



BOSCH
Invented for life

INTEOX



INTEOX





The INTEOX open camera platform enables full freedom for new development, allowing users to build customer-specific solutions

Imagine that you could define What your device will be and how it works for you

Imagine



Video based
access control



Video based fire
detection



Predictive
security



Anomaly
detection



Video device as a
sensor providing
smart data



Video based
intrusion
detection

Full freedom for new development

Create customer-specific solutions



Customer specific solutions

Built on INTEOX

1



Are built to last

INTEOX is designed with security applications in mind



High impacts



Shock and vibration resistant



Withstands challenging weather conditions

IK10

IEC 60068

IEC 62262

MIL-STD-167-1A

2



Offer outstanding performance

INTEOX is a powerful and flexible open camera platform



Built-in Video Analytics designed for tough circumstances



Ready for neural networks based analytics

3



Deliver highest level of data security and privacy protection

INTEOX is secure by design



Bosch's system approach for end-to-end data security



Supports remote maintenance and firmware updates

4



Easy to install, manage and use

INTEOX is fully supported by



Remote Portal and Configuration Manager



Project tools (Project Assistant) and modular accessories

Deliver highest level of data security and privacy protection

INTEOX is secure by design

Our security promise



1

Secure and verified boot



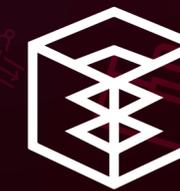
- ▶ To ensure all executed code comes from a trusted source

4

Full transparency on single app requirem. to access system resources¹

2

Safe sandboxed environment



- ▶ For secure execution of trusted third-party apps
- ▶ Protects against potentially malfunctioning apps
- ▶ Only executes apps that are digitally signed²
- ▶ Guards core functionality of camera

3

Remote Portal



- ▶ Continuous health monitoring
- ▶ Remote and automated firmware updates
- ▶ Transparent device and user connection history
- ▶ User and authorization management

Customer specific solutions

Built on INTEOX

Deploy



INTEOX portfolio



MIC
intex 7100i



AUTODOME
intex 7000i



FLEXIDOME
intex 7100i



DINION
intex 7100i IR

Select your device

Remote Portal



Enable your device

IoT infrastructure



Select and deploy your app

Select your device

INTEOX cameras

Building customer-specific solutions starts with freedom of choice.

A portfolio of moving cameras.
Now available:

MIC intex 7100i
MIC intex 7100i OC



MIC intex 7100i (4K model)
MIC intex 7100i OC (4K model)



AUTODOME intex 7000i
AUTODOME intex 7000i OC



FLEXIDOME intex 7100i
FLEXIDOME intex 7100i OC



DINION intex 7100i IR
DINION intex 7100i IR OC



Select your device

All INTEOX cameras offer

- ✓ Smart security with built-in Video Analytics
- ✓ Excellent image quality and bitrate management
- ✓ Remote maintenance and firmware updates
-  **Full freedom** to create custom applications
-  **Data secure** with secure element inside
-  **Powerful** platform that supports
 - ▶ Neural network based analytics
 - ▶ Triple video streaming



Welcome to INTEOX

Unlimited starts here

The INTEOX open camera platform enables full freedom for new development, allowing system integrators and other stakeholders to build customer-specific solutions consisting of applications, software and services.

Building customer-specific solutions starts with freedom of choice:

Moving cameras



MIC intex 7100i



AUTODOME intex 7000i

Fixed cameras



FLEXIDOME intex 7100i



DINION intex 7100i IR



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Next step:



Select one or multiple applications available in the Security and Safety Things application store



Create your own customer-specific applications

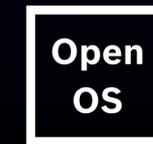


Securely install and execute applications on INTEOX cameras

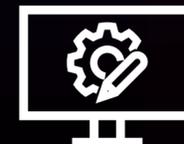


Use built-in Video Analytics and Camera Trainer technology to tailor the solution to detect user-specific objects or situations

Create your own customer-specific application:



Fast and easy development thanks to an open Operating System



Make use of tools, libraries and documentation



Utilize the powerful INTEOX hardware platform that supports neural network based analytics



Get a head start by making smart use of customer-specific (meta)data generated by INTEOX cameras

Solutions built on INTEOX:



Are built to last



Offer outstanding performance



Deliver highest level of data security and privacy protection



Are easy to install, manage and use

AUTODOME inteox cameras

Locate, track and zoom into an exciting new world of possibilities



AUTODOME inteox 7000i

Specifications

AUTODOME inteox 7000i	●	●	●	●	30fps	120dB	●	●	●	Intelligent Video Analytics
AUTODOME inteox 7000i OC	●	●	●	●	30fps	120dB	●	●	●	Intelligent Video Analytics

Models with Traffic Detector based on deep neural networks available

Add software apps afterwards securely

Built-in Artificial Intelligence with Intelligent Video Analytics:



Intelligent tracking*



Video Analytics while moving



Reliable alerts, even in extreme weather conditions



Video Analytics extremely resistant against shaking



Video content analysis over large distances

Use Intelligent Video Analytics to build your own software applications:



Analyze valuable data, use it in a wide variety



Build applications by using 16 built-in Video Analytics algorithms



Build applications with Camera Trainer technology

*Available as of firmware 7.80

FLEXIDOME and DINION inteox cameras

Unlimited starts here



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FLEXIDOME inteox 7100i

Models with Traffic Detector based on deep neural network available (OC)



DINION inteox 7100i IR

Add software apps afterwards securely

Specifications

FLEXIDOME inteox 7100i	●	●	40m	●	30fps	85dB		●	Intelligent Video Analytics
DINION inteox 7100i IR	●	●	40m	●	30fps	85dB		●	Intelligent Video Analytics
FLEXIDOME inteox 7100i OC	●	●	40m	●	30fps	85dB	Traffic Detector	●	Intelligent Video Analytics
DINION inteox 7100i IR OC	●	●	40m	●	30fps	85dB	Traffic Detector	●	Intelligent Video Analytics

Built-in Artificial Intelligence with Intelligent Video Analytics:



Reliable alerts, even in extreme weather conditions



Video Analytics extremely resistant against shaking



Video content analysis over large distances

Use Intelligent Video Analytics to build your own software applications:



Analyze valuable data, use it in a wide variety



Build applications by using 16 built-in Video Analytics algorithms



Build applications with Camera Trainer technology

Housing:



High impacts

IK10



Withstands challenging weather conditions

IP66

NEMA-4X

-40°C to +55°C

MIC inteox cameras

Taking a new world of exciting possibilities to the extremes



MIC inteox 7100i

Models with Traffic Detector based on deep neural networks available

Add software apps afterwards securely



Model	optical image stabilization	H.265	Optional illuminator	dB	30x	12x	starlight	industrial SD	window defroster	Bosch certified SW	3rd party apps*	Intelligent Video Analytics
MIC inteox 7100i (basic) 1080p	●	●	●	120dB	●	●	●	●	●	●	●	●
MIC inteox 7100i (enhanced) 1080p	●	●	●	120dB	●	●	●	●	●	●	●	●
MIC inteox 7100i (enhanced) 4K UHD	●	●	●	120dB	●	●	●	●	●	●	●	●
MIC inteox 7100i OC 1080p	●	●	●	120dB	●	●	●	●	●	●	●	●
MIC inteox 7100i OC 4K UHD	●	●	●	120dB	●	●	●	●	●	●	●	●

* Available via Safety & Security Things app store.

Built-in Artificial Intelligence with Intelligent Video Analytics:



Intelligent tracking*
 Video Analytics while moving
 Reliable alerts, even in extreme weather conditions
 Video Analytics extremely resistant against shaking
 Video content analysis over large distances

*Available as of firmware 7.80

Use Intelligent Video Analytics to build your own software applications:



Analyze valuable data, use it in a wide variety
 Build applications by using 16 built-in Video Analytics algorithms
 Build applications with Camera Trainer technology

Extremely robust:



High impacts (IK10, IEC 62262)
 Shock and vibration resistant (IEC 60068, MIL-STD-167-1A)
 Withstands challenging weather conditions (IP68, UL Type 6P, CORROSION PROOF ISO 12944-6: C5-M (High), NEMA-TS2, MIL-STD-810G)

INTEOX Object Classifier models

Traffic Detector

Applications:

- ▶ Intersection monitoring
- ▶ Tunnels and highway monitoring
- ▶ Smart parking

Benefits:

- ▶ Highly reliable detection even with traffic congestion or at busy intersections
- ▶ Headlights or shadows are ignored

Ease of use and installation:

- ▶ Simply point the camera at the scene, turn on Traffic Detector and start gathering data (incl. speed and geolocation)
- ▶ Seamlessly integrated in BVMS and third-party Video Management Systems

Special Video Analytics based on Deep Neural Networks

Pre-trained for Intelligent Transportation Systems applications



MIC inteox 7100i OC



AUTODOME inteox 7000i OC



FLEXIDOME inteox 7100i IR OC



DINION inteox 7100i IR OC

Artificial Intelligence

Our offering

Artificial Intelligence (AI):

The simulation of human intelligence processes, including perception, by machines.

AI built-in as standard since 2016:

Video Analytics

- ▶ Object detection based on background subtraction

Artificial Intelligence

Machine learning

First step (2019):
Camera Trainer



Now:
Video Analytics based on Deep Neural Networks

Available on INTEOX OC models

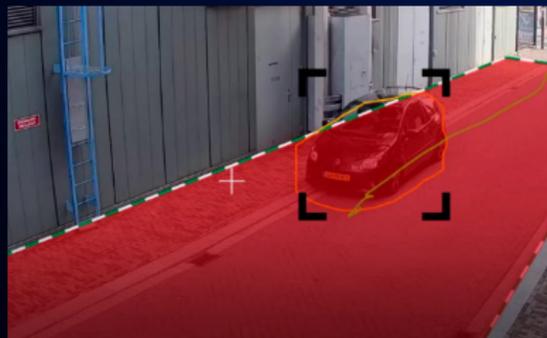


AIoT Video Systems from Bosch

Evolution of Artificial Intelligence (AI)

The development of intelligence towards predictive solutions

Predictive



Essential Video Analytics

- ▶ First step in object detection
- ▶ Generic security applications and beyond

IP 3000i – IP 6000



Intelligent Video Analytics and Camera Trainer

- ▶ Reliably detect any moving objects
- ▶ Machine learning
- ▶ Mission critical or tailored security applications

IP 7000 – IP 8000



From scene to screen: New powerful and flexible platforms

- ▶ Supports latest technologies
- ▶ Add third-party software solutions

INTEOX



Deep Neural Network based applications

- ▶ Traffic Detector
- ▶ Rich metadata with vehicle sub class., geolocation and speed
- ▶ For busy and complex traffic scenes

INTEOX OC models



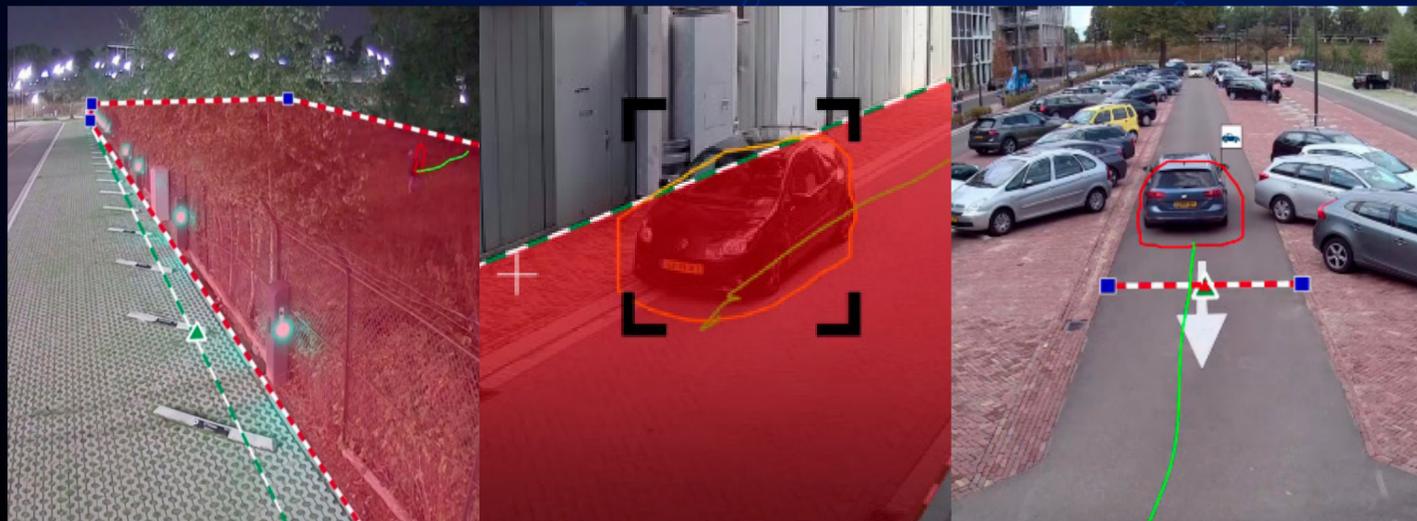
Actionable insights

- ▶ Data consolidation and augmentation of multiple sensors
- ▶ General security applications and beyond

Intelligent Insights

INTEOX and Artificial Intelligence (AI)

Our offering



INTEOX

Built-in AI consists of:

- ▶ Full Intelligent Video Analytics functionality
- ▶ Camera Trainer



INTEOX OC models

Offer an enhanced AI package with additional:

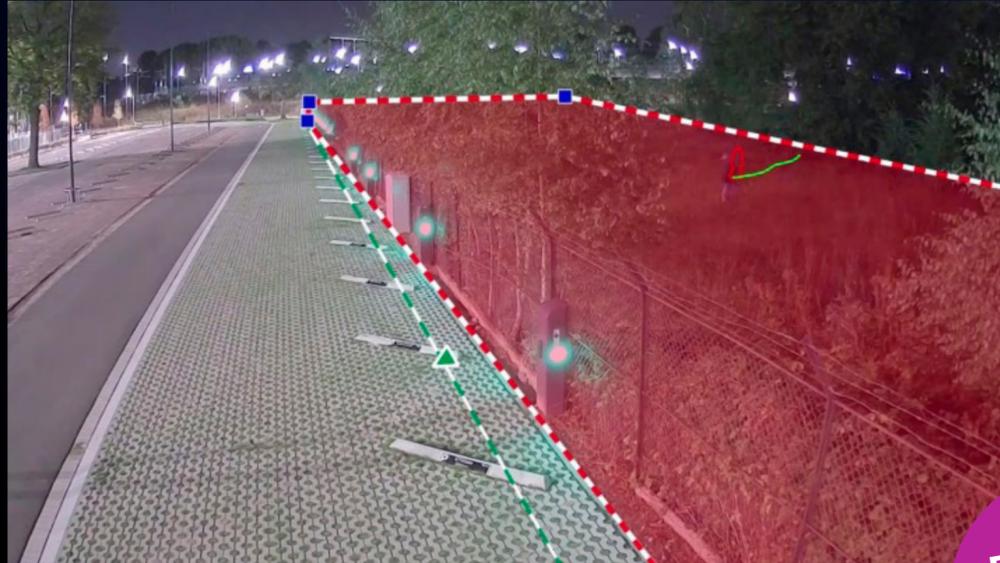
- ▶ Traffic Detector
 - ▶ Pre-licensed camera models
 - ▶ For busy and complex scenes
 - ▶ Rich metadata with accurate vehicle sub classification, geolocation and speed
- ▶ **Need for tailored setup and 3D calibration**



INTEOX and Artificial Intelligence (AI)

Intelligent Video Analytics and Camera Trainer

Reliably detect any moving objects in low object density and low motion scenes



Intelligent Video Analytics (IVA)

- ▶ General security applications
- ▶ Highly reliable in outdoor scenes
- ▶ Ideal for perimeter protection

BUILT-IN
AS
STANDARD



Camera Trainer

- ▶ Built-in machine learning capability
- ▶ Enables you to tailor built-in Video Analytics
- ▶ Combine with pre-determined IVA alarm rules and object filters for even more accuracy and flexibility

BUILT-IN
AS
STANDARD

INTEOX and Artificial Intelligence (AI)

Enhanced AI package based on Deep Neural Networks

Video Analytics to distinguish and classify vehicles and persons in congested scenes with precise detail

ONLY
ON OC
MODELS

Traffic Detector



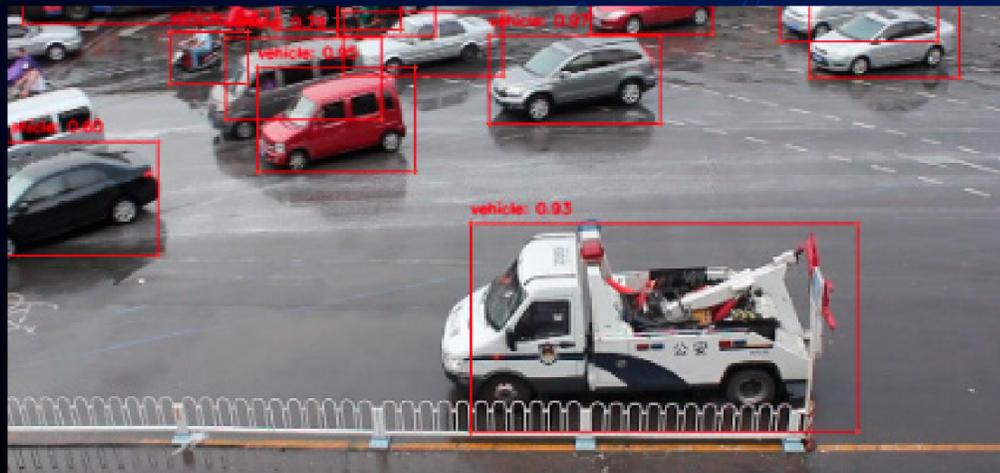
Complex and busy scenes in traffic applications

- ▶ Reliably detect and count vehicles
- ▶ Use object location, speed, color
- ▶ Available subclasses: bike, car, truck, bus, persons

Complex and busy scenes in retail and commercial spaces

- ▶ Reliably detect and count persons
- ▶ Wide angle view and birds-eye perspective

Enhanced AI package Traffic Detector



Fully integrated with IVA

- ▶ Integration of Intelligent Tracking and Traffic Detector for unmistakable object detection and tracking.
- ▶ Augmentation of data with color, geolocation and speed
- ▶ High reliability counts with merging objects scenarios
- ▶ Better localization of objects for positioning on maps



Different subclasses

- ▶ Higher detector resolution for object detection at longer distances
- ▶ Subclasses for enhanced scene understanding (car, bike, truck, bus, person)
- ▶ Ideal for ITS, parking, airports, etc.



Person detection and counting

- ▶ Deep Neural Network based person detection and counting for crowded scenes
- ▶ Counting using wide angle view

Enable your device

Get connected for easy installation, management and use

INTEOX portfolio



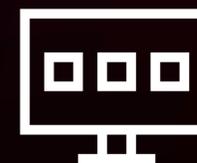
Remote Portal



Device Management (remote)
Deploy, configure and maintain
all your Bosch devices



Services
E.g. counting reports,
In-Store Analytics



Applications
Enable to connect to the S&ST
Application Store

Device management via Remote Portal

How it starts

1 Status: Not Connected

- 2** **Bosch Configuration Manager software**
- ▶ 1st time configuration and set-ups
 - ▶ Connect cameras to Bosch Remote Portal

3 Status: Connected



Device management
via Remote Portal:
Activated

1 Status: Connected

- Daily configuration,
and setup via Remote Portal**
- ▶ Advanced configuration remotely
via Configuration Manager
- 

2 **Firmware updates for single
and multiple devices**

3 **Health monitoring**

MIC inteox 7100i datasheet



MIC inteox 7100i
2MP

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Datasheet



MIC inteox 7100i
2MP OC

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Datasheet



MIC inteox 7100i
4K UHD

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MIC inteox 7100i
4K UHD OC

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Datasheet

Read the news article >



AUTODOME inteox 7100i datasheet



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AUTODOME inteox 7000i
2MP

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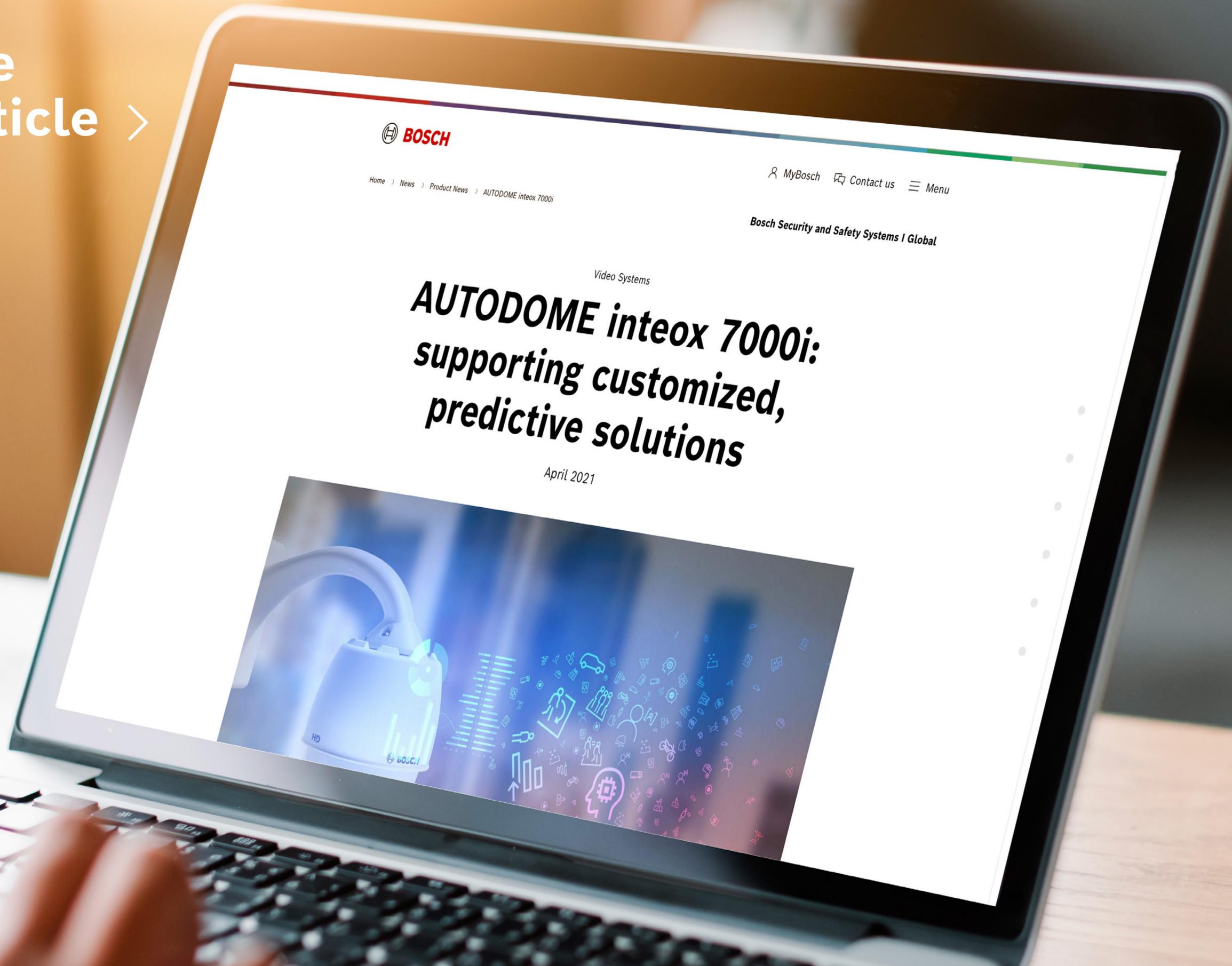


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AUTODOME inteox 7000i
2MP OC

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Datasheet](#)

Read the news article >



Sales tools

 **VISIT**

Video product selector

 **VISIT**

Video Analytics and Lens Calculator

 **VISIT**

BIM (Building Information Modelling) files

 **DOWNLOAD**

Video product overview

 **DOWNLOAD**

Video accessory quick selection

 **DOWNLOAD**

Video analytics example tool

 **DOWNLOAD**

Bosch IP Video System Design Tool