

OPERATORS USE KUVA GCI360 CAMERAS TO MONITOR:

- Production tanks
- Flares VRU's
- Compressors
- Separators Releases from thief hatches
- Overpressure events
- Leaking valves
- Landfills
- P&A Verification
- Abandoned Mines

So they can:

- Optimise plant operations
- Correlate with SCADA data for root cause determination
- Populate emission reports Find and fix leaks quickly; especially super emitters

- No false positives
- A fraction of the price of other gas imaging systems
- Quick site scanning:
- 3 minutes with 8 FoVs



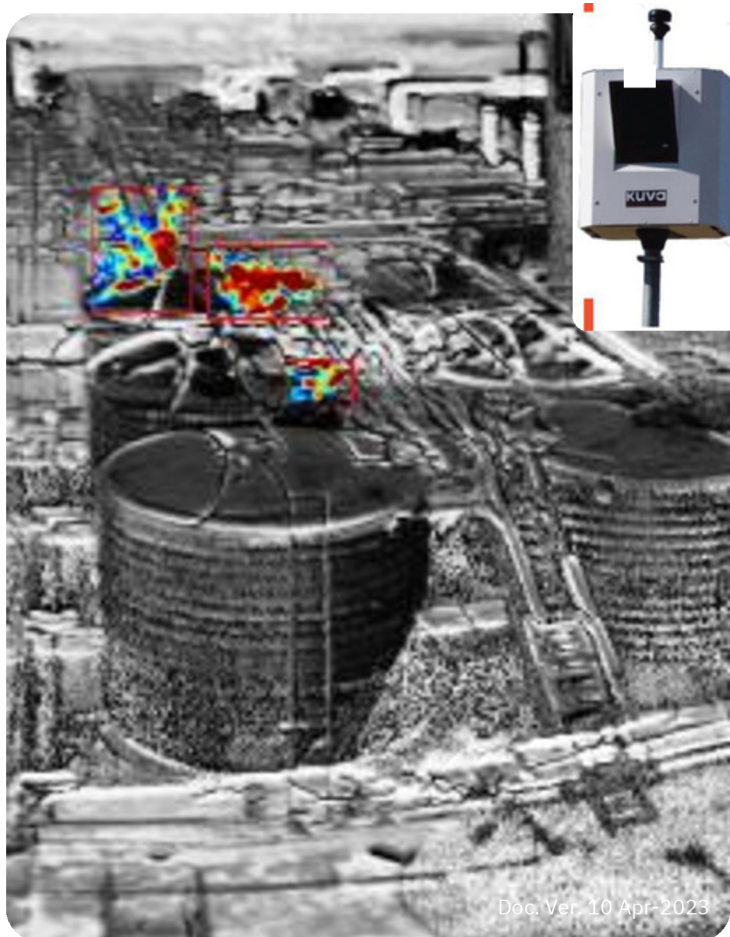
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GCI360

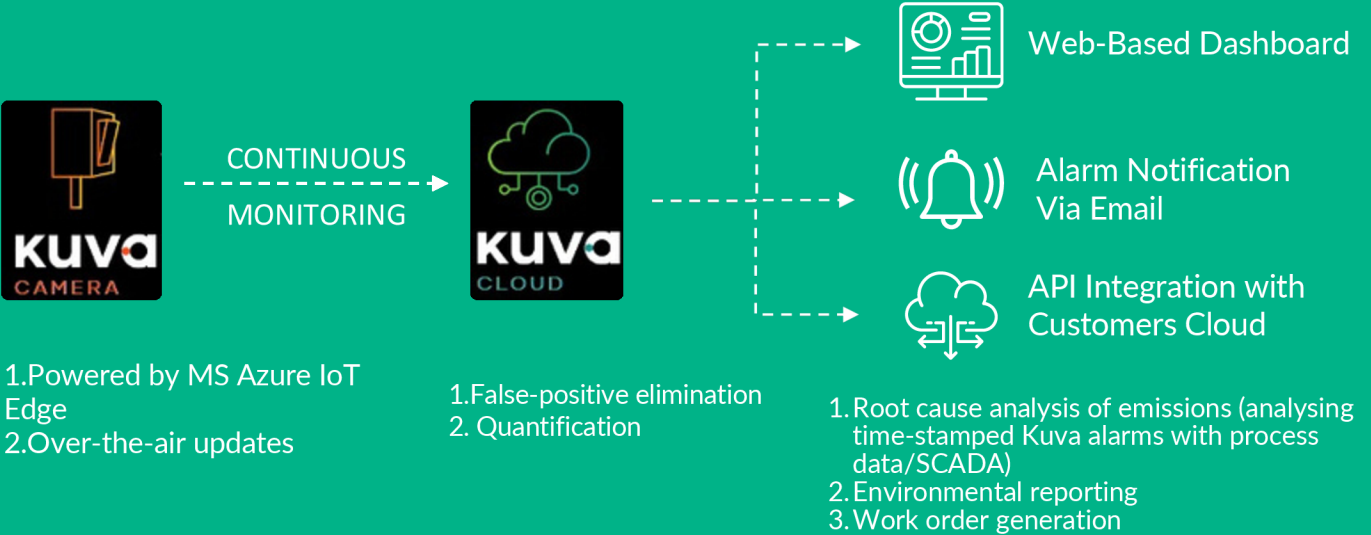
Continuous Gas Cloud Imaging System

Kuva enables oil and gas operators to detect and pinpoint methane and VOC emissions with a camera-to-cloud solution. This continuous monitoring solution consists of a proprietary shortwave infrared camera, an MS Azure Cloud solution that receives, stores and refines camera data, with a web portal and API for customers to stay on top of their emissions. The Kuva GCI360 continuous optical gas imaging (OGI) system is an industry leader in continuous emissions monitoring, with autonomous daylight operation and zero false positives. The multiband shortwave infrared (SWIR) sensor, ruggedized RGB optics and IP65 enclosure ensure visibility of customer infrastructure to monitor for intended or unintended emissions.



Doc Ver. 10 Apr-2023

GCI360 FUGITIVE EMISSIONS MONITORING SYSTEM



Product Features

- 8 x 45-degree fields-of-view providing 270o cover
- Freely selectable location of field-of-view zones within 360 degrees
- 25 secs to 3 minutes image refresh rates
- Event alerts dashboard and API Image history timeline
- Event history timeline Site mapping and camera management
- Edge processing on embedded Linux computer
- Integrated 5MP colour RGB camera



Camera/Optics	
Primary IR Sensor	Multiband shortwave IR (SWIR) 5
Secondary Colour Sensor Single-	MP RGB Colour
Image Field-of-View (FoV)	54° (V) x 46° (H)
Field -of-View Configuration	Fields of View can be contiguous or isolates



GCI360 FUGITIVE EMISSIONS MONITORING SYSTEM



General	
Target Gas	Methane, VOCs (C1 – C6+)
Confusers	Does not confuse water vapour with target gases
Networking	4G/LTE or 10/100/1000 MBit/s Ethernet standard (10 Mbps min.)
Cellular (Integrated)	Penta-band LTE (B2, B4, B5, B13, B17 bands)
Self-Calibration	Automatic. No manual site-specific calibration required during installation or operation

Environmental	
Operating Temperature	-40 °F to 122 °F (-40 °C to 50 °C)
Storage Temp	-40 °F to 158 °F (-40 °C to 70 °C)
Ingress Protection	IP65
Initialisation Process	15 minutes from power-on to fully functional
Maintenance	No regular maintenance. Occasional window cleaning recommended. No site calibration or sensor replacement required.

Mechanical	
Weight	25 lbs
Finish	White powder coat
Dimensions (H x W x D)	18" x 17" x 15" (46 cm x 43 cm x 38 cm) +8.5" anemometer +11" camera mount post
Camera Mount	Bolt

Electrical	
Supply Voltage	22 Vdc to 32 Vdc
Supply Current	2.5 A, fused at 4 A
Nominal Power	25 W
Peak Power	30 W
Power Supply	Passive Power-over-Ethernet (PoE) via integrated splitter

Detection Performance	
Detection Range	Typical: 16 ft (5 m) to 164 ft (50 m) Ideal: 16 ft (5 m) to 459 ft (150 m)
Wind Requirement for Detection	Wind is not needed to transport emissions to the camera for detection. The camera performs remote imaging from a stand-off distance
90% Probability of Detection ²	3.5 kg/h
Minimum Detection limit ²	0.25 kg/h in field conditions
False Positive Rate*	0%
False Positive ² Leak Pinpointing	100% accurate for equipment, 99% accurate for component
Monitoring Frequency ³	20-160 scans per hour

Detection performance values may vary based on specific site and environmental conditions.

¹ Leak rate and weather dependent.

² Independently validated results by Methane Emission Technology Evaluation Center(METEC) per Advancing Development of Emissions Detection (ADED) continuous monitoring protocol blind testing over a 5-month period in a variety of duration, flow rate, wind speed and solar irradiation. Refer to <https://energy.colostate.edu/metec/aded/>

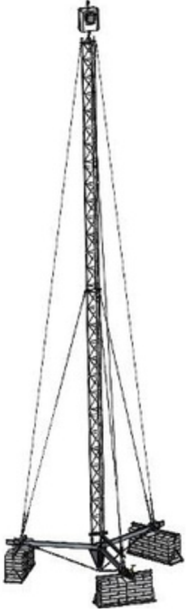
³ Depending on number of FOVs.



GCI360 FUGITIVE EMISSIONS MONITORING SYSTEM

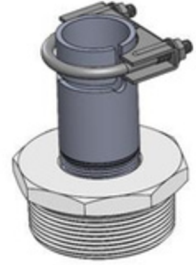


Mounting Options and Accessories



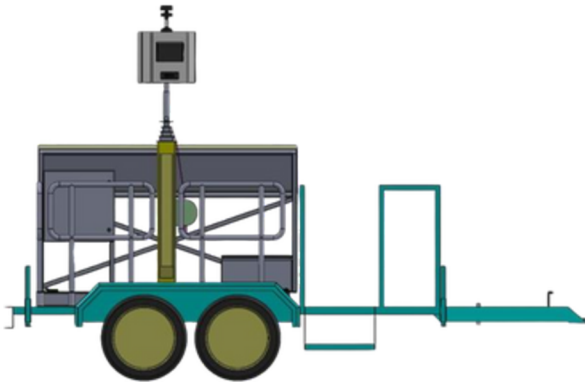
Kuva Tower

- 40 ft (12.2 m) tall Patented ballasted
- foundation Can be installed in less than 2
- hours
- No ground penetration required Hand winch
- system to raise tower
- Conforms to TIA 222-h up to 120 mph wind



Utility Pole Mount

- Cap assembly for 3" conduit Optional, for camera
- mounting on wood or metal poles
- Allows low price vs. performance compromise



Skid / Trailer Mounted

- Mobile for drive-by or short duration monitoring
- Self-contained solar panel, battery backup and communications system for remote stand-alone operation



Alarm Notification Options

- <1 hour alarm notification
- <24 hours alarm notification



Solar Power Option

- Just plug and go
- 24 Vdc system
- Battery backup



Communication Options

- Cellular (integrated)
- Ethernet (via PoE, access at bottom of mounting pole)

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