



**BOSCH**

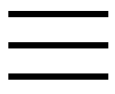
Invented for life

# INTEOXEDGE

July 2020 | Issue No. 1

THE FUTURE OF  
SECURITY AND  
SAFETY IS **OPEN**





# Editor's letter

Welcome to our first issue of INTEOX Edge – an e-zine to educate busy security professionals, app developers, and users about changes the security industry faces and share how to build smarter solutions that cater to their future needs.

Today more than ever, the Internet of Things (IoT) and Artificial Intelligence (AI) offer new possibilities for connected security devices beyond their traditional uses. Smart security devices now act as sensors, gathering information on activity or objects. This data presents users with insights they can use to improve safety and security, and beyond.

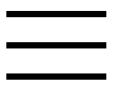


We believe that to make progress, our industry must anticipate how these capabilities will change end-user requirements and preferences. As a manufacturer, it is our responsibility to help educate the market, hold meaningful conversations, and deliver the technology to help integrators implement data-driven solutions. We are excited about what the future holds and look forward to our journey together.

Sincerely,  
Your editorial team

Pieter van de Looveren | Kristine Bruneau  
Roel Smolenaers | Werner Wijnholds





# IN THIS ISSUE



THE FUTURE OF  
SECURITY AND  
SAFETY IS **OPEN**



THE FUTURE OF  
SECURITY AND  
SAFETY **Q&A**



NEW  
**STUFF**



TIPS AND  
**FAQs**

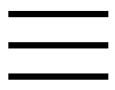


NOTE**WORTHY**



UP  
**NEXT**



The background of the slide features a composite image. On the right, a man's profile is shown in a thoughtful pose, wearing glasses. Overlaid on the left and center are semi-transparent financial candlestick charts with various numerical values like 332.002, 932.06, 659.599, and 836.016. At the bottom, a dark city skyline at night is visible. The overall color palette is dominated by blues, greens, and oranges.

# The future of security and safety is OPEN

Rethink video security with an OPEN platform principle

**As the world becomes increasingly connected, the Internet of Things (IoT) presents new opportunities for the way we live, work, and move.**



Homes are becoming smarter, factories more productive, and mobility increasingly intelligent and sustainable. The security and safety industry needs to think differently about how it develops solutions to take full advantage and embrace the possibilities that IoT brings. Adopting an open platform principle is essential for a genuine transformation.



### **Remember LEGO?**

In the hands of a child, these tiny plastic bricks built fantastical worlds, superheroes, animals, machines, toys, and more. LEGO is a fun, creative tool that can engineer anything a young mind can imagine. LEGO embraces the spirit of openness.



LEGO can be perceived as an open platform. It allows creative minds to use it in other ways as intended by LEGO. In our security world, it would involve a solution based on open standards. These standards include fully documented and externally published Application Programming Interfaces (APIs). It can also consist of an open-source operating system (OS). In essence, an open platform principle should allow third-parties easy integration possibilities and the ability to add functionality afterward to fuel innovation.

The most popular open-source operating system is Android for mobile devices and a similar open-source project led by Google. Android was created to make innovative ideas a reality and to introduce a successful, real-world product that improves the experience for users. An open OS like Android is freely available and can be modified, used, and shared under the terms of open-source licenses.





Using an open OS makes sense when building an open platform. Open-source strategies bring users together in collaborative communities, offering significant innovation and guidance on fixing problems like data security vulnerabilities. A closed-source approach, on the other hand, is more restrictive. Only the software developer or manufacturer can alter the code.

Establishing an open platform principle in the fragmented video security industry demands a cooperative approach. Established in 2018, the Open Security & Safety Alliance (OSSA) brings together like-minded organizations to drive the creation and adoption of an open platform principle. With more than 40 members, the Alliance has collectively created the first Technology Stack for “open” video security devices, including the [OSSA Application Interface Specification](#) and Compliant Device Definition Specification. These documents enabled the first camera manufacturers to build video security cameras that adopt an open platform principle.

In the realm of IP video security cameras, Security & Safety Things (S&ST), a member of OSSA, is advancing the open platform concept through the development of an open operating system (OS) based on Android Open Source Project.





Applied across cameras of multiple brands, this single OS enables application developers to create apps based on a common language to add functionality to these cameras independent of any brand. Now, developers can focus on leveraging valuable data gathered by the camera or video analytics built-in to the camera to introduce unique solutions.

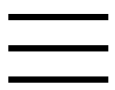
Bosch, as one of the first camera manufacturers to adopt an open platform principle, recently launched INTEOX. This open camera platform combines built-in Intelligent Video Analytics from Bosch with superb performance, a commonly used open OS, and the ability to securely add software apps afterward.



With their built-in Intelligent Video Analytics everything the INTEOX camera sees can be understood and transformed into valuable insights, such as object classification, speed, specific characteristics, GPS coordinates, and much more. These insights can inspire software solutions that define a security device and how it will work for the end-user.







# The future of security and safety Q&A

Interview

**Tanja Rueckert**, CEO/President, Bosch Building Technologies and **Michael Seiter**, senior vice president, responsible for Bosch Video Systems and Solutions business discuss the future of the security and safety industry and how an open platform principle fits.





## **Tell us about INTEOX.**

*Tanja Rueckert (TR):* INTEOX is the first fully open platform of its kind, and gives users, system integrators, and application developers unlimited freedom for innovation and customization. It combines built-in Intelligent Video Analytics from Bosch with outstanding performance, a common and open operating system, and the ability to securely add software apps at any time. The new powerful INTEOX camera platform supports the latest technologies. For example neural network-based analytics, the next step in machine learning and Artificial Intelligence.



The INTEOX platform will power a completely new line-up of MIC, AUTODOME, FLEXIDOME and DINION fixed and moving cameras. These cameras, with their built-in Video Analytics, will provide valuable data that can be analyzed and used by application developers and system integrators in a variety of new and beneficial ways.

Everything we do is, of course, supported by the highest levels of data security and privacy protection, and the quality and simplicity that comes with working with Bosch.

“The INTEOX platform will power a completely new line-up of MIC, AUTODOME, FLEXIDOME and DINION fixed and moving cameras.”

Tanja Rueckert





## **Why did you create INTEOX?**

*Michael Seiter (MS):* To understand why we created INTEOX, let's take a step back for a moment. Security cameras used to perform only one function: capture video and forward it to surveillance personnel / security operators that process the video information in case of an emergency or criminal act. This often involved manual labor and research showed that only 10% (if at all) of the data was ever used. Besides the strain we put on security professionals, video security was perceived as a large investment that mainly puts a burden on storage and network capacity. Instead of a system that can deliver a great return on investment when we are able to utilize the hidden potential of captured data (the other 90%). As a consequence, we need to rethink video security to lessen the strain for security professionals and take advantage of data for applications beyond security. The first step was to ensure that cameras can understand



what they see and autonomously and instantly alert if there are situations or threats that need attention. Secondly, we had to ensure that the right video footage can be easily retrieved from hours of stored video instantly. And security professionals are provided with different statistics based on scene analysis to enable them to act faster and more efficiently to certain situations and potential threats.

Today's security cameras are far more advanced. Equipped with powerful processors and connected to the Internet, they are ready to perform a wide range of functions related to video, helping make private and business life easier.

We believe that having access to data is so important that in 2016, we determined that our entire camera portfolio going forward would have built-in Video Analytics as standard. This would give our customers easy access to metadata.

Onboard Video Analytics acts as the “brains” of a security system, using metadata to add sense and structure to captured video footage. This enables cameras to understand what they're seeing and alert if there are threats the moment they happen. These insights help businesses to improve safety, increase efficiency, reduce costs, and create new value beyond security.





The next step in building powerful and efficient systems is the ability to tailor Video Analytics or security solutions to meet specific customer requirements. That's why Bosch added Camera Trainer based on machine learning technology to all its cameras that feature built-in Intelligent Video Analytics. This enables system integrators to tailor Bosch built-in Intelligent Video Analytics to detect objects or situations that matter most to their customers.

This fits perfectly in today's market as there is no "one-size-fits-all" when it comes to protecting people and property or delivering data for business intelligence. Bosch believes that the ability to train the camera is the next



logical step in high-end video security. Because the more a video security camera knows and can learn, the more accurately and application-specifically it can function. If we now fast forward to 2020, we see that Bosch offers built-in intelligence across its complete video security camera portfolio to enable users to easily take advantage of data.

“Bosch believes that the ability to train the camera is the next logical step in high-end video security.”

Michael Seiter

So why INTEOX? We strongly believe that if we would like to repurpose 100% of captured data to create new uses for businesses, the logical next step is to introduce an open platform principle. This principle allows customers to



use our camera devices in other ways than originally intended. By offering the ability to add software applications afterward, customers can decide what information they would like to repurpose.

INTEOX is based on an approach that has proven itself successful in the PC and mobile marketplace and where many software and app developers have substantially increased the use and applications for customers and the industry. For example, software apps provide immediate information, instant communication and connection, improved work productivity, and simplified daily tasks. With INTEOX these benefits are now extended to video security cameras.

## **What can you do with INTEOX?**

### **Can you share an example?**

*MS:* With a camera based on the INTEOX open platform, customers can define what the camera will be and how it works for them. On top of the INTEOX camera's security capability, built-in Video Analytics and Camera Trainer technology, the customer can add extra functionality by adding one of the multiple software apps. These apps can be self-developed or selected via the application store of Security & Safety Things.

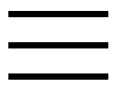




## **What can you do with INTEOX by adding apps?**

*MS:* By adding apps, your security camera can turn into an access controller based on video data. Or the camera can become a fire detector that can detect fires early based on video data. Customers can decide to temporarily activate a software app that detects faces or individuals wearing face masks. Using INTEOX's built-in intelligence and cleverly combining it with one or multiple apps, the camera acts as a sensor providing essential data for various applications. By adding or removing apps from the camera, its functionality changes, delivering a solid return on investment.





New  
stuff

The INTEOX open camera platform enables full freedom for new development, allowing system integrators, application developers and other stakeholders to build customer-specific solutions consisting of application, software, and services. The first cameras based on the INTEOX platform are expected from July 2020 onwards.

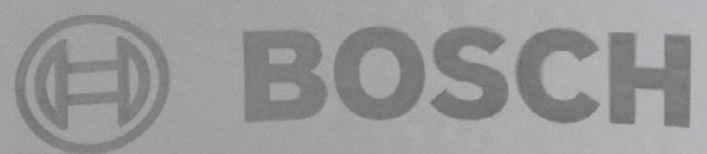




INTEOX

**MIC**  
**inteox 7100i**





**FLEXIDOME**  
**inteox 7100i**





**DINION**  
**inteoX 7100i**



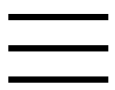


**BOSCH**

INTEOX

**AUTODOME**  
**intex 7000i**





**Tips and**

**FAQs**





## Tip

The OSSA Application Interface Specification document explains the camera functionalities controlled by third-party apps.

1. Input stream: Describes the video frames and messages the applications can subscribe to.
2. Web API: Describes how applications can make use of the camera's webserver to support, for example, configuration and data uploads to the application.
3. System APIs: Provide system information regarding OS version, capabilities and information about the video security camera. This is needed to understand what features and APIs are available on the cameras to make use of device-specific functionality.

This streaming application model allows applications to interact with each other. Apps can share their results, such as events and scene descriptions, with other apps on the device or (video management) software in the network.

[Learn more >](#)





## FAQs

**Since INTEOX follows an open platform principle, how do you ensure data security?**

INTEOX cameras are designed with data security and privacy protection as a top priority. They feature our known hardware and software measures including a secure element with Trusted Platform Module (TPM) functionality to ensure the highest levels of data security and privacy protection. Since they are open to third-party software, they offer a sandboxing concept for the secure installation and execution of third-party apps without compromising the functionality of the camera. They can be securely connected to our Remote Portal to enable automated firmware updates and continuous health monitoring from anywhere. Automated firmware updates ensure that cameras have the latest security patches.



## **How is data security ensured with third-party apps?**

Before third-party apps are published in the app store, Security & Safety Things will perform a couple of tests to ensure compatibility with their OS and compliance with defined data security and privacy protection rules.

Additionally, the INTEOX platform offers a sandboxing concept that enables the secure installation and execution of these apps without compromising the functionality of the camera.

## **How does Intelligent Video Analytics from Bosch work with cameras based on INTEOX?**

Following Bosch's philosophy, all INTEOX cameras feature built-in Intelligent Video Analytics (IVA) as standard that works like all other Bosch IP cameras featuring IVA.



## **Is it possible to run multiple apps simultaneously on an INTEOX camera?**

Yes, INTEOX cameras can run multiple apps depending on the resource need of specific apps. Also, the operating system offers a resource management functionality that offers the ability to prioritize apps.

## **What about app prioritization and the INTEOX camera core functionality?**

App prioritization is part of the load balancing feature in the camera's OS. Currently, users don't have an interface to prioritize one app over the other.

By default, the system is always configured to give the highest priority to camera firmware function.



**Ideally, an INTEOX camera is connected to the cloud, however, will there be a way to upload apps in an offline situation?**

Bosch encourages customers to connect their devices to the cloud because a connected device is a more secure device. However, we will offer a way to manage apps and firmware updates via an offline solution making use of the free Configuration Manager from Bosch.

**Typically when building a solution, INTEOX cameras are likely to be mixed with other (Bosch) cameras, is this possible?**

INTEOX cameras can be mixed with either Bosch or third-party cameras. Features supported by various cameras depend on the video management software (VMS) used.

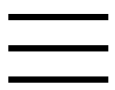


## **Can INTEOX camera functionalities be controlled by third-party apps?**

Security & Safety Things has a developer portal that provides all the necessary documentation and tools for app developers.







# Noteworthy



## WATCH

Webinar: Meet INTEOX,  
a new camera platform  
designed to modernize the  
security and safety industry >



## VISIT

INTEOX website >

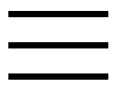


## READ

Article: Powerful systems  
start with smarter video >







# Up next

September 2020 | Issue No. 2

**01. THE NEW NORMAL**  
HOW APPS HELP THE  
INDUSTRY TO EASILY  
CUSTOMIZE SOLUTIONS

**02. Q&A WITH**  
ROBERT HAASE ON  
THE IMPORTANCE  
OF REMOTE DEVICE  
MANAGEMENT

**03. EASY CUSTOMIZATION  
FOR THE MOST DEMANDING  
ENVIRONMENTS. MIC  
INTEOX CAMERAS**





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## About INTEOX Edge

Brought to you by Bosch, INTEOX Edge is an e-zine filled with the essentials to help busy security professionals keep up.

## Bosch Security and Safety Systems

To learn more please visit  
[www.boschsecurity.com](http://www.boschsecurity.com)

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