

# AXIS P1468-XLE Explosion-Protected Bullet Camera

## Class/Division- and Zone-certified camera with deep learning

This explosion-protected camera is designed and certified for Zone and Division 2 according to international standards (ATEX, IECEx, cULus). Built on ARTPEC-8, it includes a deep learning processing unit (DLPU) enabling advanced features and powerful analytics that run on the edge. Ideal for health and safety applications as well as operational efficiency, you can gain a deeper understanding and awareness by creating an advanced data-driven sensory network that can be integrated with existing sensors and systems. Including Lightfinder 2.0, Forensic WDR, and OptimizedIR, AXIS P1468-XLE ensures sharp, detailed 4K images under any light conditions. Furthermore, this impact-resistant, outdoor-ready camera includes built-in cybersecurity features.

- > **Certified for Zone and Division 2**
- > **Deep learning-based analytics**
- > **Excellent video quality with 4K at 60 fps**
- > **Detailed images in any light conditions**
- > **Impact- and weather-resistant**



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<b>Camera</b>		<b>Network</b>	
<b>Image sensor</b>	1/1.2" progressive scan RGB CMOS Pixel size 2.9 µm	<b>Network protocols</b>	IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS <sup>b</sup> , HTTP/2, TLS <sup>b</sup> , QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP <sup>®</sup> , SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTP, SRTP, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Syslog, Link-Local address (ZeroConf), IEEE 802.1X (EAP-TLS), IEEE 802.1AR
<b>Lens</b>	Varifocal, 6.2–12.9 mm, F1.6–2.9 Horizontal field of view 108°–49° Vertical field of view 58°–27° Minimum focus distance: 1 m (3.3 ft) Varifocal, remote focus and zoom, P-iris control, IR corrected	<b>System integration</b>	
<b>Day and night</b>	Automatic IR-cut filter Hybrid IR filter	<b>Application Programming Interface</b>	Open API for software integration, including VAPIX <sup>®</sup> , metadata and AXIS Camera Application Platform (ACAP); specifications at <a href="https://axis.com/developer-community">axis.com/developer-community</a> . ACAP includes Native SDK and Computer Vision SDK. One-click cloud connection ONVIF <sup>®</sup> Profile G, ONVIF <sup>®</sup> Profile M, ONVIF <sup>®</sup> Profile S and ONVIF <sup>®</sup> Profile T, specification at <a href="https://onvif.org">onvif.org</a>
<b>Minimum illumination</b>	With WDR and Lightfinder: Color: 0.07 lux, at 50 IRE F1.6 B/W: 0.01 lux, at 50 IRE F1.6 0 lux with IR illumination on	<b>Video management systems</b>	Compatible with AXIS Companion, AXIS Camera Station, video management software from Axis' Application Development Partners available at <a href="https://axis.com/vms">axis.com/vms</a>
<b>Shutter speed</b>	1/66500 s to 2 s	<b>Onscreen controls</b>	Video streaming indicator Day/night shift Defog WDR Privacy masks Media clip Light control
<b>System on chip (SoC)</b>		<b>Event conditions</b>	Audio: audio clip playing, audio clip currently playing Device status: above operating temperature, above or below operating temperature, below operating temperature, within operating temperature, IP address removed, new IP address, network lost, system ready, ring power overcurrent protection, live stream active Digital audio: digital signal contains Axis metadata, digital signal has invalid signal rate, digital signal missing, digital signal okay Edge storage: recording ongoing, storage disruption, storage health issues detected I/O: digital input, manual trigger, virtual input MQTT subscribe Scheduled and recurring: schedule Smoke alert Video: average bitrate degradation, day-night mode, tampering
<b>Model</b>	ARTPEC-8	<b>Event actions</b>	Day-night mode, overlay text, WDR mode Audio clips: play, stop I/O: toggle I/O once, toggle I/O while the rule is active Illumination: use lights, use lights while the rule is active MQTT: publish Notification: HTTP, HTTPS, TCP and email Record video: SD card and network share SNMP traps: send, send while the rule is active Upload of images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
<b>Memory</b>	2 GB RAM, 8 GB Flash	<b>Built-in installation aids</b>	Pixel counter, remote zoom, remote focus, auto rotation
<b>Compute capabilities</b>	Deep learning processing unit (DLPU)	<b>Analytics</b>	
<b>Video</b>		<b>AXIS Object Analytics</b>	<b>Object classes:</b> humans, vehicles (types: cars, buses, trucks, bikes) <b>Trigger conditions:</b> line crossing, object in area, time in area, PPE monitoring Up to 10 scenarios Metadata visualized with trajectories and color-coded bounding boxes Polygon include/exclude areas Perspective configuration ONVIF Motion Alarm event
<b>Video compression</b>	H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles H.265 (MPEG-H Part 2/HEVC) Main Profile Motion JPEG	<b>Metadata</b>	<b>Object data:</b> Classes: humans, vehicles (types: cars, buses, trucks, bikes), license plates <b>Confidence,</b> position <b>Event data:</b> Producer reference, scenarios, trigger conditions
<b>Resolution</b>	3840x2160 to 160x90	<b>Applications</b>	<b>Included</b> AXIS Object Analytics AXIS Video Motion Detection, active tampering, shock detection, audio detection, orientation aid, smoke alert <b>Supported</b> AXIS Perimeter Defender, AXIS Digital Autotracking
<b>Frame rate</b>	With Forensic WDR: Up to 25/30 fps (50/60 Hz) in all resolutions No WDR: Up to 50/60 fps (50/60 Hz) in all resolutions		
<b>Video streaming</b>	Up to 20 unique and configurable video streams <sup>a</sup> Axis Zipstream technology in H.264 and H.265 Controllable frame rate and bandwidth VBR/ABR/MBR H.264/H.265 Video streaming indicator		
<b>Signal-to-noise ratio</b>	>55 dB		
<b>WDR</b>	Forensic WDR: Up to 120 dB depending on scene		
<b>Multi-view streaming</b>	Up to 8 individually cropped out view areas		
<b>Noise reduction</b>	Spatial filter (2D noise reduction) Temporal filter (3D noise reduction)		
<b>Image settings</b>	Saturation, contrast, brightness, sharpness, white balance, day/night threshold, tone mapping, exposure mode, exposure zones, motion-adaptive exposure, defogging, barrel distortion correction, compression, orientation: auto, 0°, 90°, 180°, 270° including Corridor Format, mirroring of images, dynamic text and image overlay, polygon and mosaic privacy masks Scene profiles: forensic, vivid, traffic overview		
<b>Image processing</b>	Axis Zipstream, Forensic WDR, Lightfinder 2.0, OptimizedIR		
<b>Pan/Tilt/Zoom</b>	Digital PTZ, digital zoom Guard tour (max 100), control queue, fixed orientation aid		
<b>Audio</b>			
<b>Audio features</b>	AGC automatic gain control Network speaker pairing		
<b>Audio streaming</b>	Configurable duplex: One-way (simplex, half duplex) Two-way (half duplex, full duplex)		
<b>Audio input</b>	10-band graphic equalizer Input for external unbalanced microphone, optional 5 V microphone power Digital input, optional 12 V ring power Unbalanced line input		
<b>Audio output</b>	Output via network speaker pairing		
<b>Audio encoding</b>	24bit LPCM, AAC-LC 8/16/32/44.1/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz Configurable bit rate		

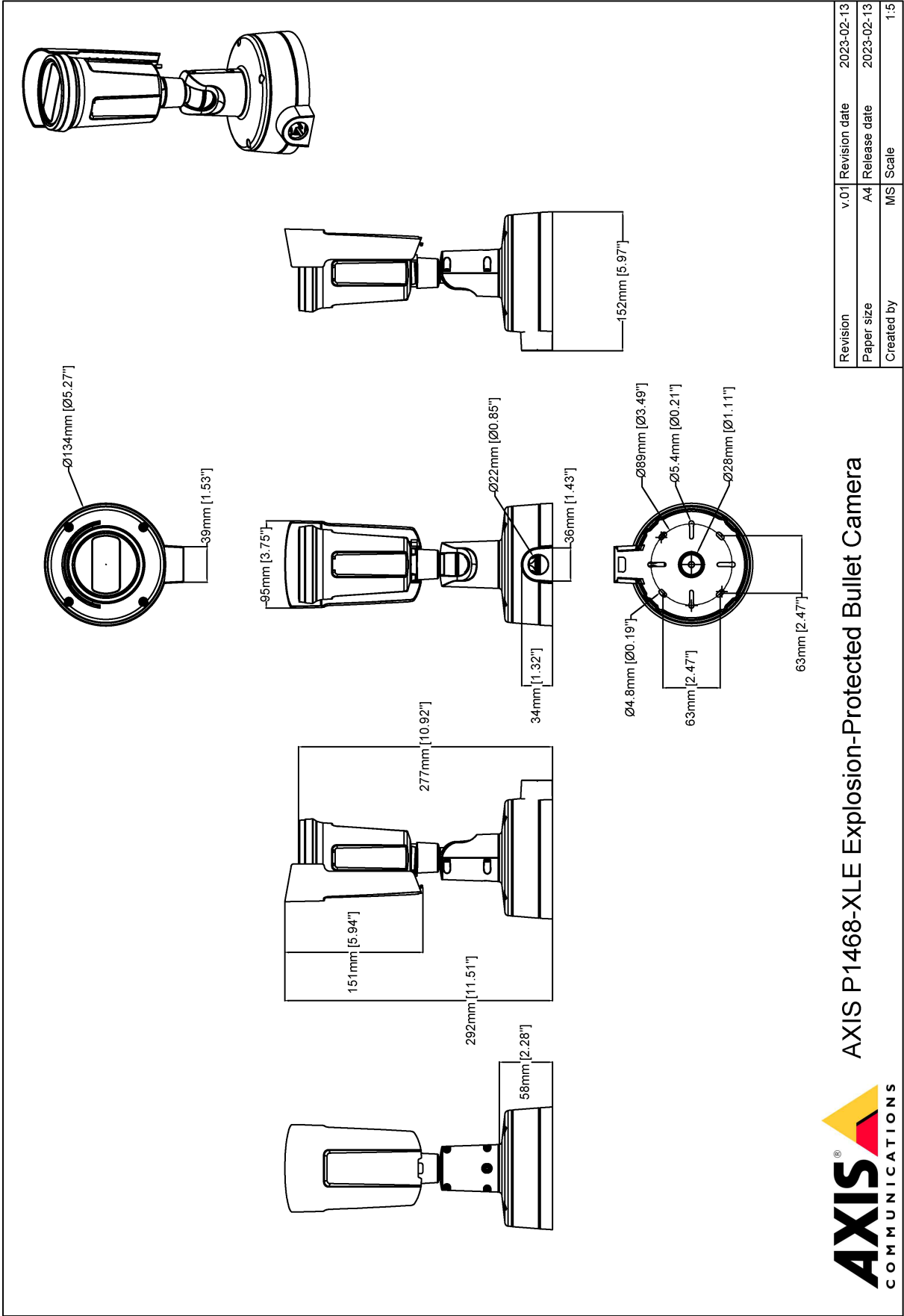
Support for AXIS Camera Application Platform enabling installation of third-party applications, see [axis.com/acap](http://axis.com/acap)

Approvals	
<b>Product markings</b>	ATEC, IECEx, cULus
<b>Supply chain</b>	TAA compliant
<b>EMC</b>	EMC CISPR 35, EN 55035, EN 55032 Class A, EN 50121-4, EN 61000-3-2, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2 Australia/New Zealand: RCM AS/NZS CISPR 32 Class A Canada: ICES-3(A)/NMB-3(A) USA: FCC Part 15 Subpart B Class A Railway: IEC 62236-4
<b>Safety</b>	CAN/CSA C22.2 No. 62368-1 ed. 3, IEC/EN/UL 62368-1, IEC/EN/UL 62368-1 ed. 3, IEC 62471 risk group exempt, IS 13252
<b>Environment</b>	Environment IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78, IEC/EN 62262 IK10, IEC/EN 60529 IP66, IEC/EN 60529 IP67, NEMA 250 Type 4X, ISO 21207 (Method B)
<b>Network</b>	NIST SP500-267
<b>Cybersecurity</b>	ETSI EN 303 645
<b>Explosion</b>	IEC/EN 60079-0, IEC/EN 60079-7, IEC/EN 60079-31, UL 60079-0, UL 60079-7, UL 60079-31, CSA C22.2 No. 60079-0, CSA C22.2 No. 60079-7, CSA C22.2 No. 60079-31, CSA C22.2 No. 213-17, UL121201
<b>Certifications</b>	ATEX: II 3 G Ex ec IIC T4 Gc II 2 D Ex tb IIIC T135°C Db Certificate: UL 22 ATEX 2732X, UL 22 ATEX 2888X IECEx: Ex ec IIC T4 Gc EX tb IIIC T135°C Db Certificate: ULD 22.0011X cULus: Class I Div 2 Group A, B, C, D T4 Class II Div 2 Group F, G T135°C T4 Class III Div 2 Class I Zone 2 AEx ec IIC T4 Gc Zone 21 AEx IIIC T135°C Db Certificate: E525121
Cybersecurity	
<b>Edge security</b>	Software: Signed firmware, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 OpenID Authorization Code Flow for centralized ADFS account management, password protection, AES-XTS-Plain64 256bit SD card encryption Hardware: Axis Edge Vault cybersecurity platform Secure element (CC EAL 6+), system-on-chip security (TEE), Axis device ID, secure keystore, signed video, secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)
<b>Network security</b>	IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2) <sup>b</sup> , IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR, HTTPS/HSTS <sup>b</sup> , TLS v1.2/v1.3 <sup>b</sup> , Network Time Security (NTS), X.509 Certificate PKI, host-based firewall
<b>Documentation</b>	<i>AXIS OS Hardening Guide</i> <i>Axis Vulnerability Management Policy</i> <i>Axis Security Development Model</i> To download documents, go to <a href="http://axis.com/support/cybersecurity/resources">axis.com/support/cybersecurity/resources</a> To read more about Axis cybersecurity support, go to <a href="http://axis.com/cybersecurity">axis.com/cybersecurity</a>

General	
<b>Casing</b>	IP66/IP67-, NEMA 4X-, and IK10-rated casing Polycarbonate blend and aluminium Color: grey NCS S 5502-B
<b>Power</b>	Power over Ethernet IEEE 802.3af/802.3at Type 1 Class 3 Typical: 7.7 W, max 12.95 W 12–28 V DC, typical 7.6 W, max 12.95 W
<b>Connectors</b>	Network: Shielded RJ45 10BASE-T/100BASE-TX/1000BASE-T Audio: 3.5 mm mic/line in I/O: Terminal block for 1 supervised alarm input and 1 output (12 V DC output, max. load 25 mA) Power: DC input
<b>IR illumination</b>	Optimized IR with power-efficient, long-life 850 nm IR LEDs Range of reach 40 m (131 ft) or more depending on the scene
<b>Storage</b>	Support for microSD/microSDHC/microSDXC card Support for SD card encryption (AES-XTS-Plain64 256bit) Recording to network-attached storage (NAS) For SD card and NAS recommendations see <a href="http://axis.com">axis.com</a>
<b>Operating conditions</b>	-40 °C to 60 °C (-40 °F to 140 °F) Humidity 10–100% RH (condensing)
<b>Storage conditions</b>	-40 °C to 65 °C (-40 °F to 149 °F) Humidity 5–95% RH (non-condensing)
<b>Dimensions</b>	Ø132 x 294 x 146 mm (Ø5.2 x 11.6 x 5.7 in) Effective Projected Area (EPA): 0.022 m <sup>2</sup> (0.24 ft <sup>2</sup> )
<b>Weight</b>	With weather shield: 1.3 kg (2.87 lb)
<b>Box content</b>	Camera, AXIS Weather Shield L, connector kit, connector guard, TORX® L-keys, installation guide, owner authentication key, Declaration of Conformity
<b>System tools</b>	AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator Available at <a href="http://axis.com">axis.com</a>
<b>Languages</b>	English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese
<b>Warranty</b>	5-year warranty, see <a href="http://axis.com/warranty">axis.com/warranty</a>
<b>Part numbers</b>	Available at <a href="http://axis.com/products/axis-p1468-xle#part-numbers">axis.com/products/axis-p1468-xle#part-numbers</a>
Sustainability	
<b>Substance control</b>	PVC free, BFR/CFR free in accordance with JEDEC/ECA Standard JS709 RoHS in accordance with EU RoHS Directive 2011/65/EU and EN 63000:2018 REACH in accordance with (EC) No 1907/2006. For SCIP UUID, see <a href="http://axis.com/partner">axis.com/partner</a> .
<b>Materials</b>	Screened for conflict minerals in accordance with OECD guidelines To read more about sustainability at Axis, go to <a href="http://axis.com/about-axis/sustainability">axis.com/about-axis/sustainability</a>
<b>Environmental responsibility</b>	<a href="http://axis.com/environmental-responsibility">axis.com/environmental-responsibility</a> Axis Communications is a signatory of the UN Global Compact, read more at <a href="http://unglobalcompact.org">unglobalcompact.org</a>

- We recommend a maximum of 3 unique video streams per camera or channel, for optimized user experience, network bandwidth, and storage utilization. A unique video stream can be served to many video clients in the network using multicast or unicast transport method via built-in stream reuse functionality.
- This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. ([openssl.org](http://openssl.org)), and cryptographic software written by Eric Young ([ey@cryptsoft.com](mailto:ey@cryptsoft.com)).

# Dimension drawing



Revision	v.01	Revision date	2023-02-13
Paper size	A4	Release date	2023-02-13
Created by	MS	Scale	1:5

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## Key features and technologies

### AXIS Object Analytics

AXIS Object Analytics is a preinstalled, multifeatured video analytics that detects and classifies humans, vehicles, and types of vehicles. Thanks to AI-based algorithms and behavioral conditions, it analyzes the scene and their spatial behavior within – all tailored to your specific needs. Scalable and edge-based, it requires minimum effort to set up and supports various scenarios running simultaneously.

### Axis Edge Vault

Axis Edge Vault is the hardware-based cybersecurity platform that safeguards the Axis device. It forms the foundation that all secure operations depend on and offers features to protect the device's identity, safeguard its integrity from factory and protect sensitive information from unauthorized access.

Establishing the root of trust starts at the device's boot process. In Axis devices, the hardware-based mechanism **secure boot** verifies the operating system (AXIS OS) that the device is booting from. AXIS OS, in turn, is cryptographically signed (**signed firmware**) during the build process. Secure boot and signed firmware tie into each other and ensure that the firmware has not been tampered with during the lifecycle of the device and that the device only boots from authorized firmware. This creates an unbroken chain of cryptographically validated software for the chain of trust that all secure operations depend on.

From a security aspect, the **secure keystore** is the critical building-block for protecting cryptographic information used for secure communication (IEEE 802.1X, HTTPS, Axis device ID, access control keys etc..) against malicious extraction in the event of a security breach. The secure keystore is provided through a Common Criteria and/or FIPS 140 certified hardware-based cryptographic computing module. Depending on security requirements, an Axis device can have either one or multiple such modules, like a TPM 2.0 (Trusted Platform Module) or a secure element, and/or a system-on-chip (SoC) embedded Trusted Execution Environment (TEE).

**Signed video** ensures that video evidence can be verified as untampered without proving the chain of custody of the video file. Each camera uses its unique video signing key, which is securely stored in the secure keystore, to add a signature into the video stream. This allows video to be traced back to the Axis camera from where it originated, so it's possible to verify that the footage has not been tampered with after it left the camera.

To read more about Axis Edge Vault, go to [axis.com/solutions/edge-vault](https://axis.com/solutions/edge-vault).

### Lightfinder

The Axis Lightfinder technology delivers high-resolution, full-color video with a minimum of motion blur even in near darkness. Because it strips away noise, Lightfinder makes dark areas in a scene visible and captures details in very low light. Cameras with Lightfinder discern color in low light better than the human eye. In surveillance, color may be the critical factor to identify a person, an object, or a vehicle.

### OptimizedIR

Axis OptimizedIR provides a unique and powerful combination of camera intelligence and sophisticated LED technology, resulting in our most advanced camera-integrated IR solutions for complete darkness. In our pan-tilt-zoom (PTZ) cameras with OptimizedIR, the IR beam automatically adapts and becomes wider or narrower as the camera zooms in and out to make sure that the entire field of view is always evenly illuminated.

### Smoke alert

Smoke alert analytics serve as an additional layer of safety, monitoring for signs of smoke or fire (and are also able to detect the early stages of fire, even if smokeless). These analytics can provide the early warning that will alert responders to an issue early enough to prevent it escalating, avoiding accidents and costly shutdowns.

### Zone/Division 2

Hazardous areas are divided into zones or divisions, defined by the probability that hazardous material will be present in an ignitable concentration in the surrounding atmosphere.

Zone/Division 2 areas are less hazardous than Zone/Division 1 areas, and explosions are not likely to occur during normal operations.

With 'Ex e' or 'non-incendive' protection, cameras certified for Zone/Division 2 offer increased safety. This explosion-protection approach ensures that no arcs and sparks can appear, and that excessive temperatures can't be reached, during normal operation of electrical equipment. As a result, electrical equipment using 'Ex e' protection can't ignite gas or dust in the surrounding potentially combustible environment.

For more information, see [axis.com/glossary](http://axis.com/glossary)