Axis Communications

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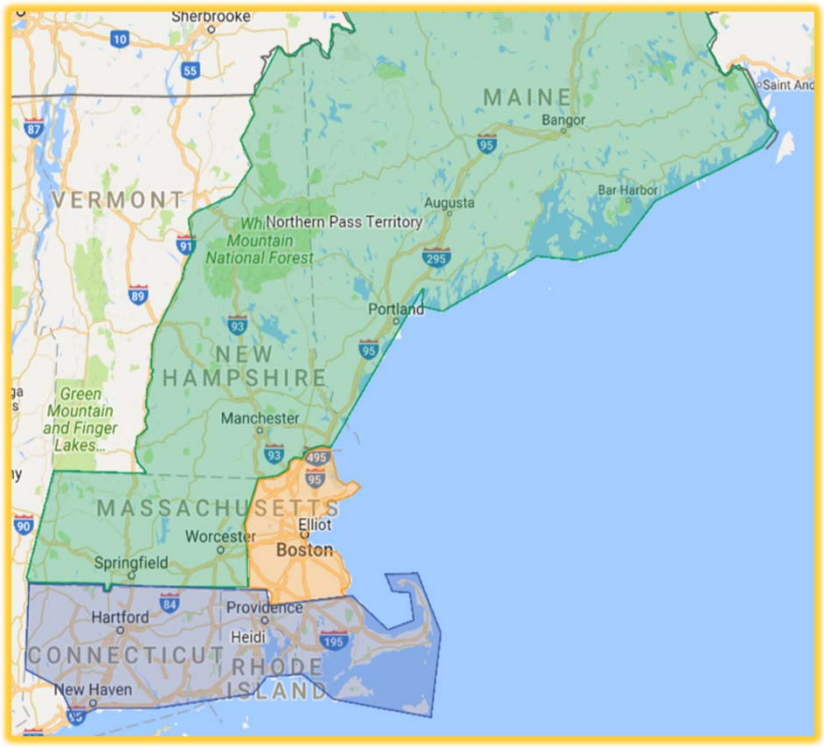
Introduction



Enabling people to create a smarter, safer world.

1984 – founded as IT company

More than

2,100

employees with presence in more than **50** countries

Total sales 2015

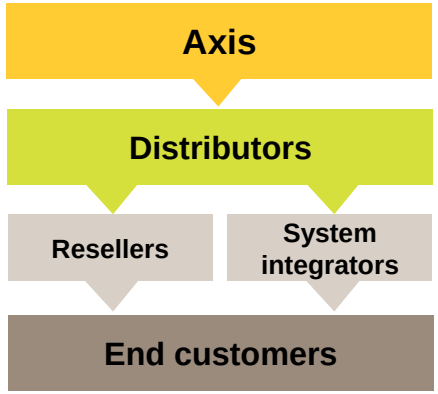
6.6 Billion SEK

794 M USD

Long-term loyal partnership

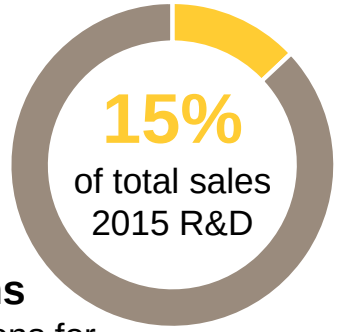
80,000

partners worldwide



Market leadership

- Network cameras
- Security cameras
- Video encoders



Smart, innovative products & solutions

Intelligent security solutions for small to enterprise companies within a broad spectrum of industry segments

Axis at a glance

Axis – continuously driving innovation

ONVIF | The IP-based Security Standard

1996

World's first network camera

1998

World's first video encoder

1999

World's first network video chip

2004

First MPEG-4 and Motion JPEG compression camera

2008

First H.264 compression standard for network camera

2009

First network cameras with HDTV, and with remote focus & zoom functions

HDTV NETWORK VIDEO

SMPTE

2010

First thermal network camera

2011

Lightfinder technology

2012

Unique high-performance WDR camera

2012

AXIS Camera Companion: unique small installation solution

2012

First network camera with active cooling

2013

Physical Access Control

2015

Zipstream technology & Sharpdome technology

2015

Open standard network loudspeaker & Open IP-based door station

Topics of Discussion:

- Image Usability
- Technology and Products
- Retail Analytics
- Support

AXIS Technology

www.axis.com

Optimized IR

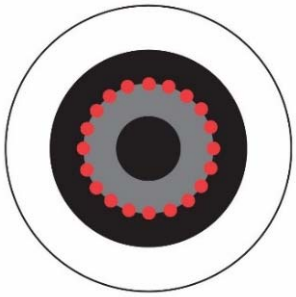
Capability in focus: Axis' OptimizedIR technology

> Latest power-efficient IR LED technology requires few LEDs

> High-precision, custom-made LED lenses ensure even illumination over entire image

> IR illumination angle automatically adapted to camera's field of view

> Long-life LEDs eliminate maintenance

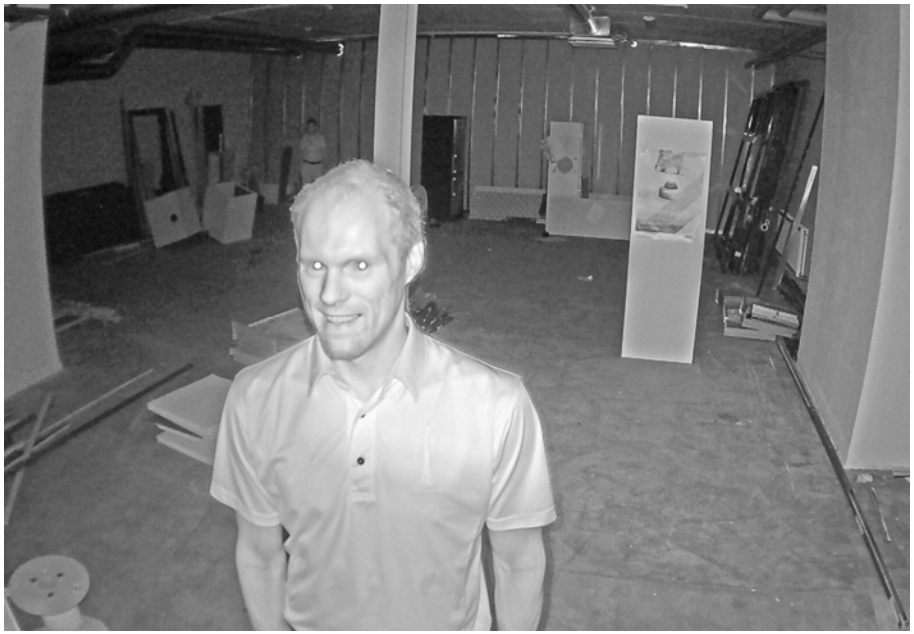


Traditional technology

OptimizedIR technology

Optimized IR

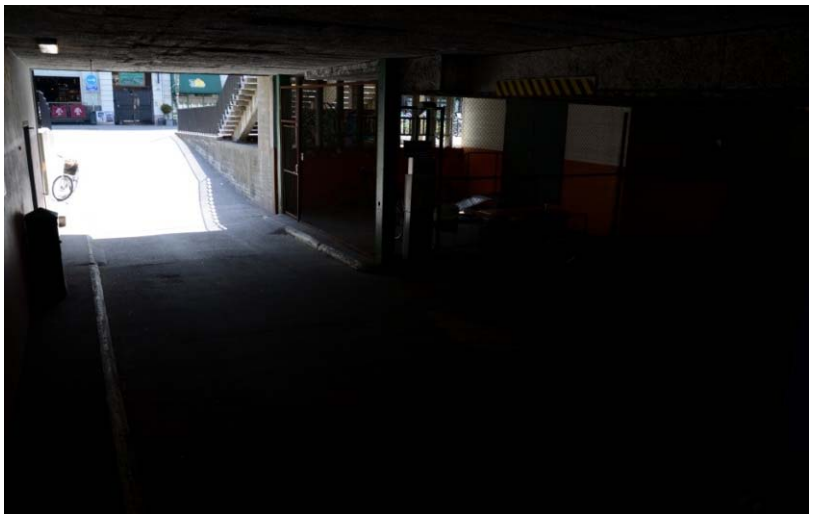
AXIS P3225-LVE with Optimized IR and WDR-Forensic Capture



Wide Dynamic Range

What is Wide Dynamic Range (WDR)?

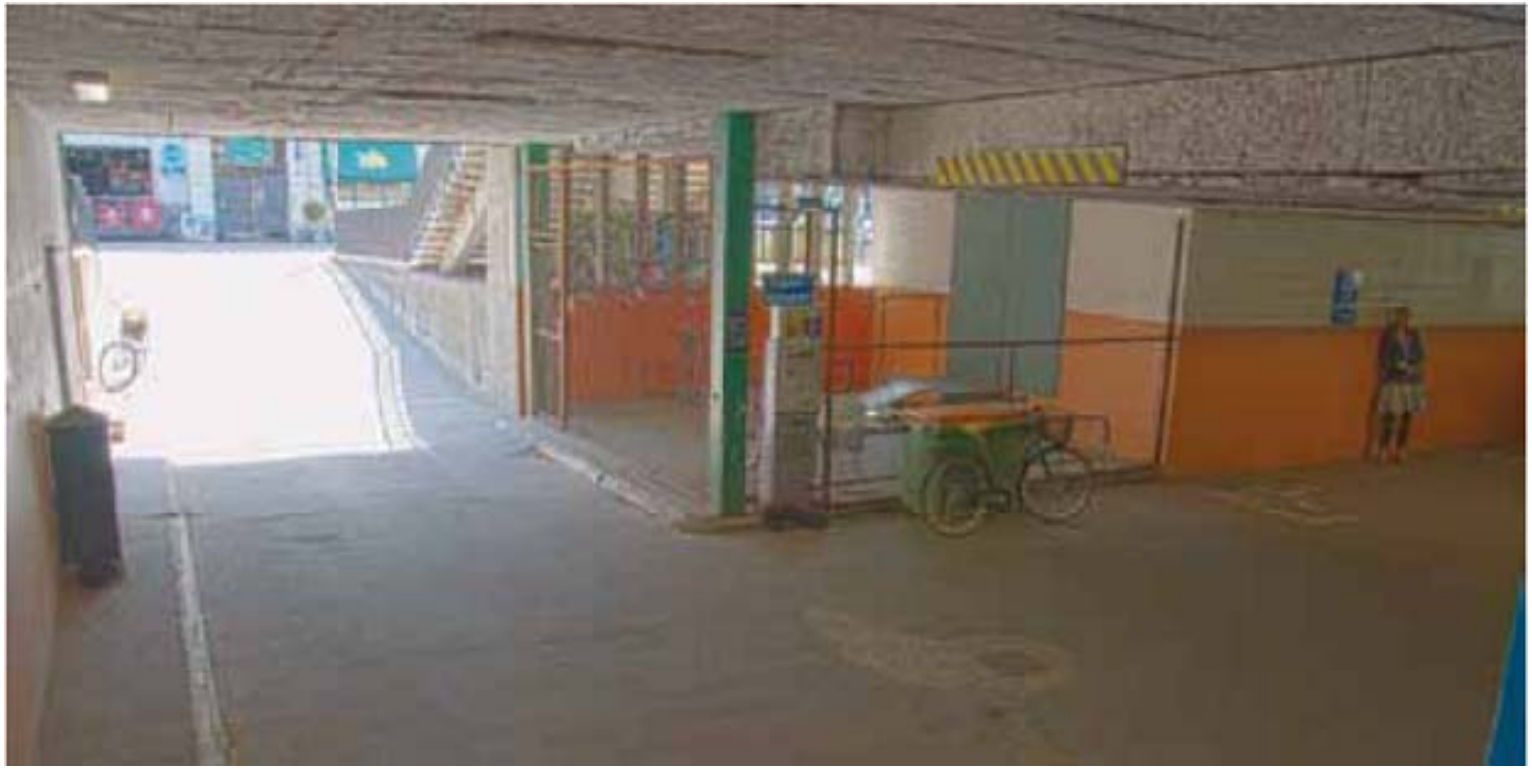
> Wide Dynamic Range refers to scenes where there is a lot of variation in light levels simultaneously (referred to as wide dynamic range scenes)



This image is **underexposed,** trying to capture the environment outside

This image is **overexposed,** trying to capture the environment indoors

The Result using WDR



27 September 2016

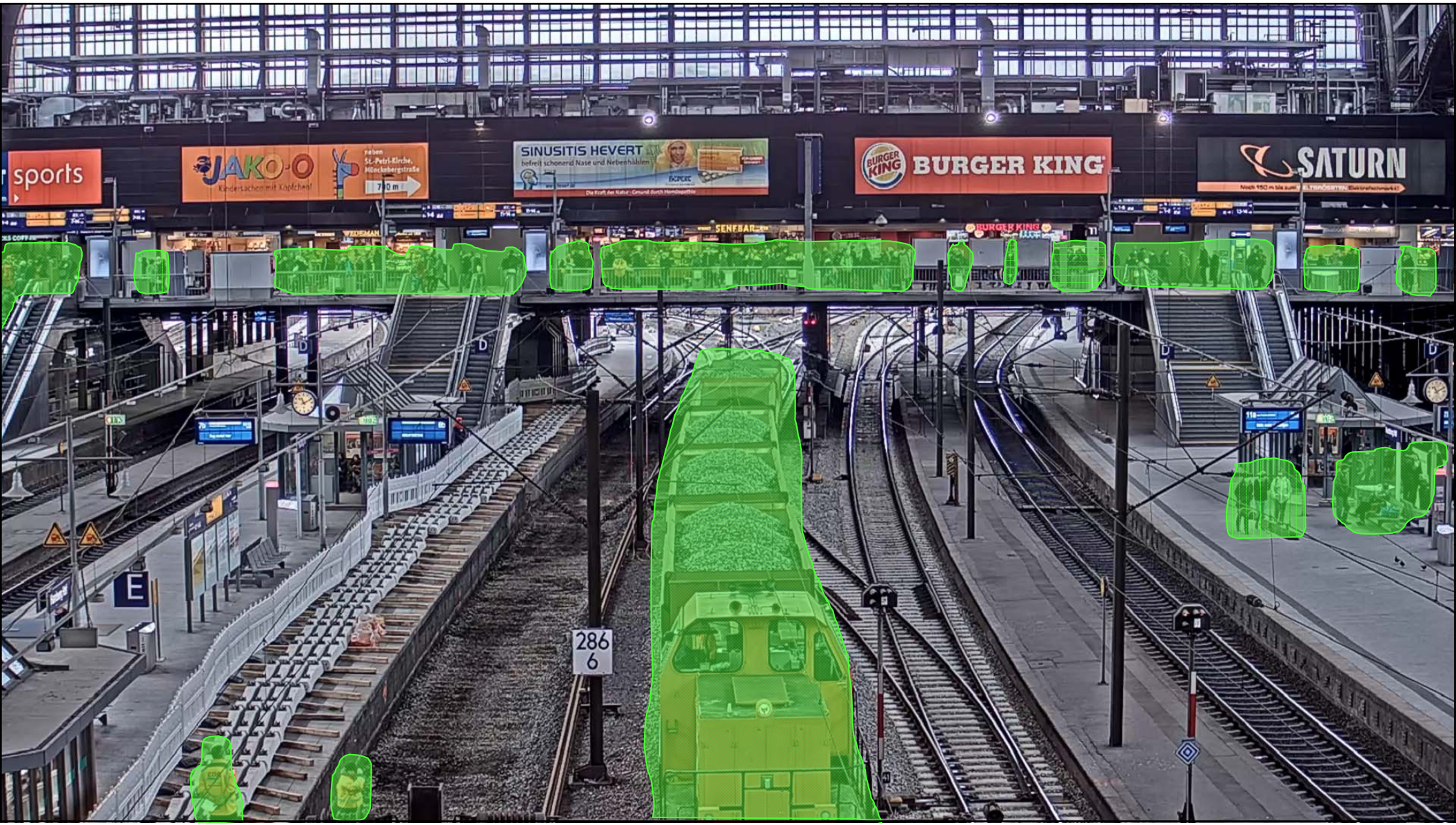
Axis' Zipstream Technology.

More video, less storage.

www.axis.com

What is Axis' Zipstream technology?

- A bit rate efficient H.264 encoding
- Acts on motion, details and noise
- Optimized for surveillance
- Radically lowering bandwidth and storage requirements
- Works with market's leading video management software without additional investment


sports
JAKO-O
SINUSITIS HEVERT
befreit schonend Nase und Nebenhöhlen
BURGER KING
SATURN
286
6

AXIS Products and Solutions

www.axis.com

Products for effective and smart security & surveillance

Fixed cameras

PTZ cameras

Accessories

Thermal cameras

Fixed dome & onboard cameras

Software & Solutions

Encoders

Access control

Audio

Video Encoders

AXIS M7011 Video Encoder

The smart and small design makes it easy to upgrade all analog video surveillance systems.

AXIS M70 & AXIS P72 Video Encoder Series

Cost-effective and full-featured Video Encoder Series

AXIS Dome Cameras

www.axis.com

AXIS M30 Series - New models

> AXIS M3044-V
> AXIS M3045-V
> AXIS M3046-V

July 2016

AXIS P32 Network Camera Series.

Simply attractive.

www.axis.com

AXIS P32 Series – Key benefits

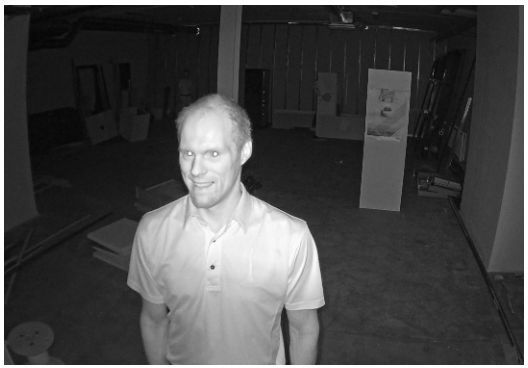
> Outstanding **image quality**

> Effortless and versatile **installation**

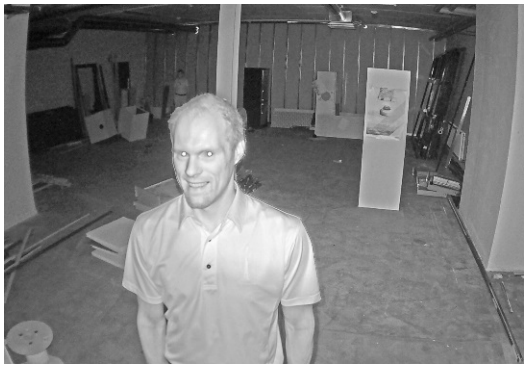
> Reliable and cost-efficient **operation**

AXIS P32 Series – Image quality, image usability

- HDTV video quality 720p or 1080p
  - Up to 30 fps with WDR, 60 fps with WDR disabled
- WDR – Forensic Capture
  - Ensures high level of detail in dark and bright areas
- Axis' Lightfinder technology
  - Outstanding performance in low light
- Day/night functionality
  - Automatic IR cut filter removal
- OptimizedIR (AXIS P3224-LV/-LVE MkII, AXIS P3225-LV/-LVE MkII)
  - for image usability in total darkness
- Zipstream - DFS



AXIS P3225-LV with IR on, WDR off



AXIS P3225-LV with IR on, WDR on

27 September 2016

AXIS P14 Network Camera Series.

Compact and cost-effective surveillance for any environment

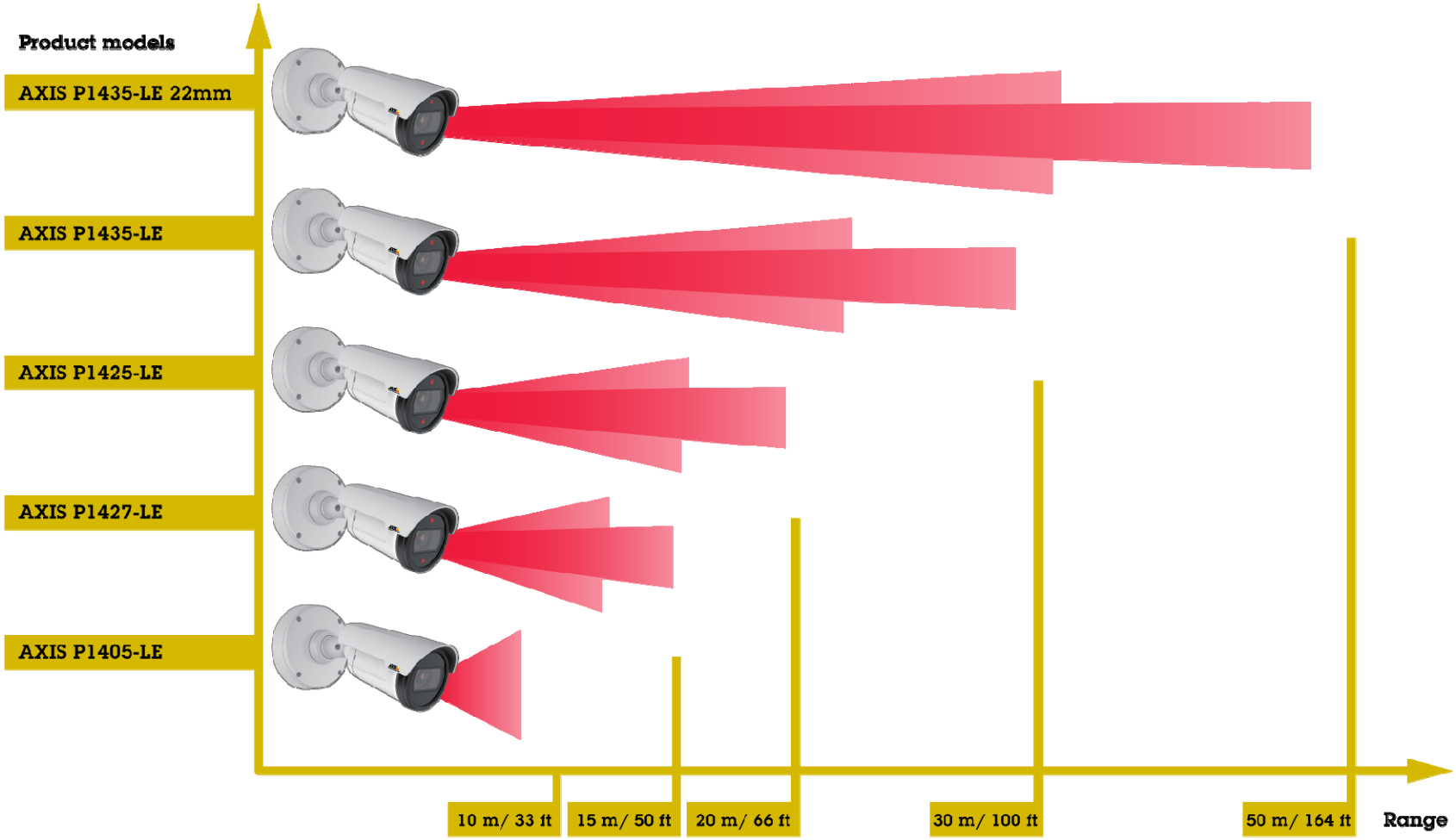
www.axis.com

Latest

AXIS P1435-LE Network Cameras

- New lens alternative 10-22 mm
- Slim, bullet-style camera
- Excellent image quality
- Cost-efficient surveillance

AXIS P14 Series – OptimizedIR and built-in IR



AXIS P56 PTZ Dome Network Camera Series.

Cost-effective HDTV PTZ dome cameras

www.axis.com

AXIS P56 Series

Cost-effective PTZ domes for indoor and outdoor use

> Competitively priced cameras that fulfill all the key requirements for a PTZ camera

> Ideal for retail and city surveillance applications

Two models for both indoor and outdoor use

Continuous 360° pan, 180° tilt, PT speed 0.2º/s to 350º/s

Indoor/Outoodr

HDTV 720p

AXIS P5624-E

- 18x optical zoom
- Day/Night
- WDR – Forensic Capture
- Shock detection
- PoE+
- IK10
- Outdoor-ready, IP66 & NEMA 4X: -20 ºC to 50 ºC (-4 ºF to 122 ºF)

HDTV NETWORK VIDEO

HDTV 1080p

AXIS P5635-E

- 30x optical zoom
- Day/Night
- WDR – Forensic Capture
- Electronic Image Stabilization
- Shock detection
- Two-way audio
- 4 configurable I/Os
- PoE+, 24 V AC/DC
- IK09
- Outdoor-ready, IP66 & NEMA 4X: -30 ºC to 50 ºC (-22 ºF to 122 ºF)

HDTV NETWORK VIDEO

AXIS COMMUNICATIONS

AXIS F Series.

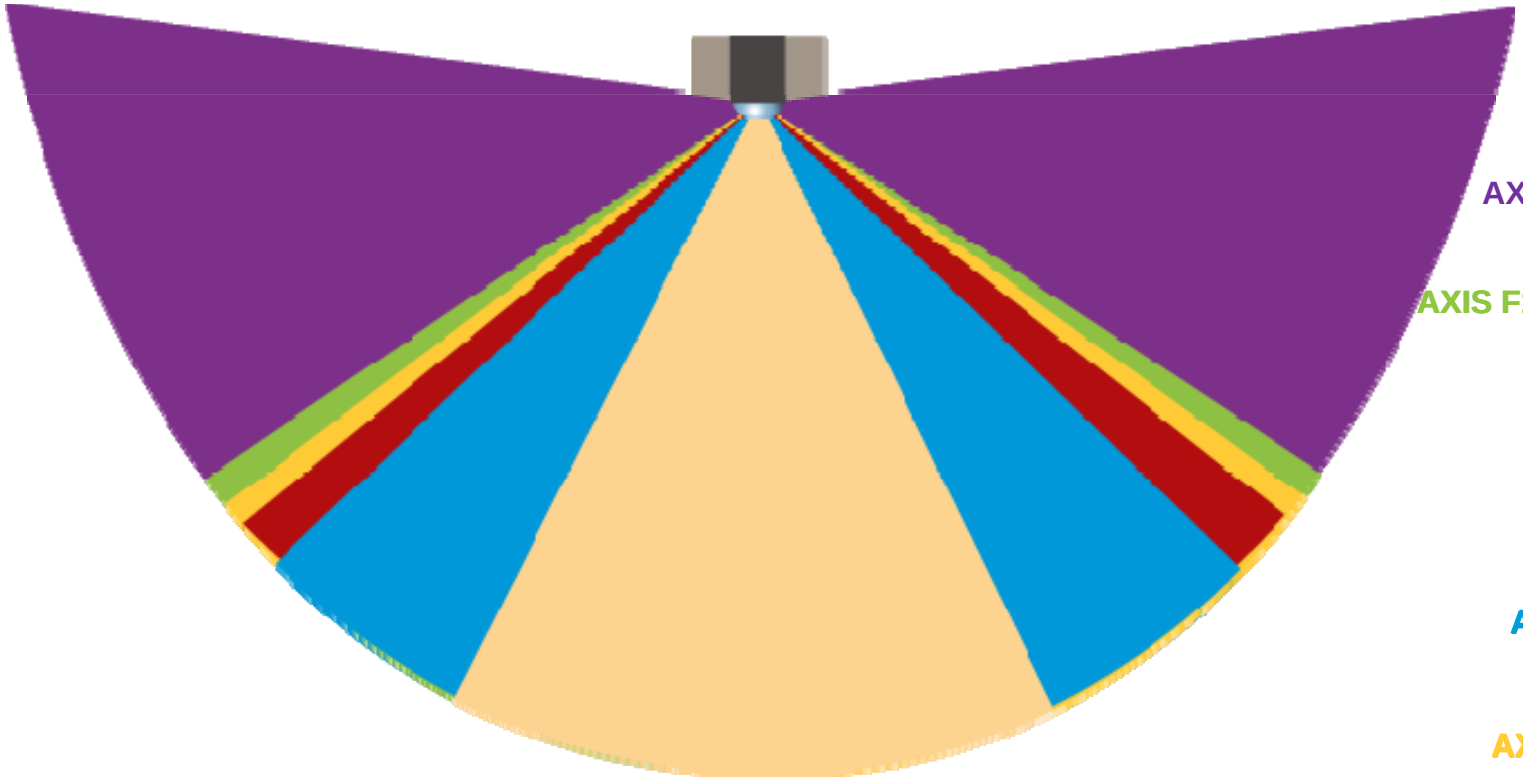
Flexible cameras that let you see more

www.axis.com

AXIS F Series – Flexible and discreet

- Divided network camera concept
  - Main and sensor units sold separately, except for AXIS F34 Surveillance System
- Place the small sensor unit where needed and main unit out of view
- Allows greater flexibility
  - In installation: sensor units can be installed discreetly and in tight places
  - Mix and match: units can be easily changed once application requirements change

AXIS F Sensor Units – Horizontal field of view (HFOV)



AXIS F1035-E (fisheye):
194º HFOV

AXIS F1005-E/F4005 (fixed):
113º HFOV
AXIS F4005-E:
110º HFOV

AXIS F1004 (fixed):
102º HFOV

AXIS F1025 (pinhole):
92º HFOV

AXIS F1015 (varifocal):
53º - 108º HFOV

AXIS F1025 Sensor Unit – Pinhole lens

AXIS Access Control.

www.axis.com

AXIS Video Door Stations.

Small and powerful door security

www.axis.com

AXIS Network Video Door Stations – Overview

AXIS A8105-E

- > Small and discreet
- > Hospitals, schools, medium retail shops and offices
- > Front entrances, secure indoor areas
- > $799

AXIS A8004-VE

- > Robust and visible
- > Airports, larger retail shops, logistic centrals, industrial buildings
- > Perimeter gates, loading docks, back doors
- > $1249

AXIS A1001 Network Door Controller.

Open and flexible powered by IP

www.axis.com

AXIS A1001 Network Door Controller

Open and flexible, powered by IP

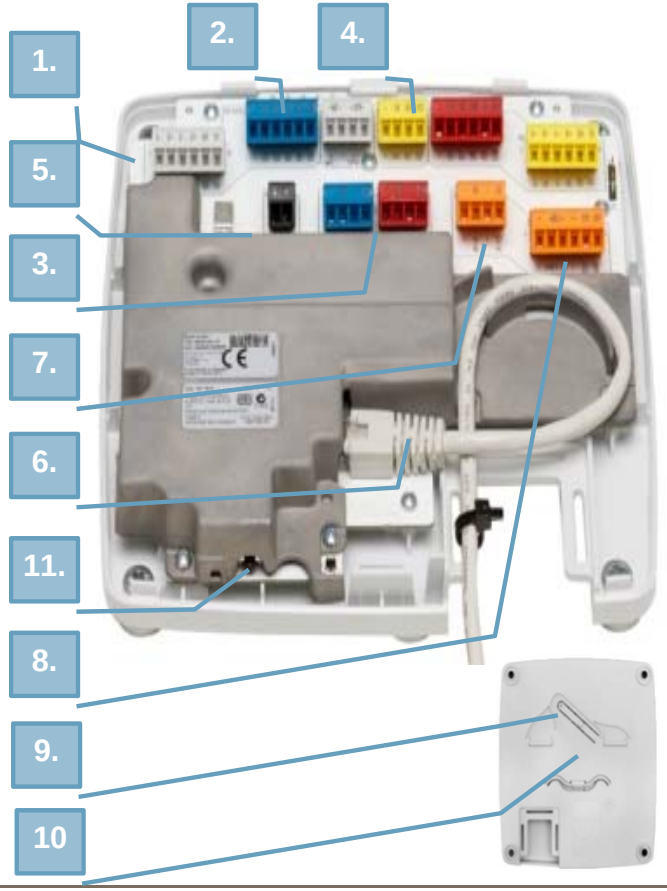
> A smart independent device that is installed by each door

> A non-proprietary platform for access management

> Meets the requirements of small installations as well as advanced enterprise systems

AXIS A1001 Network Door Controller in detail

1. Reader data RS485/ Wiegand
2. Reeader I/O
3. Door connectors
4. Auxiliary connector
5. External power 10-30 DC
6. Network connector (PoE)
7. Power out lock
8. Power out & relay
9. Fault tamper switch
10. DIN-clip
11. One-Click Connection for hosting



AXIS A1001 – a platform for two solutions

AXIS A1001 Network Door Controller

AXIS Entry Manager

- Integrated software for basic access management
- Typically 10 doors

ADP solutions

- Basic-to-advanced partner software
- Video integration
- Integration with other systems
- Any number of doors

AXIS C3003-E Network Horn Speaker.

www.axis.com

AXIS C3003-E – Clear and simple

- Clear speech over long distances
  - High sound pressure of 121 dB
- Simple installation with power and audio over a single network cable
- Ensured reliability with Auto Speaker Test
- IP67- & NEMA 4X-rated for outdoor installations
- Compatible with major video, security and VoIP software
- One-Click Connection to cloud-based hosted services
- Adress individual speaker from anywhere on the network

$449 MSRP

AXIS C1004-E / C2005 Network Speaker.

www.axis.com

Axis network speakers

Audio made smart and easy

- Easy to install all-in-one audio system
- Music streaming and announcements
- Open for apps & integration with other systems

Simple system solution

Traditional analog speaker solution

Speaker

Speaker audio cable

Amplifier

Line level audio cable

Tone control / Equalizer

Line level audio cable

Streaming box

Network cable

Network switch

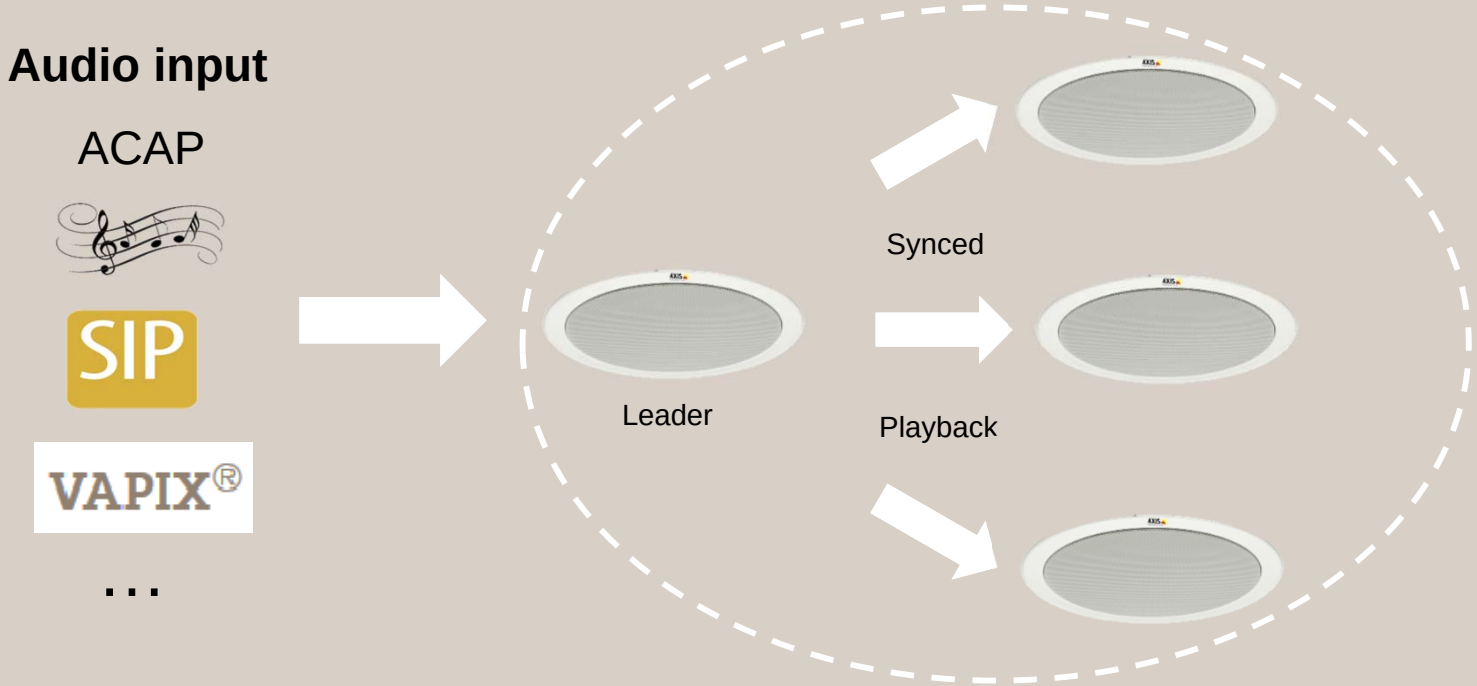
Axis network speaker solution

All-in-one

Network cable

Network PoE switch

Set up multiple speakers as a single zone



Up to 16* speakers synchronized in one group

* 16 speakers at launch, the number of speakers will be increased in future FW upgrade

AXIS Camera Station & AXIS Recorder Series.

Easy and efficient surveillance
Out-of-the box ready recording solutions

www.axis.com

Axis Camera Station at a glance

Intuitive Interface

360° Panoramic

Joystick Control

Smart Search

4K Ultra HD

Mobile Application

Door station Integration

Axis Camera Station – NO Hidden Fees

- > Device Licensing/Server Based
- > Unlimited Clients
- > Unlimited Servers
- > No yearly fees
- > Unlimited Channels
- > $79, 32 Axis devices and under
- > $149, above 32 devices and 3rd party
- > Open
- > Axis Compatibility Tool

Recorder specifications

	AXIS S1016 MkII	AXIS S1032 MkII	AXIS S1048 MkII	AXIS S9001 MkII	S9002
Recorder model					
Storage	8 TB	12TB	20 TB	Desktop terminal	Desktop Terminal
Storage expansion	Two free bays	NA	Two free bays	NA	NA
Number of channels	16 - 32	32-48	48 - 64	NA	NA
Software	AXIS Camera Station + 16 licenses + Windows 10 IoT	AXIS Camera Station + 32 licenses + Windows 10 IoT	AXIS Camera Station + 48 licenses + Windows 10 IoT	AXIS Camera Station Client + Windows 10 IoT	AXIS Camera Station Client + Windows 10 IoT
Monitors	2	AXIS S9001 AXIS S9002	AXIS S9001 AXIS S9002	2	4

Recorder specifications S20

	AXIS S2008	AXIS S2016	AXIS S2024
Recorder model			
Storage	4 TB	8TB	12 TB
PoE	89 W (max 25 w /port)	277 w (max 25 w/port)	277 w (max 25 w/port)
Number of channels	8	16	24
Software	AXIS Camera Station + 8 licenses + Windows 10 IoT	AXIS Camera Station + 16 licenses + Windows 10 IoT	AXIS Camera Station + 24 licenses + Windows 10 IoT
Support	Warranty	Warranty	Warranty
Monitors	2	2	2

Integrated PoE Switch for easy system set-up

> 277 W PoE output power for connection of up to 16 PoE cameras (max 25 W/ channel)

Retail Analytics

TrueView Suite®

Product Overview

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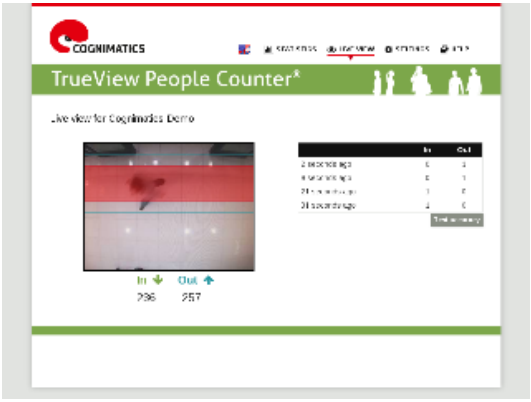
What do you need in order to get started?

Axis camera model
of your choice

License of Cognimatics
application



Fully embedded traffic counter

COGNIMATICS

TrueView® Suite

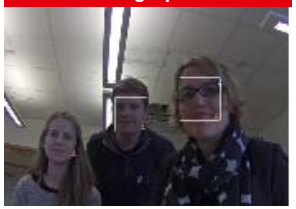
Computer vision technology embedded in IP cameras to provide video analytics solutions with key metrics

- **People Counter:** Accurate Traffic Count, conversion rates, occupancy levels, average visit time, tailgating, wrong way detection.
- **Queue/Hot Spots:** Detects queues at check out that exceed thresholds prompting additional allocation of staff. Manage interest regions.
- **Demographics:** Gender and age range identification.
- **Heatmap:** Movement patterns, identification of hot spots.
- **Parking:** Counting cars in and out and occupancy level in parking facility.

People

Queue / Hot Spots

Demographics



Heat Map

Parking

COGNIMATICS

People counting is usually where retail analytics starts – answers to several key performance indicators

Marketing

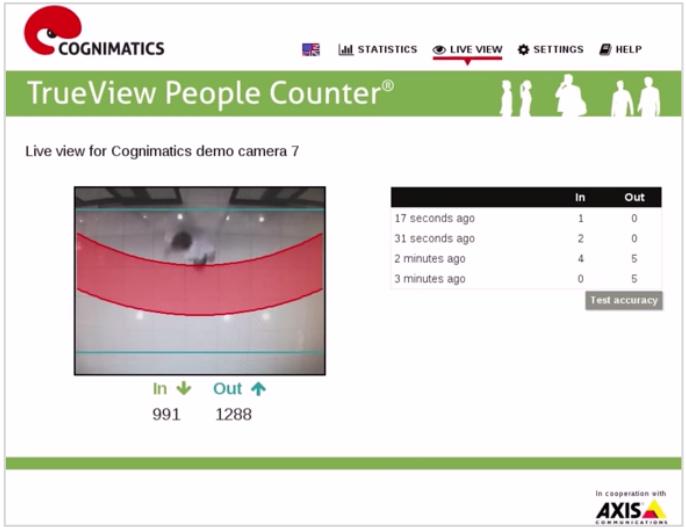
- How many customers did we attract today?
- How does that compare to last week or last month and across stores?
- Are our campaigns attracting customers?

Operations (benchmarking)

- What are the busiest times of the day?
- Do we have the right opening hours?
- How do stores compare?
- Are we/our location attracting enough foot traffic? → negotiate per m2 rent
- How does weather impact store visits?

Labor:

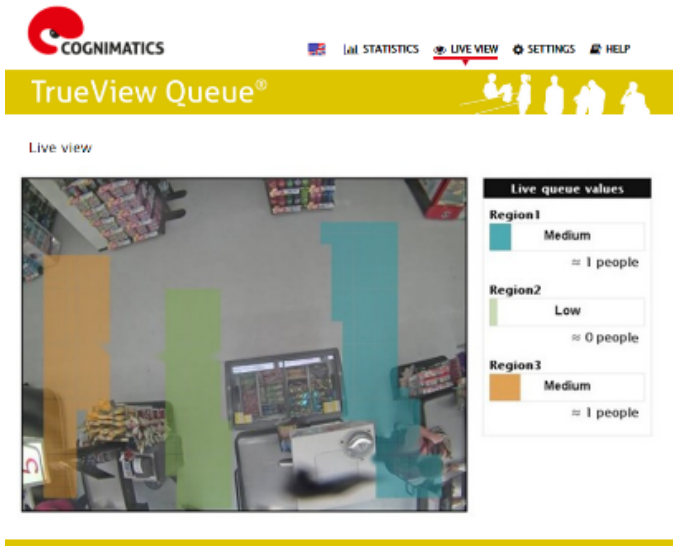
- How many customers did we have compared to employees avaliable to assist them?
- How did the staff/vistors ratio change over the day?



→ Combine with basic sales data to calculate conversion rate

TrueView Queue® is our latest application and comes with the embedded functionality to analyze in-store hotspots

Queue Management



- Monitor queue behavior, to provide desired service level according to store policy and reduce check out time
- Average time in queue and average number of people in queue

Hot Spots

- Analyze in-store hotspots
- Beyond heatmapping with quantifiable output – average time spent in area and average number of people in area

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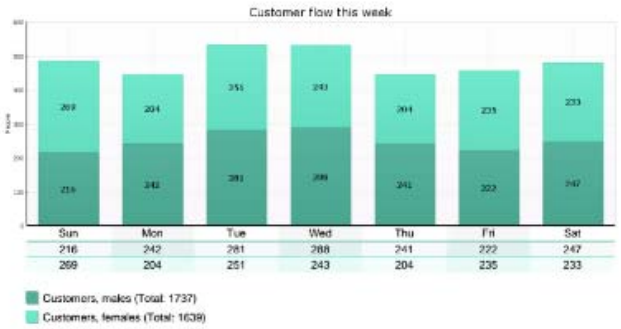
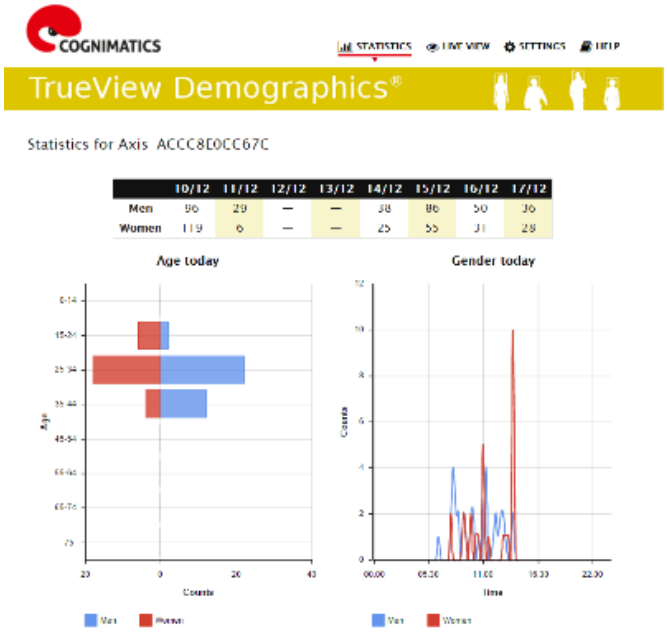
Trigger alerts – Send more employees to cashiers!

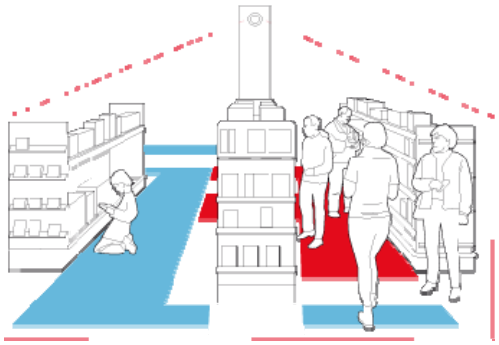
COGNIMATICS

TrueView Demographics® anonymously collects gender and age range data.

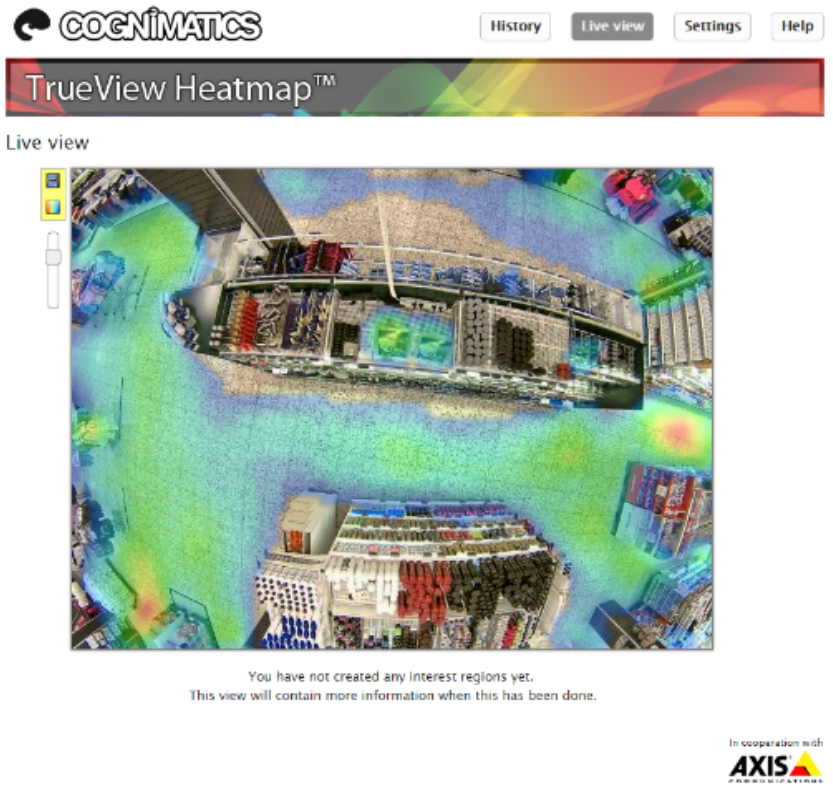




TrueView Heatmap® - Analyze in store behaviour and identify popular spots.



Get the most out of your IP Infrastructure, using existing surveillance cameras.



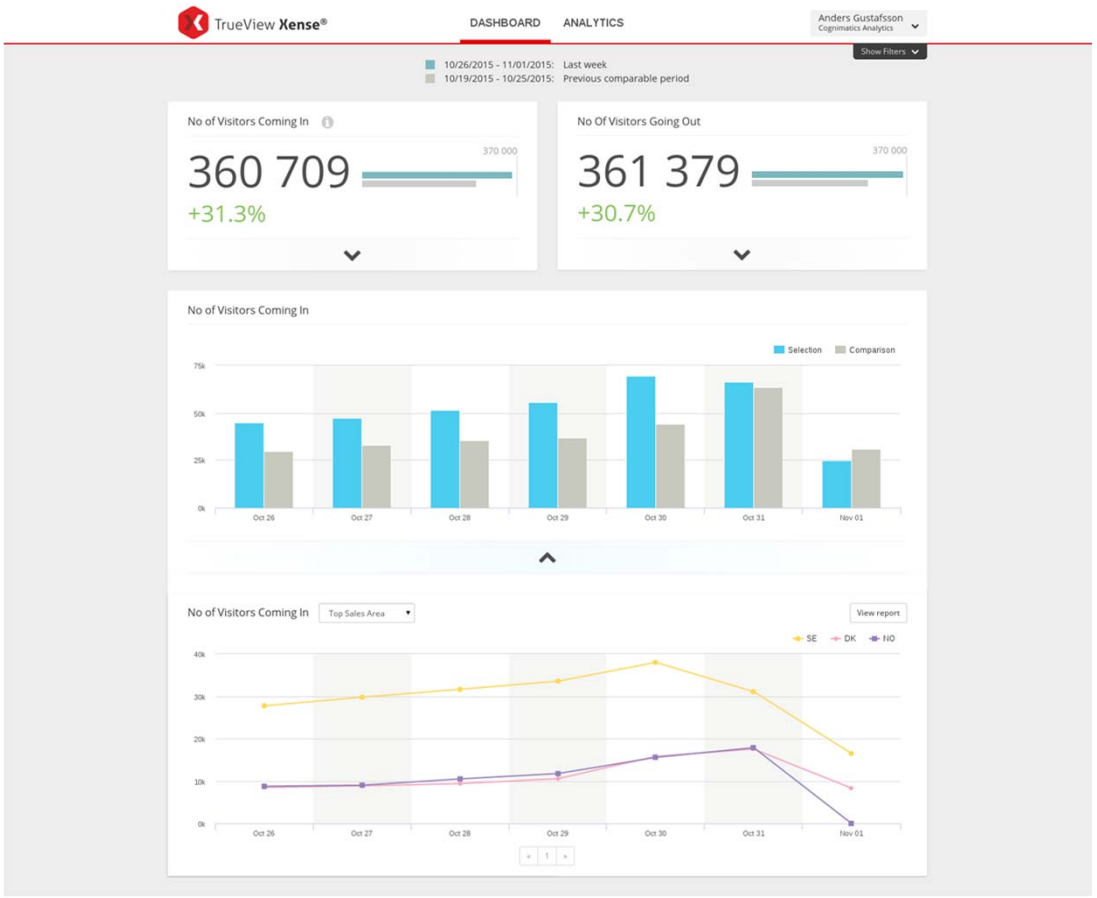
Reporting Capabilities - Hosted

TrueView Xense®

TrueView DataManager®

- Hosted and maintained in the cloud by Cognimatics
- Overview dashboard of selected KPI:s that matters to you and the most important charts packaged in a modern look
- Modern and intuitive interface, designed from the ground up with the retailer/location owner in mind
- Platform agnostic responsive design for the platform of choice desktop, tablet, or smartphone, this pertains both to the online dashboards and analytics as well as the e-mailed reports.
- Location weather information included
- Integration with POS data available
- User level data availability and defaults fully supported.
- Monthly fee per channel/camera

Dashboard



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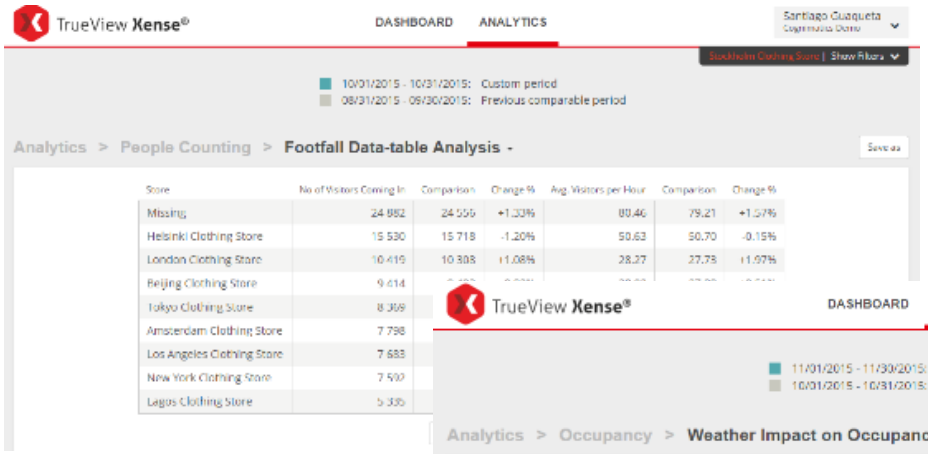
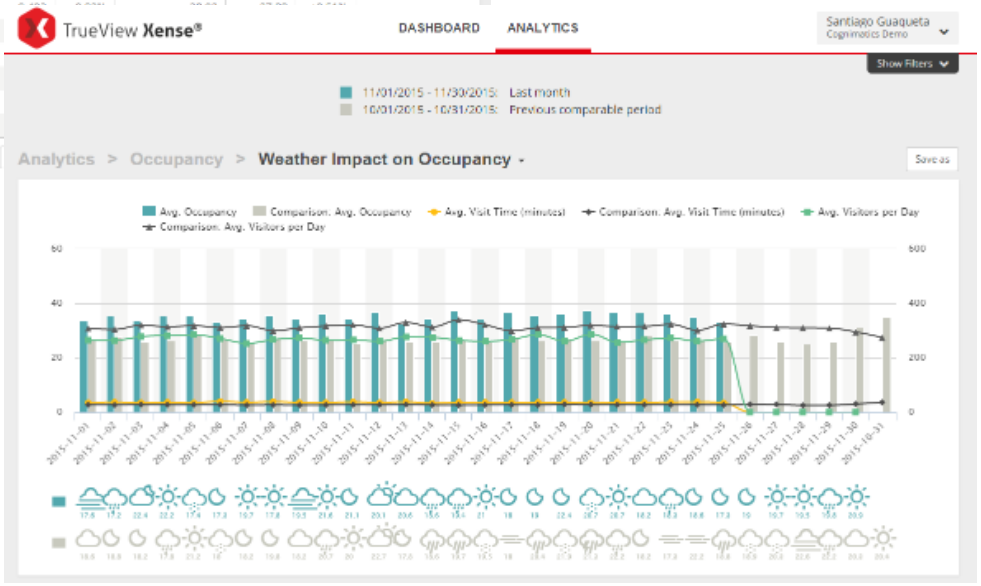
Analytic Reports Examples





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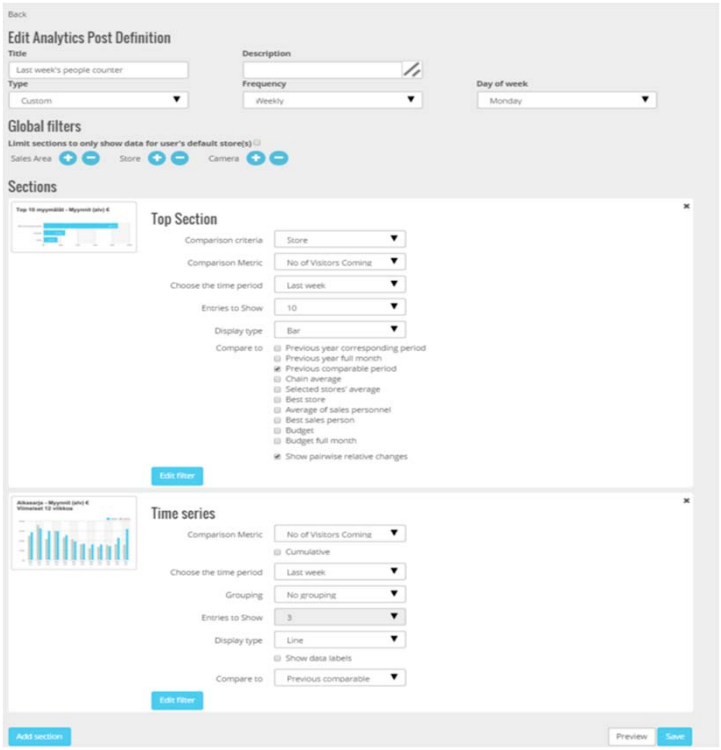
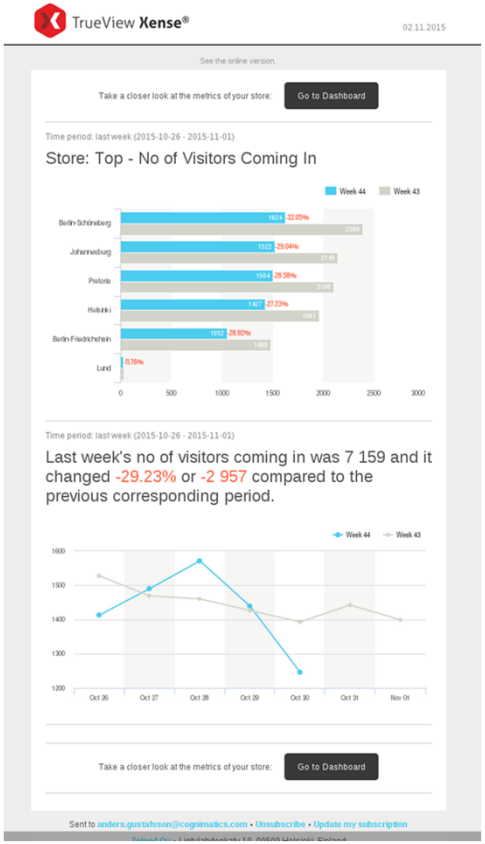
Automated Email Reports





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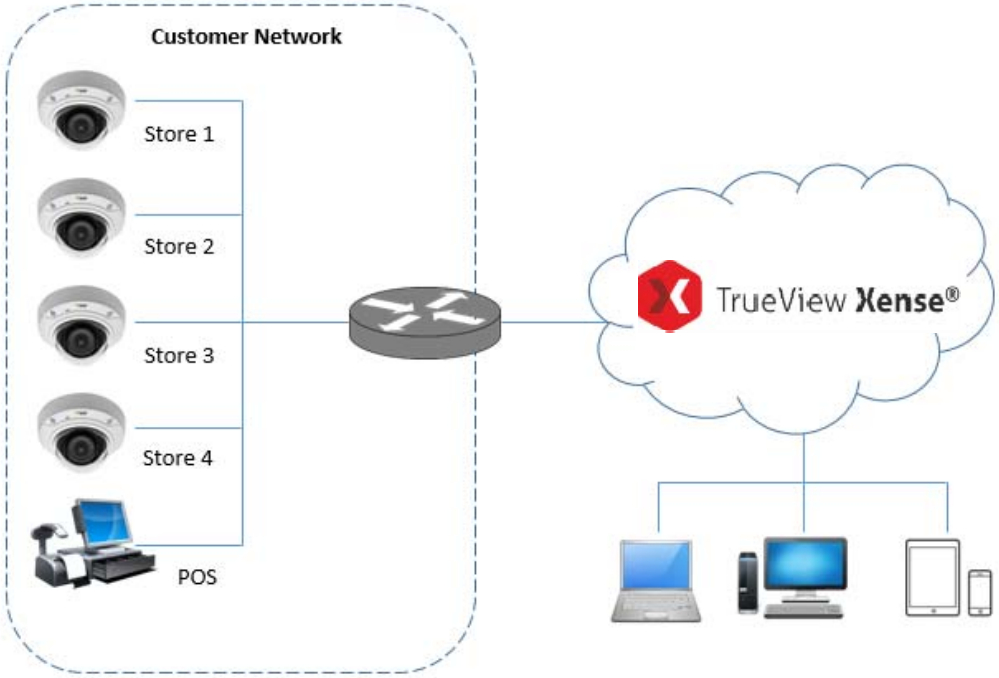
System Overview



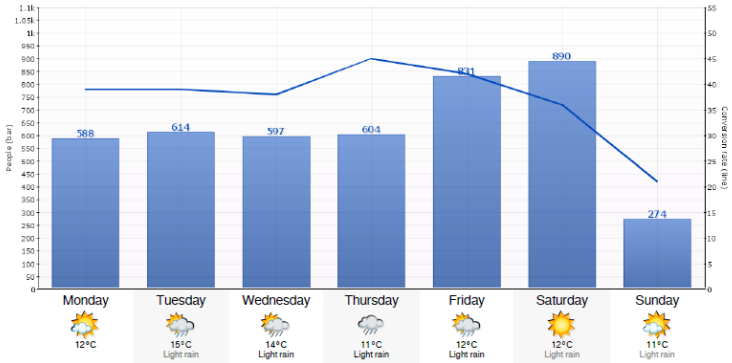
COGNIMATICS

Compare data over time weeks/month/year

Compare with marketing and campaign calendar – in store events

Last week

Miami Store
Vistors and Conversion Last Week



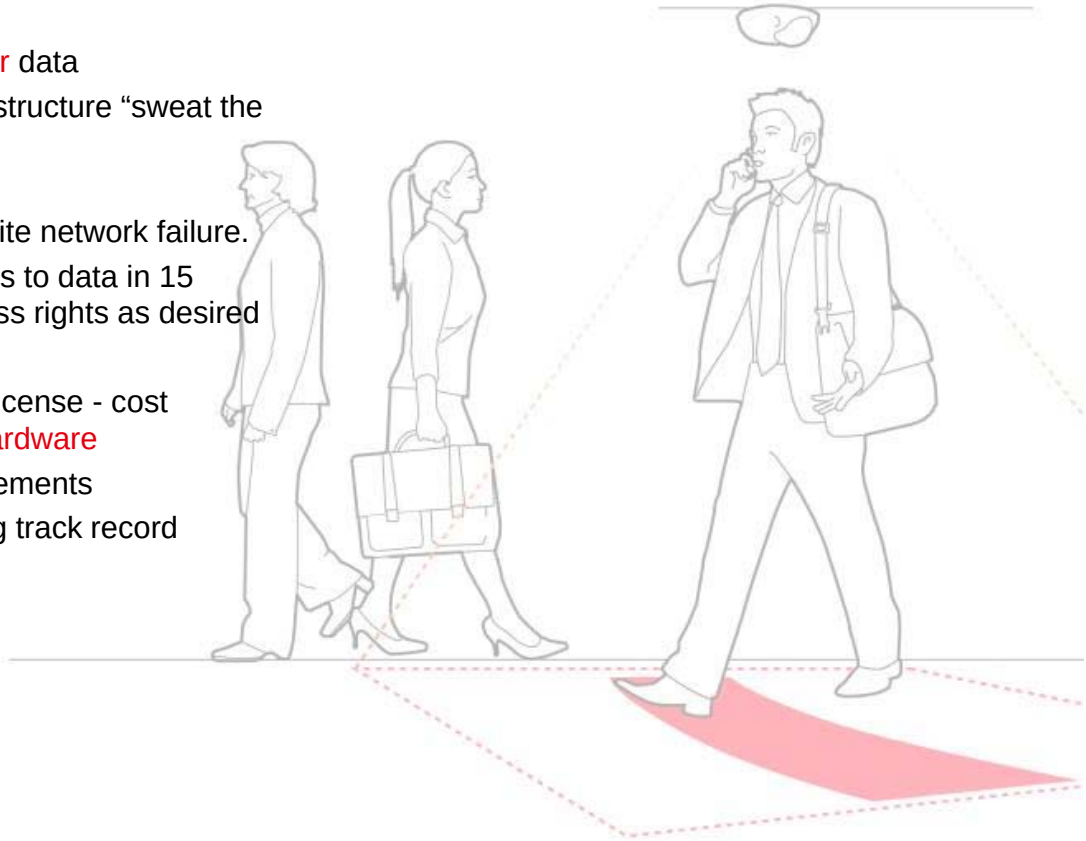
2014 Week 45, Conversion rate (Average: 37.1)
2014 Week 45, People (Total: 4398.0)

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Total
2014 Week 45								
People	588	614	597	604	831	890	274	4398
Transactions	232	239	229	270	351	319	57	1697
Hitrate	39%	39%	38%	45%	42%	36%	21%	-

COGNIMATICS

Why Cognimatics and TrueView Suite for door counting and in-store analytics?

- Open interface export data in various formats directly from camera
- Integrate POS and weather data
- Make the most of the infrastructure “sweat the asset” (Axis camera)
- Accuracy > 95 %
- Will continue running despite network failure.
- Real time live view - access to data in 15 minute intervals - set access rights as desired
- Infinitely scalable
- In store only camera with license - cost effective – no additional hardware
- Very low bandwidth requirements
- Proven solution with strong track record
- Worldwide market reach



COGNIMATICS

Additional Axis Partners

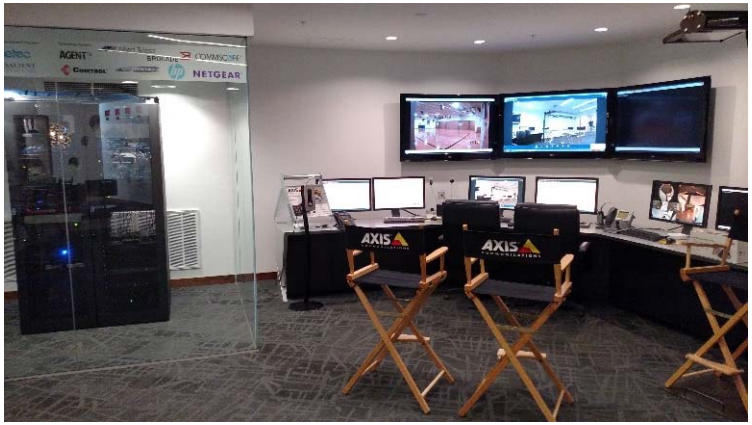
Video Management Software

- Exacq, Milestone, Genetec, ONSSI, Salient and more

Additional Retail Analytic Partners

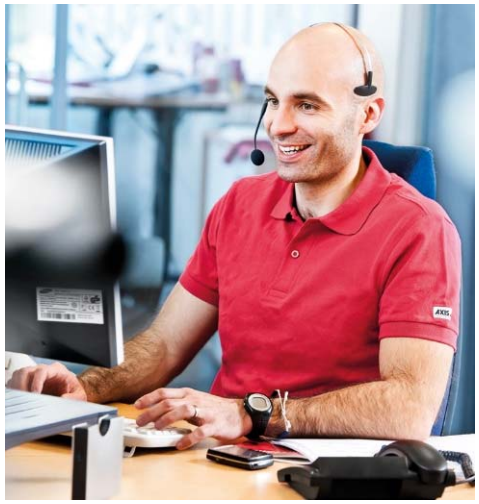
- Agent VI, Prism Skylabs, Retail Next, Stoplift and more

AXIS Experience Center – Chelmsford, MA HQ



Additional Information

- > Axis Tech Support
- > Dedicated Field Sales Engineer
- > Extended Warranties
- > MTBF Documents
- > Case Studies
- > Class Room/Online Trainings
- > New Tools/Site Designer
- > Axis Experience Center



Thank you

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