



References

Demonstrating our wide-ranging security, safety and communications systems expertise and the related solutions.

Map of reference locations worldwide



Our business fields

Security



Video Systems



Access Control Systems



Intrusion Alarm Systems



Building Integration System



BVMS



Software and Services

Safety



**Public Address and
Voice Alarm**

Communications



Commercial Audio



Mission-critical Communication






Professional Sound







Conference and Discussion





Our Verticals

Airports		Marine/Transportation	
Bank Branches		Multi Store Retail	
Centralized Power Generation		Museums	
City Surveillance		Office/Apartment Buildings	
Congress		Railway/Metro	
Education		Shopping Malls	
Exhibition Centers		Stadiums	
Harbors		Traffic Monitoring	
Hospitals/Health Institutions		Tunnels	
Hotels		Warehouses	
Manufacturing Plants		Others	




Overview of our references (1)

Vertical		Country	Reference Name	Year of installation
Airports		China	Beijing Daxing, International Airport	2019
		China	Changchun Longjia Airport	2018
		China	Chengdu Tianfu International Airport	2021
		Philippines	Mactan-Cebu International Airport	2020
Bank Branches		Croatia	Raiffeisenbank	2018
Centralized Power Generation		New Zealand	Northpower	2019
City Surveillance		Italy	Cles public video surveillance	2018
		Italy	Bosco Virgiliano, Mantova	2019
		Thailand	Koh Kaew roadways	2022
Congress		Italy	Congress center	2019
		Singapore	33rd ASEAN Summit	2019






Overview of our references (2)

Vertical		Country	Reference Name	Year of installation
Congress		Argentina	United Nations Conference, Buenos Aires	2019
		Malaysia	Shah Alam City Council	2018
		UK	Wiltshire Council Conferencing System	2018
		Italy	Sala delle Baleari Pisa	2018
		UK	Basingstoke Borough Council	2019
Education		China	Schwarzman College, Tsinghua University	2017
		Hungary	Budapest, Business School	2018
		Italy	Politecnico di Torino	2019
Exhibition_Centers		China	Shenzhen World Exhibition and Convention Center	2019
Harbors		Peru	Puerto Paracas	2021

Overview of our references (3)

Vertical		Country	Reference Name	Year of installation
Hospitals/ Health Institutions		Turkey	Adana Integrated Health Campus	2018
		USA	Houston Methodist Hospital	2019
		Italy	Vidas	2019
Hotels		UK	Midland Hotel	2018
		Panama	Hotel Las Américas Golden Tower	2017
		Kazakhstan	Hilton Hotel Astana	2019
Manufacturing Plants		Italy	Granarolo Modena	2019
		Mexico	Casa Cuervo	2019
		Taiwan	Semiconductor Manufacturing Company	2019
		China	Semiconductor Manufacturing International Corporation	2019




Overview of our references (4)

Vertical		Country	Reference Name	Year of installation
Manufacturing Plants		Italy	Richetti Food Industry	2017
		Poland	BSH Home Appliances	2020
Marine Transportation		Finland	Polaris Icebreaker	2018
Multi-store Retail		China	McDonalds	2018
		USA	Walgreens	2015
Museums		China	Emperor Qinshihuang's Mausoleum Site	2020
Office / Apartment Buildings		Poland	Port Praski	2018
		Philippines	Citibank Plaza	2018
		Vietnam	Deutsches Haus Ho Chi Minh City	2019

Overview of our references (5)

Vertical		Country	Reference Name	Year of installation
Office / Apartment Buildings		Italy	Alfasigma	2019
		Thailand	THE PARQ	2020
		Poland	Central Point Warsaw	2022
Railway/Metro		UK	Southeastern Rail	2020
		UK	London Bridge Station	2020
Shopping Malls		Portugal	IKEA MAR SHOPPING	2018
		Poland	Hala Koszyki	2018
		UK	Telford Shopping Centre	2021
Stadiums		Romania	Craiova Stadium	2018
		Italy	Stadio Filadefia	2018
		Kazakhstan	Barys-Arena	2018

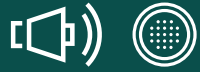
Overview of our references (6)

Vertical		Country	Reference Name	Year of installation
Traffic Monitoring		USA	Seminole County	2017
		China	Hong Kong-Zhuhai-Macao Bridge	2018
		USA	DriveOhio	2020
		USA	Pennsylvania Turnpike Commission	2021
		Thailand	Rawai Municipality	2021
Tunnels		Turkey	Eurasia Tunnel	2017
		UK	Mersey Tunnel	2022
		Australia	Sydney Harbour Tunnel	2022
Warehouses		Brazil	AA Warehouse	2018
Others		Australia	OES Systems	2022



Airports

Beijing Daxing International Airport China



The modern Beijing Daxing International Airport was designed in the form of a five-pointed star by architect Zaha Hadid and took five years to build. It includes the world's largest terminal, which can handle up to 72 million passengers a year.



[More information](#)





Beijing Daxing International Airport

China

Challenge

- clearly audible flight announcements throughout the terminal in a complex acoustic environment of different ceiling heights and surface materials
- physical form of loudspeakers had to match the aesthetics of the architecture

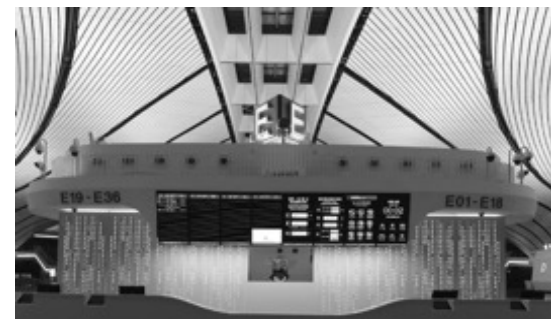
Customer benefit

- optimized sound levels in all newly installed loudspeakers to ensure that voice broadcasts can be heard everywhere
- speaker system ensures that passengers never miss crucial flight announcements

Solution



- more than 13,000 **public address speakers** matching the design of the terminal
- 17,921 **ceiling loudspeakers** for speech and music reproduction
- good speech intelligibility through 937 metal column loudspeakers
- 425 bi-directional sound projectors, which are ideal for long corridors
- 607 music horn loudspeakers to provide a comfortable atmosphere
- 260 vari-directional array loudspeakers for an optimal sound field





Changchun Longjia Airport China



Changchun Longjia International Airport is one of the four major international airports in Northeast China. Combined with its rapid economic growth and almost 13 million passengers a year, it required an additional Terminal 2 building with over 55,600 square meters with round-the-clock security to meet Chinese government standards.



[More information](#)



Changchun Longjia Airport

China

Challenge

- archiving recordings of over 1,000 round-the-clock video cameras for 90 days in an energy-efficient manner
- cameras needed to operate even under harsh environmental conditions

Customer benefit

- cameras deliver high-definition images and detect threats automatically via built-in video analytics to support security personnel
- compression technology enables cost savings by reducing the number of storage units while cutting down energy consumption and cooling costs for the server room without compromising image quality
- outdoor cameras able to withstand temperatures down to -40°C



Solution



- total of nearly 1,500 **DINION, AUTODOME and FLEXIDOME HD cameras** inside and outside Terminal 2



- **central camera management via BVMS** with built-in H.265 compression technology to maintain small data footprint



- unified management of nearly 350 doors and connection to video surveillance through **Building Integration System**

“The reduced bandwidth, which meant fewer storage cabinets in the server room, was a major reason why our client opted for the Bosch Solution.”

Mustaine Hu, Technical Support Manager at Building Technologies



Chengdu Tianfu International Airport China



The new Chengdu Tianfu International Airport is set to become a bustling transport hub. Alongside Beijing and Shanghai, Chengdu is one of three Chinese cities to have multiple international airports. To ensure passenger safety and airport security, a different solution to traditional cameras was required.



 [More information](#)



Chengdu Tianfu International Airport

China

Challenge

- due to the height of the ceilings and tricky viewing angles of the terminals, traditional security cameras could lead to poor image quality and may not be able to capture complete images
- the unique interior design of the terminal buildings, which feature a lot of glass, means that loudspeakers are vulnerable to sound reflections, distortions and inaudible passenger announcements

Customer benefit

- the video and audio solutions help bring intelligence to the airport's vision for a technology-led, smart travel experience that keeps passengers and staff safe and comfortable

Solution



- 1,000 **FLEXIDOME Panoramic cameras** installed in terminal building, for surveillance of waiting area and in commercial areas
- perimeter protection against unauthorized intrusion using **DINION IP 4000i IR cameras**



- more than 8,000 **loudspeakers** with 95 VARI line array loudspeakers



- DICENTIS Wireless Conference System secures audio data with encryption algorithms



Mactan-Cebu International Airport Philippines



Mactan-Cebu International Airport is one of the busiest airports in the Philippines, serving 12 million passengers annually. All security technology must work effectively at all times. The all-new Terminal 2 needed a video surveillance system. As a high-traffic airport, ensuring business continuity was a top priority.



[More information](#)





Mactan-Cebu International Airport

Philippines

Challenge

- easily integrate system into existing infrastructure and expand for future renovations
- ensure high level of security in critical areas
- independently monitor all areas 24/7 to detect critical situations and notify security staff
- keep staff and passengers safe

Customer benefit

- continuous airport operations during installation phase
- precise, analytics-based monitoring of Terminal 2

Solution



- full-fledged video security system for Terminal 2 that detects fire and smoke faster as well as suspicious activities and unattended luggage





Bank Branches

Raiffeisenbank Croatia



Raiffeisen has been present on the Croatian market since 1994. By early 2018, the bank was serving around 442,000 and offering a full range of banking services for all customer segments. At the time, its branch network consisted of 69 outlets, and it was operating more than 1,200 ATMs and around 10,000 POS terminals throughout the country.





Challenge

- installation of alarm, IP CCTV systems, big building IP CCTV systems servicing and maintenance of existing analog CCTV systems within the Raiffeisen bank network

Customer benefit

- high security standard of branches and large buildings
- high video storage, professional analytics modules
- possibility of IT CCTV cloud systems

Solution

- installation in each branch office was made separately and networked to one central BVMS server in main office
- about 70 branches networked



More than 200 IP cameras:

- IP cameras series 5000 and 7000
- FLEXIDOME IP micro 2000
- DIVAR hybrid 5000



Intrusion Alarm System



“Using reliable Bosch Security Systems in our network in Croatia we are able to ensure an excellent working environment while offering highest security standards to our customers and visitors.”



Centralized Power Generation



Northpower

New Zealand



Northpower operates and maintains the electricity and fibre networks in the Whangarei and Kaipara region of New Zealand. The company also provides services to other network owners and operators. Their extensive equipment is kept at a large, fenced site with an office, workshop, and storage facilities. Averaging one burglary a month, Northpower's sprawling East Tamaki site in Auckland required a security upgrade.



[More information](#)



Challenge

- close gaps in video surveillance coverage around the perimeter and areas of interest
- protect expensive equipment via programming and video analytics
- manage multiple sites from one operator control station
- ensure OHS compliance, e.g. proof of high visibility vest use in certain areas
- manage staff flow after hours
- integrate new equipment into legacy system

Customer benefit

- reduced burglaries from one to two per month to zero
- increased occupational health and safety
- improved after-hours staff security

Solution



Bosch AUTODOME cameras with Intelligent Video Analytics (IVA) to:



- monitor and deter intrusion
- manage some operational aspects
- provide quality color images even at very low light levels
- reduce bandwidth by up to 80% without loss of image quality
- provide powerful video analytics and machine learning capabilities

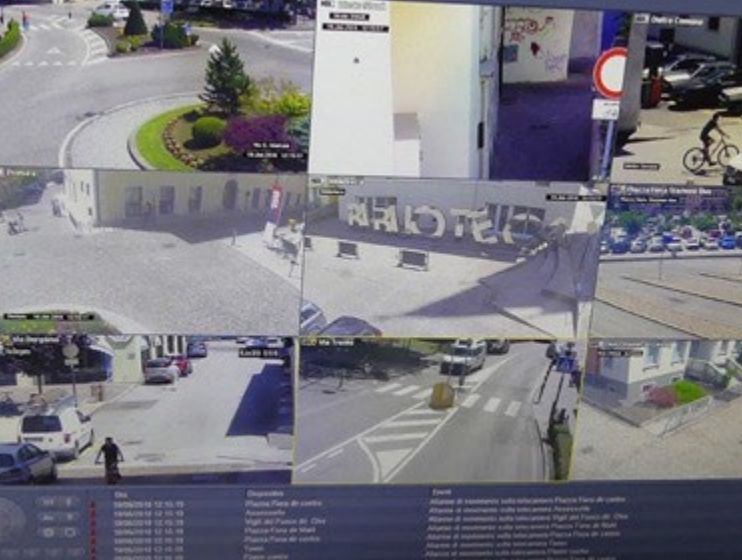
“From the outset, they listened to our issues and provided a tailored solution. The ability to view the products in CSP’s Experience Room helped us feel confident about their product and solution.”

Bryan Hoskins, Stores Operations Manager, Northpower





City surveillance



Cles public video surveillance Italy



“We are very satisfied with the solution installed, especially because we saw a decrease in crime and a better perception of safety in the municipality.”

Vito Apuzzo, Assessor for the Environment, Culture and Security, Cles municipality



Cles public video surveillance Italy

Challenge

- protect the municipality and its citizenry
- protect cultural and public buildings
- monitor local and tourist vehicle traffic



Customer benefit

- reduction in the number of crimes
- constant supervision of the traffic
- feeling of protection perceived by the citizenry

Solution



- 57 DINION IP 6000 cameras
- 2 DIVAR IP 5000
- 57 IIR-50850-MR Illuminators



- **plate reader software by NorthSystems** (Bosch partner)

Bosco Virgiliano Mantova, Italy



The Bosco Virgiliano is a public park that extends for five hectares in the southern part of the city of Mantua. The project consists in the management of the lighting of the city park thanks to the use of intelligent cameras





Bosco Virgiliano

Mantova, Italy

Challenge

- improve the aesthetics of the park with lighting poles and cameras that blend in with the landscape
- make the park safer, especially in the evening
- reduce both electricity consumption and pollution

Customer benefit

- aesthetic value of the park increased
- feeling of security perceived by the users of the park
- European Union Regional Development Fund
- significant savings in electricity consumption and pollution reduction

Solution



- 15 FLEXIDOME IP starlight 7000 VR
- dynamic brightness control based on the type of user (pedestrians, bicycles) and the number of users thanks to the cameras





Koh Kaew roadways Thailand



To reach the main attractions in Phuket, Thailand, visitors must take the Koh Kaew roadway. Growing traffic and congestion along Koh Kaew led local administration to look for a comprehensive and scalable video security solution to monitor road conditions, reduce traffic jams, and keep residents and tourists safe.

As tourism grows, so does urbanization, which can bring challenges, such as meeting accelerated demand for viable infrastructure, including transportation systems.



[More information](#)



Koh Kaew roadways Thailand

Challenge

- monitor vehicle and pedestrian traffic
- reduce delays and frustration caused by congestion
- Make Koh Kaew safe for locals and tourists

Customer benefit

- remote configuration, management, monitoring and planning
- future-proof: supports remote management
- In the future, Koh Kaew will install video systems on Coconut Island. Brilliant Tech will integrate the systems and perform services such as changing configuration settings and installing firmware updates so the Koh Kaew subdistrict can monitor the cameras remotely. This approach minimizes the number of commutes, resulting in sustainable business practices that are economically viable, socially responsible, and environmentally friendly. It also supports the safety and security of people and property and helps prevent unwanted situations.

Solution



- over 60 Bosch cameras to mitigate congestion and monitor traffic to keep people and their belongings safe



- help solve future traffic problems by recording data, such as the type and number of vehicles



“Koh Kaew Subdistrict is delighted to be a part of the Koh Kaew development mission, which aims to provide the finest quality of life for its residents and visitors.”

Kuakiat Jitkua, Chief Executive of the Koh Kaew Subdistrict Administrative



Congress



Congress Center Italy



“Competence, reliability and excellence are the words we would use to describe the experience with Bosch. These qualities have been decisive in ensuring our success.”

Federica Lucini, Event & Conference Marketing Manager



Congress Center Italy

Challenge

- Voice Alarm System (EVAC) EN-54
- interpreter services for all congress rooms
- sound reinforcement system for all congress rooms (Electro-Voice)

Customer benefit

- every Bosch system installed in the Congress Center can be controlled from one room; maximum flexibility, technology
- future proof because the system can be updated to the latest available technology



Solution

Voice Alarm System:

- 32 full redundant zones, Cobranet connection with the whole conference/audio System to share audio channels. Conference audio muting in case of emergency
- interpreter services in all the rooms, shared via Cobranet:
 - 16 interpreter booths located around the Piazza hall
 - 3 interpreter booths located in the Castello hall
 - 3 interpreter booths located in the Tempio hall
 - 4 interpreter booths located in the Anfiteatro hall
 - 1 interpreter booth located in Arengo hall

Sound reinforcement:

- in the Piazza Hall, the audio system can be configured in several different ways
- all the other meeting rooms (18 in total, also splittable in two sub-rooms) can share audio channel via Cobranet
- the system is completely controlled from the control room via Irisnet application

33rd ASEAN Summit Singapore



The 33rd ASEAN Summit is one of the most important events organized by the Association of Southeast Asian Nations, which brought world leaders together in Singapore to discuss economic and political issues in the region.



[More information](#)





33rd ASEAN Summit Singapore

Challenge

- reliable, simultaneous interpreting between 12 languages for all 1,300 attendants across 4 different meeting rooms
- ability to dismantle the system quickly and efficiently immediately after the event

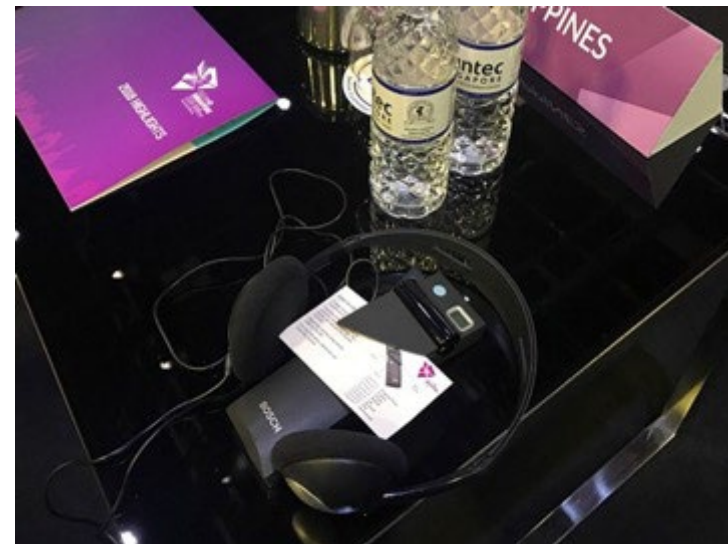
Customer benefit

- set-up allowed each meeting to be equipped as the situation required, depending on conference day and availability of transition time
- summit visitors could easily select their preferred language
- solution was dismantled and ready to be redeployed only a few hours later

Solution



- centralized location equipped with 56 DCN **Interpreter desks**, where interpreters delivered live interpretation to delegates
- more than 1,300 **INTEGRUS Pocket receivers** for attendees to follow proceedings in any of the 12 languages
- **DICENTIS Wireless devices** paired with **INTEGRUS Pocket** receivers and headphones for fastest build-up and break-down



“I have continually received nothing less than complete admiration and the highest appreciation for the way simultaneous interpretation services were managed, and for the performance and quality of the Congress Rental staff.”

Chris Jackson, ASEAN, Australia Special Taskforce

United Nations Conference

Buenos Aires, Argentina



The United Nations brought together delegates from its 193 member states for the Second United Nations Conference on South-South Cooperation in Buenos Aires, Argentina. The three-day conference was hosted by the President of Argentina and held at the Exhibition and Convention Center, which attracted more than 3,000 participants.



[More information](#)





United Nations Conference

Buenos Aires, Argentina

Challenge

- seamless interpretation between six conference languages
- solid operating stability and fast reprogramming of seats for each meeting

Customer benefit

- interpreting services in an easy-to-configure environment with minimal transition time
- stable and high-quality simultaneous interpreting services for 3,000 participants
- devices were programmed to display the UN logo and the current speaker's name

Solution



- DICENTIS **Discussion** devices with touchscreen to join discussions and choose preferred interpretation language
- DICENTIS **Interpreter desks** for large-scale temporary simultaneous interpretation setup
- clear audio broadcast secured by **INTEGRUS Radiator units**
- audience listened via **INTEGRUS Pocket receivers** in their preferred languages

“The different features of the management software mean that the same installation can have different configurations, and that made the work much easier; apart from being a system based on the network structure, it makes the installation architecture easier and more reliable.”

Alejandro Iglesias, Chief Technology Officer of Congress Rental Argentina





Shah Alam City Council Malaysia



“We no longer need to print at least one box of papers and bind them with hard covers for each meeting held in the Chambers. We’re future proofed for years ahead. The mayor and the councillors are all extremely happy with the solution that has integrated into our newly renovated chambers. They can see all the relevant documents very clearly without having to search through many pages of content and they can see which delegates are speaking.”

MBSA’s ICT head of department Pn Umi Adia Bt. Ab Malik.



Challenge

- to save time and cost of printing documents for meetings held in the Chambers
- new conference systems required to complement the newly created, stylish decor of the building

Customer benefit

- with the help of the DICENTIS Multimedia system, information is displayed on both the 80-inch LG HD screens to the left and right of the Chairman's desk, in addition to the individual multimedia delegate unit touchscreens
- the DICENTIS Multimedia System assigns the best camera which self-focuses on the speaking delegate to better control the meeting

Solution



- 69 units of **DICENTIS Multimedia system** and **5 units of Bosch cameras** were installed in MBSA
- the new system helped to reduce the cost of printing
- products to complement the stylish decor of the building

“We no longer need to print at least one box of papers and bind them with hard covers for each meeting held in the Chambers. We're future proofed for years ahead. The mayor and the councillors are all extremely happy with the solution that has integrated into our newly renovated chambers. They can see all the relevant documents very clearly without having to search through many pages of content and they can see which delegates are speaking.”

MBSA's ICT head of department Pn Umi Adia Bt. Ab Malik.

Wiltshire Council Conferencing System UK



Located in the Southwest of England, Wiltshire Council provides local government services to 471,000 Wiltshire residents. They are also the largest employer in Wiltshire, being responsible for a wide range of local services.



[More information](#)





Wiltshire Council Conferencing System UK

Challenge

- wireless and portable system to make 18 community spaces suitable for meetings and local decision making
- wireless microphone system to avoid trip hazards
- needed to provide a stable, secure and reliable connection

Customer benefit

- products met the objectives
- automatic channel switching helped to avoid Wi-Fi traffic
- control microphones on devices allow for volume control
- all products fitted into two cases, making the products portable
- integrated with third-party PA system

Solution



- hearing loop feature was 'excellent' for clients with hearing aids
- the system proved to be stable, secure and reliable
- screen added element of professionalism
- easy to use for individuals and easy to manage as a collective system
- portable and wireless system making it quick and easy to transport and set up in different council offices
- superior audio quality



Sala delle Baleari Pisa, Italy



Palazzo Gambacorti, a noble residence from the late XIV century, today serves as the city of Pisa's town hall. In its baroque-style Sala delle Baleari, the city council needed a sophisticated conference system tailored to the space's unique needs. Wireless Bosch DICENTIS was the answer: it easily integrated into the historic room, without extensive technical infrastructure or long cables.





Sala delle Baleari

Pisa, Italy

Challenge

- preservation of the artistic value of the room
- integration with third-party software for document management
- reliable digital system, resistant to interference or hacking

Customer benefit

- wireless conference system that does not undermine the artistic value of the council room
- integration with third-party platforms, such as the software Concilium for document management
- more than 20 hours of battery life
- digitization of the conference system with direct speech transcription

Solution



- 50 DICENTIS wireless touchscreen bases
- 50 lithium batteries
- 50 software licenses for simple voting
- 10 rechargers
- 50 microphones
- 1 DICENTIS wireless access point
- 1 camera control software license





Basingstoke and Deane is a local government district and borough in England in the county of Hampshire, with Basingstoke as its largest town. The Basingstoke and Deane Borough Council consists of 60 elected members who discuss local politics, municipal budgets and taxes at regular meetings.



[More information](#)





Challenge

- fully integrated conference system with audio-video feeds from meetings
- report generation via live image feed and identification on council's YouTube channel, including public votes

Customer benefit

- centralized automatic updates to save time and operating costs
- potential to increase the system's functionality and size as futureproof and expandable conference solution
- Near Field Communication card registration on discussion devices allows council members to sit at any seat in the meeting room

Solution



- **DICENTIS Discussion devices** with touchscreen to support required voting and identification capabilities for council members and discussion-only devices for guest speakers
- all discussion devices are mounted on raised brackets to maximize desk space and equipped with high directive microphones for crystal-clear audio
- **automatic camera control software** identifies when a speaker activates its microphone and points the camera towards their location to display their image on the chamber's big screen





Education



“These systems were put into use at the opening ceremony of the college, and we are still working with the project leader of the college to maintain good communication and after-sales services. All the systems and our services are highly appreciated.”

Manager of Ether



More information





Schwarzman College, Tsinghua University

China

Challenge

- providing professional conference and simultaneous interpreting systems for teaching and meetings

Customer benefit

- high-quality education and conference experience thanks to high-quality systems for professors and students

Solution



- communication equipment for the college's conference center, including **DICENTIS Wireless Conference System** for interactive lectures
- DICENTIS Wireless is based on standard Wi-Fi technology and smart wireless management, ensuring interference-free and highly flexible wireless conferencing
- INTEGRUS Wireless Language Distribution System for simultaneous, multi-language interpreting



Budapest Business School Budapest, Hungary



Budapest Business School (BBS) is a public university business school that specializes in business studies and social sciences.

"The Budapest Business School wanted a future-proof solution that replaced a conference system that was at the end of its life, improving quality, user experience and reliability. This project demonstrates how crucial technology can be in communication, meeting management and long-term archiving."





Budapest Business School

Budapest, Hungary

Challenge

- the university needed a future proof conference system installed in their 142-year-old Neo-Renaissance conference room for their top-level meetings (Senate, Chancery, etc.)
- there was a basic demand to hide all the cables under the old tables and connect the conference system to the IT and visual systems to share meeting information with all the participants

Customer benefit

- different interfaces for controlling the meetings
- automatic transmission of meeting results
- technology fits to the design and architecture of the building

Solution



- **DICENTIS system** using the intelligent Acoustic Feedback Suppression
- developing of two different user interfaces to control the meetings from two places (operator, chairman)
- results of voting sessions (public and confidential) automatically displayed in the four halls – after the meeting, software creates a report with agendas, participants and voting results





Politecnico di Torino Turin, Italy



The expansive historic campus includes landmarks such as Valentino Castle as well as the completely renovated Cittadella Politecnica complex, offering over 170,000 square meters of modern facilities. Attended by over 33,500 students, Politecnico di Torino provides degree courses in the fields of Engineering, Architecture and Industrial Design



[More information](#)



Politecnico di Torino

Turin, Italy

Challenge

- due to the new EN54 regulations, the Politecnico had to implement a certified sound evacuation audio system

Customer benefit

- adopting the best EN54 solution, PRAESIDEO, the customer now has an efficient EVAC system. Around 1,500 speakers are installed in the university. This solution was chosen in particular for the possibility of connecting multiple optical fiber centrals.

Solution



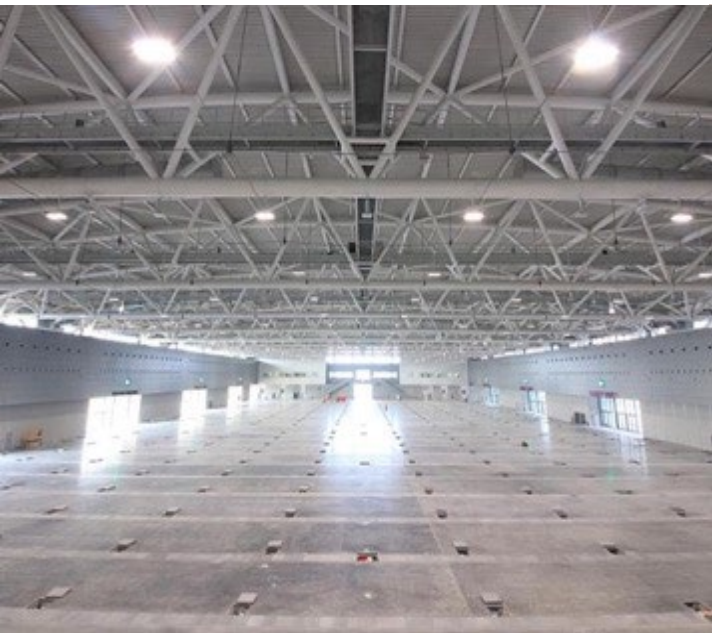
- 7 PRAESIDEO controller PRS-ENC03
- 1,500 loudspeakers in total
- 10 call stations and software centralization

“We are very happy with the system, especially thinking about the complexity of the University and its expansion.”
Politecnico di Torino





Exhibition Centers



Shenzhen World Exhibition and Convention Center China



With an exhibition space of over 500,000 square meters and a total area of 1.6 million square meters, the Shenzhen World Exhibition and Convention Center is the largest trade fair and congress center in the world. Shenzhen is also known as China's Silicon Valley.



[More information](#)



Shenzhen World Exhibition and Convention Center China

Challenge

- emergency messages must be heard clearly by each visitor across the trade fair hall
- separate broadcast for each hall while being managed centrally for joint broadcasts
- solution must prevent echoing and provide high-quality voice announcements and background music at the same time

Customer benefit

- loudspeakers guarantee sound and speech intelligibility
- integrated hard- and software with intelligent energy management reduces system use, energy consumption and carbon footprint

Solution



- sound is radiated equally in all directions and sound reflection is reduced from the ceiling by 425 **Hemi-directional loudspeakers**
- loudspeakers are connected to a Bosch public address and voice evacuation system with professional sound quality distributed in five control rooms
- flexible system allows selective transmission of music and information throughout different halls
- public address system uses a “delay” principle to avoid echoing

Video



“We managed to reduce the number of loudspeakers needed by using these hemi-directional loudspeakers. Energy and operational costs for the operator were cut as a result.”

Kexin XU, Product Marketing Manager at Building Technologies China



Harbors



Puerto Paracas Peru



At Puerto Paracas, Peru's 11th busiest terminal, the operations team needs to have eyes in the right places, at all times, to protect the territory from trespassers. The hot, windy climate and exposure to salinity present unique monitoring challenges at the port.



[More information](#)



Puerto Paracas

Peru

Challenge

- operate in adverse weather conditions
- reliably deliver sharp images despite vibrations
- close security gaps presented by past solutions
- meet high security standards
- seamlessly integrate into the existing video management system

Customer benefit

- vibration-free monitoring with optical image stabilization
- integration into existing video management system

Solution



- around 10 MIC IP ultra 7100i PTZ camera with Intelligent Video Analytics



"We now have a single Bosch camera on a pole instead of three to four units like in the past. And our security gap has successfully been closed."

César Rojas, Operations Manager at Puerto Paracas



Hospitals/ Health Institutions



Adana Integrated Health Campus Turkey



The Adana Integrated Health Campus is a state-of-the-art hospital complex in Turkey comprising three specialized clinics with a total capacity of 1,550 beds.

Awards:

- Best Healthcare Project / 2015
- European PPP Deal of the Year / 2015
- World's Largest Seismic Isolated Health Campus / 2015



[More information](#)



Adana Integrated Health Campus Turkey

Challenge

- to make the health campus safe and secure
- to manage all systems from a single platform
- to provide ideal communication for public announcements, voice evacuation and background music

Customer benefit

- complete solution by Bosch Building Technologies
- high integration capability
- low overall cost of ownership
- low maintenance costs thanks to high level of resilience

Solution



- **video surveillance system** is consisted of 2000 pieces of camera including FLEXIDOME IP indoor 5000, DINION IP starlight 6000, AUTODOME IP starlight 7000 HD for monitoring of indoor & outdoor areas such as entrances, exits, perimeters and corridors etc. on a 7/24 basis
- CCTV system is managed by BVMS



- PRAESIDEO is easily configured to meet voice alarm, background music and message requirements of the large hospital environment with 10,000 **loudspeakers** (certified according EN54-16)



- all systems are integrated into one single platform with **Bosch Building Integration System (BIS)** through different interfaces
- BIS controls roughly 45,000 detection points



Houston Methodist Hospital USA



The Houston Methodist Hospital with eleven specialty clinic buildings is one of the largest medical services providers at the Texas Medical Center, the world's largest health sciences campus.



[More information](#)





Challenge

- fully digital page notification solution connecting eleven clinical buildings
- reliable paging system with clear and intelligible voice broadcasts without losing calls
- upgrade of the whole communication system without interrupting hospital operations

Customer benefit

- installation of digital paging solution without the need to take critical components of communication system offline
- operators can send page calls to the entire network or individual floors or buildings
- nurse staff and security personnel can use the public address system for a variety of announcements functions

Solution



- 14 interconnected and scalable PRAESIDEO Digital Public Address and Voice Alarm System

“Bosch enabled the Integrator to come in and get a reliable paging system up and running with minimal disruption to the hospital’s operations. The team incorporated a large number of existing speakers and amplifiers and never had to take the campus communications offline.”

Nicolas Betancur, District Sales Manager at Building Technologies in Houston





Vidas Italy



Founded in 1982, the Associazione Vidas has been providing free-of-charge social and health services for patients suffering from incurable diseases at home and the Casa Vidas hospice.

“Collaboration with Bosch has been valuable, effective and efficient.”

Giorgio Troisi, Segretario Generale Vidas



More information

Challenge

- provide the customer with a single solution that includes all the safety and security systems
- give a part of the system as free for a donation to the foundation
- provide the customer with a single software management system

Customer benefit

- one supplier for safety and security needs
- a partner the client can rely on
- a control management software provided by a valuable IPP partner (Alesys) which supervise access control, intrusion control and video system

Solution



- 50 video cameras mixed 4000 and 5000 cameras, recorded by 1 DIVAR IP 6000



- 1 PRAESIDIO Public Address and Voice Alarm System, 300 LC1 countertop diffusers, 30 LP1 diffusers



- 1 Intrusion control unit G9512



- 1 next generation DCN debating system, 2 DCN I-Desk simultaneous translation stations and 4 LA3 digital line array speakers



- APE 3.7 access control system with 10 controllers and 15 gates with 125khz ARDK30 readers and 4 readers + controllers in as many elevators



- security control software management by IPP Partner Alesys





Hotels



Midland Hotel Manchester, UK



In 2017, the hotel's operators decided to remodel the Midland's bar and lounge area. Situated under the Octagon arch right next to the hotel reception, it is a major amenity for guests as well as non-resident visitors looking to enjoy a pre-dinner cocktail in the unique ambiance.

"This sound system is clear and brilliant quality. We have had compliments from multiple guests so far praising the music in our bar and in our restaurant."

Andrew Krawec, Hotel Manager



More information



Midland Hotel

Manchester, UK

Challenge

- Midland bar – Improve the desirability of the meeting area by creating a relaxed atmosphere
- Mr. Cooper's Bar – this venue needed a quality sound system that would attract guests by creating an atmosphere where they can enjoy the music
- high-quality sound system that would travel throughout the bar to enhance the atmosphere
- blend in with the classical style of building

Customer benefit

- excellent, clear sound quality
- more attractive venue for meetings, socializing and nightlife
- improved atmosphere in bar for guests to enjoy the music
- noticeable difference in quality

Solution



- PLM-8M8 PLENA Matrix Audio Mixer
- PLM-4P220 PLENA Matrix Amplifiers
- PLM-WCP PLENA Matrix Wall Control Panel
- LB2-UC30-L1 Premium Sound Cabinet Loudspeakers
- LB6-SW100 Compact Sound Subwoofer
- all in white to fit décor
- integrated system expertly programmed by Reflex



Hotel Las Américas Golden Tower Panama City, Panama



With 285 upscale bedrooms and suites offering panoramic views of the city, the 30-story Las Américas Golden Tower Hotel Panama, designed by Uruguayan architect Carlos Ott, is a landmark in the heart of the Panama's financial and business district.



[More information](#)





Hotel Las Américas Golden Tower

Panama City, Panama

Challenge

- set of reliable security systems able to smartly integrate and automate the hotel resources

Customer benefit

- end-to-end management of security solutions from a single source
- integration with other systems for resources automation

Solution



- public address system with 250 audio devices installed
- video surveillance with 220 IP cameras
- monitoring central and management software
- Access Control System



Hilton Hotel

Astana, Kazakhstan



Hilton Hotels & Resorts stands as the stylish, forward-thinking global leader of hospitality with more than 4,200 hotels and resorts located in 93 cities around the world.





Hilton Hotel

Astana, Kazakhstan

Challenge

- equip the hotel with a fire alarm system, a public address and background music
- install conference room equipment with the ability to quickly deploy meetings and presentations taking into account the multilingual participants, as well as participants with limited hearing capabilities

Customer benefit

- all systems were selected according to international standards with high quality requirements stipulated by Hilton Worldwide
- highest flexibility and scalability of the software
- Bosch Conference System DICENTIS is immune to the interference of mobile phones, which ensures the comfort of the negotiation process



Solution



- 300 loudspeakers



- DICENTIS Conference System
- 71 discussion devices
- participants simply switch channels on the consoles to follow the discussion in their own language





Manufacturing Plants

Granarolo Modena, Italy



Comprehensive video surveillance solution at the massive dairy production plant of the Granarolo food company.

“Trustworthy”

*Ing. Marco Bernardi, Direzione Tecnica –
Uff. Tecnico Centrale - Granarolo SpA*



More information





Granarolo

Modena, Italy

Challenge

- replacement of the analog perimeter video surveillance system of the Granarolo production plant
- guarantee maximum safety and protection of the plant with video analytics

Customer benefit

- the system was specifically designed for the plant
- high level of security thanks to the quality of the image and the complex functions of video analytics
- the solution was the only one able to meet the customer's budget requirements while still delivering an innovative video analysis solution

Solution



- 48 DINION IP 5000i cameras
- 8 FLEXIDOME IP 4000i cameras



Casa Cuervo Mexico



Casa Cuervo is the world's leading manufacturer of tequila and, at the same time, the oldest active distillery with a history dating back to 1758. This makes it also a major tourist destination, which welcomes thousands of visitors every year to this brand heritage site.



[More information](#)





Casa Cuervo Mexico

Challenge

- keep tourists safe as they explore the production processes
- safeguard internal processes
- limit access to sensitive areas to authorized personnel only
- video security and access control system needed to blend into the site's environment

Customer benefit

- cameras keep a low profile while delivering sharp images and wide viewing angles
- smart cameras with built-in intelligence support security personnel by recognizing and triggering alarm in case of security incidents

Solution



- video security is provided by over 150 indoor and outdoor **IP-based cameras**



- **BVMS** allows customized rules for security alerts in case of safety concerns
- **Video Security System integrates with access control** solutions to prevent guests from wandering into dangerous areas



- user access rights and licenses are managed centrally via **the Bosch Building Integration System**





Semiconductor Manufacturing Company Nanjing, Taiwan



Headquartered in Hsinchu Science Park, Taiwan, the company manufactures semiconductors that are used in a wide variety of applications covering many segments of the computer, communications, consumer, industrial and standard semiconductor markets.



Semiconductor Manufacturing Company

Nanjing, Taiwan

Challenge

- real-time current internal management system asynchronization of 10 million access control data to headquarter
- accurate time measuring of access control in seconds to meet the strict requirements
- seamless connection between and new system

Customer benefit

- reduction of storage space and operating costs thanks to low-bit streaming camera technology
- integrated security solution to ensure safe and efficient production

Solution



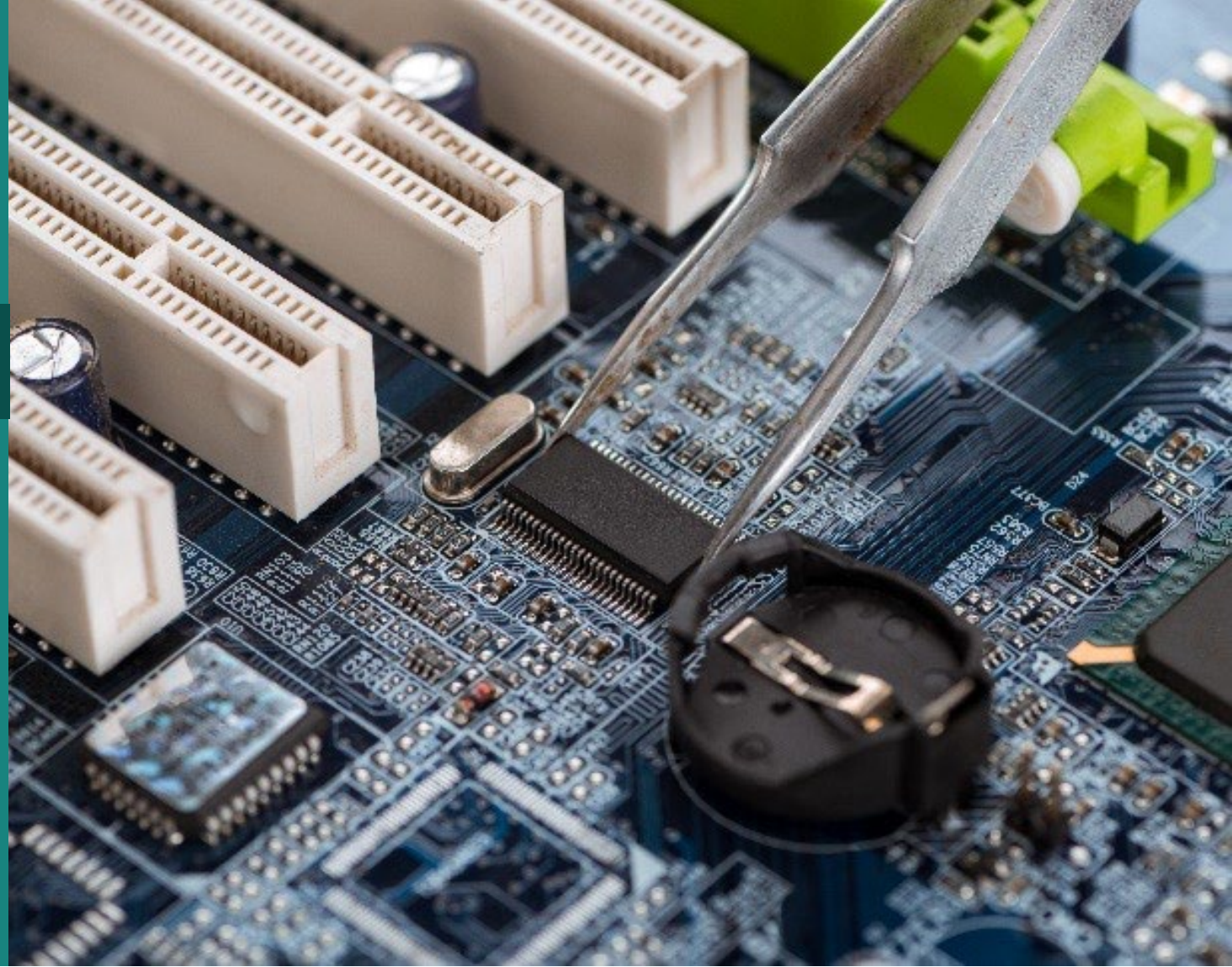
- 2,000 different types of **HD cameras** that meet the needs of different area applications
- unified management of around 800 doors via a **Building Integration System**
- controlling of 1,900 gates through nearly 200 **Access Modular Controller** that serve around 11,000 employees with entrance cards



Semiconductor Manufacturing International Corporation China



As one of the world's leading foundries, Semiconductor Manufacturing International Corporation is Mainland China's largest foundry in terms of scale, technology coverage, and range of semiconductor manufacturing services. Semiconductor Manufacturing International Corporation provides integrated circuit (IC) foundry and technology services on process nodes from 0.35 micron to 28 nanometers.





Semiconductor Manufacturing International Corporation China

Challenge

- fast detection of defects at each point of the manufacturing process to guarantee quick reaction
- reduction of inspection time to reduce employee workload
- protection of staff and property by ensuring a rapid response to dangerous situations

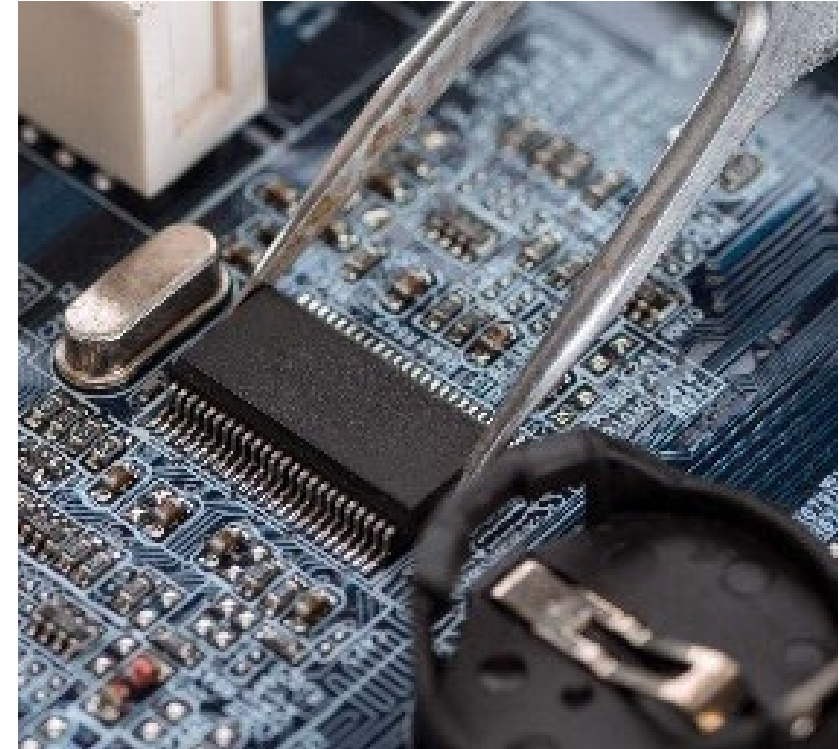
Customer benefit

- improvement of safety standard and working environment for the staff

Solution



- 800 different types of HD cameras to ensure a balanced coverage of all areas of the plant
- enabling of real-time monitoring with high-definition pictures





Richetti Food Industry Italy



After a serious fire in a production plant, Richetti Food Industry decided to improve the security and safety systems at each of its locations. The company's main goal was precise control and total surveillance of the logistics department interior. The team also wanted a reliable system to protect the plant from intrusion, as well as to prevent fires inside the production area. A test phase ultimately proved the solution's functionality and value.



[More information](#)



Richetti Food Industry Italy

Challenge

- Outdated, unstructured system
- Exposed area that's easily accessed from outside

Customer benefit

- reliable, 24/7 protection of critical areas
- easy-to-use management system
- high security standards

Solution



- DIVAR IP 3000 system running the full Bosch Video Management System solution
- 20 FLEXIDOME IP starlight 7000 VR cameras with built-in Video Analytics for perimeter protection and indoor surveillance
- 3 AVIOTEC video-based fire detection devices



“The experience with Bosch has been immense.”
Valerio Nisi, Technical Manager of Richetti SpA



BSH Home Appliances Poland



The German company BSH Home Appliances was founded around 50 years ago as a joint venture between Robert Bosch GmbH and Siemens AG. Since then, it has grown into one of the world's leading home appliance manufacturers with products like dishwashers, cookers, ovens, refrigerators and coffee machines. Its plants in Poland needed a complex safety and security upgrade, including surveillance and access control.



[More information](#)



BSH Home Appliances Poland

Challenge

- find best-fit security and safety solution for the industry
- provide full coverage and high level of detail from cameras in warehouses that monitor items loaded on trucks or carriages
- ensure safety and security of employees, facilities, and manufactured products
- adapt solution to suit varying needs of plants in Łódź, Wrocław and Rzeszów

Customer benefit

- integrated systems from one supplier
- manage a multiple plants from one location

Solution



- panoramic cameras provide large area coverage and identification
- 360° camera reads products codes
- bullet cameras monitor train platforms and loading products into carriages
- cameras monitor along production line
- BIS/access control manage several thousands of employees
- PA in showrooms





Marine Transportation



Polaris Icebreaker Finland



Finland has the world's second largest fleet of icebreakers, the latest of which, called Polaris, was completed just in time for the centenary year of Finland's independence. A crew of 17 works under Captain Pasi Järvelin on the Polaris under harsh environmental conditions. To ensure safety on board, this modern vessel is equipped with 29 Bosch HD cameras.



[More information](#)



Polaris icebreaker Finland

Challenge

- due to the harsh environment, weather-resistant exterior cameras were needed to monitor the ice and the escorted vessel
- interior cameras were required to save time during engine and systems checks

Customer benefit

- saving time by streamlining safety checks
- cameras save time – the cameras mean that physical tours of the vessel are not required as often as before

Solution



- **29 HD cameras** are located on deck and below deck
- inside the vessel, cameras are sited in the engine room and engineering space
- camera recordings can be checked later, if necessary
- the exterior cameras allow both the ice and escorted vessels to be monitored
- cameras located on the stern can be used to monitor the position of other ships when entering or leaving a port



"The exterior cameras allow us to monitor the ice and the vessels we are escorting. We can use the cameras located on the stern to monitor changes in our distance to vessels that we are guiding in or out of a port. The vessel may be only a few meters behind the icebreaker or even tethered to the icebreaker if it's being towed."

Captain Pasi Järvelin



Multi Store Retail



McDonalds China



McDonald's China: the burger restaurant operates over 2,000 locations and is now creating special dining experiences at a new generation of 'flagship' restaurants, spiced up with digital entertainment and high-quality sound.



[More information](#)



McDonalds China

Challenge

- the interior architecture of the new stores is designed on four different floor plans, resulting in different acoustics at each location – crystal-clear sound was a top priority

Customer benefit

- as the business owner, McDonalds's will not only get the products, but also the standardized restaurant audio system solution for all its newly opened restaurants no matter where they are
- high-quality background music experience for customers & employees
- the cooperation will enhance the corporate image of both brands

Solution



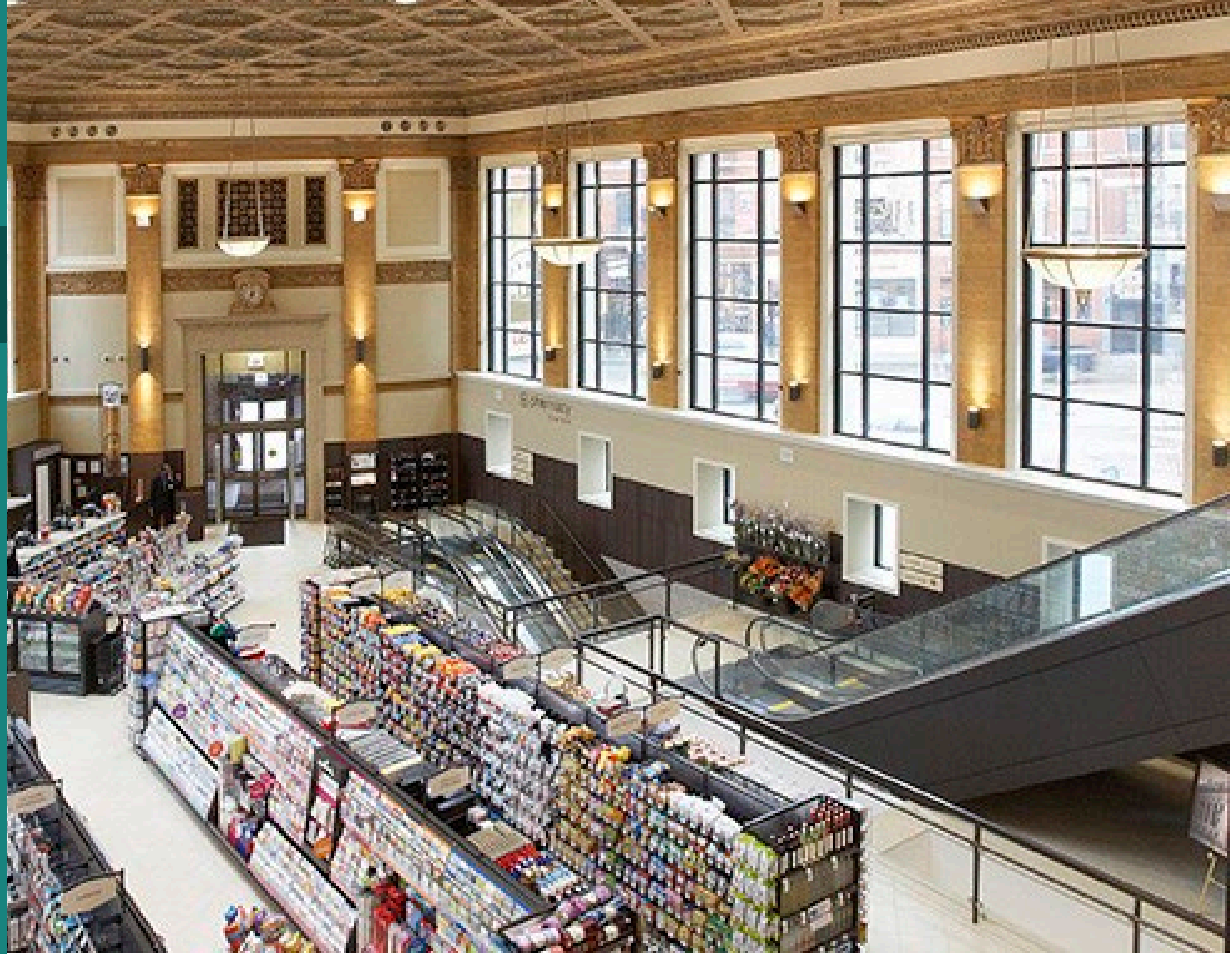
- combination of ceiling-mounted **compact sound speaker system** controlled via digital PLENA Mixer Amplifier
- LC6-100S-L ceiling mount Compact Sound Speaker System: a complete loudspeaker package
- Bosch provides not only the products themselves, but also provides a standardized restaurant audio system solution





Walgreens is America's largest drugstore chain. Every day, the company gives more than six million customers access to consumer goods as well as pharmacy, health and wellness services, and advice on communities across the nation. It operates more than 9,500 drugstores throughout the U.S. and Puerto Rico.

 [More information](#)



Challenge

- modern security, surveillance and audio solution to create a safe and secure environment while preserving the building's architecture

Customer benefit

- HD cameras covering a greater area with fewer devices
- quicker personnel management and inventory check via mobile access to video

Solution



- more than **60 DINION and FLEXIDOME cameras** installed throughout the store
- HD cameras provide detailed images in parking lots and at point of sale locations – they also capture images of shoppers entering the store



- G Series **Control Panel** to secure pharmacy after hours



- background music, announcement and paging capabilities through **PLENA Public Address System**



“The flagship stores are centers of excellence where we test new technologies for creative solutions that enhance the customer experience and benefit store operations. This is another way we are creating a ‘Well Experience’ in our stores.”

Hal Friend, Director, Physical Security and Fire Prevention Services, Walgreen Co.



Museums



Emperor Qinshihuang's Mausoleum Site Xi'an, China



The Emperor Qinshihuang's Mausoleum Site Museum (Terracotta Warriors Museum) specializes in the display of ancient relics. The terracotta warrior figures are more than 2,000 years old. The mausoleum, including the pits of terracotta warriors and horses, is listed as a UNESCO World Cultural Heritage Site.



[More information](#)



Emperor Qinshihuang's Mausoleum Site

Xi'an, China

Challenge

- high number of incidents because visitors jump into the Terracotta Warriors pit to take a picture or try to touch the warriors
- dusty environment at ground level

Customer benefit

- the comprehensive detector product portfolio is able to meet a variety of complex use cases, ensuring reliable and rapid intrusion detection and alarm with low false alarm rate

Solution



- Bosch provided more than 250 detectors for the pits and over 440 detectors in total. The TriTech Motion Detectors with motion RIP and microwave detection are able to detect intrusion immediately
- for the pit, the outdoor TriTech Detectors can detect intrusion either by motion RIP or microwave, which highly increases intrusion alarm sensitivity
- the outdoor detectors are made for harsh environments and are ideal for dusty surroundings, especially when the detectors are installed on the ground
- the G Series **control panels** installed in Terracotta Warriors' sites not only manage multiple defense zones, but also detect and report incidents within two seconds





Office / Apartment Buildings



Port Praski

Warsaw, Poland



Port Praski is one of Europe's largest architectural projects, occupying an area of 38 hectares, offering over 160,000 m² of residential accommodation and 190,000 m² of office space, including retail areas, hotels, restaurants, a hospital, extensive green spaces and a purpose-built media park.



[More information](#)

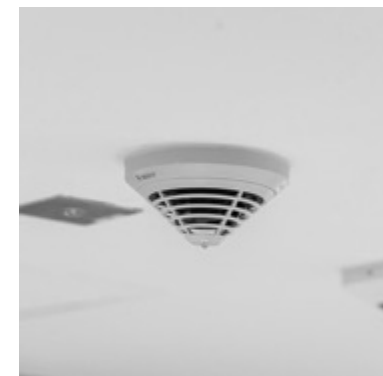


Port Praski

Warsaw, Poland

Challenge

- comprehensive video security and building management solution site-wide
- future-proof solution for further expansion
- ensuring privacy and discretion for its affluent residents



Customer benefit

- round-the-clock security over outdoor and underground areas, building entrances, garages and elevators
- picture quality upgradable in line with future needs by adding higher resolution cameras
- masking function of video management platform to obscure sensitive parts of its residents

Solution



- centralized control of **cameras, storage and recording systems by BVMS**



- **Building Integration** System platform to support centralized management and monitoring

Citibank Plaza Manila, Philippines



The Citibank Plaza building with 50,000 square meters of premium office spaces and the W City Center with 55,000 square meters of office and retail spaces are two new modern office towers realized by the W Group, a leading developer of office buildings in Manila.



[More information](#)





Citibank Plaza

Manila, Philippines

Challenge

- consistent safety for the two office buildings with different tenants and each with different floor plans

Customer benefit

- number and positioning of system components can be adjusted and expanded to accommodate every tenant's floorplan
- IP-based system provide full visibility of current situation to operators and allows conducting evacuation by zones in order of priority

Solution



- monitoring and control of alarms through **Bosch Building Integration System**

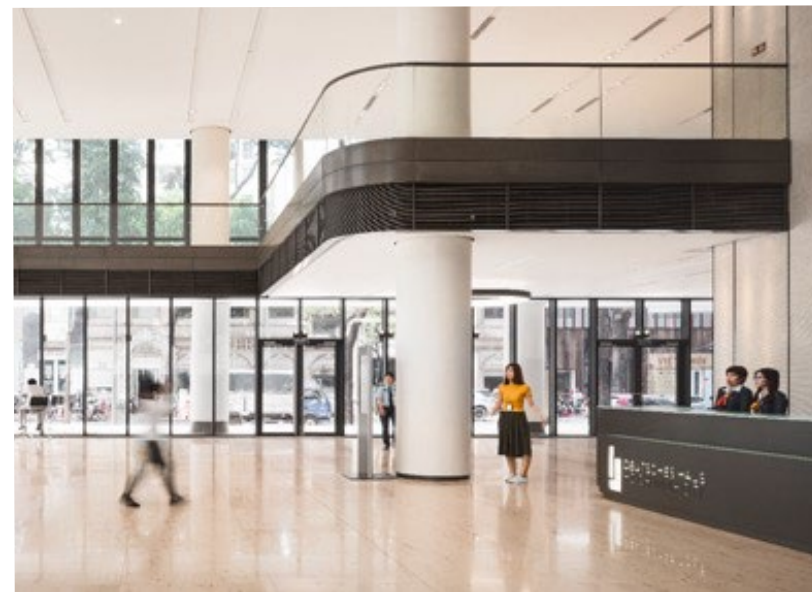


- **PLENA Voice Evacuation System (VAS)** supports coordinated evacuations



“We find the Bosch team in the Philippines very responsive in addressing our needs, which is crucial in this competitive environment.”

Francis Wee, CEO of W Landmark Inc.



Deutsches Haus

Ho Chi Minh City, Vietnam



Deutsches Haus is home to the Consulate General of the Federal Republic of Germany and regional offices of international firms as well as premium amenities, e.g. gourmet cafe, health club, rooftop restaurant, multifunctional conference and events area.



[More information](#)



Deutsches Haus Vietnam

Challenge

- around-the-clock surveillance both inside and outside in a complex environment
- early detection and avoidance of potential threats to minimize damage
- effective and reliable communication systems to provide crystal-clear announcements

Customer benefit

- IP security cameras automatically detect trespassers, suspicious objects and illegally parked vehicles to support operators, even in darkness
- the public address and voice evacuation system increases security by guiding the people closest to the threat to safety first

Solution



- high-speed surveillance **AUTODOME IP starlight 7000 HD cameras** with video analytics function and low-light sensitive
- 170 IP-based video cameras monitor lobby, café, entrance doors, reception area, parking garages and corridors to fire escape staircases
- all lifts installed with **FLEXIDOME AN** outdoor 5000 cameras



- **public address and voice evacuation system PAVIRO**

“I am proud to have Bosch both as a tenant and as a supplier who secures Deutsches Haus with their high-quality cameras and sound systems.”

Ryan Lower, Property Director, Colliers International, Deutsches Haus





Alfasigma is an Italian multinational pharmaceutical company based in Bologna, with a global presence in 18 countries and employs around 3,000 people worldwide.



[More information](#)





Challenge

- 24-hour video security through modern cameras optimized for outdoor use
- adjust intrusion detection while saving cost by re-using existing system components



“The video surveillance products are excellent and have impressed me the most. We are very satisfied, above all, with the high quality of the products.”

Stefano Borsarini, Facility, Maintenance and EHS Manager at both Alfasigma facilities

Customer benefit

- outdoor cameras are weather-resistant, water-tight and able to withstand high impact
- around-the-clock security and capability to expand with Alfasigma's rapid growth

Solution



- **15 FLEXIDOME IP starlight cameras** ensuring high picture quality in challenging light conditions
- **DINION IP video cameras** monitor the insides of both buildings around the clock



- scalable intrusion panel: **Modular Alarm Platform 5000**

THE PARQ

Bangkok, Thailand



The PARQ is a mixed-use development in Bangkok offering integrated offices and curated retail for the needs of resident workers, visitors and the wider community.



[More information](#)





The PARQ

Bangkok, Thailand

Challenge

- secure access to protect the interests and security of its office tenants and the building
- seamless and unencumbered access for office residents while still controlling authorized access to the office spaces
- hide the detection camera in the flap of the gate to maintain the existing aesthetics and to calibrate the sensors to detect faces regardless the lighting conditions, angle or time of day

Customer benefit

- touchless access solution with intelligent facial recognition technology allows The PARQ office workers and visitors to access the building quickly, conveniently and safely, without any physical contact, obtrusive cameras or traditional access cards
- visitor data is seamlessly captured, and permission-based reports can be accessed by security personnel through the easy-use interface

Solution



- 36 **FLEXIDOME IP micro 5000 cameras** installed in the East and West wing turnstiles and elevator walls, supported by third-party facial recognition software, which has the ability to record still images



“Bosch solutions helped us save costs in IT infrastructure management in terms of hardware, software and network solutions.”

Anthony Arundell, Frasers Property Holdings (Thailand) Co., Ltd



Central Point Warsaw, Poland



Central Point, a 21-story skyscraper with 19,100m² space, needed a single combined system to manage all aspects of public address (PA), evacuation, access control and video monitoring. To meet the wide-ranging needs of different tenants, and remain future-proof, finding a flexible and scalable solution was a top priority.



[More information](#)



Central Point Warsaw

Poland

Challenge

- fit a large 19,100m² space with a top-of-the-line public address and voice evacuation, access control and video security solution
- find way to centrally manage and monitor the system
- meet different floorplans and layout needs while upholding safety regulations

Customer benefit

- customized integrated safety and security solution
- maximum flexibility for tenants' floorplans and needs

Solution



Fully integrated system consisting of:

- panoramic cameras for wide-ranging coverage and identification
- 360° camera to read products codes
- bullet cameras to monitor train platforms and loading areas
- cameras installed along production line to monitor production line
- BIS/access control to manage several thousands of employees
- PA in showrooms



“Thanks to the technical capabilities of Bosch point type detectors, building managers can rest easy with a flexible, proven fire alarm system with minimal false positives.”

Krzysztof Kostecki, Country Cluster Manager at Bosch Security Systems





Railway/Metro



Southeastern Rail UK



The Southeastern Rail Network is one of the busiest networks in the country, operating train services between London, Kent and parts of East Sussex. It transports 640,000 passengers each weekday on its 392 trains, which are temporarily housed in 12 depots.



[More information](#)



Southeastern Rail UK

Challenge

- upgrade legacy analog surveillance system
- securing five unmanned depots and monitoring all depots 24/7 even throughout the night

Customer benefit

- IP camera solution provides improved image quality, wider coverage and wireless capability
- Intelligent Video Analytics and high levels of data security encryption
- all personnel and vehicles entering the sites are tracked and reported while also reducing costs for the end-user

Solution



- vast **camera** portfolio installed across the twelve depots, all equipped with Intelligent Video Analytics to combat unauthorized entry
- surveillance cameras can recognize and detect stationary objects or certain situations by using Camera Trainer
- cameras with starlight technology deliver full intelligent analytics at night and in low light levels
- recording from the depots is remotely managed using DIVAR IP all-in-one 7000 recorders

“Taylor Technology Systems deployed a full suite of servers and IT equipment with Bosch CCTV Platform across several sites to ensure security was enhanced due to end of life equipment. With full in-depth training, the Taylor Technology engineers worked to a professional high standard by ensuring site safety was paramount during the 6 month project that was on time and within budget.”

Steve Martin, Project Manager, Southeastern



London Bridge Station UK



The London Bridge Station is the fourth busiest train station in the UK with over 48 million people visiting it every year, more than the population of Spain.



[More information](#)





London Bridge Station UK

Challenge

- installation of a new digital security solution while the existing analog system was still running
- full integration of the new system into numerous on- and off-site third-party platforms
- during installation dozens of other contractors and passengers on-site
- accommodation for the complex architecture

Customer benefit

- quick identification of potential incidents and areas of congestions by security operators
- maximum coverage and scalability, with a security network that covers the most safety critical parts of the station, like ticket barriers and platforms
- full control of the video solution from the existing management system

Solution



- intelligent network of **IP cameras** that discreetly monitor the flow of people 24/7
- the 900 connected cameras are fully integrated into the highly-sophisticated station management system
- all video and data feeds are securely transmitted to a control room that monitors and controls any camera throughout the building





Shopping Malls



IKEA MAR SHOPPING

Algarve, Portugal



The IKEA MAR Shopping mall in Portugal occupies an area totaling more than 8,000 square meters.



[More information](#)



IKEA MAR SHOPPING

Algarve, Portugal

Challenge

- provide a fully integrated solution with centralized interface to control all the security & safety systems
- optimize the number of people in the control room while reducing costs and responding quickly to requested actions
- provide excellent speech intelligibility

Customer benefit

- a solution that provides full control with fewer security staff
- enables staff to react faster to any alarm scenarios due to Bosch Video Analytics
- customers enjoy an excellent music environment while also being able to hear any alert messages perfectly

Solution



- **building management functions** are bundled together on a central platform



- **390 cameras** fitted with Bosch's Intelligent Video Analysis software



- **includes a connected intrusion alert system** with 520 sensors for both intrusion alert and controlling access to IKEA MAR



- public address system with 1,100 **ceiling loud-speakers**





Hala Koszyki

Warsaw, Poland



Hala Koszyki is a unique social and culinary spot where you can eat in several restaurants and bars or buy food products and take them home.



[More information](#)



Hala Koszyki

Warsaw, Poland

Challenge

- aesthetic requirements needed to be fulfilled to provide a pleasant atmosphere
- various application areas: shops, bars, restaurants, warehouses, parking, office spaces, server rooms
- comprehensive evacuation procedures: large building with large numbers of people
- integration of various security systems from Bosch and other suppliers

Customer benefit

- due to the various application areas, Hala Koszyki needed products specifically tailored to each area in the building. Bosch was able to fulfill that requirement with numerous different products and integrated all of them into Building Integration System and BVMS.

Solution



- Hala Koszyki was equipped with **video surveillance, intrusion and access control systems**



- **128 moving and fixed cameras** with and without internal analytics were integrated in different areas of the building



- access control through 120 **access control readers** as well as video analytics and 100 Professional Series detectors provide safety for employees and visitors





Telford Shopping Centre

London, UK



At Telford Shopping Centre, customers enjoy a selection of retail stores, restaurants, hotels and a movie theater. Sound is a key part of the customer experience, including ambient music, customer announcements, and safety messages. The existing public address (PA) system needed an upgrade to a future-proof and IP-networked solution.



[More information](#)



Telford Shopping Centre

London, United Kingdom

Challenge

- Adapt existing control room desk. Find end of lines for monitoring existing speaker circuits.
- update obsolete system
- prevent security team from playing with system after hours



Customer benefit

- Space-savings: 1 rack instead of 2. Less heat generated, less cooling required.
- Cost-savings: 2 batteries run the system. This reduces cost as the batteries should be changed every 4 years according to the British standards.
- integrated standby amplifiers help reduce cost and space of rack housing.
- Secure IP solution for control product and external call station. Uses existing infrastructure when cabling to outstations external to the control equipment.
- recorded messages can be played with a programmed button at call station

Solution



- Control desk with multiple buttons for which PRAESIDEO was considered. Touch screen call station with programmed extension buttons.
- replaced obsolete control equipment, kept existing speakers
- PREASENSA control equipment replaced existing obsolete system.
- control equipment connects via secure IP
- Voice alarm system activates when fire alarm triggered or shopping center security activates manual evacuation.
- one button push to send center closing messages



Stadiums



Craiova Stadium

Romania



Officially inaugurated in October 2017, Ion Oblemenco Stadium in the Romanian city of Craiova is the country's most modern football arena and has a capacity of over 30,000 seats. It is home to football club CS Universitatea Craiova and was ranked fourth on the Stadium DB website's list for Stadium of the Year 2017.



[More information](#)



Craiova Stadium

Romania

Challenge

- deliver a safety and security solution for large major event area
- professional sound systems capable of high-quality music reproduction and evacuation support
- monitoring of entry and exit points and surrounding area of the stadium

Customer benefit

- high-quality equipment according to Euro 2020 guidelines
- modular public address and emergency sound systems with maximum reliability and speech intelligibility
- cost-effective and easy maintenance

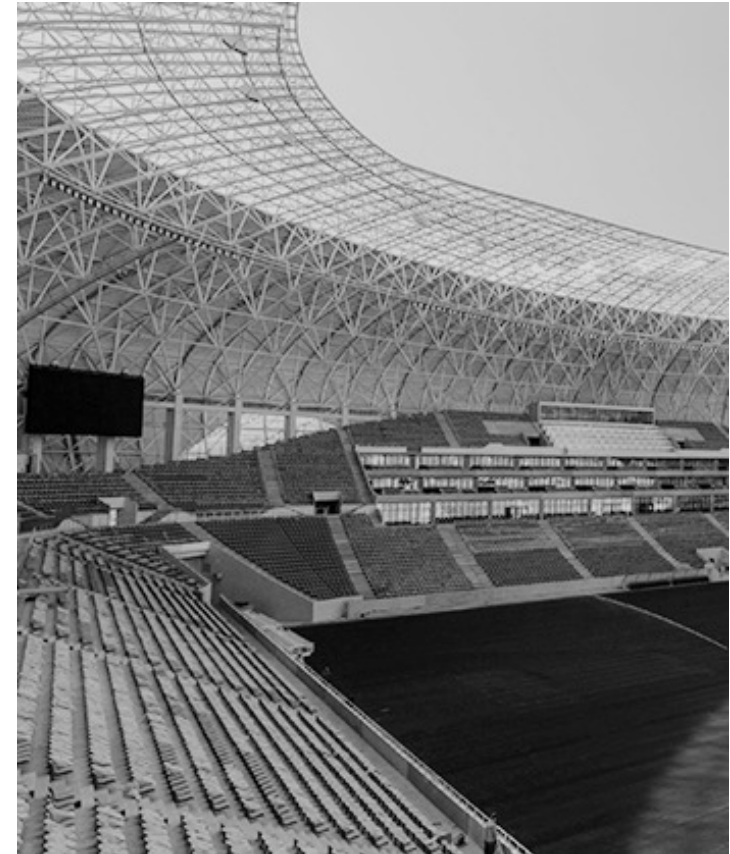
Solution



- first stadium in Romania built according to Euro 2020 guidelines
- effective and easy-to-use management and operation system
- **BVMS Enterprise Video Management System**, 211 IP cameras and 4 video recorders (96TB)



- **sound system** comprised of 3 brands: Bosch, Dynacord, Electro-Voice



Stadio Filadelfia

Turin, Italy



The Stadio Filadelfia is a football stadium in the Italian city of Turin, Piedmont region. The old stadium was the venue of FC Turin from 1926 to 1963. In the stadium, the club celebrated its greatest successes in the 1940s as Grande Torino. From October 2015 to May 2017, the stadium was re-established at an old site with around 4,200 seats.





Stadio Filadelfia

Turin, Italy

Challenge

- it was necessary to implement a solution that would guarantee security and video editing match analysis

Customer benefit

- solution was chosen in particular for excellent video analysis and image quality
- resolution of 5 mega pixels is very effective
- in this way, during training, the cameras perform both a security function and a control on the players in the field for their fitness and technical-tactical aspects

Solution



- **30 video cameras**
(Bullet 4mp EVA - NBE-5503-AL)
- 10 Dome cameras NDP-5502-Z30L



“We can’t wait to test the cameras during the next Serie A league season.”

Antonio Comi (General Manager Torino FC)





Barys-Arena

Astana, Kazakhstan



The Ice Arena is located in the city of Astana. The arena is designed for 11,578 spectators and for large sports events as well as being located in a convenient place for public transport.

"Barys Arena" includes a field and sports facilities, which are used to hold competitions in winter sports in closed premises, games, performances and various kinds of shows.



Barys-Arena

Astana, Kazakhstan

Challenge

- prompt response and effective decision-making in the event of abnormal situations
- ensuring security, including when evacuating spectators
- providing comfort for visitors and participants

Customer benefit

- successful installation and commissioning of systems to ensure the safety of a multifunctional ice arena with a wide range of demands and different uses



Solution



- **PRAESIDEO system** with 500 speakers



- alarm functions of the perimeter are provided by 2 **intrusion MAP-5000 panels** for securing the building



- integration of **BVMS** based on DIVAR IP 7000
- all systems were united by **Building Integration System**



Traffic Monitoring



Seminole County

Florida, USA



The Bosch video solution is used as part of an Advanced Traffic Management System in Seminole County, Florida.

“The county is extremely happy with the best-in-class support and guidance provided by Express Supply, Inc. and with the latest Bosch AUTODOME ITS Series VG5-ITS1080P-30X cameras due to their low light capabilities.”

Dave Muniz, Senior Coordinator, Seminole County



[More information](#)



Seminole County

Florida, USA

Challenge

- enhance mobility on arterial roadways using the latest technology, including video surveillance
- monitor traffic at intersections along various roadways in the county
- display video in the county's Traffic Management Center and share with regional partners when needed

Customer benefit

- cameras allow real-time monitoring of arterial roadways and signalized intersections, enabling Traffic Management Center operators to verify traffic signal system operation, manage incidents, visually verify timing adjustments real-time, and more
- video sharing with regional partners – including the FDOT, neighboring counties and local cities within Seminole County – is made easy through the Bosch Video Management System

Solution



- **AUTODOME ITS Series VG5-ITS1080P-30X 1080p HD cameras** provide overlapping coverage at over 200 intersections in the county
- low-light capabilities of the cameras provide full color video throughout nighttime hours with only basic roadway street lighting for illumination



- **BVMS, Monitor Wall software and multi-channel decoders** enable multiple video streams to be displayed at the county's Traffic Management Center, which is staffed by a full-time operator
- Seminole County manages the BVMS system and allows local agencies to connect to the system using BVMS Client accounts
- a BVMS Mobile Video Server allows authorized Seminole County staff to remotely view live and playback video when needed



Hong Kong-Zhuhai-Macao Bridge

China



The Hong Kong-Zhuhai-Macao Bridge is a landmark infrastructure project, directly connecting Hong Kong to the mainland Chinese city of Zhuhai and Macau for the first time. The bridge extends over 55 kilometers – including underwater tunnels and two artificial islands that serve as customs ports.



[More information](#)



Hong Kong-Zhuhai-Macao Bridge

China

Challenge

- different reading and usage habits between Hong Kong, Macao & mainland China
- customize the graphical interface of the system in traditional Chinese
- due to the application needs of different scenarios, the customer needs different types of public address systems

Customer benefit

- 24/7 safety for the high-security bridge and crystal-clear sound in all parts of the facility without disrupting the interior design
- one-stop solutions from a single partner

Solution



- nearly 8,000 **speakers**, more than 260 **amplifiers**
- more than 2,000 **HD cameras**



- **multiple intrusion alarm systems** for the artificial islands of Hong Kong-Zhuhai-Macao Bridge



- the installation incorporates 15 different models of ceiling, wall mount, horn and line array **speakers** to blend in with the facility's modern interior
- over 200 LA3 VARI-directional array speakers to balance sound variations from different building materials

“In this project, we added the supporting intelligent call station of PRAESIDEO, which is usually used for airport projects. This was done to ensure that the staff can directly perform voice broadcasts through the call station during operation, thus making the security management more convenient.”

Wang Yiping, deputy general manager of Shanghai Saga Electronic Technology Co., Ltd.



DriveOhio USA



DriveOhio is the center for smart mobility in Ohio and serves as the hub for all things autonomous and connected. It brings both public and private organizations involved in design, development, testing, use, and regulation of autonomous and connected technologies under one umbrella.



[More information](#)



Challenge

- detecting stopped or slowed vehicles on the road and ensuring no debris or other hazards
- automatic incident detection, such as queues at an exit ramp or wrong-way drivers
- early detection of pedestrians at intersections to improve their safety

Customer benefit

- during peak congestion, traffic monitors can open a SmartLane after performing a visual check
- dynamic message signs communicate road conditions, speed limits and when the SmartLanes are open or closed
- cost to develop SmartLanes are less than an additional lane

Solution



- DINION IP 7000 fixed **cameras and ruggedized MIC IP pan-tilt-zoom cameras** with built-in Intelligent Video Analytics to detect anomalies on the road
- incident detection via DINION IP 8000 thermal cameras and MIC IP cameras with built-in Video Analytics
- IP cameras with built-in Video Analytics configured to detect pedestrians, speed warnings and more





Pennsylvania Turnpike Commission USA

Challenge

- as part of its recent modernization efforts, the (PTC) sought to replace all of the analog roadside video cameras used to monitor traffic flow and conditions along the Pennsylvania Turnpike
- needing a technology partner, the PTC selected traffic control and management solution provider Signal Service, Inc.

Customer benefit

- the cameras help employees in the PTC's Traffic Operations Center to fulfill their mission to quickly identify roadway incidents, disseminate information to the public, and dispatch the appropriate resources to provide a rapid response to customers in need
- the new HD cameras provide the PTC's Traffic Operations Center with higher quality images, especially at night

Solution



- 80 AUTODOME IP starlight 7000i **cameras** designed for ITS applications are installed on 15 to 25 meter poles along the turnpike
- Signal Service worked with the PTC's networking consultant to ensure the cameras would meet stringent data security and NDAA compliance requirements
- upgrading the infrastructure to IP enabled the PTC to eliminate video encoders and use PoE midspan injectors, resulting in reduced maintenance requirements and costs
- Signal Service also replaced the camera lowering technology from MG Squared (MG2) to install the latest MG2 CAT6a Ethernet Lowering Devices

"The project was completed on time and on budget. Through accurate planning and working closely with the Pennsylvania Turnpike Commission, we finished the project in a timely manner despite challenges associated with the COVID pandemic."

Stephen Dowdall, Director, Intelligent Transportation Systems (ITS) for Signal Service, Inc.



Rawai Municipality Thailand



Located in Phuket, Rawai Municipality was concerned about keeping tourists and residents safe on streets and around the water. Already using Bosch cameras, the municipality now wanted to leverage their investment by adding compatible analytics software to visualize data and monitor crowds. This also paid into the Thai government's priority to promote smart cities.



[More information](#)





Rawai Municipality Thailand

Challenge

- ensure security of a tourist-heavy area by monitoring activities and events in the area alongside the traffic
- count people for early detection of incidents
- monitor suspicious activity
- apply Intelligent Insights analytics to existing Bosch cameras
- scale to meet future requirements

Customer benefit

- cost efficient upgrade of existing Bosch system
- software-driven traffic management
- informed decision making and time efficiency

Solution



- AIoT software with Intelligent Insights to help end users manage and plan the traffic efficiently.
- Easy to understand and analyze dashboard to support.

“Intelligent Insights has provided Rawai Municipality with an informative, easy-to-understand dashboard to manage traffic flow better and keep people safe.”

Chatchai Khongmuang, Engineering Manager, Brilliant Tech Co., Ltd.





Tunnels



Eurasia Tunnel

Istanbul, Turkey



A milestone in tunnel construction with its location and technical advantages that reduces the journey between Europe and Asia to 5 minutes.

Named as the most successful tunnel project of 2016 by Engineering News Record (ENR).



[More information](#)



Eurasia Tunnel

Istanbul, Turkey

Challenge

- one single platform for all systems
- monitoring entry & exit points

Customer benefit

- third-party integration with SCADA system
- third-party software for automatic traffic incident detection system
- cost-effective and easy maintenance
- comprehensive security systems
- cutting-edge technology

Solution



CCTV system BVMS with more than 500 cameras included:

- FLEXIDOME IP 7000
- DINION IP starlight 8000
- AUTODOME IP 5000 HD
- DINION IP 7000



Emergency evacuation system controlled by

- Bosch access control system at 40 points





Mersey Tunnels UK



The outdated, flawed public address (PA) system in the Mersey Tunnels in Liverpool had to be updated. In the event of an emergency, the PA system helps keep drivers safe. A fully IP-based distributed public address system with a high degree of flexibility was needed to help overcome the limitations of the current system.



[More information](#)



Challenge

- integrate into existing fiber network and loudspeaker system.
- stay fully functional at all times to ensure driver safety
- broadcast messages along the entire length of the tunnel

Customer benefit

- cost-efficient – integrates into existing infrastructure
- flexible and scalable design
- reliable from the moment of installation

Solution



- IP-based PRAESENSA public address and voice alarm system
- Smart-power concept and integrated redundancies
 - Perfect for both centralized and decentralized network topologies





Sydney Harbour Tunnel, Australia



Sydney Harbour Tunnel (SHT) is central to traffic flow across one of Australia's biggest cities. Although the analogue surveillance system was robust and reliable, when the cameras and management system were due for an upgrade, SHT decided to undertake a system-wide digital upgrade.



[More information](#)



Sydney Harbour Tunnel Australia

Challenge

- upgrade an analog surveillance system to digital
- make system enhancements during quiet periods, or with new and existing systems running in parallel
- plan carefully and carry out work while tunnel closed to traffic

Customer benefit

- fully integrated management solution
- synchronization to deliver highest levels of situational awareness in real time
- all emergency traffic plans can be actioned via a single camera

Solution



- 40 MIC 7000i PTZ cameras
- 84 AVIOTEC IP starlight 8000 fixed cameras with fire detection via Intelligent Video Analytics

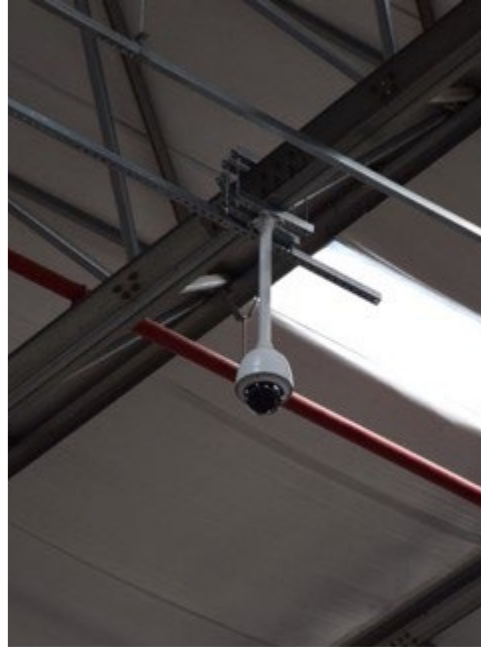
“The installation of new Bosch IP cameras delivers improved performance, as well as onboard analytics that Sydney Harbour Tunnel will use to count vehicles, as well as to deliver an additional layer of fire protection.”

John Adams, Editor of SEN magazine





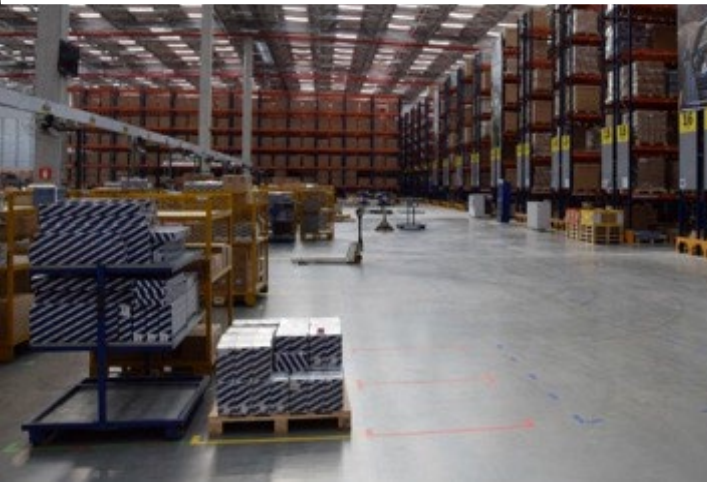
Warehouses



AA Warehouse Brazil



The Bosch Automotive Aftermarket distribution center in Itupeva, Brazil, is located about 70 kilometers from São Paulo. It is a central hub for the entire South American region and processes 68,000 shipments of key components every year.



[More information](#)



AA Warehouses Brazil

Challenge

- track movement of items, pallets and warehouse personnel from a logistics and security perspective
- detect inventory theft and track missing shipments in a complex security environment
- automation of time-consuming manual tracking processes

Customer benefit

- smart cameras act as IoT sensors that can identify products stored in the warehouse management system software
- solution prevents theft, heightens efficiency and improves shipment tracking
- customized solution reduces inventory costs by performing “virtual inventory” in real time

Solution



- **Intelligent Video Analytics (IVA) technology built into Bosch cameras** with a customized configuration of BVMS)
- cameras with built-in IVA function processes image data in real time and detects suspicious activities



- **direct interface between warehouse management system and BVMS** that automatically cross-checks security incidents

“This is a real Industry 4.0 success story. The solution is technically complex and involves a high level of customization. But it’s a nice showcase for what is possible to achieve within these systems when the right resources and creative people get involved.”

Mario Verhaeg, Product Manager at Building Technologies



Others



OES Systems Australia



Queensland-based OES Systems Pty Ltd monitors and maintains video solutions for residential customers, small commercial businesses, factories, and a growing number of rural customers. The company was looking for a way manage customer solutions more efficiently and quickly. Especially because some customers are located over 1000 kilometers away. OES Systems was open to adopting new technology to meet customer needs and business goals.

“Bosch Remote Portal is an easy-to-use platform that pulls all devices into one secure ecosystem to make remote monitoring and maintenance as simple as possible.”

Earle Swan, Director, OES Systems Pty Ltd.



More information

OES Systems Australia

Challenge

- manage many devices for different agricultural applications in rural areas in an effective way
- reduce time-intensive on-site maintenance visits

Customer benefit

- resolve key configuration issues immediately from afar
- manage different solutions for multiple customers with maximum efficiency and minimal on-site time

Solution



- Bosch Remote Portal for remote monitoring of more than 70 cameras at many different locations.
- remote access to change camera configurations, update firmware, and manage passwords.



The image shows the County Hall building, a mix of modern and traditional architecture. The central part is a modern glass structure with blue and yellow-tinted panels. The words "COUNTY HALL" are visible on the glass. To the left and right are older stone buildings with traditional windows. A set of stairs leads up to the entrance of the modern section.

**Building solutions
for a better life**