KONICA MINOLTA

REACT

VISIBLE WEAPON DETECTION FOR OFFICES

Detect firearms in real time and issue alerts, sound alarms, or lockdown doors.

With increasing rates of gun violence, workplaces need every edge they can to increase the warning time before an attack. **Mere seconds can make the difference between life and death.**

By harnessing advanced video algorithms and artificial intelligence, we can now use cameras to detect most visible firearms and trigger a response: issue text alerts to security staff or emergency personnel, sound audible alarms, lockdown doors, or even connect with an existing system through open API integration.

- Augments standalone access control solutions with a fully integrated workflow.
- Adds vast safety and security capabilities like visible firearm detection to camera systems.
- **Increases warning time and allows workplaces to better react before tragedy occurs.**

PROTECT YOUR WORKPLACE FROM FIREARMS AND OTHER THREATS.

PROACTIVE THREAT DETECTION

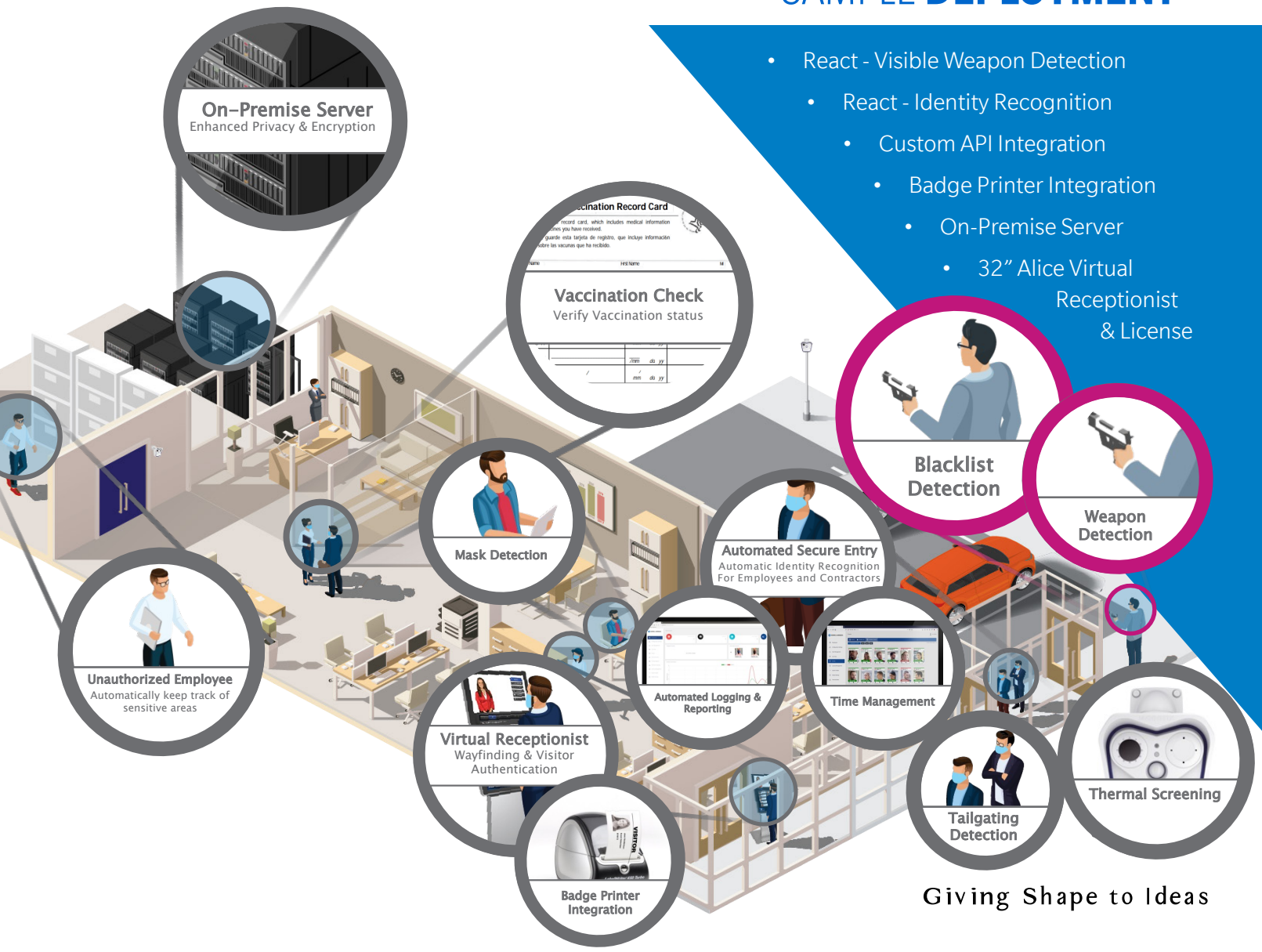
- Can send alerts via SMS or email
- Can trigger events such as automated door locks, audible alarms, or other emergency actions
- Can distinguish between real and toy guns

HOW IT WORKS

- Extends Video Security Solution (VSS) to include AI-powered firearm detection
- Uses existing overhead or surveillance cameras (of sufficient resolution)
- Complies with several privacy standards (CCPA, GDRP)

SAMPLE **DEPLOYMENT**

- React - Visible Weapon Detection
- React - Identity Recognition
- Custom API Integration
- Badge Printer Integration
- On-Premise Server
- 32" Alice Virtual Receptionist & License



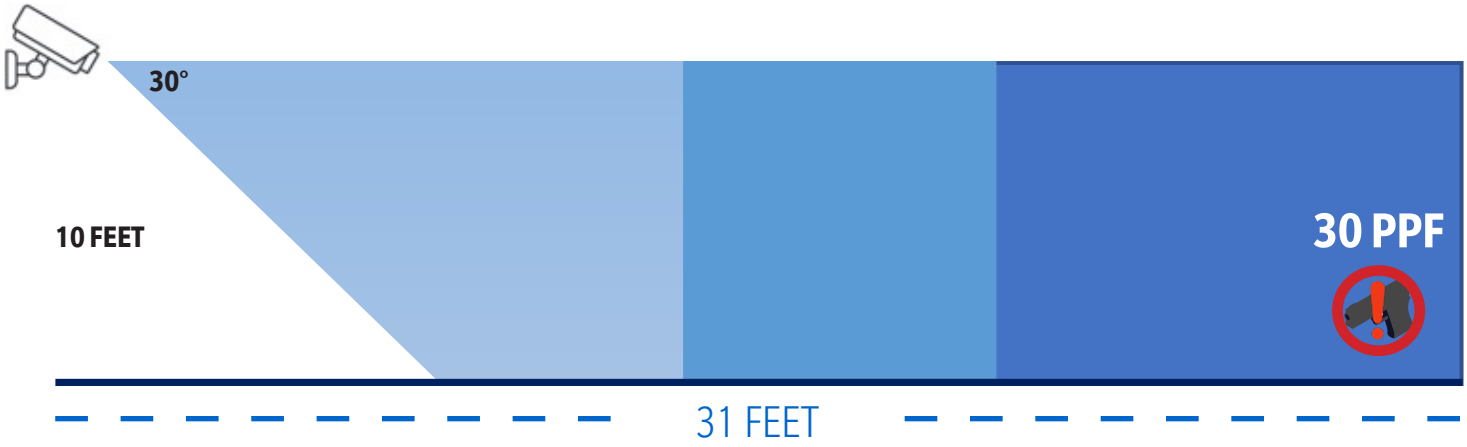
Giving Shape to Ideas

DETECTION ALGORITHM AND MINIMUM REQUIREMENTS

React Visible Weapon Detection is compatible with nearly any camera. The minimum requirements for existing systems boils down to a simple principle: if an average human can recognize a weapon in a given video feed, our React platform can also generally detect the object of interest. By utilizing advanced real-time AI verification algorithms, Visible Weapon Detection can match or surpass the detection capabilities of an average human for one specific target object in one video stream. The ability to detect weapons from multiple video streams in real-time, with the Visible Weapon Detection algorithm, however, enables the preservation of valuable seconds and increases the warning period, facilitating prompt response from the security team to prevent a potential tragedy.

To be able to detect a firearm, we require at minimum 30 Pixels Per Feet (PPF) or 100 Pixels per Meter (PPM). So long as this resolution minimum is met for the maximum distance of the subject from a camera, our algorithm can detect most firearms at virtually any angle and range as long as the firearm is not covered or concealed.

TYPICAL **SCENE** AND **REFERENCE**

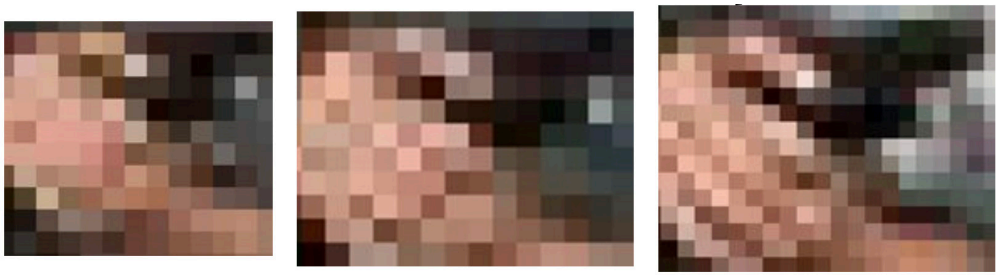


The illustration describes a situational image representative of a typical security system and its field of view and coverage in the case of using a Full HD Camera (1920 x 1080 Pixels)

CAMERA COMPATIBILITY AND PIXEL DENSITY

The below example demonstrates the importance of pixel density: a direct component of the resolution of the camera, its field of view, and the range of the subject.

Note that the gun is distinguishable from other items such as phones only if it is more than ~18 pixels. This is not the limitation of the system but rather a physical limitation of optics and resolution for a given distance.



10 PIXELS 14 PIXELS 18 PIXELS

WEAPON DETECTION SPEED & ACCURACY

Distances **13ft** | **26ft** | **39ft**

Environment	Weapon Type	0-2 seconds			2-4 seconds			4-8 seconds		
Well Lit Bright Background (over 250 lux)	**Handgun**	98%	95%	92%	100%	98%	98%	100%	99%	98%
	Shotgun	98%	96%	93%	100%	99%	96%	100%	99%	97%
	Assault Rifle	96%	93%	90%	98%	93%	94%	98%	97%	96%
Fairly Lit Dark Background (100-200 lux)	**Handgun**	93%	92%	89%	96%	96%	93%	99%	97%	93%
	Shotgun	94%	93%	90%	96%	96%	94%	98%	97%	94%
	Assault Rifle	93%	92%	90%	96%	95%	90%	98%	95%	90%
Night Vision IR Mode Black & White (under 50 lux)	**Handgun**	88%	75%		94%	89%		96%	93%	
	Shotgun	91%	86%		92%	90%		98%	96%	
	Assault Rifle	90%	86%		93%	87%		98%	95%	

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