

1. FV-F17 HOT SPOT & FLAMES DETECTION FIXED CAMERAS

1 – FLAME, HOT AND COLD SPOTS DETECTION

Fixed camera FV – F -17

“Smart flame detection and hot spot monitoring”

- Detection algorithm embeded in the camera
- Onvif® S certified
- Can be used
 - As plug & play in existing CCTV
 - As stand alone
 - As part of a full solution
- Can detect flames from any flammable material (hydrocarbons, oily rags, H2, paper, wood, ...)



Camera with Non Atex Casing



1A - FLAME DETECTION



H2 FLAME DETECTION

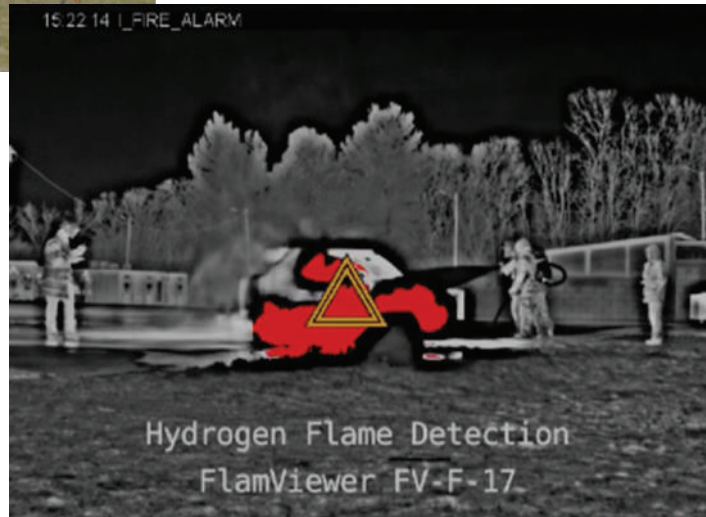
Due to its unique embedded algorithm, the camera can show you the actual H2 flames shape and size on the video received at the control room .





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Fire fighter training to extinguish an H2 fire from a fuel cell car H2 presurrized tank



MULTIPLE FLAMMES DETECTION



It can detect up to 10 fires simultaneously anywhere in the camera field of view. The flame will show as red and the alarm will show as triangle on the screen.

1B - HOTSPOT MONITORING

To detect hot spot that could trigger a potential fire

- **Hot spot monitoring:** Areas in which the temperature is ABOVE the value set by end user as threshold, are colored in RED.
- **Detection time:** Immediate
- **Possible simultaneous detections:** unlimited



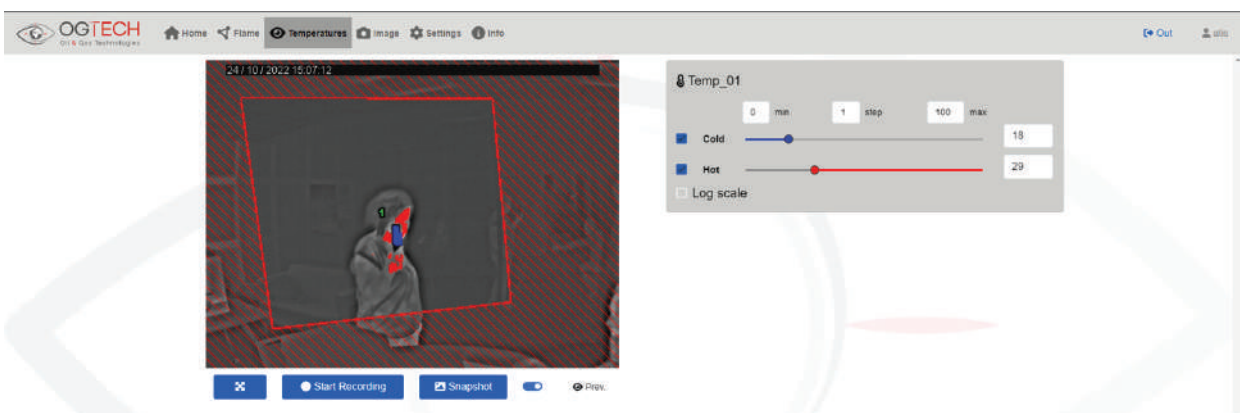
1C – COLD SPOT MONITORING

Leak detection in cryogenics applications

Area in which the temperature is BELOW the value set by end user as threshold, are colored in BLUE.

- **Détection time:** Immediate
- **Simultaneous detection:** unlimited

Possible to monitor multiple ROI (up to 10) with different temperature threshold in each ROI.



1D – ROI (REGIONS OF INTEREST)

- A web-based user-friendly HMI allow easy access to the camera to set up single or multiple ROI, in order to focus the detection on certain areas of interest.
- These ROI can be used for either flame detection or hot spot monitoring.
- They are set up using your mouse through our user-friendly web-based interface, they can take any size and shape.
- Up to 10 ROI can be set up simultaneously.



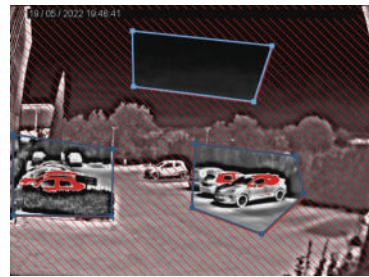
No ROI

Detection everywhere in the camera field of view



Single ROI

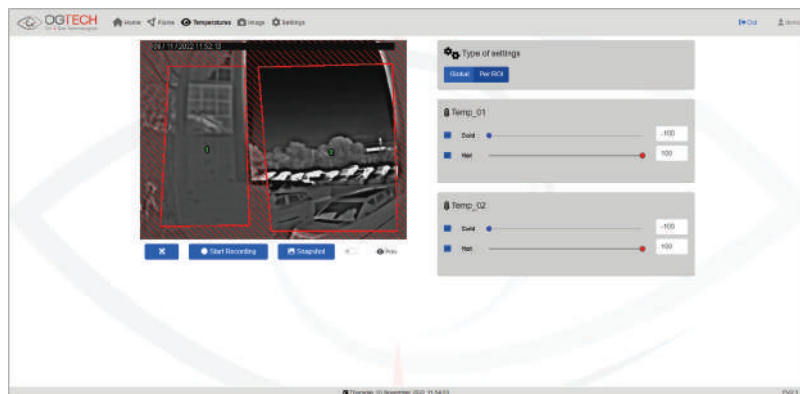
Detection only in the ROI



Multiple ROI

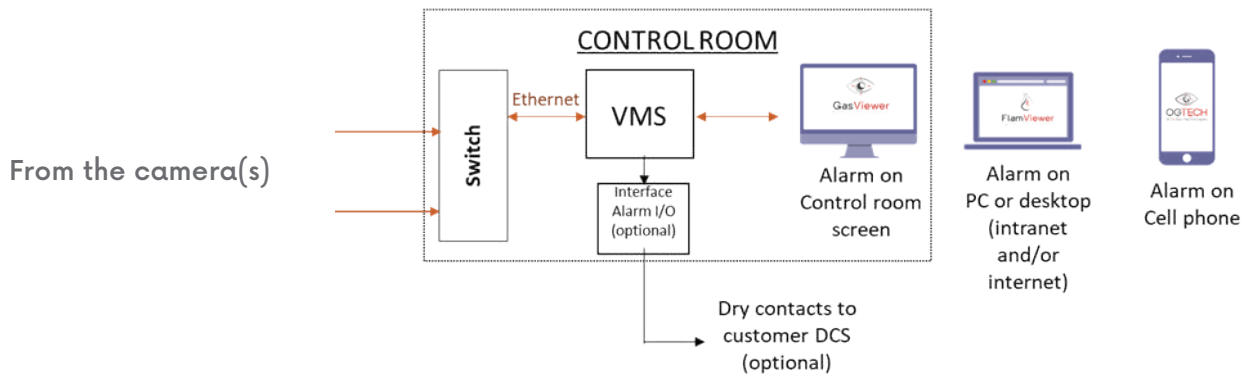
Detection only in the ROI

In case multiple ROIs are set up for hot spot monitoring, each ROI can be programmed with a different temperature threshold (hot and cold) to trigger the alarm.



1E - ALARMS

- Through OG-Tech Video Management System (VMS), we can send you the alarms from the camera to a :
 - PC in your control room
 - A laptop connected to your intranet or internet
 - A mobile phone (for the person on call)
- In addition, our VMS can supply dry contacts to connect to your DCS in order to trigger automatic actions.



1E - ALARMS

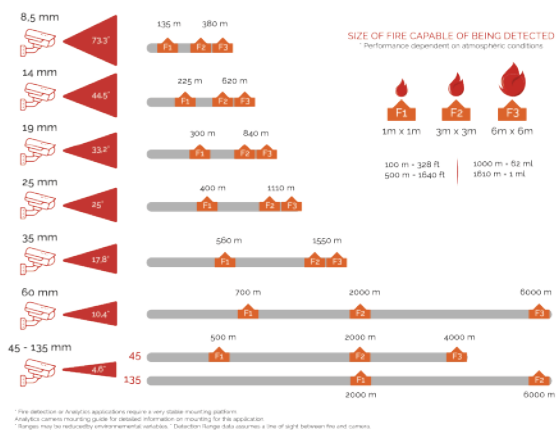
Our camera is available as a fixed camera system or mounted on a Pan/Tilt positioner.

We offer a variety of optics including fixed single field of view athermalized lenses, motorized focus lenses, dual field of view zoom lenses, continuous zoom lenses and an extremely long range 150mm fixed motorized focus lens.



Camera with motorized Atex pan/tilt unit

Detection distance depending on the lens used and the fire size



1F - DETECTION RANGE

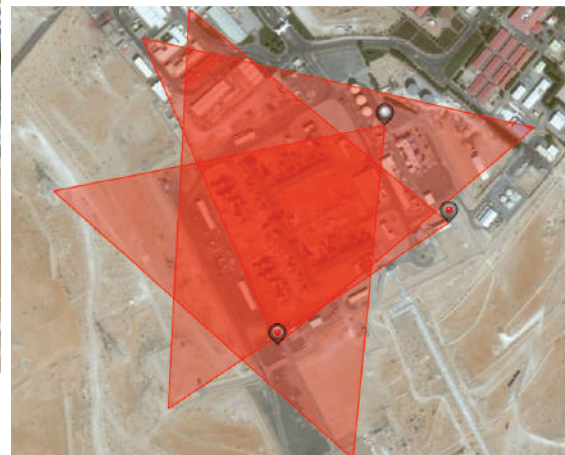
Depending on the lens installed on the camera, a limited number of units can monitor a vast area



Multiple tanks roof monitoring using 1 or 2 cameras



Depending on the lens installed on the camera, a limited number of units can monitor a vast area



Full gas compression site monitored with 3 cameras

1F – CASE STUDY



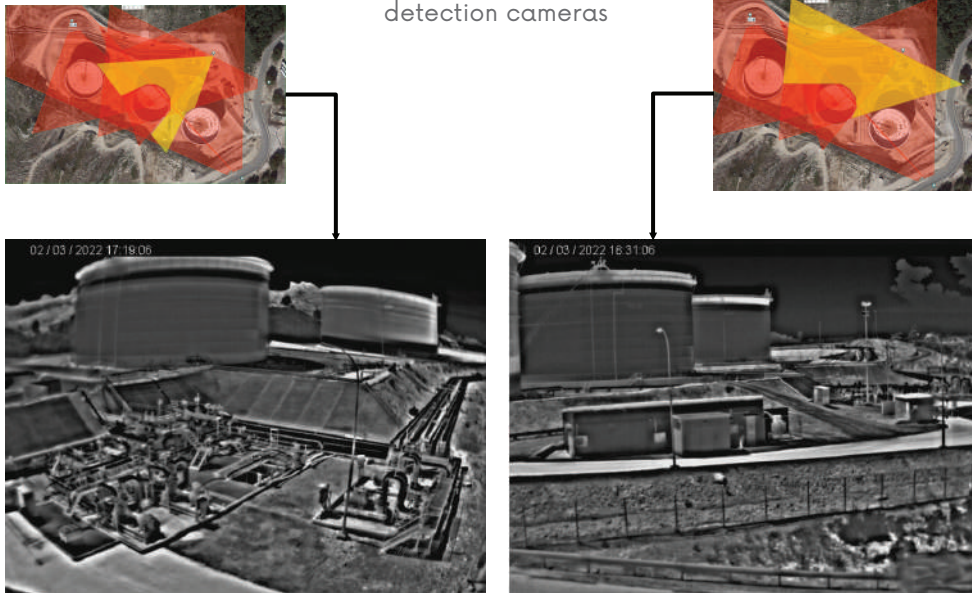
Full storage area retention pond monitored with 5 flames detection cameras



	Mat 1	Mat 2	Mat 3	Mat 4	
Distance max à surveiller (en m)	126	128	183	325	191
Camera distance détection max pour feu 1m2 au sol (en m)	136	136	225	400	225
Objectif	8,5 mm	8,5 mm	14 mm	25 mm	14 mm
Angle de vision horizontal	73.3 °	73.3 °	44.5 °	25 °	44.5 °

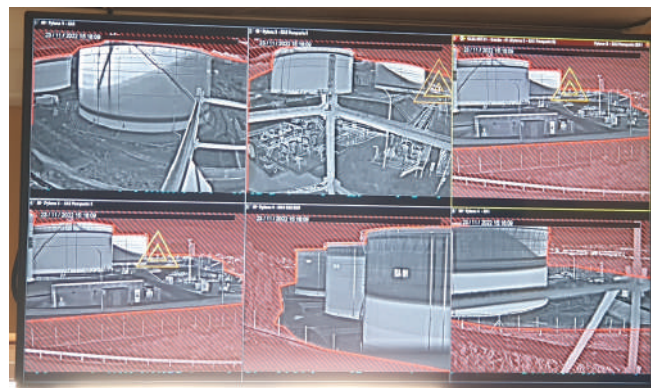
Each camera lens is chosen depending upon the distance and the field of view to monitor

Tank farm area monitored with five flame detection cameras



Area monitored with camera 1

Area monitored with camera 2



Control room display showing all the video streams

ROI feature allows to precisely draw the areas to monitor by each camera in order to avoid false alarms from out of site events.

1F - CAMERA BENEFITS

- **Visualization** in real time of flames and hot spot locations
- **Algorithm embedded in camera** – The image processing software is embedded in the camera to reduce the alarm response time and avoid third party post processing

- **Versatility** – Same camera can be used simultaneously for flame detection, risk of fire detection , electrical equipment monitoring and security (anti intrusion optional)
- **Outdoor use** – IP 66 enclosure, Atex enclosure optional. Due to its detection range, camera can be installed outside of Atex areas most of the time
- **Easy to set up** – ONVIF communication protocol. Can be plugged in existing CCTV networks (IP network) avoiding cost of new cables installation)

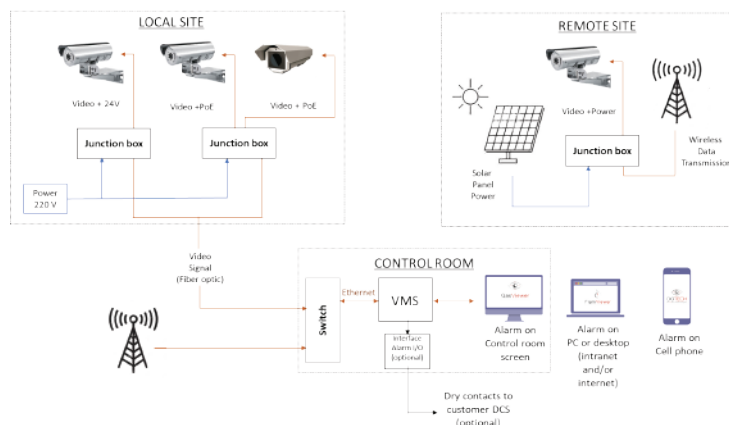


2. FULL TURNKEY SOLUTION

2 – FULL TURNKEY SOLUTION

To comply with your requirements, we can supply full turnkey solution, including:

- Camera power supply using solar panels
- Wireless data transmission (video + alarms)
- Integration of cameras from other suppliers thanks to our certification **ONVIF** | **S**
- Full solution for control room (including our own VMS or any ONVIF compatible VMS – Genetec/Milestone)
- Alarms sent to control room, to PC on intranet or internet, and/or to your cell phone



2A – SOLAR PANELS

Our solar panel solution includes the solar panels, power regulator, POE switch, batteries and control cabinet. Multiple options are available depending on the required power and the location of the system.

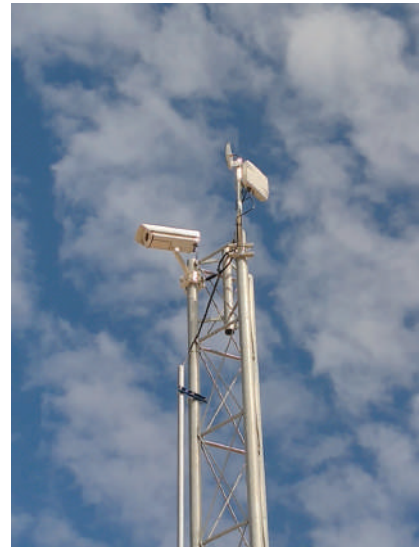


2B – WIRELESS TRANSMISSION

For our wireless solution we take security seriously.

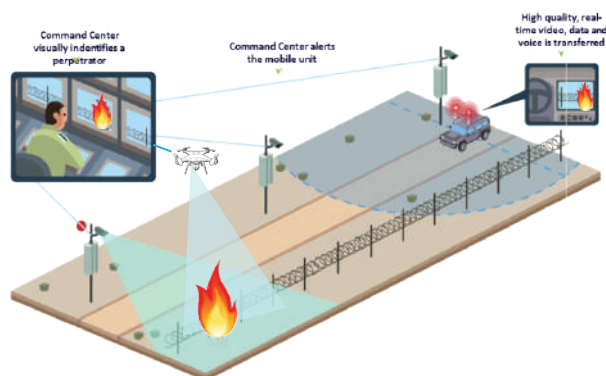
Our system includes :

- Military grade encryption algorithm,
- Possibility to tune our system to a very specific wavelength given by local government license,
- Narrow width transmission channel as point to point, to avoid a widespread signal transmission
- Self healing mesh network




2C – MESH NETWORK

Signal will be transmitted from the cameras to the control room, but also to the rescue vehicles equipped with antenna and screen, as long as they are in our wireless network coverage area



2D- ONVIF ADDITIONAL EQUIPMENT

Our CERTIFICATION  allows us to integrate cameras from other manufacturers in our solution (color camera PTZ for removal of doubt for example) or to integrate our cameras in an existing CCTV network. In this case, the alarms will be sent directly to your VMS.



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