-performance early warning system even more pressing. However, in high-ceiling malls or atria, where fire can spread easily, smoke may never reach the conventional, ceiling-mounted smoke detector, because of smoke stratification.

Araani's video analytics on the other hand can see starting fires from a great distance and enable personnel or fire safety specialists to take the necessary measures in time.

- Shopping malls
- Department stores
- Shops
- Vending areas

Between 2009 and 2013, US fire departments responded to an average of 13,570 structure fires per year in stores and commercial facilities, causing a yearly average of 12 civilian deaths, 299 civilian fire injuries, and \$604 million in direct property damage.

2015 NATIONAL FIRE PROTECTION ASSOCIATION

## Smart cities

An increasing number of smart cities make use of the latest detection technology to improve the fire safety of their citizens and public infrastructure.

Video Fire Recognition technology from Araani also makes it easier for city authorities to protect their cultural heritage and historical buildings. Very often these infrastructures are more susceptible to fire and it is not always practical to protect them with traditional fire detection without doing damage.

- Parking areas
- EV charging points
- Public buildings
- Waste recycling areas



## Waste recycling

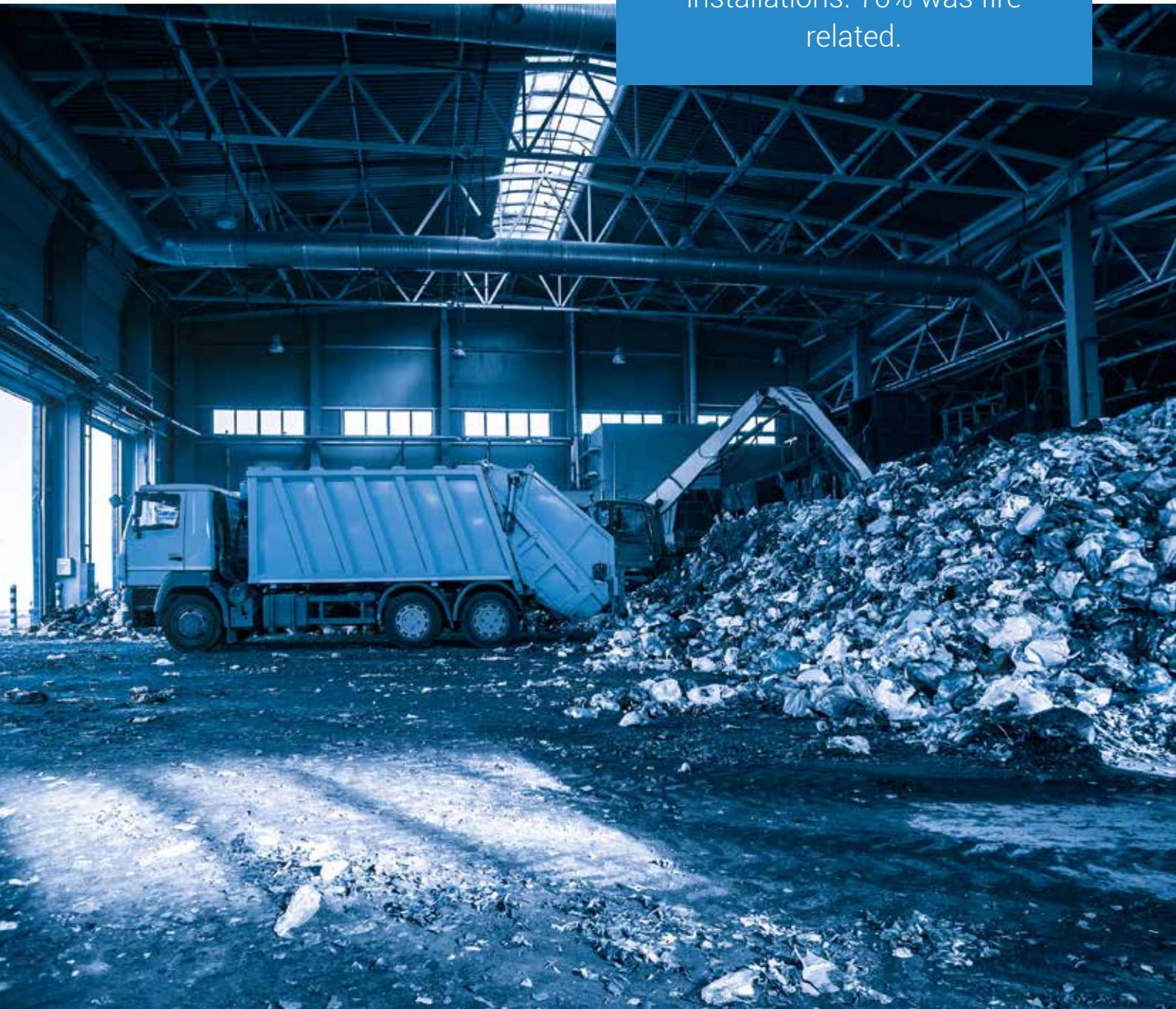
In areas where waste is collected or treated in large quantities there is a constant risk of spontaneous combustion. The presence of electrical equipment or inflammable goods increases this risk.

Conventional smoke detection will not be efficient in detecting smoke or starting fires in an early stage. Waste bunkers are typically wide and high spaces, making it hard for smoke to reach the ceiling in time. An additional problem is the high concentration of dust or vapor during waste recycling activities, which may cause frequent unwanted alarms and hinder effective fire detection.

Video Fire Recognition technology from Araani will see any starting fire from a large distance and will minimize unwanted alarms due to dust or vapor, making it the most suited solution for 24/7 fire monitoring.

- Waste storage
- Waste processing

Between 2017 and 2019, 21% of industrial incidents in France happened in recycling installations. 70% was fire related.







## About Araani

Founded in 2014, Araani is a Belgian company specializing in video analytics for people, property and process protection. Araani is the developer of Araani Fire Guard and FireCatcher.

Araani has its roots in companies that have pioneered the video analytics industry. The expertise and years of experience of Araani's founders have resulted in a rock-solid video analytics solution for your high-risk or high-impact environment.

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