Increase Your Business with Arecont Vision Megapixel IP Technology:

Video Surveillance for Open Spaces

Customer Webinar
October 2017

Arecont Vision

Leading the Way in Megapixel Video

Company Update

Arecont Vision®

Leading the Way in Megapixel Video™

ARECONT VISION® ENHANCES EXECUTIVE LEADERSHIP TEAM TO POSITION COMPANY FOR CONTINUED GROWTH

October 9, 2017

- **Raul Calderon**, Chief Operating Officer & GM
- **Kyle Parker**, VP, Americas
- **Mitch Fagundes**, VP, Global Strategic Accounts
- **Sanjit Bardhan**, VP, EMEAI
- **Paul Tagger**, Managing Director, Europe

- View the press release:
  - AV Website: http://tinyurl.com/ybconqjs
  - AV Blog: http://tinyurl.com/y8z25gbj

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2017 New Product of the Year Award Winners

SECURITY today 2017 NEW PRODUCT OF THE YEAR

4K

SurroundVideo® Omni G3
Cameras:
IP Multi-Sensor Megapixel

SurroundVideo® G5 Mini
(180° & 360°)
Cameras:
IP Multi-Sensor Panoramic

MegaVideo® 4K
Video Surveillance
Cameras: HD

MicroBullet®
Video Surveillance
Cameras: IP

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New Awards for SurroundVideo Omni G3

Campus Safety Best Award

American Security Today
ASTORS FINALIST

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Video Surveillance for Open Spaces

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Market Overview: Open Spaces

- Open Spaces is a very large MegaVertical market for Arecont Vision cameras globally, including…

  - Agricultural land & facilities
  - Air & sea transportation
  - City surveillance
  - Concert venues
  - Construction sites
  - Convention centers
  - Energy infrastructure
  - Entertainment venues
  - Festival sites
  - Industrial/manufacturing facilities
  - Parks and greenspaces
  - Religious & historical sites
  - Retail, hotels, & health care
  - Road and rail transportation
  - School & corporate campus
  - Sports facilities and stadiums
  - Theme parks
  - Tourist sites & museums
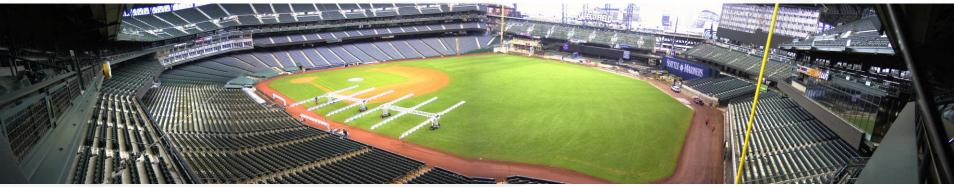 - Zoos, aquariums, & animal parks

Representative End Users

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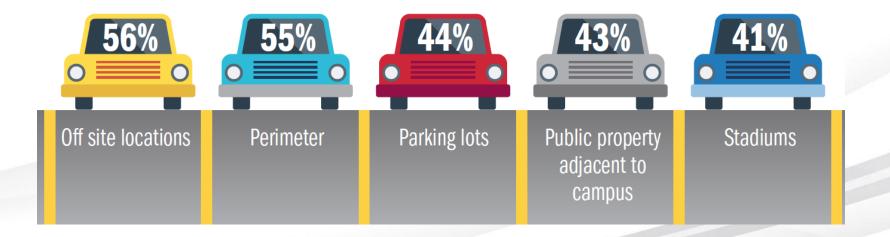Leading the Way in Megapixel Video™

Open Spaces Applications

- Surveillance systems need high definition video delivered by megapixel camera technology to provide situational awareness in open spaces, including…

    - *Detect unsafe situations via high frame rate video*

    - *Analyze the flow of events in detail*

    - *Monitor public areas, concessions, services*

    - *Perimeter monitoring for violations*

    - *Monitor and detect loitering and suspicious activity*

    - *License plate recognition and facial identification*

    - *Entrance/exit/concession area monitoring*

    - *Street and parking lot/structure surveillance*

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Open Spaces Applications

Most challenging areas on campus

56%	55%	44%	43%	41%
Off site locations	Perimeter	Parking lots	Public property adjacent to campus	Stadiums

Source: Anixter & Arecont Vision – Inside the Mind of Campus Security Professional Survey, 2015.

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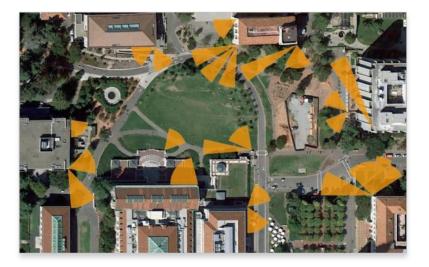
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Campus Surveillance
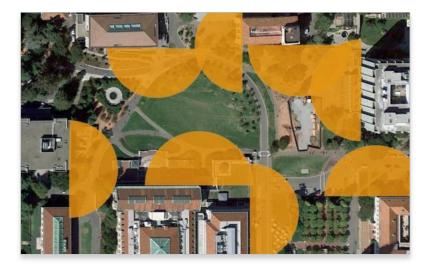
Fewer cameras with improved coverage

Analog

24 cameras cover this public area with about 8,000,000 pixels

Megapixel

8 panoramic cameras deliver better coverage with 96,000,000 pixels

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Campus Surveillance

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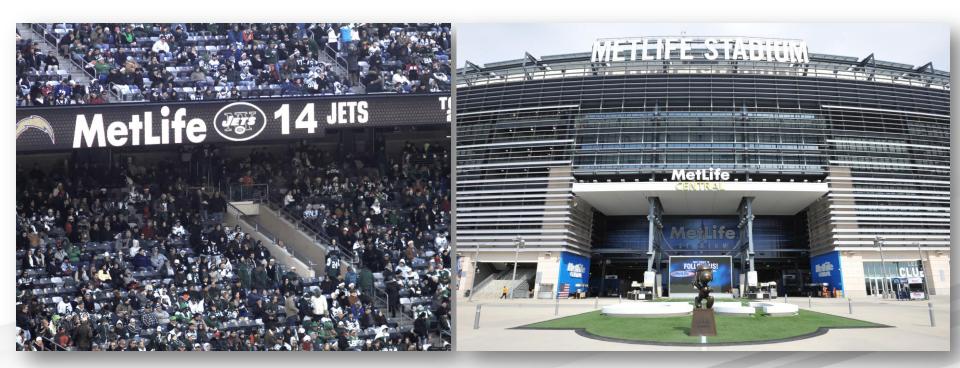
Stadiums

"Anyone would be a fool to commit a crime inside MetLife stadium"
– New Jersey State Police Chief

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Sporting Events

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Concerts & Festivals

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Golf Courses & Country Clubs

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City Surveillance / Streets & Highways

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City Surveillance / Traffic

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City Surveillance / Residential

2014-May-19 14:38:11

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City Surveillance / Overall Situational Awareness

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Distribution Centers / Outdoor

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Loading Docks & Warehouses

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Industrial Facilities

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Manufacturing Facilities

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Construction Sites

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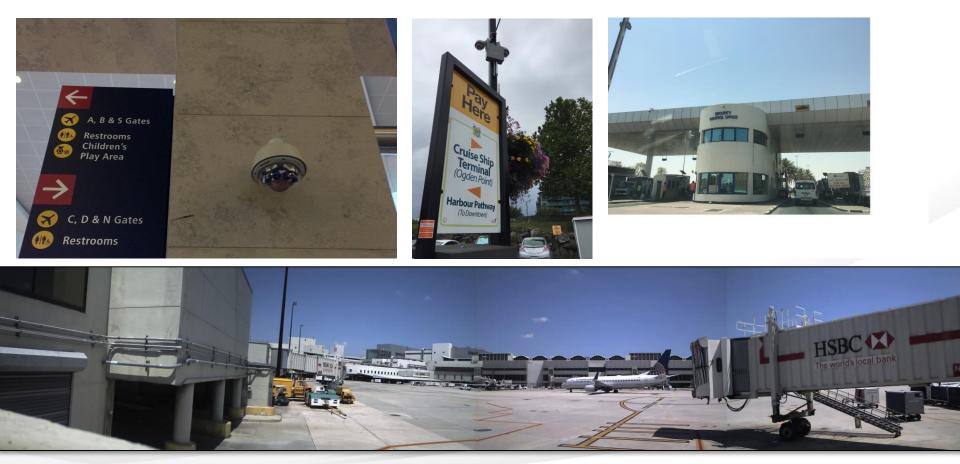
Critical Infrastructure

MegaView

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Ports, Railways, & Airports

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Ports, Railways, & Airports

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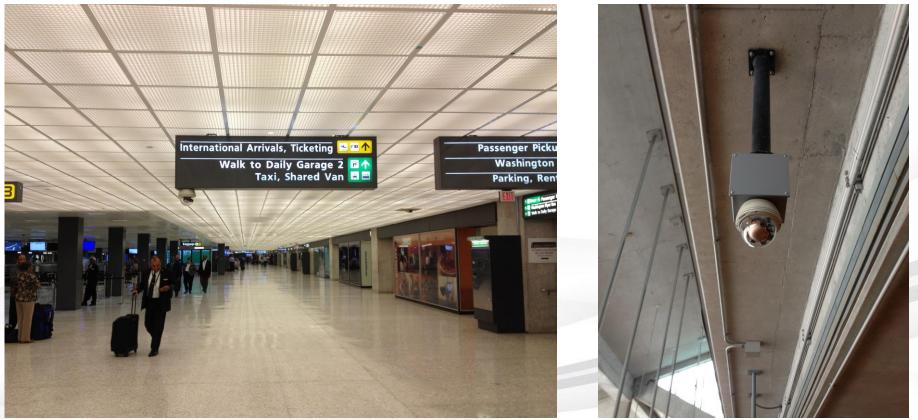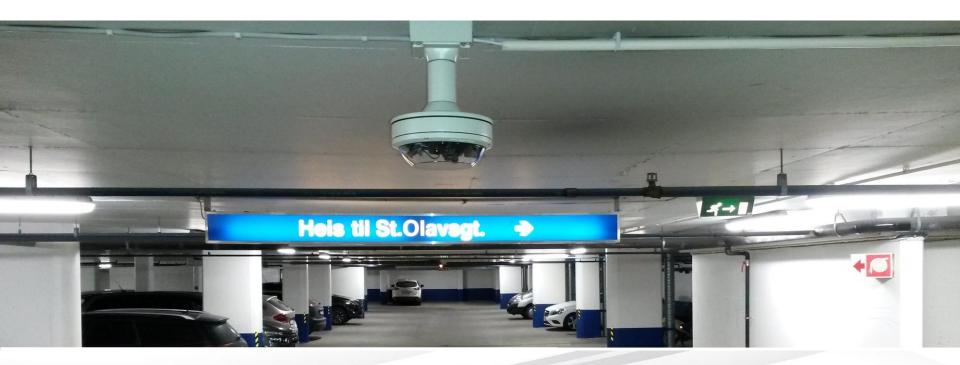
Parking Lots & Structures
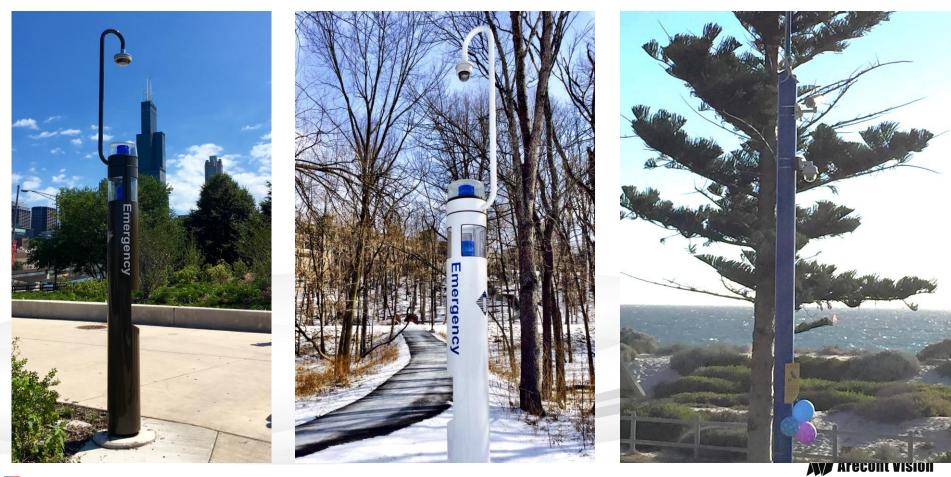
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Outdoor Parking

Parks & Green Spaces

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Entertainment Venues

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Convention Centers
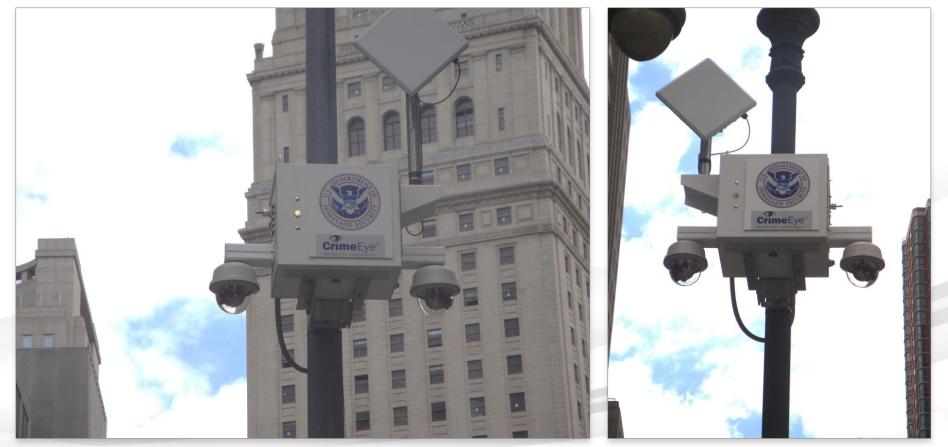
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Government Facilities

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Norwegian Police Capture Vandalism on Camera
New parking hall structure vandalism is documented and delivered to the police

Politiet fikk en lett jobb da de i dag kom til parkeringshallen til Forum Jæren. FOTO: Geir Sveen

Her fikk politiet hærverket på film

Tirsdag kveld ble hele hærverket her i den nye parkeringshallen til Forum Jæren på Bryne dokumentert og levert på lang film til politiet. I pakken fulgte også navn og telefonnumre til ungdommen som sto bak

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Corrections & Prisons

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Museums & Public Spaces

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Temples, Religious Sites, & Public Festivals

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Indoor Retail

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Outdoor Retail

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Entertainment / Dining Venues

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Indoor Spaces

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Aerospace

Image Courtesy: SpaceX

A GIANT LEAP FOR ARECONT VISION

12 February 2015 by Mike Moran

They needed a 10 megapixel camera with a small form factor and on an open platform. Oh, and it was going to be used in the vacuum of space, 220 miles above the earth's surface.

The SpaceX robotic Dragon capsule returned to Earth this week, successfully completing the first commercial cargo delivery to the International Space Station (ISS). The ISS uses a robotic arm equipped with cameras and illuminators to take on supplies and scientific experiments that are delivered by capsules such as the Dragon. But NASA required a better a better view of the Dragon's hold than it could get with its existing technology.

Press release:
http://tinyurl.com/y85u6pkh

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Arecont Vision®
Leading the Way in Megapixel Video™

Most Complete Megapixel Product Line

Omni   Omni G2

Omni G3

180º Mini   180º w/RF   360º Mini

Surface IR   Surface   Flush

SurroundVideo® Omni   **Surround**Video® G5   **Micro**Dome® Duo   **Micro**Dome® G2   **Micro**Bullet®   **Mega**Video® Flex

Bell Mount   Bell Mount IR   Wall/Surface Mount

G3 RS   G3   G3 with IR

Telephoto   Wide Angle

Dual Sensor   Single Sensor w/RFRZ

MegaBall® G2   **Mega**Dome® 4K   **Mega**Dome® G3   **Mega**View® 2   **Mega**Video® 4K   **Mega**Video® G5

Download the *New Product Release Guide* at: http://goo.gl/ewrGz4
Learn about Arecont Vision products at: http://www.arecontvision.com/categories.php

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MegaDome® G3

1.2–10 Megapixel H.264 All-in-One Motorized P-Iris Lens Day/Night IR Indoor/Outdoor Dome IP Cameras with Wide Dynamic Range (WDR) and STELLAR™ Low Light Models

Highlighted Features Include:

- Wide angle or telephoto motorized remote focus / remote zoom auto-iris or P-Iris lens

- P-Iris control for best depth of field and image clarity (PM models)

- SNAPstream™ (Smart Noise Adaptation and Processing) for reduced bandwidth without impacting image quality (some models)

- STELLAR™ (Spatio Temporal Low Light Architecture) low light technology reduces motion blur, noise, and storage requirements, while enhancing contrast and allowing color imaging in near complete darkness (1.2MP models)

- Optional Enhanced WDR available (1080p and 3MP models) to see clearly in shaded and bright light conditions simultaneously

Integrated Motorized Lens with Remote Focus and Zoom (AM/PM Version)

P-Iris Control for Best Depth of Field and Image Clarity (PM Models)

Wide Angle or Telephoto Lens Option

All-in-One Dome Solution

True Day/Night with IR Cut Filter

Impact / Weather Resistant IK-10 and IP66 Rated

Audio Input/Output (-A Models)

SDHC Card Slot (-S Models)

CorridorView™ with 90° Image Flip (-S Models)

SNAPstream™ — 10MP Dual Mode: 1080p/10MP on 10MP Models

STELLAR™ Low Light Technology on 1.2MP Models

Pixel Binning Mode on 3, 5, and 10MP Models

WDR Wide Dynamic Range Available on Some 1080p and 3MP Models

IR LEDs (IR Models)

Heater (-H Models)

Casino Mode™ Maintains at Least 30fps on AV2255 Models

Dual Encoder H.264/MJPEG

ONVIF | S

MegaDome® G3 RS

3 or 5 Megapixel H.264 All-in-One Motorized P-Iris Lens Day/Night IR Indoor/Outdoor Dome IP Cameras with Wide Dynamic Range (WDR) With Remote Setup, SNAPstream™ technology, and an Installer-Friendly Design

Highlighted Features Include:

- Remote Setup – No Touch Setup with a Varifocal Motorized Lens that can be Remotely Setup in Any Position

- Motorized Pan and Tilt Capable – Pan 359°, Tilt 90°

- Enhanced Wide Dynamic Range up to 100dB at Full Resolution (Select Models)

- SNAPstream™ Advanced Compression Algorithm Reduces Bandwidth without Impacting Image Quality

Remote Setup | Motorized Focus and Zoom Capable | Motorized Pan & Tilt Capable | SNAPstream™ Technology | Wide Dynamic Range Available on Select 3MP Models | True Day/Night with IR Cut Filter | Pixel Binning Mode | Non-Integer Scaling | CorridorView™ with 90° Image Flip | SDHC Card Slot | Installer Friendly | Impact / Weather Resistant IK-10 and IP66 Rated

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MegaVideo® 4K

4K (8.3 Megapixel @ 30 Frames Per Second) Box Camera
H.264 Remote Focus/Zoom, P-Iris Lens, True Day/Night, IP
Camera

Highlighted Features Include:

- 4K ultra high resolution image quality

- 8.3MP/30FPS H.264 true day/night indoor box IP camera

- **Night**View™ technology for enhanced low light performance

- 4K/1080p dual mode

- SNAPstream™ (Smart Noise Adaptation and Processing) technology for reduced bandwidth without impacting image quality

- WDR (Wide Dynamic Range)

- Multiple lens options with remote zoom / remote focus and P-iris

- Outdoor housing options

SNAPstream™ NightView™ 4K Resolution Customizable Motorized and Manual Lens Options and Housing Options P-Iris Control for Best Depth of Field and Image Clarity (PM Models) SDHC Card Slot (-S Models) True Day/Night with IR Cut Filter CorridorView™ with 90° Image Flip GEN5 Megapixel IP Cameras

Learn more about the MegaVideo 4K at: https://www.arecontvision.com/landing-pages/megavideo-4k/overview.php

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MegaVideo® 4K – Lens Options

UHD4.4-10MPI

- 4.4-10mm, 1/1.7", f1.2 CS-mount, IR corrected, P-Iris, motorized zoom and remote focus (for use with 5MP and above)

UHD12-50MPI

- 12-50mm, 1/1.7", f1.8 CS-mount, IR corrected, P-Iris, motorized zoom and remote focus (for use with 5MP and above)
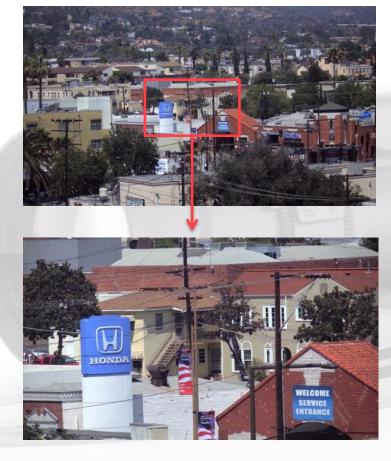
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MegaVideo® 4K – Lens Options

UHD4.4-10MPI

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MegaVideo® 4K – Lens Options

- 30-120mm, 1/1.7", f2.2 C-mount, IR corrected, P-Iris, motorized zoom and remote focus (for use with 5MP and above)

UHD30-120MPI

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MegaVideo® 4K – Lens Options

UHD30-120MPI

Wide

Telephoto

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MegaVideo® 4K – New Outdoor Enclosure Option

Outdoor Ready HSG3 Housing

- Includes PoE pass-through
- No external power required

HSG3

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Arecont Vision® FPGA Technology

- At the core of every Arecont Vision camera is a **Field Programmable Gate Array (FPGA)** integrated circuit mounted on a custom-designed Printed Circuit Board (PCB)

Sample Arecont Vision Circuit board, top surface

Sample Arecont Vision Circuit board, lower surface

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Arecont Vision® FPGA Technology

- The Arecont Vision FPGA is programmed with our in-house designed Massively Parallel Image Processing (MPIP) architecture, now in it's 5th generation
  - *Arecont Vision is the only major network camera manufacturer to use FPGA technology & to develop a unique architecture*

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Megapixel Camera Risk Summary

- Arecont Vision Megapixel Cameras

  ☑ Do not use common operating systems
    - *No OS weaknesses to exploit*

  ☑ Do not use 3rd party code or chipsets for core features which limits cyber risk
    - *No risk of hidden malicious code*

  ☑ Adhere to industry standard 16-digit ASCII password recommendations
    - *If password is breached, the camera can be taken off line or viewed*
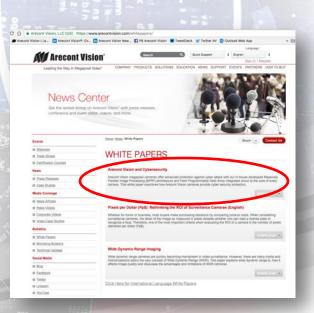   - *The camera cannot be repurposed for use in cyberattacks or to infect other network-enabled devices*

- Competitor Megapixel Cameras

  ☒ Use common operating systems
    - *OS weaknesses at risk of known security exploitation*

  ☒ Use 3rd party code and/or chipsets for core features which adds cyber risk
    - *Risk of hidden malicious code*

  ☒ Many - but not all - adhere to industry standard 16-digit ASCII password recommendations
    - *If password is breached, the camera can be taken off line or viewed*
    - *The camera is at risk of being repurposed for use in cyberattacks or to infect other network-enabled devices*

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Cybersecurity White Paper

- Download the white paper for more information on the Arecont Vision difference in cybersecurity
  - https://www.arecontvision.com/whitepapers/

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Leveraging Megapixel for Better Design Coverage

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Megapixel Implementation

- Camera Reduction
  - The most cost beneficial way to implement Megapixel reducing total cameras needed covering wider FOV at higher resolution
  - Reducing number of cameras placed, also reduces, VMS license, wire cost, labor time, and points of issue potential, etc
  - Typically less expensive than lower resolution IP installations

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SurroundVideo® Best Applications

- Anywhere you have a very large space to cover with minimum mounting points.

- Common applications include:

  ▪ Parking Lots

  ▪ Campus Quads and Business parks

  ▪ Cafeterias and Building Lobbies

  ▪ Large Industrial Spaces

  ▪ Large Retail Space and Storage Yards

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Corner Perimeter Example

SurroundVideo®

Omni Family

270˚ Rooftop Corner Application

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SurroundVideo® Omni or Duo

Odd hallways and concourses

SurroundVideo® 180 applications

Parking Lots

Benefits:

- Situational Awareness

- Liability reduction

- Monitor use and access of company parking and campus perimeter

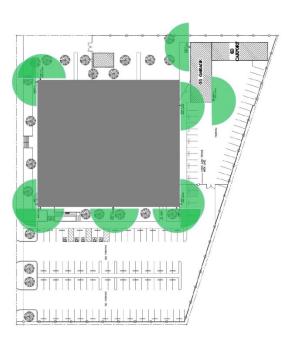- Identify accident details or illegally parked vehicles

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180° Camera Benefit for Parking Lot Coverage

- A single camera can cover a very wide field of view – (camera reduction)

- All the action is captured all the time vs. PTZ type solution

- Combined with single sensor cameras at entrances this of solution does not necessarily need high resolution coverage throughout the field of view

- Sufficient detail exists to monitor general activity throughout the covered space

- If more detail at distance is desired higher resolution 180°cameras can be used

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SurroundVideo® Parking Lot

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Panoramic Pixel Density

Typical Parking Application

- Approximate size: 300' wide x 200' deep

- 20MP Panoramic camera: AV20585PM

- Closer Objects have more Pixels on Target

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Panoramic Pixel Density

Near Vehicle

- Approximate distance: 40'
- 80PPF

Far Vehicle

- Approximate distance: 150'
- 20PPF

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Parking Lot 2 Camera Solution

- Camera 1: 20mp AV20585PM

- Camera 2: 5mp AV5225PMTIR

Camera 1
Image quality
at edge of lot
12ppf/ 39ppm

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- Camera 2: 5mp AV5225PMTIR @ 22mm

Camera 2
Image quality at
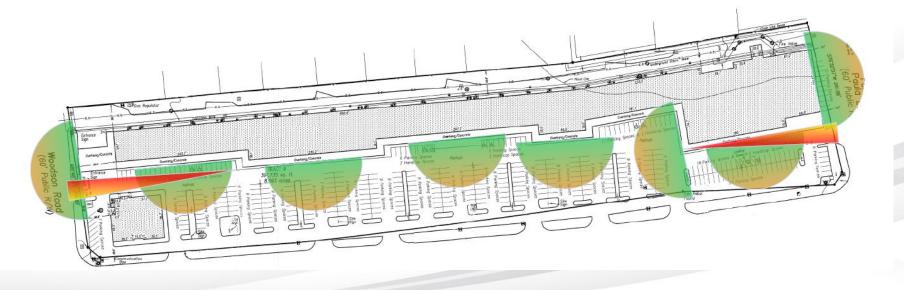the red car
60ppf/ 196ppm

CALIFORNIA 56
XYZ 391

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SurroundVideo® 180 Camera Long Parking Lot Perimeter

Example outside – parking, perimeter, and loading bays covered using 180° cameras with addition of LPR cameras at entrance points.
Every point in the lot is covered for situational awareness

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SurroundVideo® Application Review

- Anywhere you have a very large space to cover with minimum mounting points.
- Common applications include:
    - Parking Lots
    - Campus Quads and Lecture Halls
    - Cafeterias and Building Lobbies
    - Large Industrial Spaces
    - Large Retail Space and Storage Yards

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Leveraging Arecont Vision's Technology Partners

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Deeply Entrenched Ecosystem

- **Companies, Organizations, and Governments** around the world rely on Arecont Vision®

- **Technology Partners** integrated and tested with Arecont Vision via the **Mega**Lab™ include the top-tier VMS/NVR solutions, beyond our commitment to ONVIF and PSIA compliance

- **Authorized Integrators and Distributors** offer Arecont Vision products worldwide, backed by world class support and a multi-year whole system warranty

Note: Listings are examples only and are not inclusive.

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Integration and Partnership

- Arecont Vision offers comprehensive partner programs to address your unique needs, provide knowledge and training, and to integrate key technologies for complete solutions
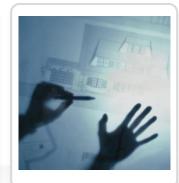

Reseller Partner Program

Technology Partner Program

MegaLab™ Program

A&E Partner Program

Arecont Vision® University
Channel Partner Certification Program

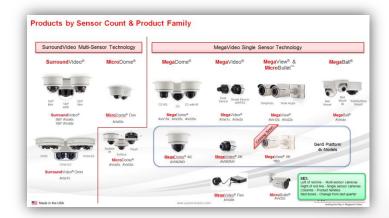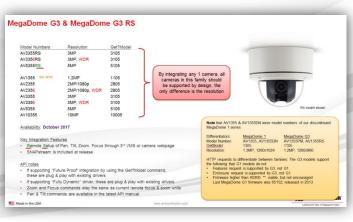**Arecont Vision®**
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Regular Dialog with Integration Partners

MegaLab Certified Partners

3VR, INC.	3xLogic	Arteco	Digital Watchdog	DVTel Latitude, Solus
Exacq	Genetec Omnicast/Security Center	Genius Vision Digital	GeoVision / USAVision	LuxRiot
Milestone Corporate	Milestone XProtect Ent, Pro, Exp, XPr, Ess, Go	Network Optix	Nice Vision	QNAP
NIGHTHAWK	TOSHIBA	VERINT	VideoInsight	VIGILANT

MegaLab®
CERTIFIED

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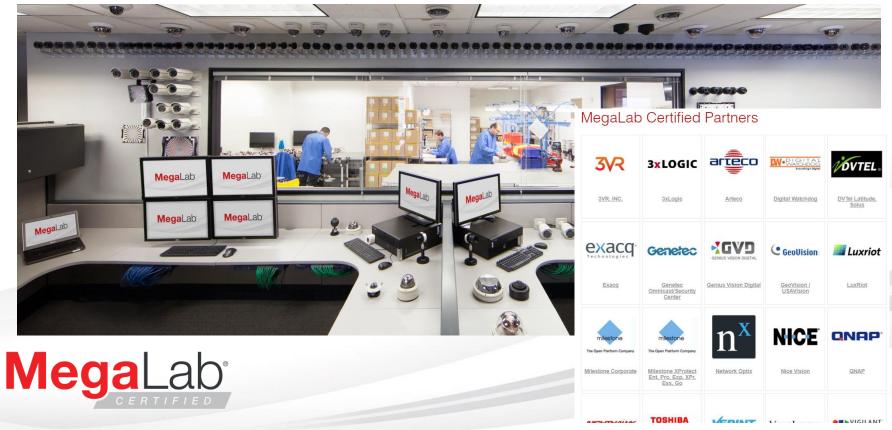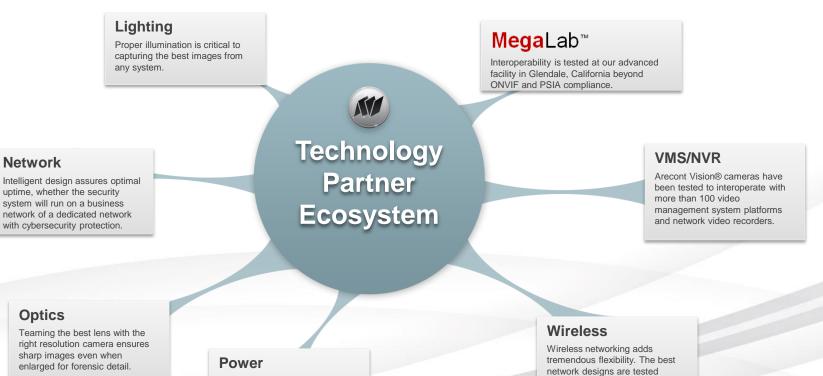
Technology Partner Program Integration

Lighting
Proper illumination is critical to capturing the best images from any system.

MegaLab™
Interoperability is tested at our advanced facility in Glendale, California beyond ONVIF and PSIA compliance.

Technology Partner Ecosystem

Network
Intelligent design assures optimal uptime, whether the security system will run on a business network of a dedicated network with cybersecurity protection.

VMS/NVR
Arecont Vision® cameras have been tested to interoperate with more than 100 video management system platforms and network video recorders.

Optics
Teaming the best lens with the right resolution camera ensures sharp images even when enlarged for forensic detail.

Power
Extensive testing and engineering foresight provide flexible options for powering the cameras and accessories such as a heater, blower or infrared array.

Wireless
Wireless networking adds tremendous flexibility. The best network designs are tested before installation.

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Technology Partner Program Expansion

INFRASTRUCTURE PARTNERS

The leading VMS and NVR vendor products in the industry participate in the Arecont Vision Technology Partner Program. Joining the program portfolio, the new Infrastructure Partners category expands access to manufacturers of world class products in additional categories of the surveillance and security industry ecosystem. Participation is open to manufacturers of products that include PSIM, servers, storage, network infrastructure, wireless, cybersecurity, structured cabling, illumination, optics, enclosures, utility software, and accessories. Infrastructure Partners have a track record of successful joint installations with Arecont Vision products, as well as a commitment to continuing sales, development, and support collaboration.

https://www.arecontvision.com/InfrastructurePartners.php

Over 40 new Infrastructure Partners joined the Technology Partner Program, further expanding our ecosystem of best of breed manufacturing partners.

Watch for even more in 4Q17!

Utility

Storage

Server

Services

Optics

Network

Lighting

Intrusion Detection

Housings

Emergency Call Box

Analytics

Audio

Access Control

AMAG TECHNOLOGY	FST Biometrics Secure Access at the Speed of Life	ISONAS Pure IP Access Control	LENEL	OPEN OPTIONS ACCESS TECHNOLOGY
AMAG	FST Biometrics	Isonas	Lenel	Open Options
Program Announcement				

Vision

Megapixel Video™

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https://www.arecontvision.com/news.php

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You **Tube**

youtube.com/user/ArecontVision

Follow us on **twitter**

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