

# AUTONOMOUS SECURITY

V2.4



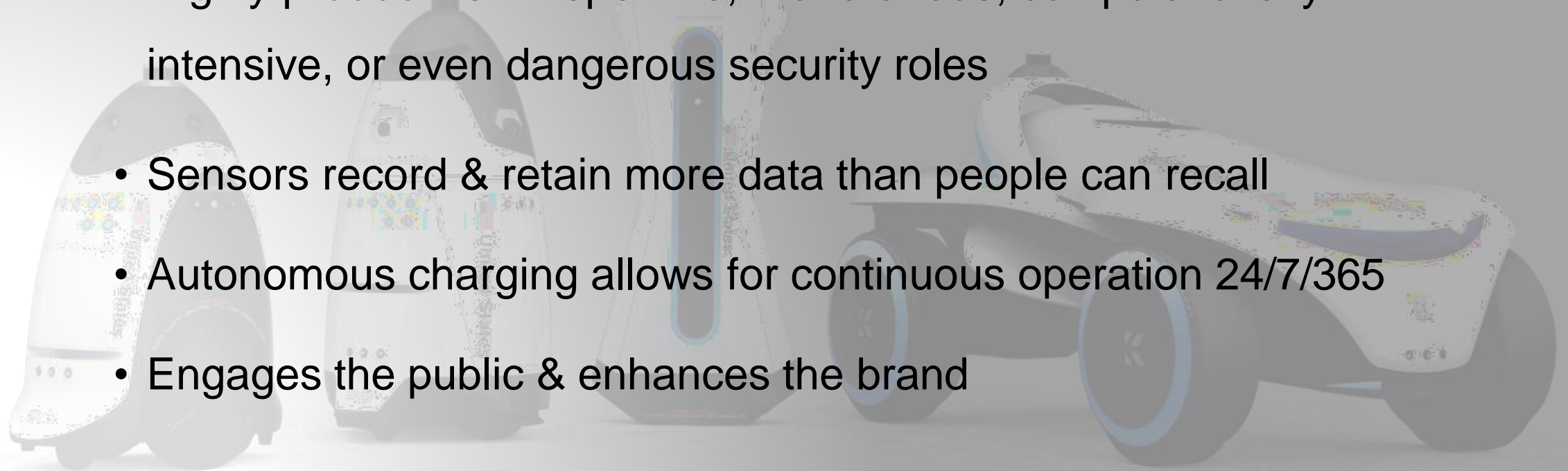
Available Today

Future Release



# Advantages of Autonomous Security

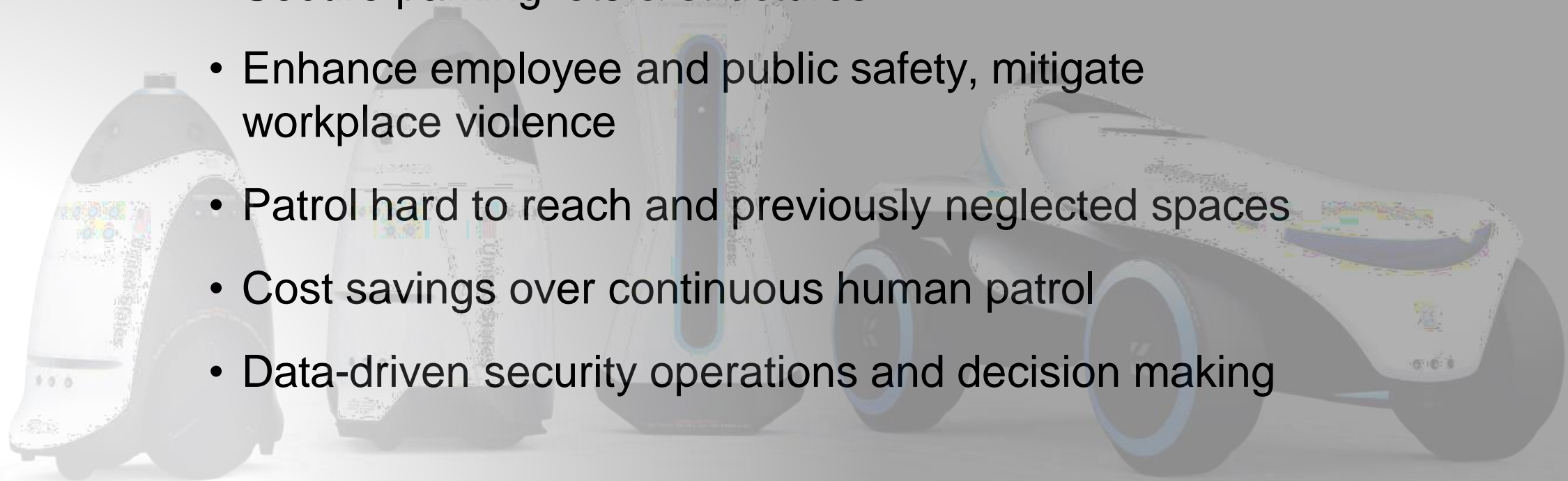
- Large autonomous robots are an effective physical deterrence –  
Force Multiplier Effect
- Highly productive in repetitive, monotonous, computationally intensive, or even dangerous security roles
- Sensors record & retain more data than people can recall
- Autonomous charging allows for continuous operation 24/7/365
- Engages the public & enhances the brand





# Why our Clients use Autonomous Security

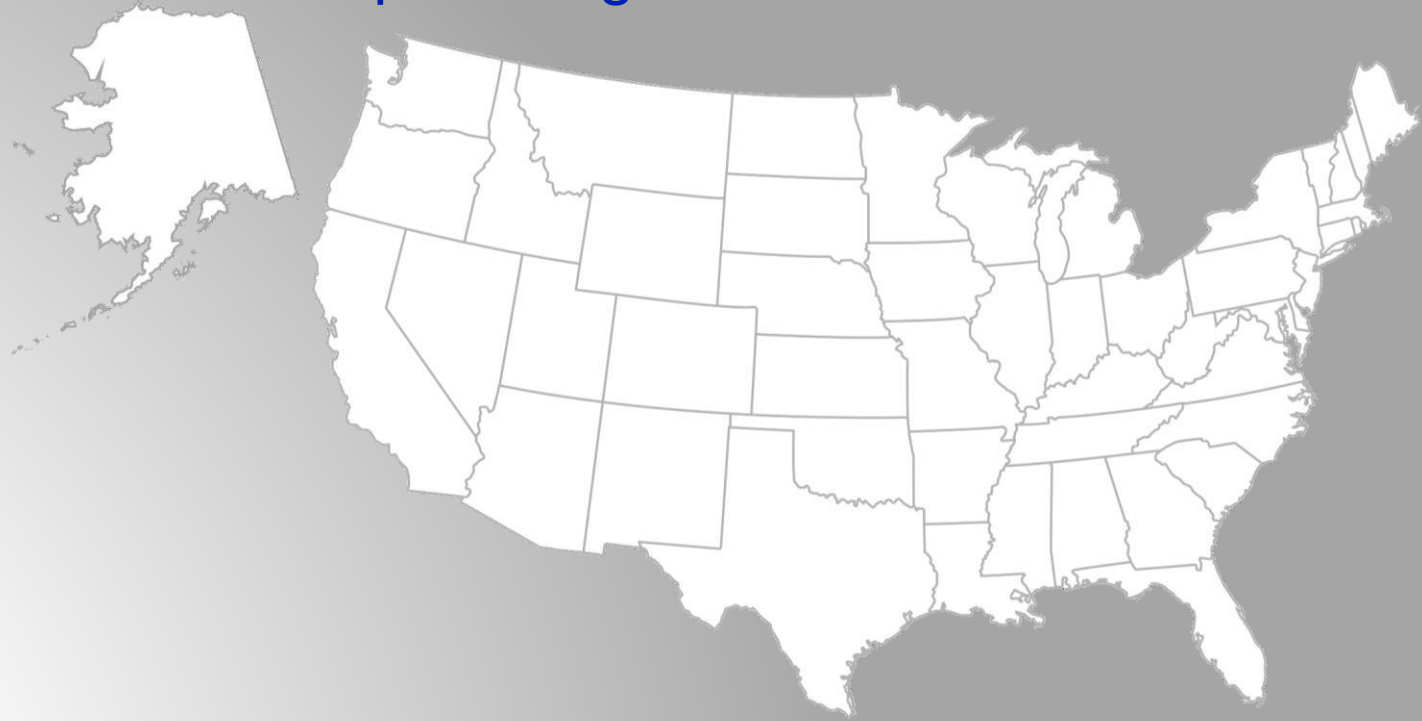
- Disrupt criminal behavior
- Deter vagrancy, trespassing, & unauthorized visitors
- Secure parking lots & structures
- Enhance employee and public safety, mitigate workplace violence
- Patrol hard to reach and previously neglected spaces
- Cost savings over continuous human patrol
- Data-driven security operations and decision making





# Fully Autonomous Operation 24/7 Nationwide

Keeping America and its territories safe.  
Now patrolling across 5 time zones.



**OVER 1 MILLION**  
Hours in operation

**OVER 240 BILLION**  
People detected

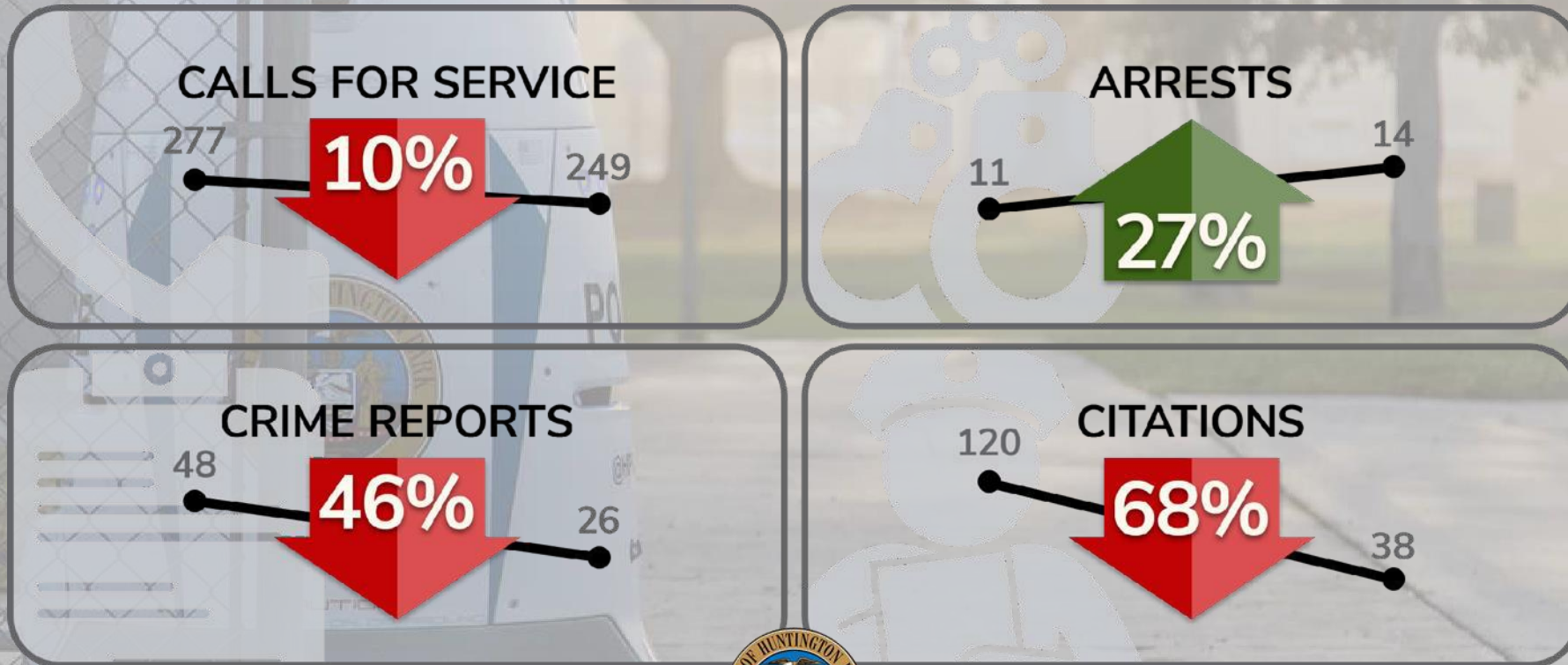
**OVER 10.5 MILLION**  
License plates read



# Autonomous Security Winning Against Crime

## K5 Robot Data Analysis - Salt Lake Park, CA

Jun-Dec 2018 (No K5) to Jun-Dec 2019 (One K5 Robot)



Knightscope Credited for Reducing Crime



Source: City of Huntington Park Police Dept.



Autonomous Security Robot (ASR)

## INDOOR/OUTDOOR USE

Built to operate on ADA compliant areas, such as

- Corporate Campuses
- Shopping Malls
- Hospitals
- Stadiums
- Retailers
- Warehouses
- Logistics Facilities
- College Campuses
- Airports, Bus & Train Stations
- Casinos

## KEY FEATURES

- 360° Eye-level HD/4K Recording
- Two-way Intercom and Live Audio
- People Recognition
- Automatic License Plate Recognition
- Parking Meter
- Thermal Detection
- Signal Detection



**Speed:** Up to 3 mph  
**Terrain:** Indoors & Outdoors  
**Height:** 62.5"  
**Width:** 33.5"  
**Length:** 36"  
**Weight:** 398 lbs.





Autonomous Security Robot (ASR)

## INDOOR USE

Designed for complex dynamic indoor environments such as

- Indoor Malls
- Office Buildings
- Manufacturing Facilities
- Stadium Plazas
- Warehouses
- Schools
- Casinos

## SMALLER SIZE

Smaller and narrower than its outdoor counterpart, allowing easier maneuvering indoors

## AVAILABLE FEATURES

- 360° Eye-level HD/4K Recording
- Two-way Intercom and Live Audio
- Thermal Detection
- Signal Detection
- People Detection



**Speed:** Up to 3 mph  
**Terrain:** Indoors  
**Height:** 51"  
**Width:** 24"  
**Length:** 33"  
**Weight:** 340 lbs.



Autonomous Security Robot (ASR)

## STATIONARY – INDOOR/OUTDOOR USE

- Pedestrian Entrances
- Lobbies & Reception Areas
- Residential Parking Lots & Structures
- Help Points
- High-Risk Areas & Hot Spots
- Remote or Distant Areas
- Shuttle Stops
- Challenging Retrofits
- Retail Aisles

## KEY FEATURES

- 360° Eye-level HD/4K Recording
- Two-way Intercom and Live Audio
- Automatic License Plate Recognition
- Thermal Detection
- People Recognition
- Facial Recognition
- Elevated Body Temperature Sensing



**Speed:** Stationary  
**Terrain:** Indoors/Outdoors  
**Height:** 69"  
**Width:** 28.8"  
**Length:** 11.2"  
**Weight:** 150 lbs.



Knightscope Security Operations Center

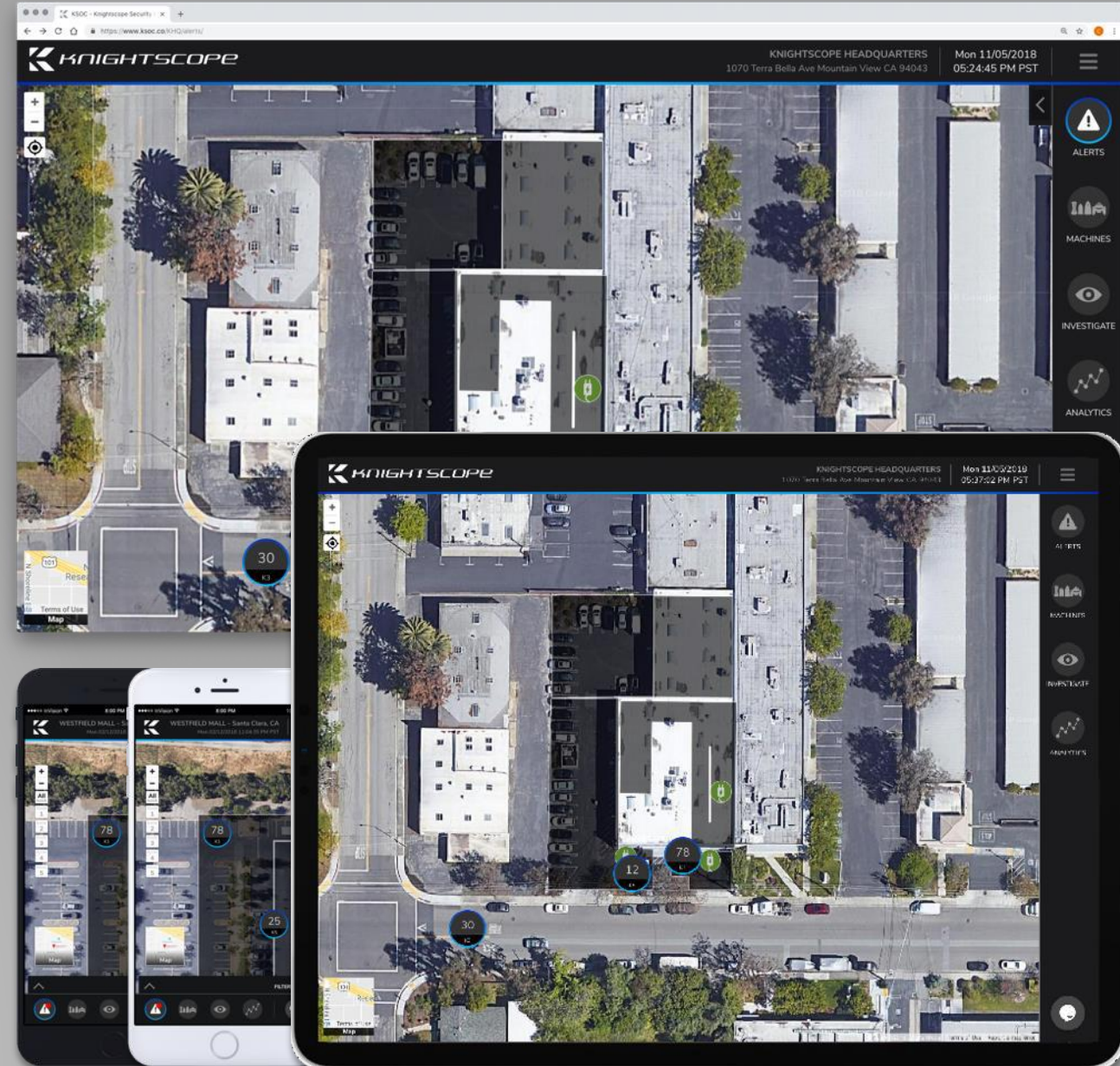
# KSOC

## USER INTERFACE

All data generated by Knightscope ASRs is accessible through the Knightscope Security Operations Center (KSOC), a highly intuitive, browser-based user interface. Clients can recall, review, and save the data for forensic or event documenting purposes.

## MOBILE/TABLET

The KSOC is designed to be fully responsive and optimized for mobile/tablet devices. Put the power of the KSOC right in the palm of your hand.





# KSOC Capabilities



## MAP REST & ZOOM LEVEL

Reset the default location and zoom level of map

## MACHINE STATUS

Display machine status when rollover machines icon

## MACHINE ICON

Show Machine Identification Number and type

## MAP TOGGLE

Switch map to satellite or map view

DEPLOYMENT NAME & ADDRESS

DEPLOYMENT DATE/TIME

HAMBURGER MENU  
Various options like deployment, settings, help, about and logout

## ALERTS

Review People detection, ALPR, Thermal Detection, ASD

## MACHINES

View machines list; select patrol, stop or park option; sound controls; intercom; broadcast; all camera view; map view; grab the timeline and move to left or change the date in calendar to view recorded videos; make and download video clips; patrol scheduler

## INVESTIGATE

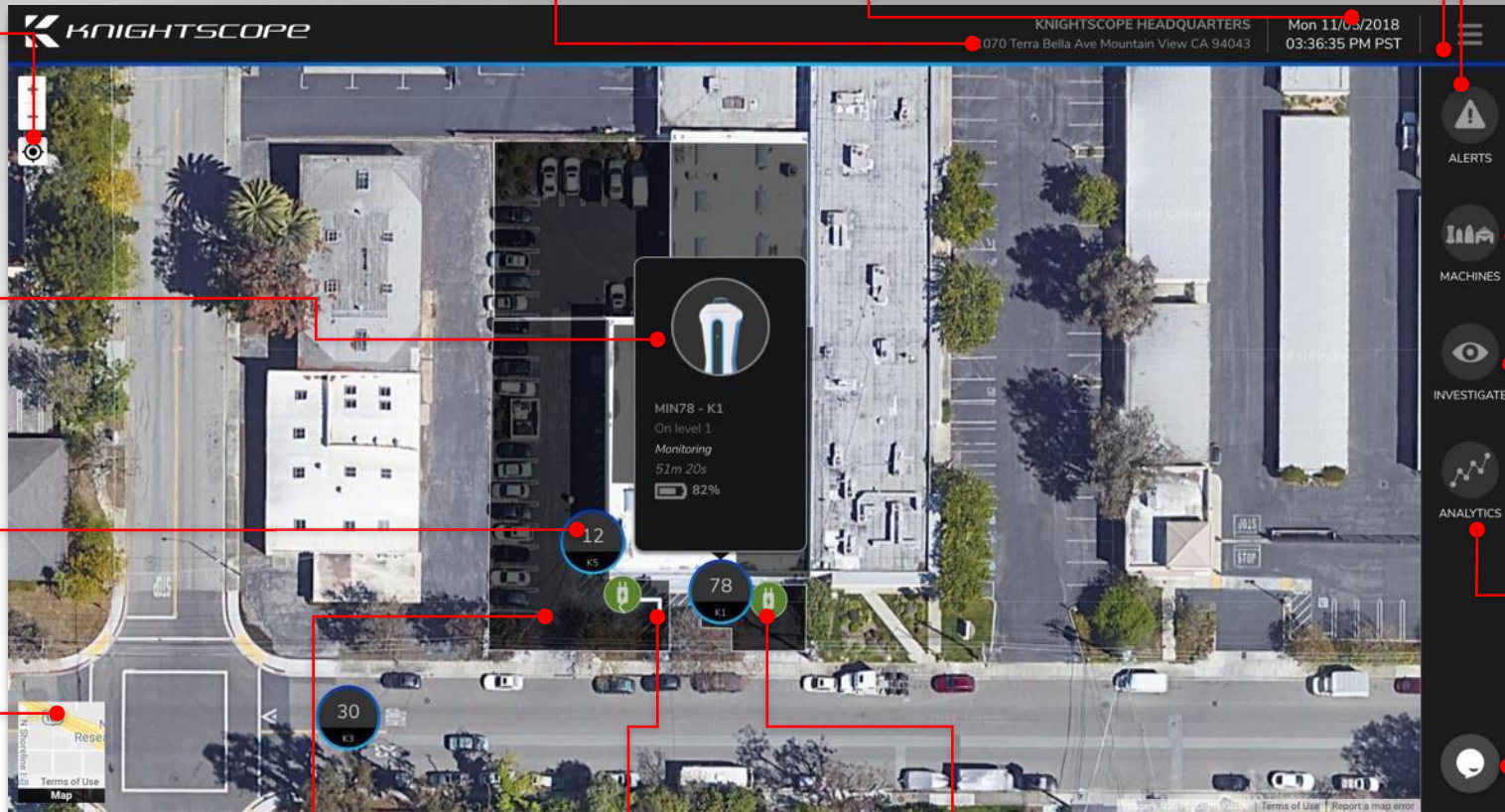
Search specific detections for investigation

## ANALYTICS

View various information about the deployment and subscription

## ONLINE CHAT

Real time online help



PATROL ZONE

PATROL PATH

CHARGE PAD

# 24/7 Monitoring



The KSOC gives security teams the ability to perform forensic investigations from anywhere in the world with a Chrome browser and an Internet connection



# Intercom



The Intercom Call Button turns the K1/K3/K5 into an Emergency Call Box.

Individuals can push the button to talk directly to the SOC or Security Person responsible for responding to direct requests for assistance.



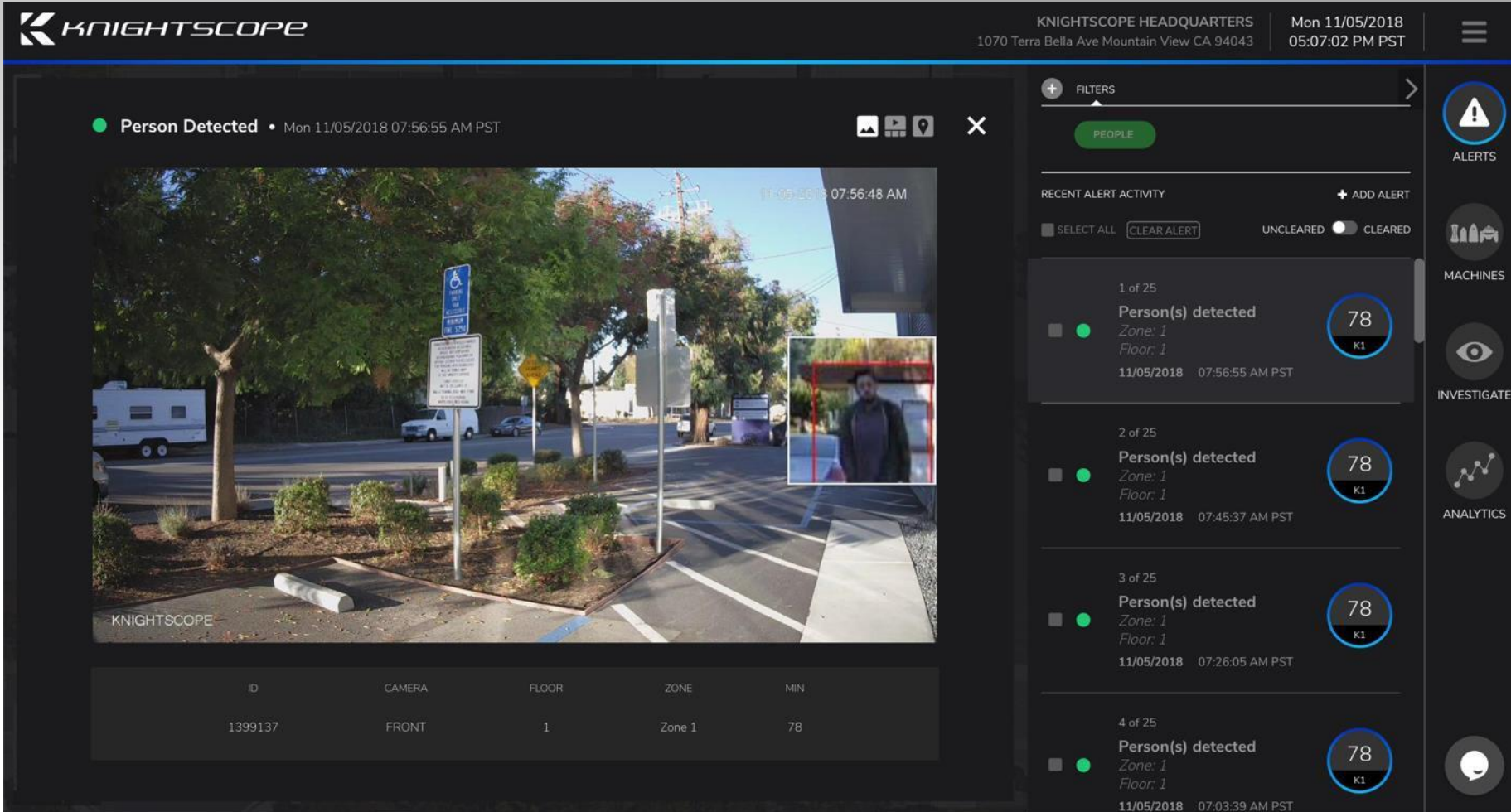
# Alerts

Knightscope gives you multiple ways to receive alerts and messages to keep your security team engaged and aware of incidents:

- Text message
- Email notification
- Alert through computer or tablet
- Text to phone call
- Alert in KSOC application
- To one or multiple recipients



# People Detection



KNIGHTSCOPE HEADQUARTERS  
1070 Terra Bella Ave Mountain View CA 94043  
Mon 11/05/2018 05:07:02 PM PST

Person Detected • Mon 11/05/2018 07:56:55 AM PST

11-05-2018 07:56:48 AM

KNIGHTSCOPE

ID	CAMERA	FLOOR	ZONE	MIN
1399137	FRONT	1	Zone 1	78

FILTERS  
PEOPLE

RECENT ALERT ACTIVITY + ADD ALERT  
SELECT ALL CLEAR ALERT UNCLEARED CLEARED

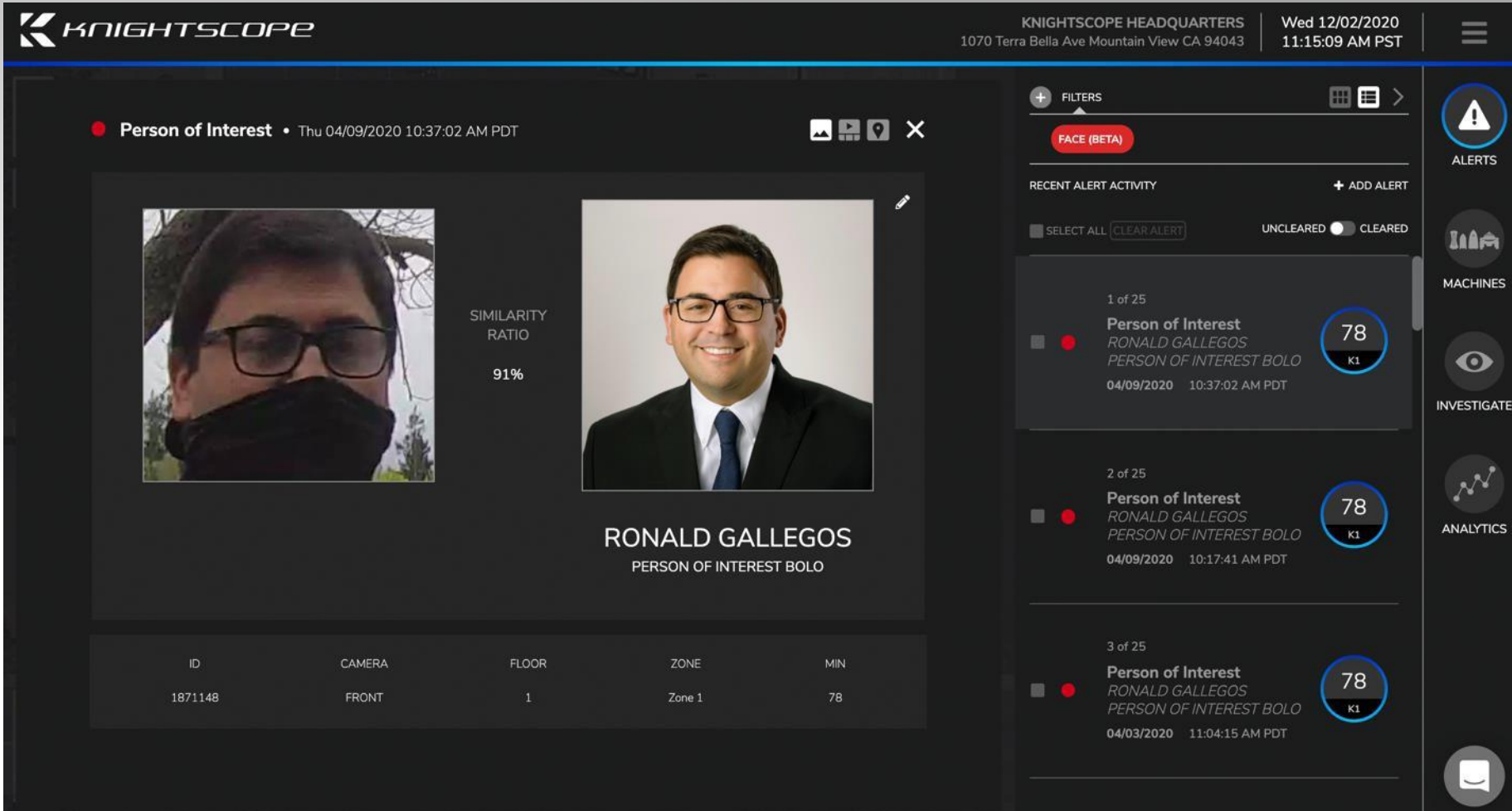
- 1 of 25  
Person(s) detected  
Zone: 1  
Floor: 1  
11/05/2018 07:56:55 AM PST  
78  
K1
- 2 of 25  
Person(s) detected  
Zone: 1  
Floor: 1  
11/05/2018 07:45:37 AM PST  
78  
K1
- 3 of 25  
Person(s) detected  
Zone: 1  
Floor: 1  
11/05/2018 07:26:05 AM PST  
78  
K1
- 4 of 25  
Person(s) detected  
Zone: 1  
Floor: 1  
11/05/2018 07:03:39 AM PST  
78  
K1

ALERTS  
MACHINES  
INVESTIGATE  
ANALYTICS

- Unauthorized individuals in secured areas
- Suspicious persons after hours
- Trespassers or criminal activity
- Positive identification capture



# Facial Recognition



**KNIGHTSCOPE** KNIGHTSCOPE HEADQUARTERS 1070 Terra Bella Ave Mountain View CA 94043 Wed 12/02/2020 11:15:09 AM PST

**Person of Interest** • Thu 04/09/2020 10:37:02 AM PDT

**Person of Interest** **RONALD GALLEGOS**  
PERSON OF INTEREST BOLO

SIMILARITY RATIO  
91%

ID	CAMERA	FLOOR	ZONE	MIN
1871148	FRONT	1	Zone 1	78

**ALERTS**  
**MACHINES**  
**INVESTIGATE**  
**ANALYTICS**

**RECENT ALERT ACTIVITY** + ADD ALERT

SELECT ALL CLEAR ALERT UNCLEARED CLEARED

- 1 of 25  
**Person of Interest**  
RONALD GALLEGOS  
PERSON OF INTEREST BOLO  
04/09/2020 10:37:02 AM PDT 78 K1
- 2 of 25  
**Person of Interest**  
RONALD GALLEGOS  
PERSON OF INTEREST BOLO  
04/09/2020 10:17:41 AM PDT 78 K1
- 3 of 25  
**Person of Interest**  
RONALD GALLEGOS  
PERSON OF INTEREST BOLO  
04/03/2020 11:04:15 AM PDT 78 K1

- Eye-level video surveillance coverage
- Greater facial recognition accuracy
- Escalating alerts for persons of interest

# Elevated Body Temperature (EBT) Detection



**Elevated Body Temperature** • Mon 10/26/2020 03:00:31 PM PDT

**1 of 25**  
**Elevated Body Temperature**  
**100.93F**  
Zone: Front building  
Floor: 0  
10/26/2020 04:03:36 PM PDT

**2 of 25**  
**Elevated Body Temperature**  
**101.67F**  
Zone: Front building  
Floor: 0  
10/26/2020 03:00:31 PM PDT

**3 of 25**  
**Elevated Body Temperature**  
**102.84F**  
Zone: Front building  
Floor: 0

**FILTERS**  
NO FILTERS SELECTED  
RECENT ALERT ACTIVITY  
SELECT ALL CLEAR ALERT UNCLEARED CLEARED  
ALERTS  
MACHINES  
INVESTIGATE  
ANALYTICS

- Detecting any person entering an area who has an Elevated Body Temperature (EBT) over 100.4 degrees
- Alerting via email, text, KSOC or one-way audio-to-text phone call

# Automatic License Plate Recognition (ALPR)



KNIGHTSCOPE HEADQUARTERS  
1070 Terra Bella Ave Mountain View CA 94043  
Mon 11/05/2018 06:34:27 PM PST

Plate Detected • Mon 11/05/2018 12:44:08 PM PST

Nov/05/2018 12:44:05

PLATE	CAMERA	FLOOR	ZONE	MIN	CONFIDENCE
6FCT959	LEFT	1	Zone 2	12	100%

FILTERS  
PLATES

RECENT ALERT ACTIVITY + ADD ALERT

SELECT ALL CLEAR ALERT UNCLEARED CLEARED

- 11 of 25  
Blacklisted Plate  
Plate: 6FCT959  
11/05/2018 12:54:27 PM PST
- 12 of 25  
Blacklisted Plate  
Plate: 6FCT959  
11/05/2018 12:49:22 PM PST
- 13 of 25  
Blacklisted Plate  
Plate: 6FCT959  
11/05/2018 12:44:08 PM PST
- 14 of 25  
Blacklisted Plate  
Plate: 6FCT959  
11/05/2018 12:38:20 PM PST

ALERTS  
MACHINES  
INVESTIGATE  
ANALYTICS

- Protect employees from domestic abusers
- Mark suspicious vehicles
- Track terminated employees returning
- Police BOLO alerts for vehicles & plates



# Parking Meter

**KNIGHTSCOPE** KNIGHTSCOPE HEADQUARTERS 1070 Terra Bella Ave Mountain View CA 94043 Wed 12/12/2018 03:52:48 PM MST

● **Plate Detected** • Sun 12/09/2018 09:19:40 PM MST

Dec/09/2018 21:19:29




PLATE	CAMERA	FLOOR	ZONE	MIN	CONFIDENCE
CVM749	LEFT	8	Zone 1	64	91.74%

**FILTERS**  
NO FILTERS SELECTED

**RECENT ALERT ACTIVITY** + ADD ALERT

SELECT ALL CLEAR ALERT UNCLEARED CLEARED

- 1 of 25  
**Parking Meter Violation**  
Plate: CVM749  
Reason: Vehicle has been parked for over 24H  
12/09/2018 09:19:40 PM MST
- 2 of 25  
**Parking Meter Violation**  
Plate: 8JW6523  
Reason: Vehicle has been parked for over 24H  
12/09/2018 04:22:51 PM MST
- 3 of 25  
**Parking Meter Violation**  
Plate: E0F276  
Reason: Vehicle has been parked for over 24H  
12/09/2018 04:20:55 PM MST
- 4 of 25

**ALERTS**  
**MACHINES**  
**INVESTIGATE**  
**ANALYTICS**

- Parking violations or abuses
- Suspicious or abandoned vehicles

**PLATES - PARKING METER - TOP 10**

Zone 2 12/12/2018

PLATE	DURATION
5FEJ899	05:12:49
5FEL899	05:02:43
8AJS067	04:50:34
8A1S067	04:33:05
7XLA939	04:13:02
6FCT959	03:10:57
5FE899	02:33:06
84IS067	01:56:03
8A7S067	01:03:22
6FCT959	00:38:17

Design Spaces - Coworking Office

# Thermal Detection



KNIGHTSCOPE HEADQUARTERS  
1070 Terra Bella Ave Mountain View CA 94043  
Mon 11/05/2018  
06:32:46 PM PST

Thermal Detected • Wed 10/24/2018 11:47:26 PM PDT

FILTERS  
THERMAL

RECENT ALERT ACTIVITY + ADD ALERT

SELECT ALL CLEAR ALERT UNCLEARED CLEARED

High Temp  
10/25/2018 04:31:20 AM PDT

15 of 25  
High Temp - 313 F  
Temp: 313 F  
High Temp  
53:08 PM PDT

78  
K1

205 F  
47:26 PM PDT  
78  
K1

316 F  
46:02 PM PDT  
12  
K5

273 F

ID	TEMPERATURE	FLOOR
1387497	205	1

- Early fire & anomaly detection
- Unauthorized individuals or vehicles in restricted areas
- Suspicious persons and/or vehicles after hours
- Trespassers or criminal activity

# Advanced Signal Detection



**KNIGHTSCOPE** KNIGHTSCOPE HEADQUARTERS 1070 Terra Bella Ave Mountain View CA 94043 Wed 11/07/2018 04:39:28 PM PST

**Signal Detected** • Wed 11/07/2018 04:39:28 PM PST

### DEVICE INFO

**ID** 62308  
**NAME** Urja Patel  
**LISTING** BLACKLIST  
**ADDRESS** 70:14:A6:4D:5F:0B  
**TYPE** LIKELY MOBILE DEVICE  
**MANUFACTURER** APPLE, INC.  
**FIRST VISIT** 11/17/17 08:46:53 AM  
**LAST VISIT** 11/07/18 16:38:02 PM

**DEVICE VISIT HISTORY**  **DEVICE LISTING HISTORY**

MIN	START	END	DWELL
30	11/07/18 09:10:35 AM PST	11/07/18 04:38:02 PM PST	07:27:27
78	11/07/18 08:29:48 AM PST	11/07/18 02:18:08 PM PST	05:48:20
12	11/07/18 08:29:37 AM PST	11/07/18 01:48:44 PM PST	05:19:07
78	11/06/18 12:20:27 PM PST	11/06/18 05:19:31 PM PST	04:59:04
12	11/06/18 11:31:15 AM PST	11/06/18 05:20:15 PM PST	05:49:00
30	11/06/18 10:07:35 AM PST	11/06/18 05:18:38 PM PST	07:11:03
30	11/05/18 08:52:33 AM PST	11/05/18 03:04:44 PM PST	06:12:11
12	11/05/18 08:26:45 AM PST	11/05/18 03:07:12 PM PST	06:40:27
78	11/05/18 08:26:35 AM PST	11/05/18 03:06:20 PM PST	06:39:45

### RECENT ALERT ACTIVITY

**1 of 25**  
**Blacklisted MAC Address**  
Urja Patel  
Blacklisted MAC Address  
11/07/2018 09:12:01 AM PST **30** K3

**2 of 25**  
**Blacklisted MAC Address**  
Urja Patel  
Blacklisted MAC Address  
11/07/2018 08:31:01 AM PST **12** K5

**3 of 25**  
**Blacklisted MAC Address**  
Urja Patel  
Blacklisted MAC Address  
11/07/2018 08:31:01 AM PST **78** K1

**4 of 25**  
**Blacklisted MAC Address**  
Urja Patel  
Blacklisted MAC Address  
11/06/2018 12:22:01 PM PST **78** K1

90+ % of adults have smartphones and use Wi-Fi when available

- Suspicious packages (device inside)
- Unauthorized device in secure areas
- Workplace violence threats
- Positive identification capture



# Broadcast and Intercom



KNIGHTSCOPE HEADQUARTERS  
1070 Terra Bella Ave Mountain View CA 94043  
Tue 11/06/2018 05:50:02 PM PST

MIN 12 • PATROLLING

Nov 06/2018 17:49:51

Front - Live

Left - Live

Rear - Live

Right - Live

Tue 11/06/2018

HR MIN SEC

05:48:00 PM 05:48:00 PM 05:50:00 PM 05:52:00 PM 05:54:00 PM

**PATROL SCHEDULER**

**MIN12 - K5** 12 K5

PATROLLING PATH 1, ZONE 2

PATROL  STOP  PARK

ALARM  PATROL SOUND

LIVE AUDIO

INTERCOM **KSOC -> MIN**

CALL INTERCOM READY

BROADCAST  PRE-RECORDED  CUSTOM

SELECT MESSAGE

+ MIN 12

BROADCAST

MIN30 - K3 30 K3

CHARGING PATH 1, K1Q INDOORS

MIN78 - K1 78 K1

MONITORING ZONE 1

**PATROL SCHEDULER**

**MIN12 - K5** 12 K5

PATROLLING PATH 2, ZONE 2

PATROL  STOP  PARK

ALARM  PATROL SOUND

LIVE AUDIO

INTERCOM **KSOC -> MIN**

CALL INTERCOM READY

BROADCAST  PRE-RECORDED  CUSTOM

SELECT MESSAGE

+ MIN 12

BROADCAST

ALERTS

MACHINES

INVESTIGATE

ANALYTICS

- Live two-way intercom
- Live audio & live broadcast
- Pre-recorded messages based on time, location or event

SELECT MESSAGE

Knightscope

Our twitter handle is @knightscope  
Learn more about us  
In case you are wondering, I am security robot

Greeting

- Good morning
- Good afternoon
- Good evening
- Hello
- Hi
- Good day to you
- Excuse me!
- Pardon me!

Emergency

- Step away from the machine
- Step away from the machine now
- Seriously step away
- 5.4.3.2.1
- Authorities have been notified

Custom

- Welcome DJ

# Activity-Based Investigation



KNIGHTSCOPE SHOWROOM NYC  
501 Lexington Ave New York, NY 10017  
Wed 11/07/2018  
01:37:27 PM EST

SELECT FILTERS  
TIME RANGE MACHINE PEOPLE PLATES THERMAL SIGNAL BADGE GO

SELECTED FILTERS  
11/07/2018 01:07 PM - 11/07/2018 01:37 PM EST MIN58 MIN71 MIN77

887 DETECTIONS DURING 29 MINUTE TIMESPAN  
Click a detection to further investigate that minute

01:10 PM 01:20 PM 01:30 PM

22 / 22 DETECTIONS DURING 11/07/2018 01:20:00 PM - 11/07/2018 01:20:59 PM EST

#	TYPE	TIME	ID	MIN	FLOOR	ZONE	DETAIL
1	SIGNAL	01:20:04 PM EST	126771287	MIN58	N/A	N/A	42:AB:BA:DD:49:67
2	THERMAL	01:20:12 PM EST	53473347	MIN58	F 1	ZONE 1	100 F
3	SIGNAL	01:20:14 PM EST	126771302	MIN58	N/A	N/A	BA:5B:12:17:02:B5
4	THERMAL	01:20:24 PM EST	53473349	MIN58	F 1	ZONE 1	111 F
5	SIGNAL	01:20:24 PM EST	96413403	MIN58	N/A	N/A	00:1A:DD:02:E2:64
6	SIGNAL	01:20:29 PM EST	96414226	MIN58	N/A	N/A	44:65:0D:0B:3C:14

DETAILS VIDEO

The investigate page allows KSOC users to access forensics the robot has gathered by letting them filtering alerts by the following categories:

- Time Range
- Machine
- Alert Type

# Location-Based Investigation



The screenshot displays the KnightScope interface for location-based investigation. At the top left, the KnightScope logo is visible. The main header shows the date and time: "Fri 10/16/2020 01:34:30 PM PDT". Below this, a timeline indicates "7 DETECTIONS FROM 10/16 5:33 AM - 10/16 1:33 PM PDT". A horizontal timeline shows detection counts for each hour: 1 at 07:00 AM, 2 at 08:00 AM, 1 at 09:00 AM, 1 at 11:00 AM, 1 at 12:00 PM, and 1 at 01:00 PM. The central map shows a street grid in San Francisco with a black polygon drawn over a block bounded by Townsend St, King St, and 3rd St. A tooltip above the map reads: "Location Based Search | Use polygon tool to draw an area to start. Click to reset." The right sidebar contains several sections: "SELECT FILTERS" with a "TIME RANGE" section where "PAST 8 HOURS" is selected; "SEARCH BY LOCATION" with a checked "APPLY LOCATION FILTERS" option and a "SAVE LOCATION & QUIT" button; and "ALERT" with "SHOW ALERTS ONLY FOR:" options where "PEOPLE" is checked. A bottom status bar shows "PEOPLE (alerts only)".

Focus on alerts in a given location based on time, type of alert, and more.



# Analytics



The analytics page displays data gathered by the ASR in simple graphical and tabular form:

- Top 10 plates (Parking Meter)
- Top 10 signals
- Device statistics
- Machine usage
- LTE usage

# AUTONOMOUS SECURITY



Force Multiplying  
Physical Deterrence



360 Degree HD  
Video Streaming



People  
Detection



Facial  
Recognition



Automatic License  
Plate Recognition



Parking Meter



Thermal Anomaly  
Detection



Elevated Body Temp  
(EBT) Detection



Automatic Signal  
Detection



Live Audio  
Broadcast



Two-Way  
Intercom



Pre-Recorded  
Broadcast Messages



Call Button



24/7 Monitoring



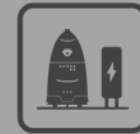
Analytics



Investigate

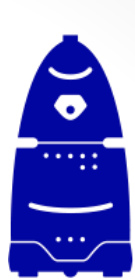


Patrol  
Scheduler



Autonomous  
Charging

## Knightscope Integrated Weekly Coverage



296

HOURS PER WEEK

## Traditional Guard Weekly Coverage



168

HOURS PER WEEK

Save money while getting more hours of coverage with our Autonomous Security Robots

	Human Manned Guarding	Autonomous Security
National Hourly Rate	\$12.39	\$6 - \$12
Benefit Burden (25%)	\$3.10	NA
Company Overhead	\$1.25	Included
Company Profit	\$0.87	Included
Hourly Rate	\$17.50	\$6 - \$12
Employee Turnover Rate	Up to 400%	0%
Easy to Recruit	No	Yes
Always Trained and on Time	No	Yes
Always on Best Behavior and Attitude	No	Yes
Follows Orders Consistently	No	Yes
Advanced Detection Capabilities	No	Yes
Improves Capabilities Over Time	No	Yes
Hours Available per Week	40	168
24/7 Monthly Cost	\$14,800	\$4,500 - \$8,300



# Weekly Cost Comparison



## Security Guards

- Coverage: One post
- 24/7/365 = 168 Hours per week
- Average hourly bill rate: \$22.00
- Weekly cost: \$3,696.00



## Mobile K5 Robot

- Coverage: 1 Post
- 24/7/365 = 168 Hours per week
- Hourly Cost: \$6.85
- Weekly Cost: \$1,152.88



## Stationary K1 Robot

- Coverage: 1 Post
- 24/7/365 = 168 Hours per week
- Hourly Cost: \$2.79
- Weekly Cost: \$470.19

# AUTONOMOUS SECURITY



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[mil-specsecurity.com](http://mil-specsecurity.com)

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