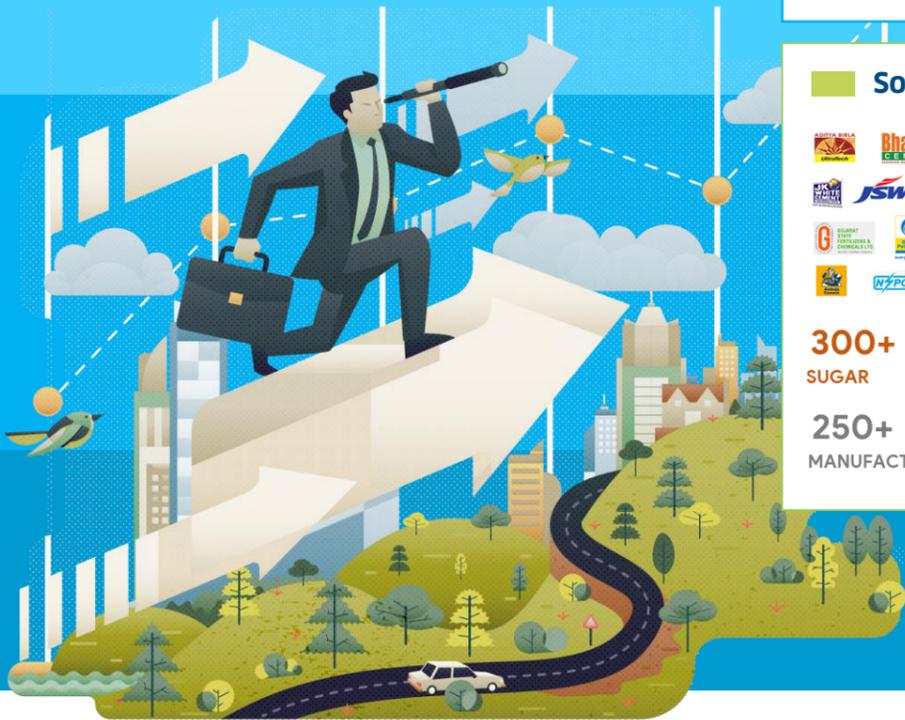


We make the world,
a better place to live.



Request for a demo

✉ sales@knowledgelens.com

📦 **Delivery in less than 3 weeks**

Some of our clients

			2500+ INDUSTRIES
			3 COUNTRIES
300+ SUGAR	20+ REFINERY	200+ POWER	100+ PULP & PAPER
250+ MANUFACTURING	200+ AGRO-BASED	25+ FERTILIZERS	

About Knowledge Lens

Knowledge Lens is a US-based product technology company that builds domain-specific Data Lenses that enable the discovery of actionable insights from Enterprise Data Assets. Our team of tech experts work on cutting edge technologies such as Big data, AI, IoT, AR/VR, Blockchain and Cloud to add differentiated value to our customers. Our mission is to turn enterprises' dark data into meaningful business insights.

We have successfully transformed Fortune 500 companies into Smart Enterprises by implementing Next Generation Enterprise Data Lakes (Serverless Architecture), AI powered Intelligent Apps and Industry 4.0 Solutions- on-premise, on the cloud and hybrid.

Our Product Gallery

- G Lens** Real-time Environment Data Acquisition Monitoring & Analytics Suite
- i Lens** Revolutionizing IoT & AI for Industry 4.0
- Ai Lens** Accelerating AI for Enterprise
- M Lens** Workload Migration, Cloud Data Management & Disaster Recovery Suite
- ProvLens** Blockchain based Provenance Platform

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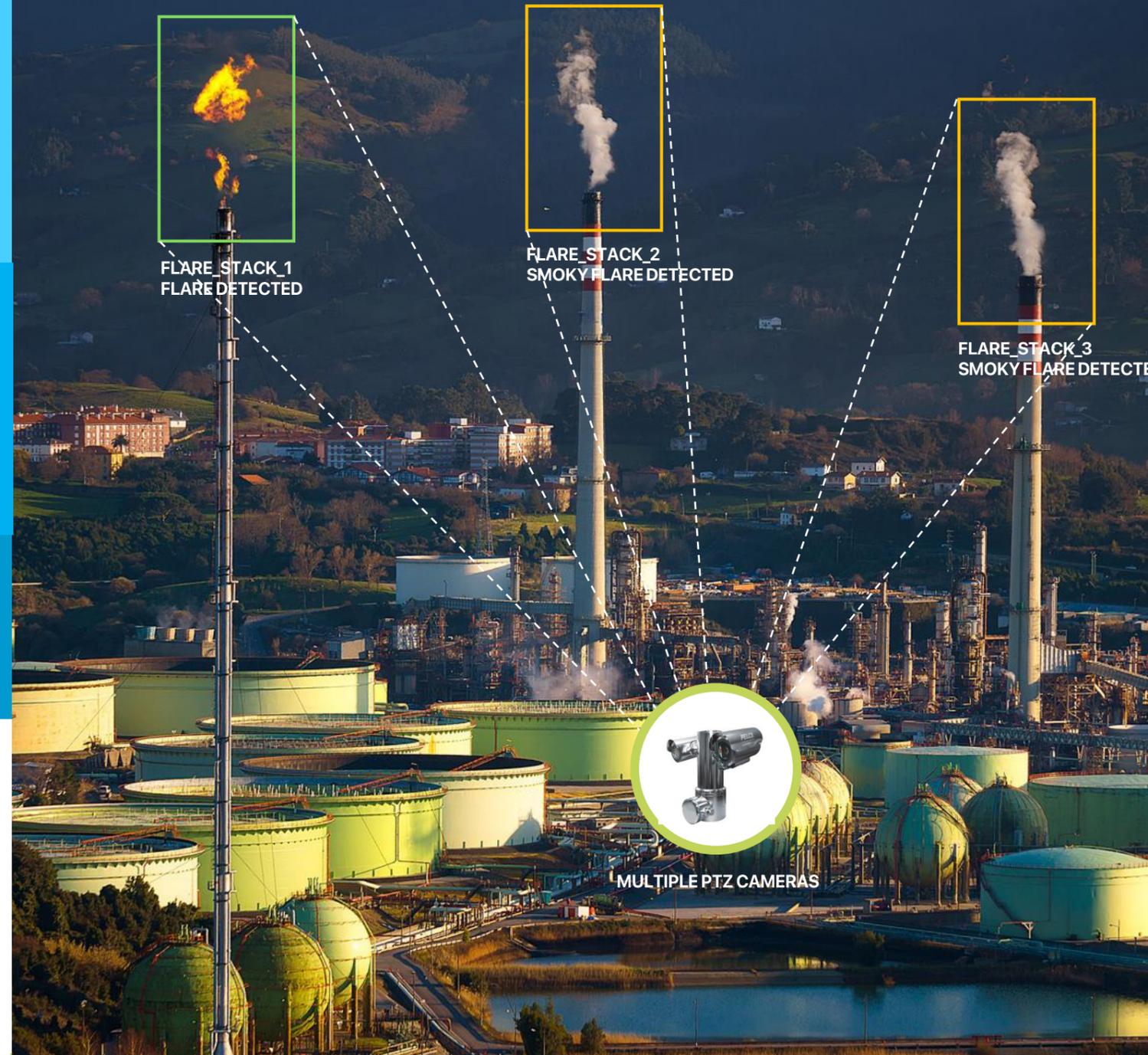
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Knowledge Lens
Accelerating Actionable Insights
www.knowledgelens.com



Flare Monitoring based on AI for Industries

G Lens
For a Greener Tomorrow

Knowledge Lens
Accelerating Actionable Insights

Burning excess gas by flare is a complex but critical component of oil and gas operations, vital to both safety and processing performance.

Our Flare Monitoring System lets you monitor flare in real-time, and provides alerts and insights.

The Benefits

1. Live Streaming of Camera

- Any make and model of the camera can be live streamed through the software. The live streaming feed is configurable using the setting page of each camera.
- Multiple Live Streams can be viewed together. Each stream can be zoomed to view in full screen mode.

2. PTZ Camera Controls

- All PTZ cameras can be controlled using the software as long as the camera is ONVIF Profile S compliant. For other cameras, the PTZ drivers are added separately, based on the camera availability. All reliable cameras today come with ONVIF Profile S compliance for PTZ controls.
- Zoom and Tilt can be independently adjusted.

3. Artificial Intelligence based Flare Detection

- Each live stream camera will have Flare Detection built-in. The Flare will be trained in the background to make Flare Detection even more accurate. Based on the detected flare, alerts are generated when the flare is absent. The time window during which Flare is absent is recorded. The recording of the camera during this period is stored and can be accessed anytime, anywhere.
- Multiple cameras will be monitored in parallel and the alerts are generated automatically
- Even if the camera view is not open, monitoring of all configured cameras happen in the backend.

4. Camera Recording

- In case of events that are configured (Flare Absence, Smoky Flare etc.) , the live streams will be automatically recorded by the software. This is in addition to the recording of live streams on the NVR by the Flare Monitoring System. These recordings will be tagged to the corresponding events, so that they can be viewed based on the events.
- A list of all events that occurred for the particular camera can be viewed and each of the recordings viewed separately as well.
- Apart from this, the software provides the capability to play back any of the streams from the NVR based on the camera live streams that are recorded on the NVR

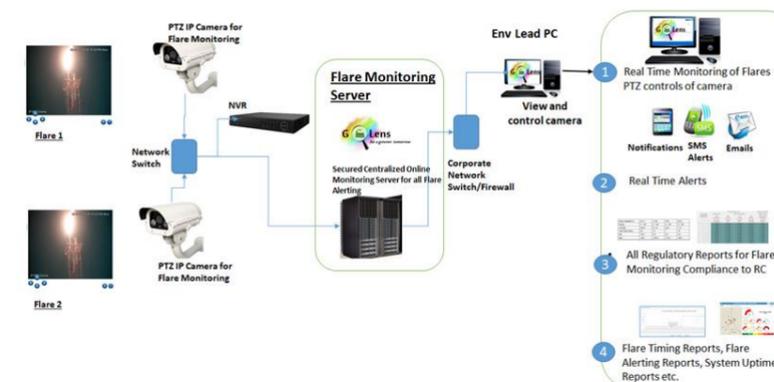
4. Flare Accumulation

- The software automatically calculates the cumulative time during which the Flare was absent or smoky flare was detected during the monitoring window.
- The calculation is done for each of the camera streams configured, even if the camera is not viewed continuously in the software through the background process.

5. Opacity Determination and Smart Alerting

- The software will perform Image Analytics to determine the Opacity on the Stack using EPA methods.
- The opacity levels will be available in the software along with the time when the measurement was taken.
- Real Time Alerts (SMS/Emails/Mobile Notifications)
- Based on the detection of Smoky Flares, Absence of Flare or Opacity Determination, the alerts can be configured.

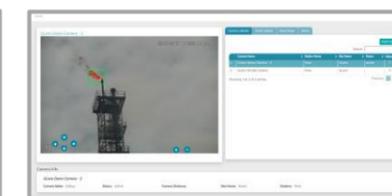
Solution Overview for Online Flare Monitoring



The High Resolution Pan Tilt Zoom (PTZ) IP Camera monitor the Flares continuously; these IP Cameras will be connected to the Network Video Recorder (NVR) for continuous recording of the Video streams from all the connected cameras to the NVR using a network switch.

The System will be provided with the Flare Monitoring Server which will have the Central Server for Flare Monitoring Software, which will continuously analyze the real time streams of the Camera Feeds, generating alerts in real time.

The camera can then be directly viewed and controlled through any PC connected to the Flare Monitoring Server over web interface. No additional software is required to be installed on the Env. Lead PC to view the camera. The camera will be streamed over web browser with proper login.



This solution will also position Sabic for future regulatory requirements where RC will expect the cameras to be visible and available at RC Office. This solution can thus provide secured access to RC in the future if required without compromising security or direct access to the camera controls.

This solution is customizable, depending on the requirements of the RC officials. We are already working on similar solutions for RC Yanbu, where the flare monitoring camera is connected to a central server in Yanbu on a pilot basis.

Key Features

 Interfacing with any type of camera make and model. The solution can be scaled for any of the future Flare Monitoring camera additions.

 The solution is designed in line with RC 2015 regulations and can also connect the Flare Monitoring systems online for RC Visibility.

 There is no need for any additional software to be installed at the Env. Lead PC as it can monitor the camera seamlessly without any dependency.

 Get real-time alerts through e-mail, SMS or mobile app notifications and take control of incidents quickly.

 All video feed data is stored and will be available to access anytime, anywhere. Additional storage can be added on to store more data.