NEXCOM
The Intelligent Systems

Industrial IoT Product Selection Guide

www.nexcom.com

About NEXCOM

Reliable Partner for the Intelligent Systems

Founded in 1992 and headquartered in Taipei, Taiwan, NEXCOM is committed to being your trustworthy partner in building the intelligent systems. To surpass customers' expectations, NEXCOM makes the difference by utilizing its decades of industrial computing experience, a highly talented R&D team, and by providing exceptional levels of customer service. With these core strengths, NEXCOM has enabled its customers to win key projects in a diverse range of industries.

With its focus on delivering these core values to better serve customers, NEXCOM integrates its capabilities and operates six global businesses, which are Multi-Media Solutions (MMS), Mobile Computing Solutions (MCS), IoT Automation Solutions (IAS), Network and Communication Solutions (NCS), Intelligent Digital Security (IDS), and Medical and Healthcare Informatics (MHI). This strategic deployment enables NEXCOM to offer time-to-market, time-to-solution products and service without compromising cost.

In addition, the service-to-market business model gives NEXCOM core competence to build a strong world-class service network by providing customized service, global logistics, local access, and real-time support. Operating six subsidiaries, from China, Italy, Japan, Taiwan, the United States, to the United Kingdom, NEXCOM is able to better facilitate customers' requirements as well as closely work with global partners in different regions.

Partners should also be assured that NEXCOM's Taiwan based Headquarters and subsidiary offices in China, UK and USA have obtained ISO 9001:2008 Certification.

IAS	Automiation: factory automation (FA), PPC & HMI, machine automation (MA), machine vision IoT: IoT gateway, industrial wireless solutions Intelligent System Services: embedded computer, single board computer, computer-on-module, POS, kiosk PPC, ODM/OEM services
IDS	Intelligent Digital Security: IP Cam, NVR, mobile server platform
MCS	Mobile Computing Solutions: rugged computer devices, rugged mobile computer Vehicle Telematics Computer: Car PC, train PC
MMS	Multimedia Solutions: digital signage
MHI	Medical and Healthcare Informatics: total solutions with a variety of medical IT systems
NCS	Network and Communication Solutions : network security, VoIP, HPC, telecommunication, storage, switch, industrial firewall

Corporate Vision

To become the industrial leader in providing intelligent systems, NEXCOM utilizes its industry leading technology, localized customer support and worldwide logistics services. This will be achieved by:

- Great team work
- Cooperation with trusted partners
- Growth through innovation

Corporate Mission

- An innovative supplier in vertical application markets
- A quality partner in engineering, manufacturing and services

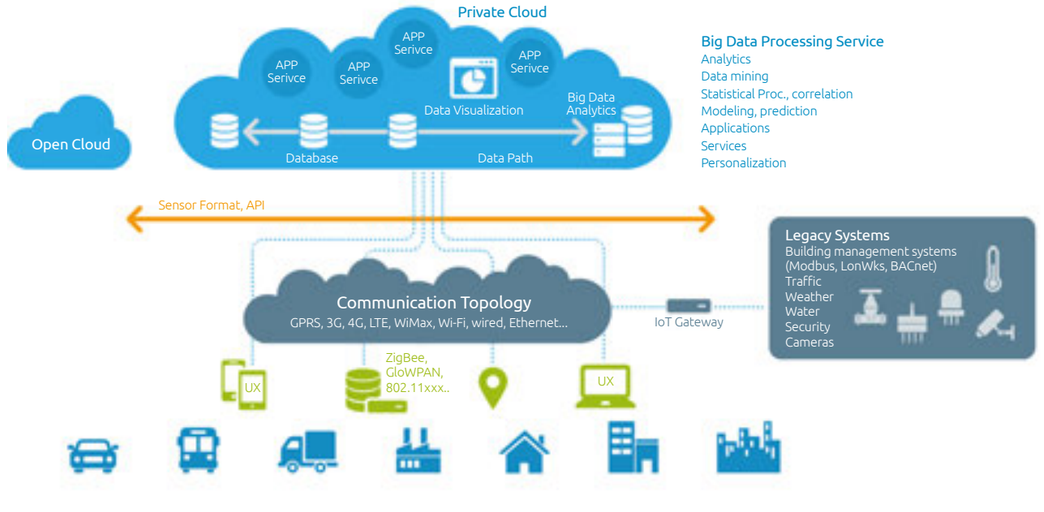
Business Strategy

Aim to better support the activities of all its partners, NEXCOM divides its sales force into six dedicated business units to target rapidly expanding vertical markets. This enhances each business unit concentrating on strategic channel accounts and on repeat order business. Moreover, NEXCOM's business units have been set up to serve the requirements of key project accounts, where product ODM and project support are frequently required.

NEXCOM is working with embedded computing solution providers to envision new opportunities for growth. We'll help you deliver reliable vertical solutions, optimized for the next wave of IoT and Industrial 4.0 applications.

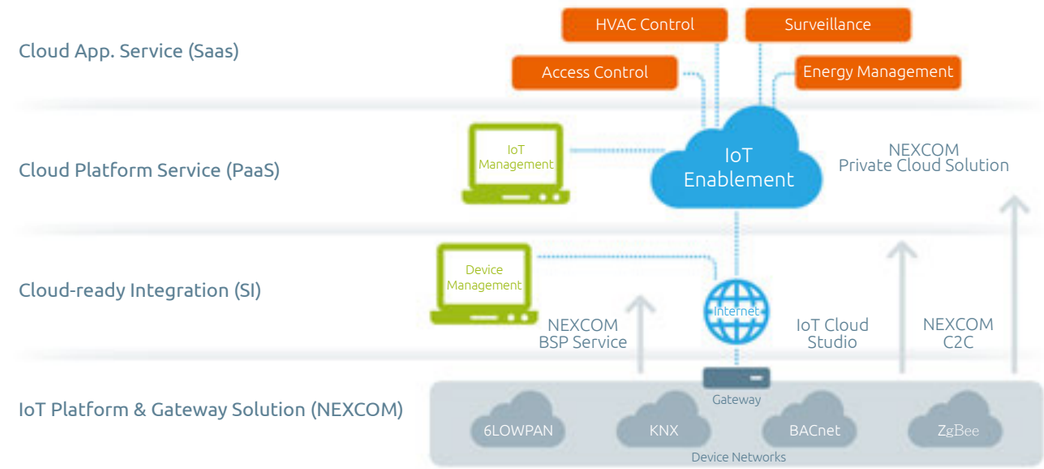
IoT Vision

As embedded devices inside equipment, machines and electrical appliances become intelligent, many of the objects that surround us will be on the network in one form or another. No matter which form it is in, device-to-cloud connectivity generates valuable big data insights that can create and uncover new opportunities for future businesses. Cloud computing can provide a virtual infrastructure for monitoring devices, data analytics, visualization platforms and cloud service delivery. Such business model which cloud computing offers will enable end-to-end service provisioning for businesses and users to access applications on demand from anywhere.



Based on rich development experiences of intelligent embedded systems and industrial Wi-Fi systems, NEXCOM offers a series of IoT solutions ranging from IoT computing, Industrial/Enterprise Wi-Fi, to cloud-ready solutions to make the IoT dream come true.

NEXCOM IoT Value Proposition



Industrial Wireless Product Selection Guide

IoT Structure

The IoT structure consists of the device layer, network layer and application layer. Each layer implements its own functions which can be bridged together through NEXCOM's industrial Wi-Fi access points, Wi-Fi controllers and IoT gateways, to enable a complete device-to-cloud solution. The functions of each layer, along with NEXCOM's supporting solutions, are detailed as follows:

Intelligent Systems/ Device Layer

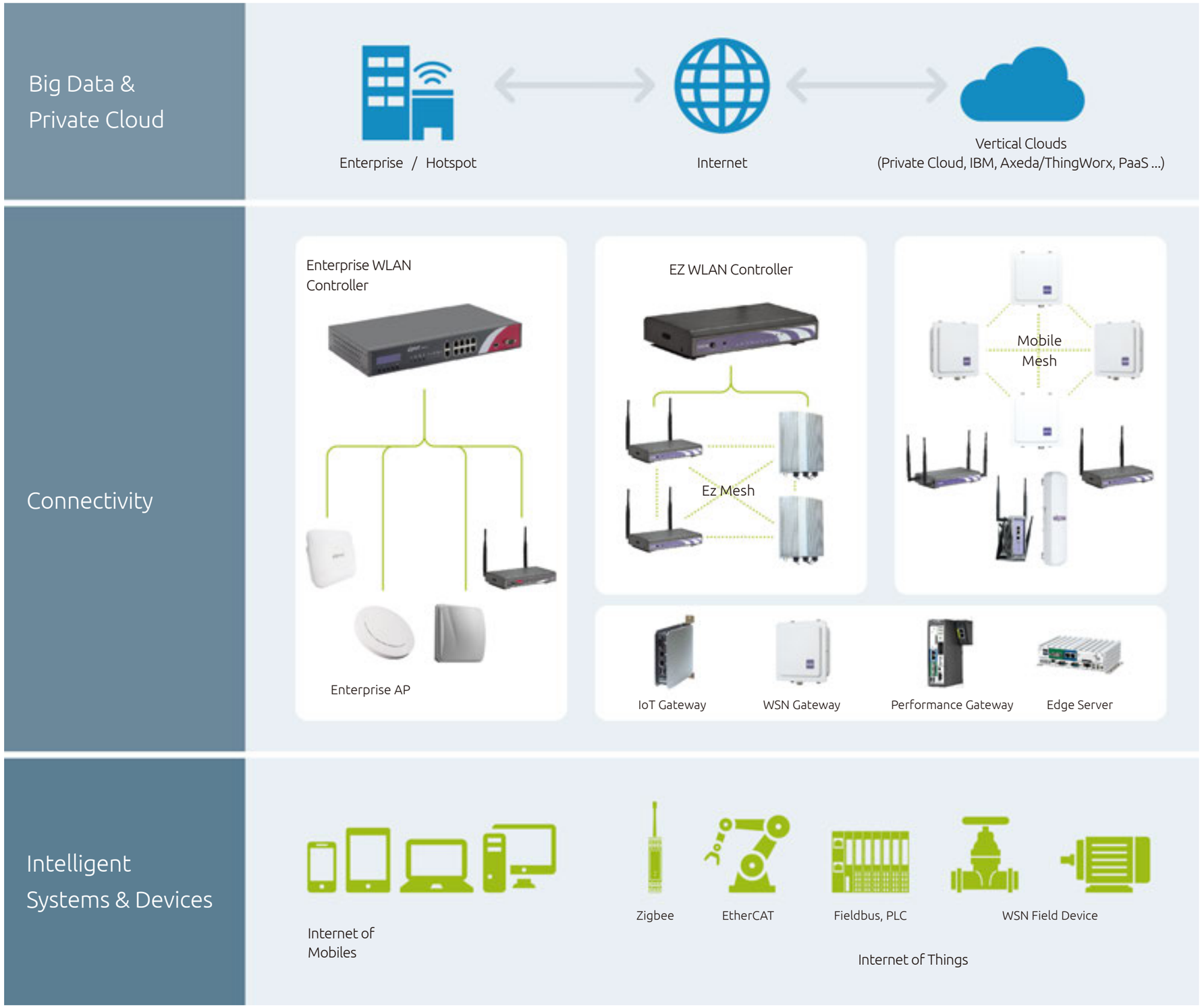
The device layer is the area where intelligent end devices are interconnected and connected to the cloud. In factory automation environments, NEXCOM's IoT gateways can interface with factory equipment and sensors to share the collected data. For computing devices in homes and BYOD in Wi-Fi hotspots and enterprise environments, NEXCOM's industrial Wi-Fi family includes access point solutions tailored for these environments. In addition, for IP camera devices in industrial verticals such as vehicle surveillance, NEXCOM provides high-speed 802.11ac industrial Wi-Fi solutions to enable the transfer and storage of high-bandwidth video streams.

Connectivity/ Network Layer

The network layer comprises of central management systems that can manage data, video and voice traffic generated from the device layer, as well as control user network access. It is the backbone layer providing the connectivity between the cloud and end devices. At this layer, NEXCOM offers centralized controller-based Wi-Fi solutions to provide wireless connectivity and centralized management of access points dispersed in large enterprise and industrial networks. For vertical applications such as public transportation, NEXCOM's industrial-grade Wi-Fi solutions with mesh networking and fast roaming features can offer trusted and ongoing connectivity for vehicles on the move.

Private Cloud/ Application Layer

The final application layer consists of cloud platforms analyzing data extracted from the bottom layers and providing services essential for improved business operation. NEXCOM's family of industrial wireless products includes solutions that can support the function and capacity needs of different cloud applications such as big data analytics and real-time automation.



Enterprise/Hotspot Wi-Fi Solution

As the trend towards BYOD (Bring Your Own Device) becomes more prevalent, carrier networks and wireless networks in installations such as hotels and hospitals are now facing new Wi-Fi infrastructure challenges. Applications like video conferencing, voice communication and multimedia streaming accessed on BYOD all consume significant amount of wireless bandwidth. As a result, it is crucial that a reliable, high-bandwidth wireless network is in place to support the extra demands. At the same time, it is also important that the wireless infrastructures have security mechanisms in place to protect confidential information.

Solution Features

- Centralized AP management to simplify administration
- Role-based traffic policies to manage user network access
- Bandwidth control ensuring that network bandwidth is not consumed by individual clients
- Logging and reporting features for security and troubleshooting
- Seamless Wi-Fi roaming for smooth transition experiences
- Bandwidth load balancing among APs to distribute Wi-Fi usage and maintain performance

Application:
Carrier 3G Offload

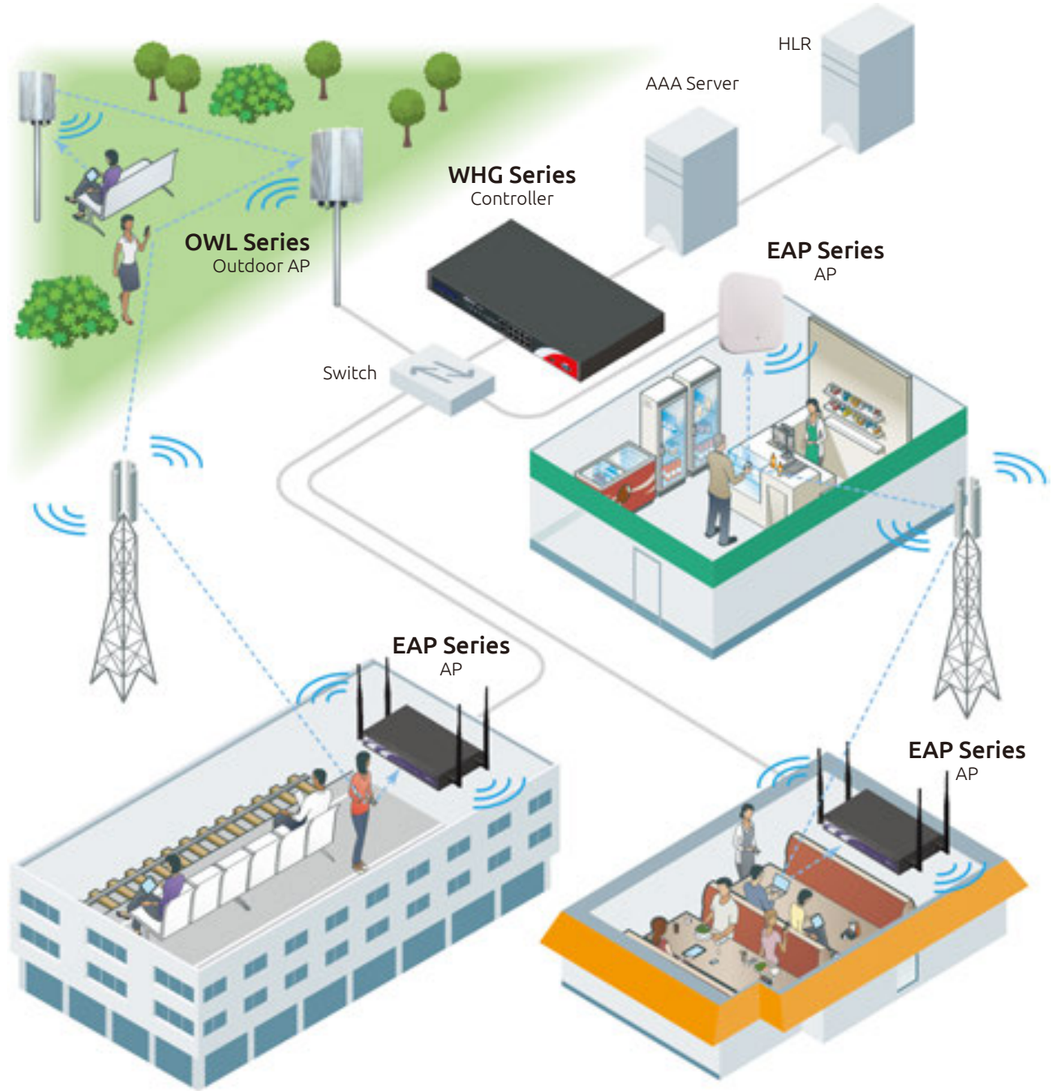
Increasing Bandwidth with the Fast and Economical Wi-Fi Solution

Benefit

- Strong security features including enterprise-grade 802.1X authentication and AES encryption
- 802.1X and EAP-SIM authentication enables automatic login and roaming to different wireless networks
- Increased Wi-Fi availability and mobility through roaming, load balancing and traffic prioritization

Solution

- WHG 711 wireless LAN controller
- WHG 801 wireless LAN controller
- EAP 727 access point
- OWL 630 access point



Application:
Mobile Hotspot Wi-Fi Services

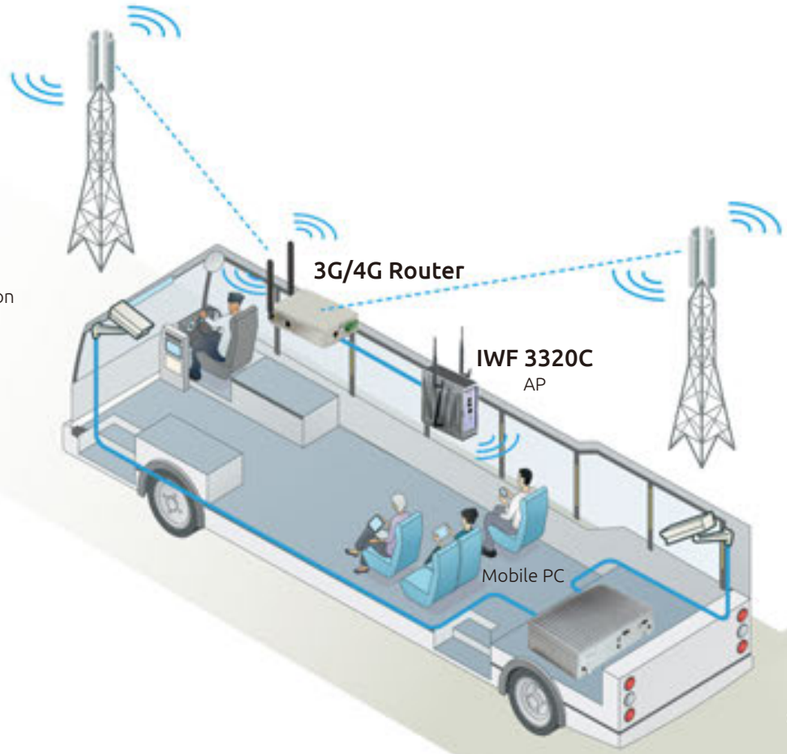
Enabling Wi-Fi services for passenger in vehicles

Benefit

- Operators expanse business via advertisement and hotspot solution
- Policy-based access control
- Online status monitoring and user logs for traffic recording
- In-vehicle surveillance

Solution

- IWF3320C rugged hotspot gateway
- NEXCOM certified 3G/LTE router



Application:
Hotel Hotspot Wi-Fi Management

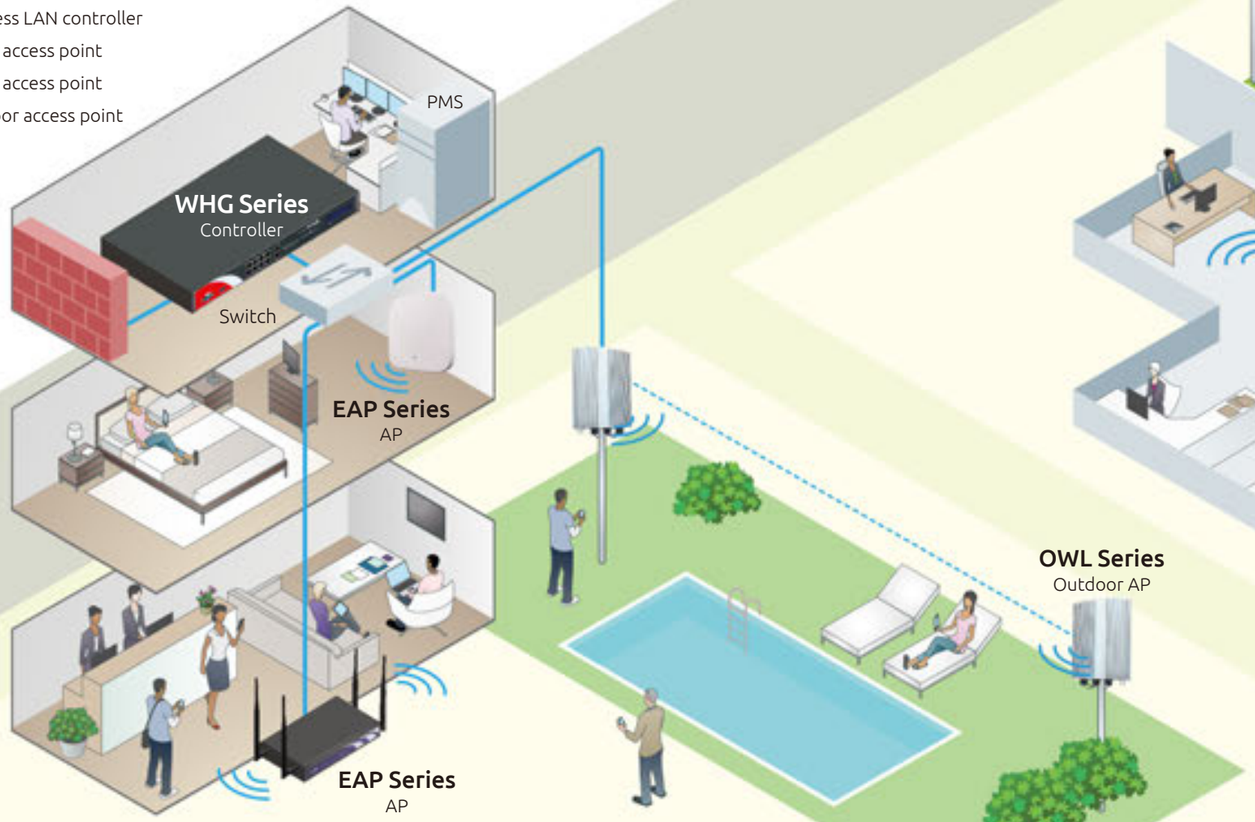
Hotspot management for classified guest services

Benefit

- Integrates MICROS OPERA PMS for simplified management of user Wi-Fi login and hotel room fees
- A unified single-account for accessing multiple devices
- QR code-based Wi-Fi login

Solution

- WHG 325 wireless LAN controller
- EAP 220 indoor access point
- EAP 767 indoor access point
- OWL 630 outdoor access point



Application:
Campus Wi-Fi Management

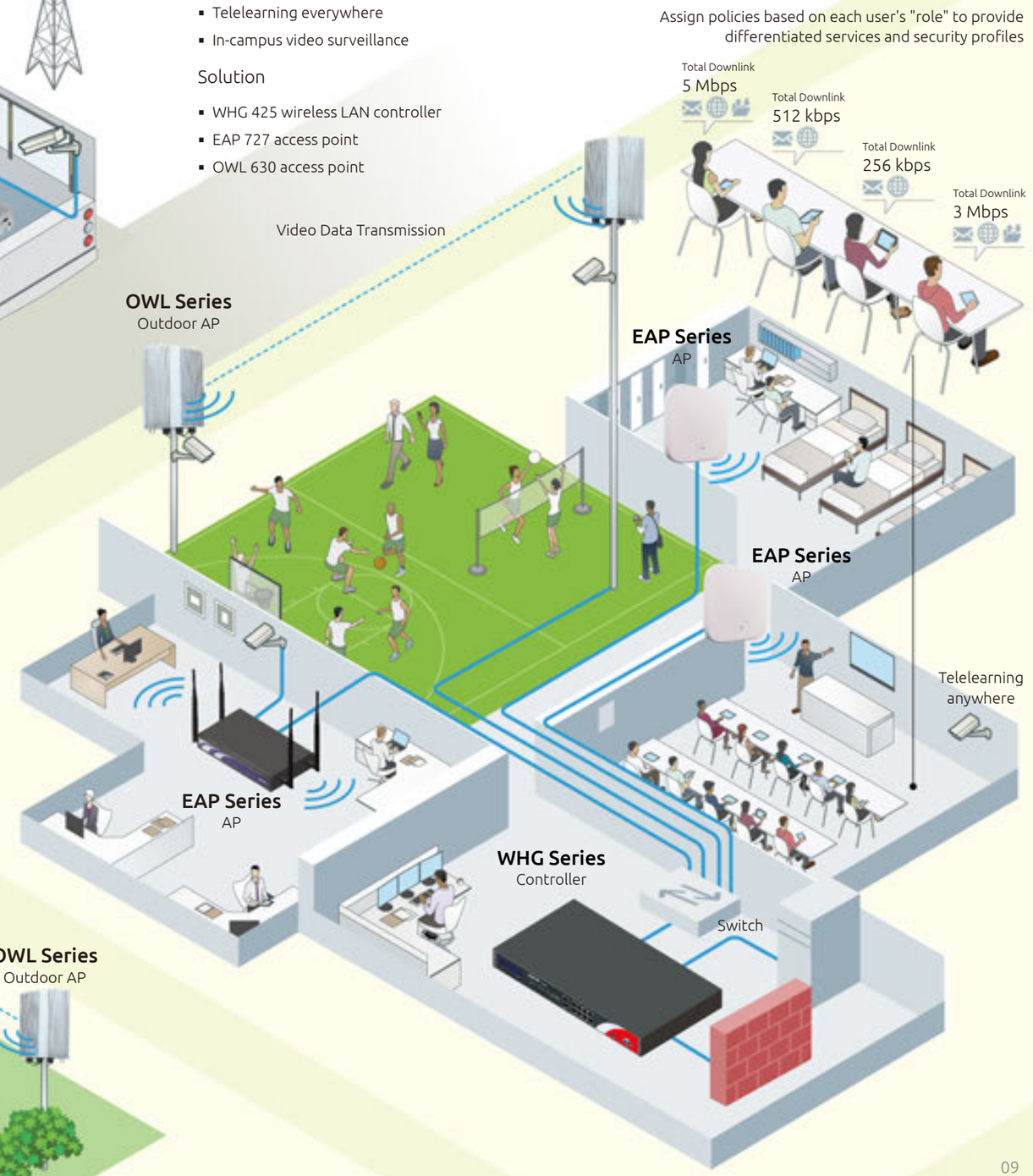
Central WLAN management and flexible policy-based Wi-Fi access

Benefit

- Offers a variety of web-based user authentication for various mobile devices
- Role-specific access policies for professors, students and guests
- Flexible Wi-Fi accounts with record logs for tracking Wi-Fi usage
- Telelearning everywhere
- In-campus video surveillance

Solution

- WHG 425 wireless LAN controller
- EAP 727 access point
- OWL 630 access point



Trusted Industrial Wi-Fi Solution

The deployment of IoT (Internet of Things) and mass proliferation of mobile devices and BYOD (Bring Your Own Device) have changed how businesses operate and allowed businesses to better optimize processes and achieve new efficiencies. However, the continuous demand for greater wireless coverage, faster roaming speeds, increased user capacity and increased data volumes calls for greater wireless bandwidth. Furthermore, large-scale factory automation systems require wireless connectivity in place of costly cabling solutions. To support these demands, NEXCOM's IWS (Industrial Wireless Solution) offers reliable industrial-grade Wi-Fi with IEEE 802.11ac, centralized management and Wi-Fi mesh networking.

For example, the IWF 6330 series offers a large-scale Mesh/Hopping feature for a distance of 100km, which is ideal for Wi-Fi video surveillance of long highways. For large wireless networks in harsh factory automation environments, NEXCOM's IWF 300 industrial EZ mesh AP and IWF 800 EZ controller can build a trusted Wi-Fi mesh network with central management of up to 50 APs.

Solution Features

- IEEE 802.11ac high data rate for high speed data transmission for P2P and P2mP applications
- EZ mesh feature with 4-hop mesh support
- EZ controller with AP management and AAA service
- Fast roaming for seamless Wi-Fi mobility
- Large-scale mesh networking with multiple hopping at 100Mbps after 10 hops
- Dual band, dual concurrent selective
- Wide operating temperature range for harsh industrial environments

Application:
EZ Mesh Wi-Fi Networks in Factories

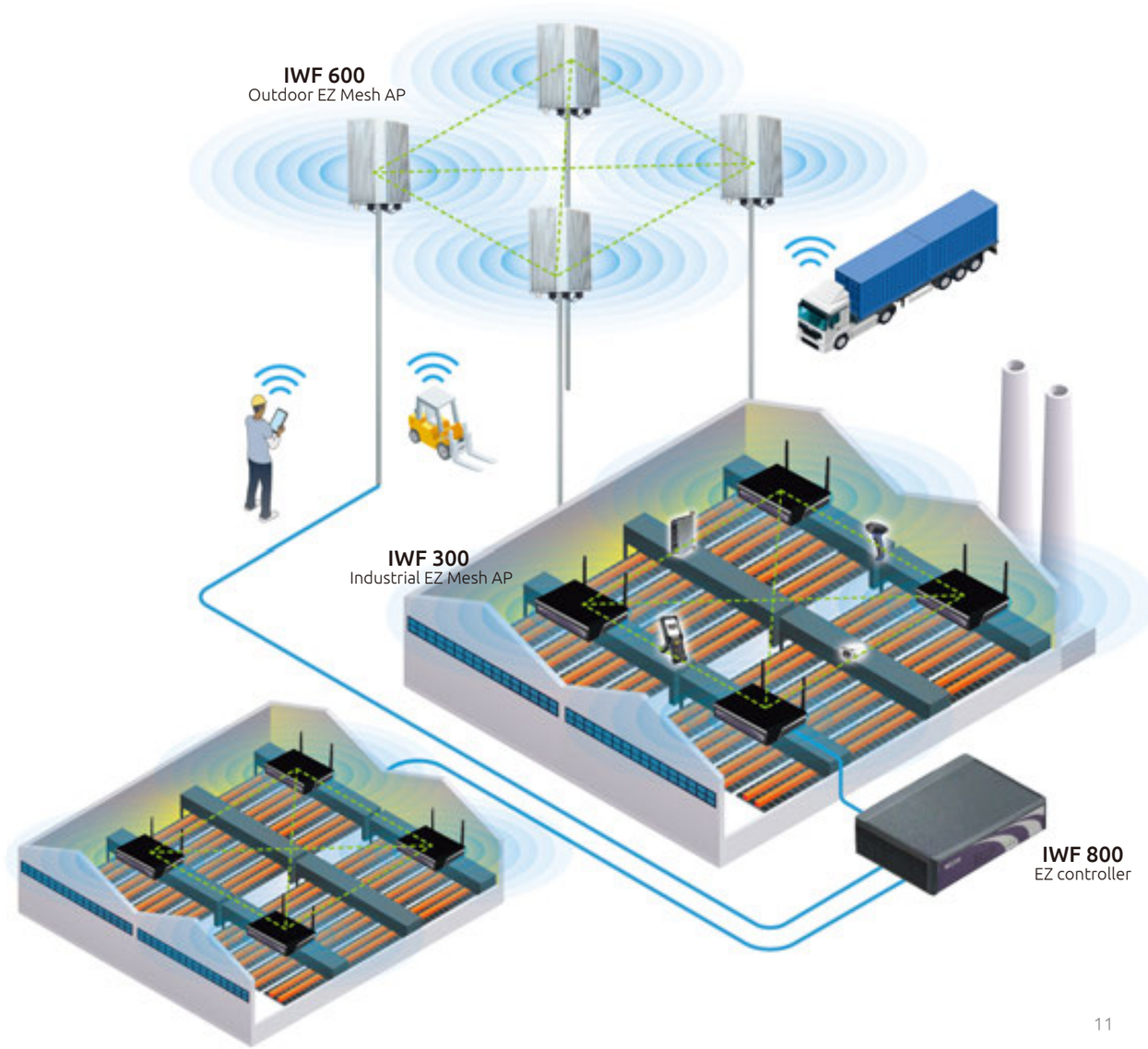
Trusted/secure mesh backbone and Wi-Fi mid-range coverage

Benefit

- Central management of 50+ APs and AAA (authentication, authorization, and accounting) services
- Dual radio and dual band: provides stable and the best performance for mesh backbone and Wi-Fi coverage
- Industrial grade EZ mesh AP deployment for small, harsh environments
- Approximate 500 x 500M mid-range coverage

Solution

- IWF 800 EZ controller
- IWF 600 IP68 outdoor EZ mesh AP
- IWF 300 industrial EZ mesh AP



Application:
Highway Multi-Hopping Video Surveillance

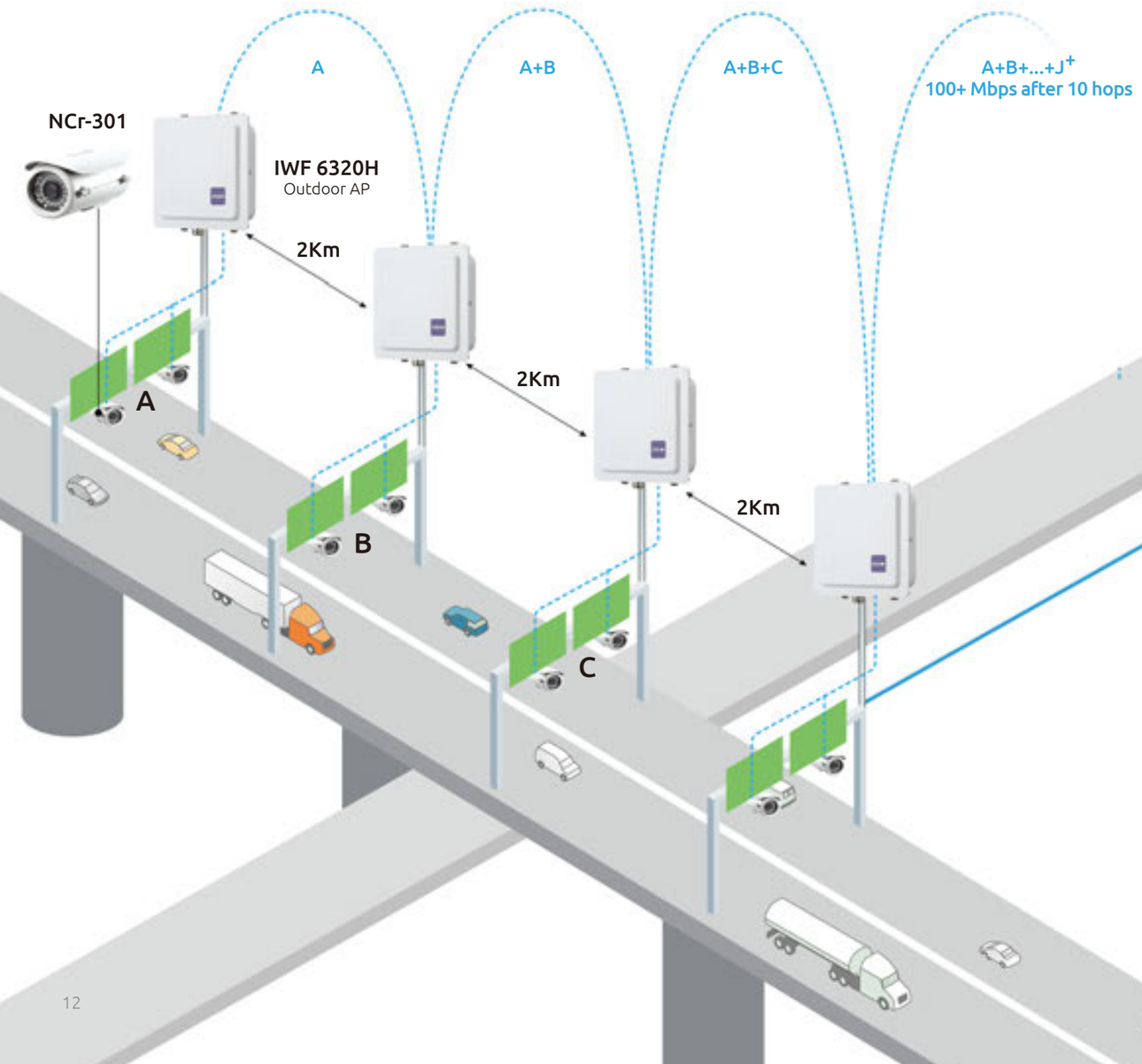
Stable and high throughput video transmission

Benefit

- Maintain 100+ Mbps link speed over a 10-nodes AP network; capable of supporting data transmission of over 20 IP cameras
- Reduce cost for fiber/Ethernet backbone installations
- Wide operating temperature range and IP67 protection for outdoor applications
- Approximate 2Km+ P2P long-distance transmission with high-gain antenna

Solution

- IWF 6320H, IP67 outdoor AP
- NEXCOM IP camera
- High-gain antenna for 2Km long distance transmission



Application:
MRT Fast Roaming Wi-Fi Communication

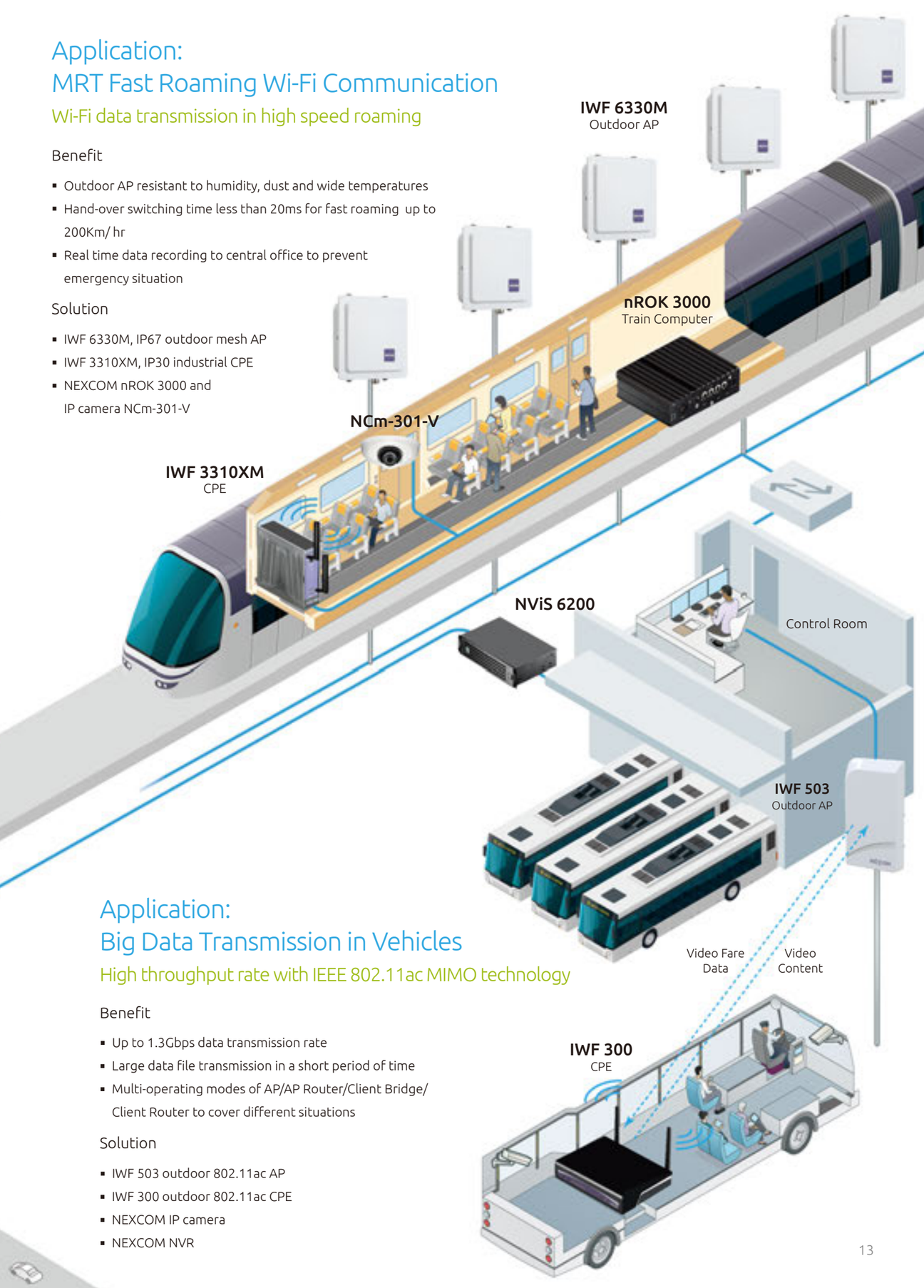
Wi-Fi data transmission in high speed roaming

Benefit

- Outdoor AP resistant to humidity, dust and wide temperatures
- Hand-over switching time less than 20ms for fast roaming up to 200Km/ hr
- Real time data recording to central office to prevent emergency situation

Solution

- IWF 6330M, IP67 outdoor mesh AP
- IWF 3310XM, IP30 industrial CPE
- NEXCOM nROK 3000 and IP camera NCm-301-V



Application:
Big Data Transmission in Vehicles

High throughput rate with IEEE 802.11ac MIMO technology

Benefit

- Up to 1.3Gbps data transmission rate
- Large data file transmission in a short period of time
- Multi-operating modes of AP/AP Router/Client Bridge/ Client Router to cover different situations

Solution

- IWF 503 outdoor 802.11ac AP
- IWF 300 outdoor 802.11ac CPE
- NEXCOM IP camera
- NEXCOM NVR

Application:
Water Dam P2P, P2mP Wi-Fi Coverage

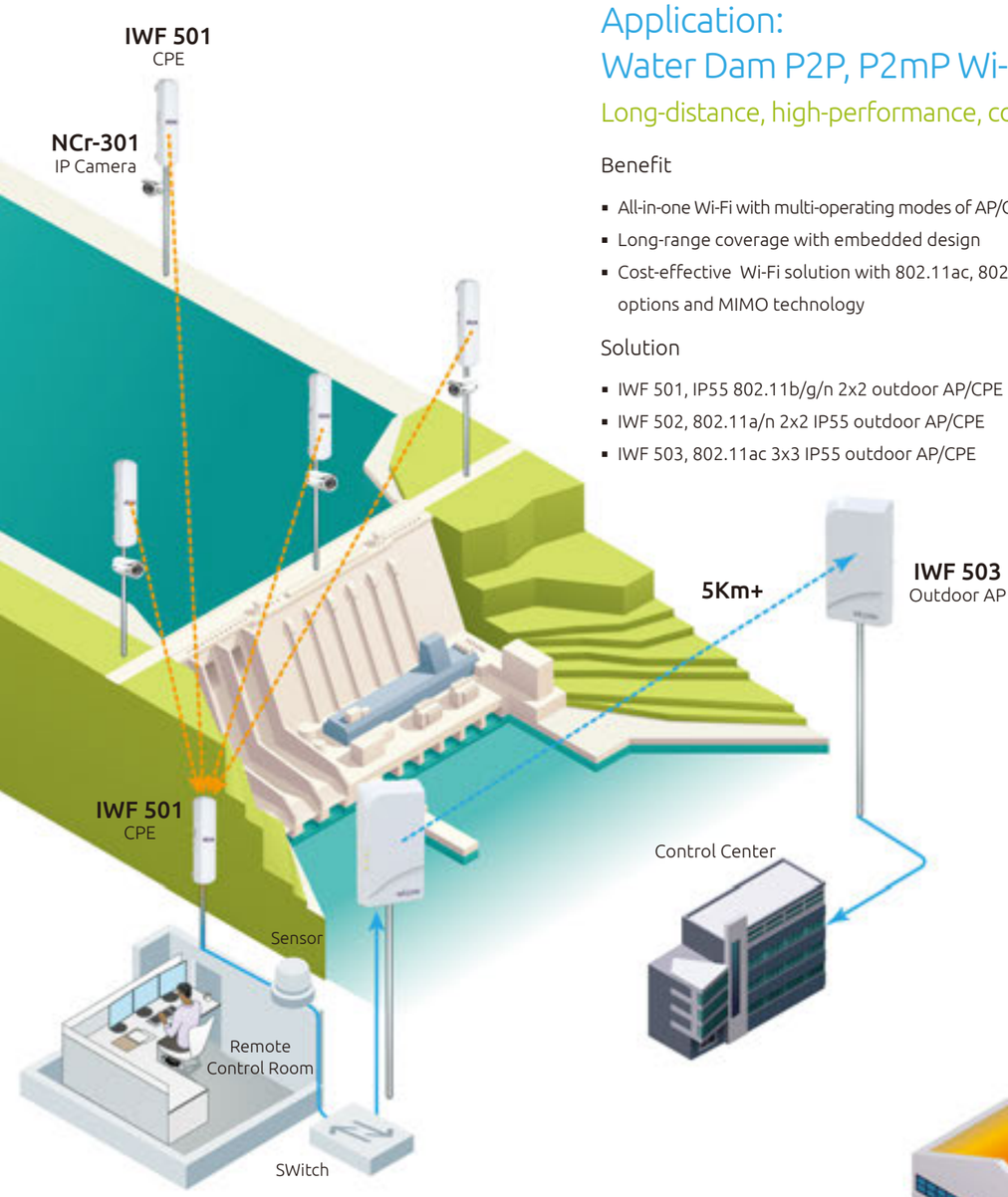
Long-distance, high-performance, cost-effective

Benefit

- All-in-one Wi-Fi with multi-operating modes of AP/CPE/Router
- Long-range coverage with embedded design
- Cost-effective Wi-Fi solution with 802.11ac, 802.11an, 802.11b/g/n options and MIMO technology

Solution

- IWF 501, IP55 802.11b/g/n 2x2 outdoor AP/CPE
- IWF 502, 802.11a/n 2x2 IP55 outdoor AP/CPE
- IWF 503, 802.11ac 3x3 IP55 outdoor AP/CPE



Application:
Steel Factory Wide-Temperature Wi-Fi

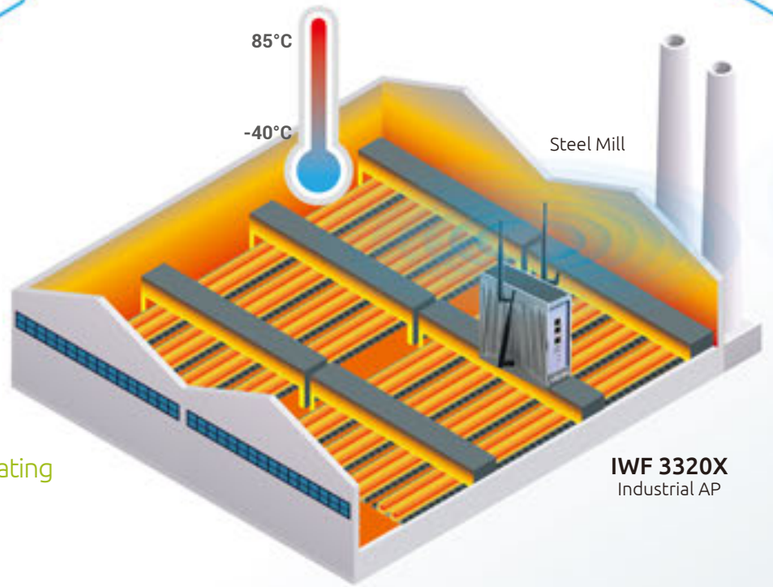
High temperature, dusty environment, -40°C to +85°C conformal coating

Benefit

- Industrial AP with high temperature, high humidity and high dust protection
- Trusted Wi-Fi coverage in harsh environments
- Centralized management of over 30 APs with a WLAN controller to provide user group policy and individual bandwidth control

Solution

- IWF 3320C, small scale WLAN controller (<8AP)
- IWF 3320X, industrial AP
- IWF 5320, IP68 outdoor AP
- NEXCOM MRC rugged tablet PC, NISE fanless computer



Application:
Container Dock Wi-Fi Mesh Networking

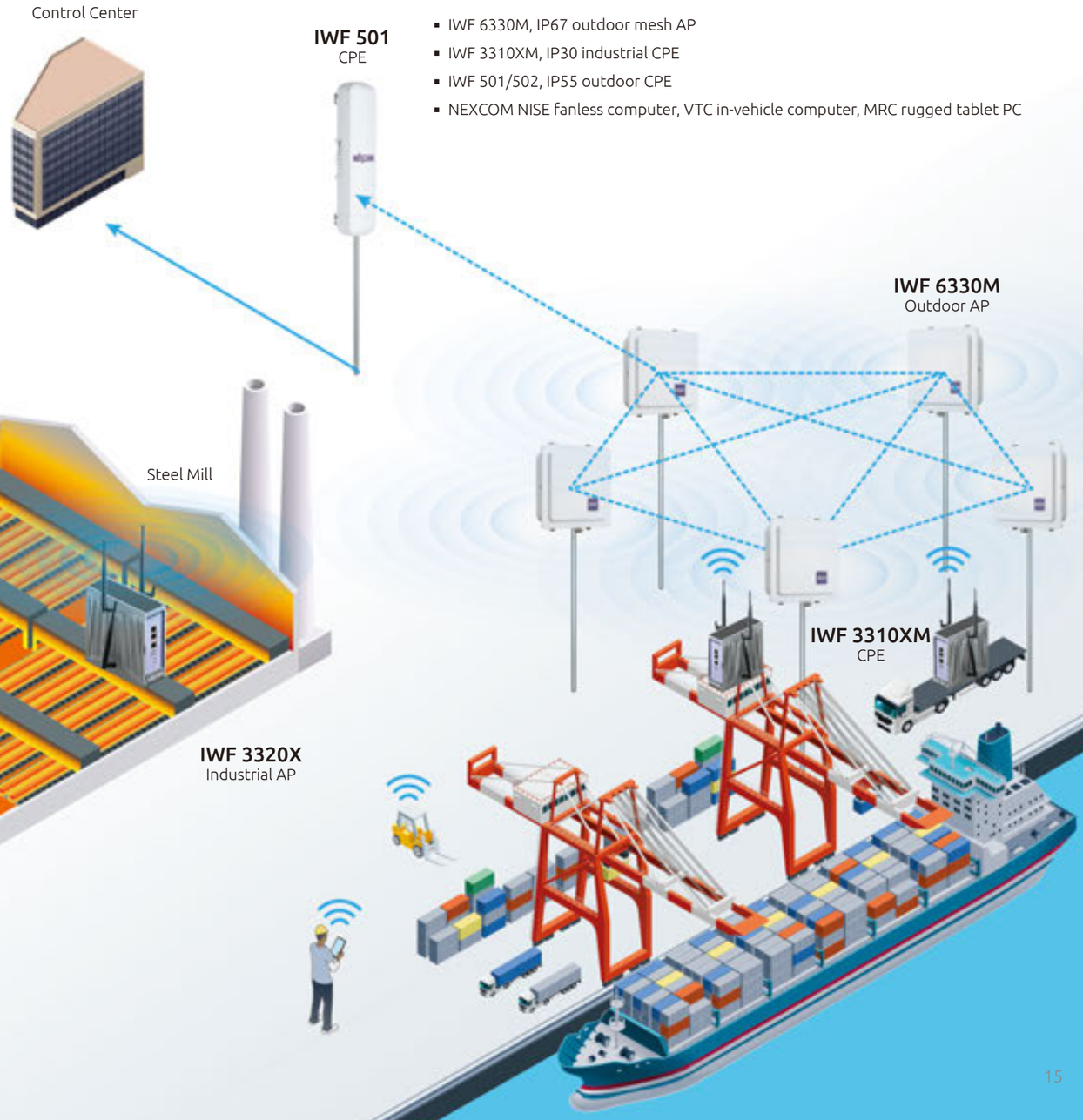
Self-forming, high throughput, fast roaming: seamless large scale coverage

Benefit

- 10-layer mesh connection for deployment in large installations
- High power radio for wide Wi-Fi coverage
- Trusted/Stable Wi-Fi backbone with automatic redundant RF path

Solution

- IWF 6330M, IP67 outdoor mesh AP
- IWF 3310XM, IP30 industrial CPE
- IWF 501/502, IP55 outdoor CPE
- NEXCOM NISE fanless computer, VTC in-vehicle computer, MRC rugged tablet PC



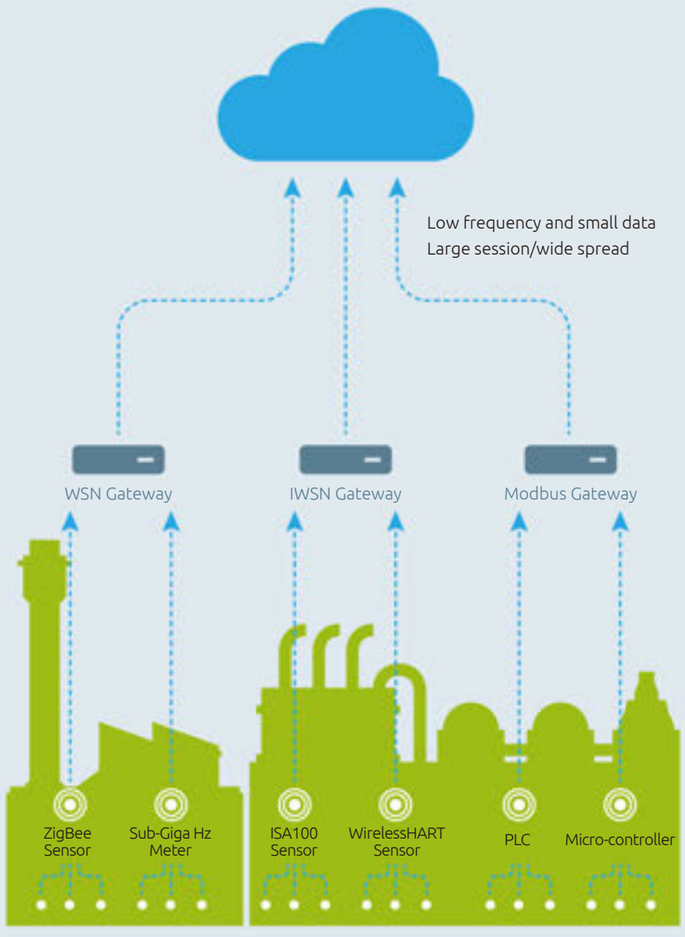
Industrial Wireless Product Selection Guide

IoT Gateway

NEXCOM IoT gateway is an intelligent IoT gateway based on Intel® Quark™ SoC- and Atom™ processor-powered Intel® IoT Gateway (Wind River® Linux/Yocto). Designed to connect to sensor networks, NEXCOM IoT gateway emphasizes on providing flexible connections between sensor nodes and customer's cloud for enabling intelligent big data analysis and data-driven decision making. With the powerful and low power Quark solution, NEXCOM IoT gateway series is rugged by design and intended for critical industrial environments where sensor nodes or I/O devices are deployed. With its modular design, NEXCOM IoT gateway can be flexibly configured with different protocol-ready modules to communicate with end sensors or I/O nodes. NEXCOM IoT gateway can also connect to cloud servers through wireless 3G/Wi-Fi, wired LAN networks, or cloud-ready API integration. The Intel® IoT Gateway technology-based board support package (BSP) from Intel and Wind River integrates the operating systems and communication protocols, as well as security protection mechanism from McAfee to ensure ease of deployment and secure connectivity.

Besides Intel® IoT Gateway technology-based BSP, NEXCOM also offers Yocto BSP solution as an option to support networks based on fieldbus protocols or wireless communication of 3G, Wi-Fi, and ZigBee.

Multi-session



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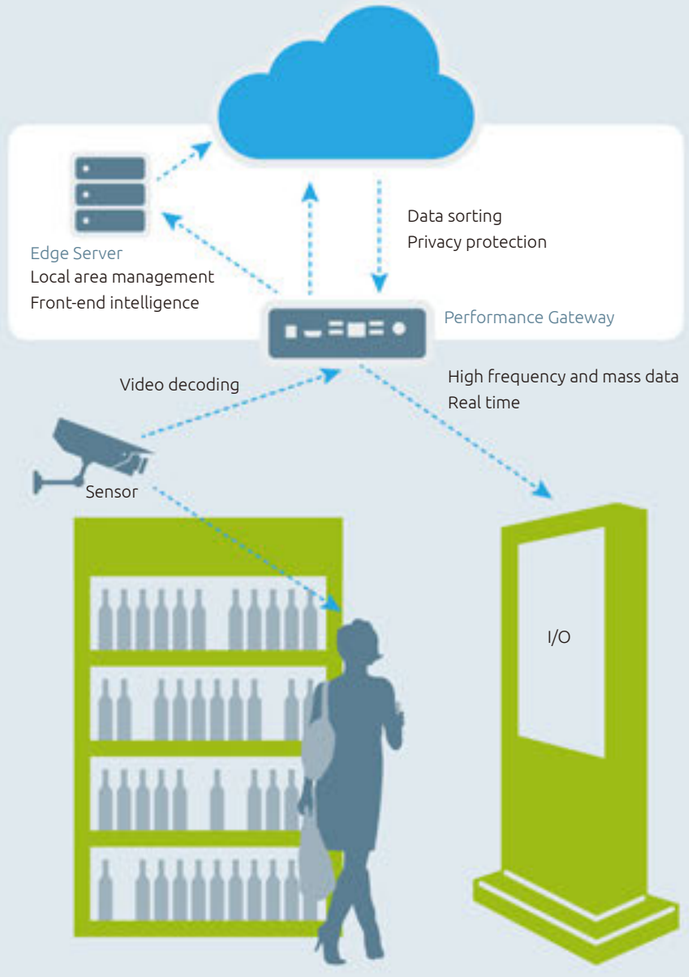
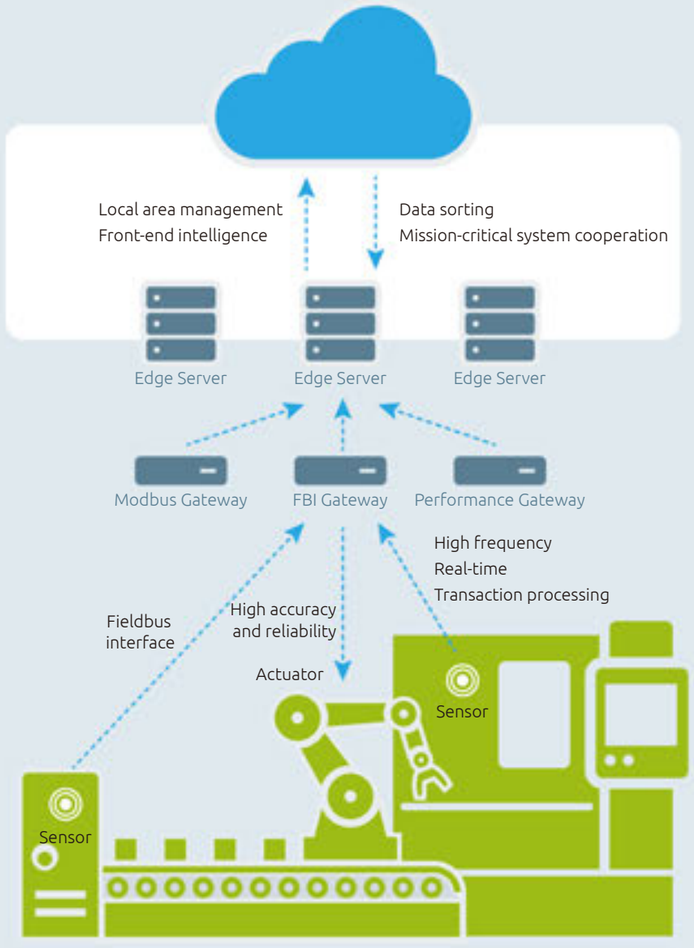
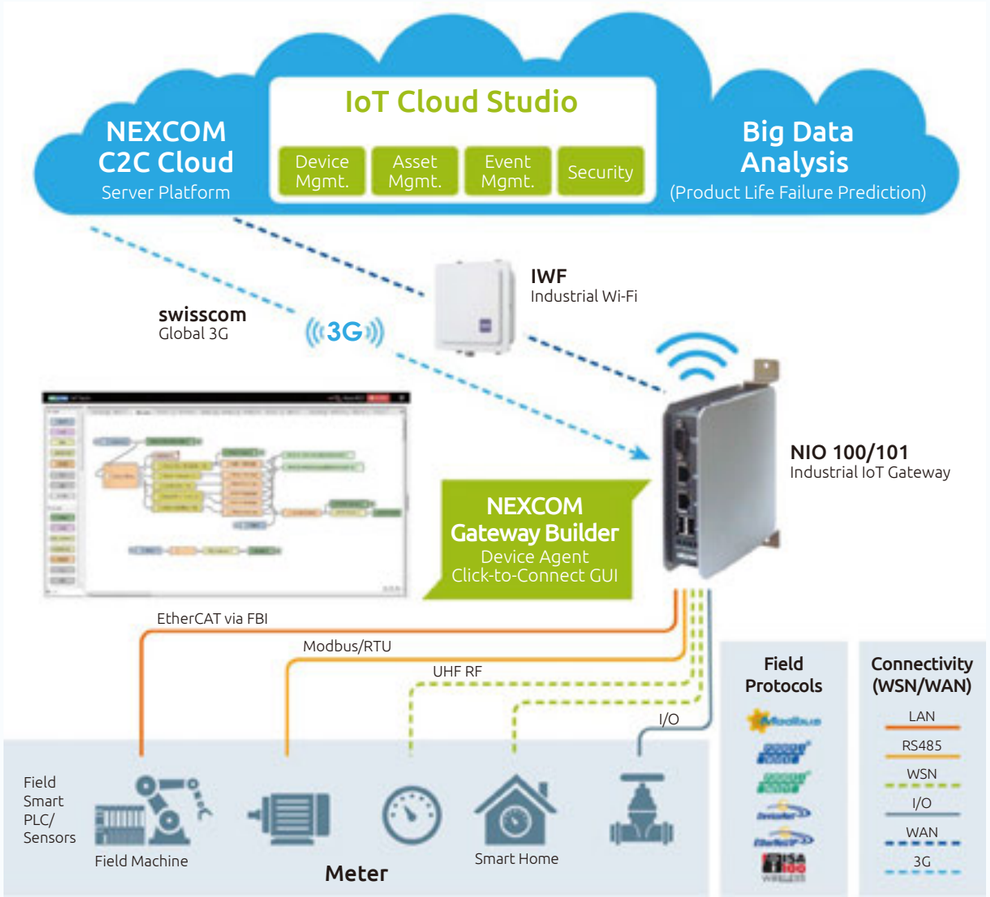


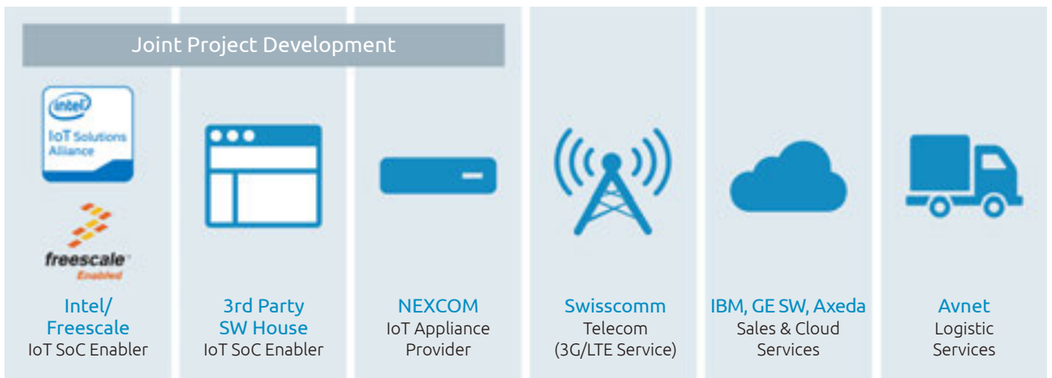
DCS (Distributed Data)



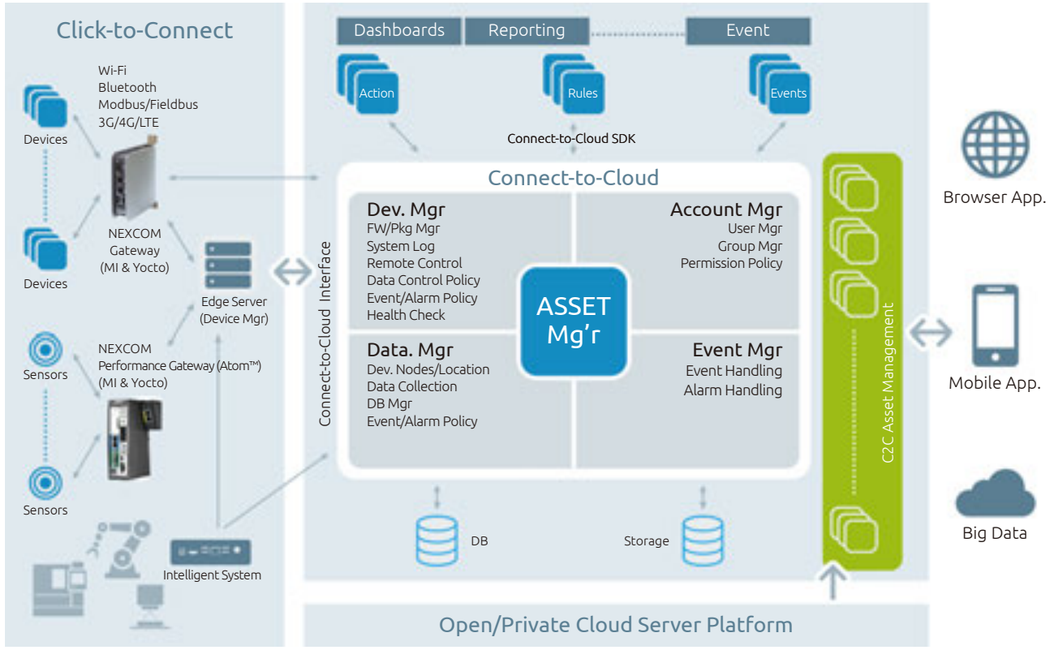
NEXCOM IoT Cloud Studio from Sensors to Cloud



NEXCOM IoT Strategic Alliance Partners



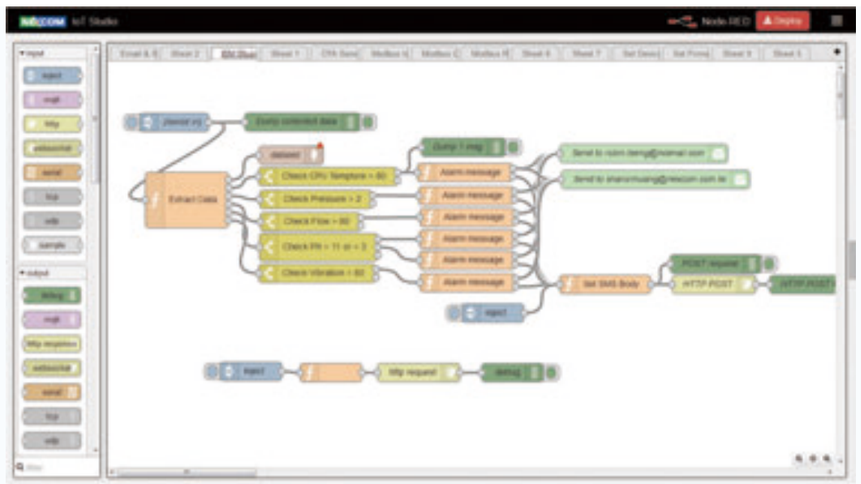
NEXCOM C2C IoT Cloud Studio



C2C GUI of IoT Cloud Studio Gateway Builder

Benefit

- Fast programming through drag and drop modules
- Leverage NEXCOM built-in BSP database
- Allow to import customized protocols



Smart IoT

Application: Smart Compressor

- Product failure prediction
- Product life management
- Leasing business / user analysis

Key features

- Industrial IP-rated protection from high temperatures
- Global 3G connection and LAN redundancy
- Modbus over UDP communication
- Event alarm
- Secure boot

Application: Smart Factory

- Robotic failure prediction
- Factory SCADA monitoring

Key features

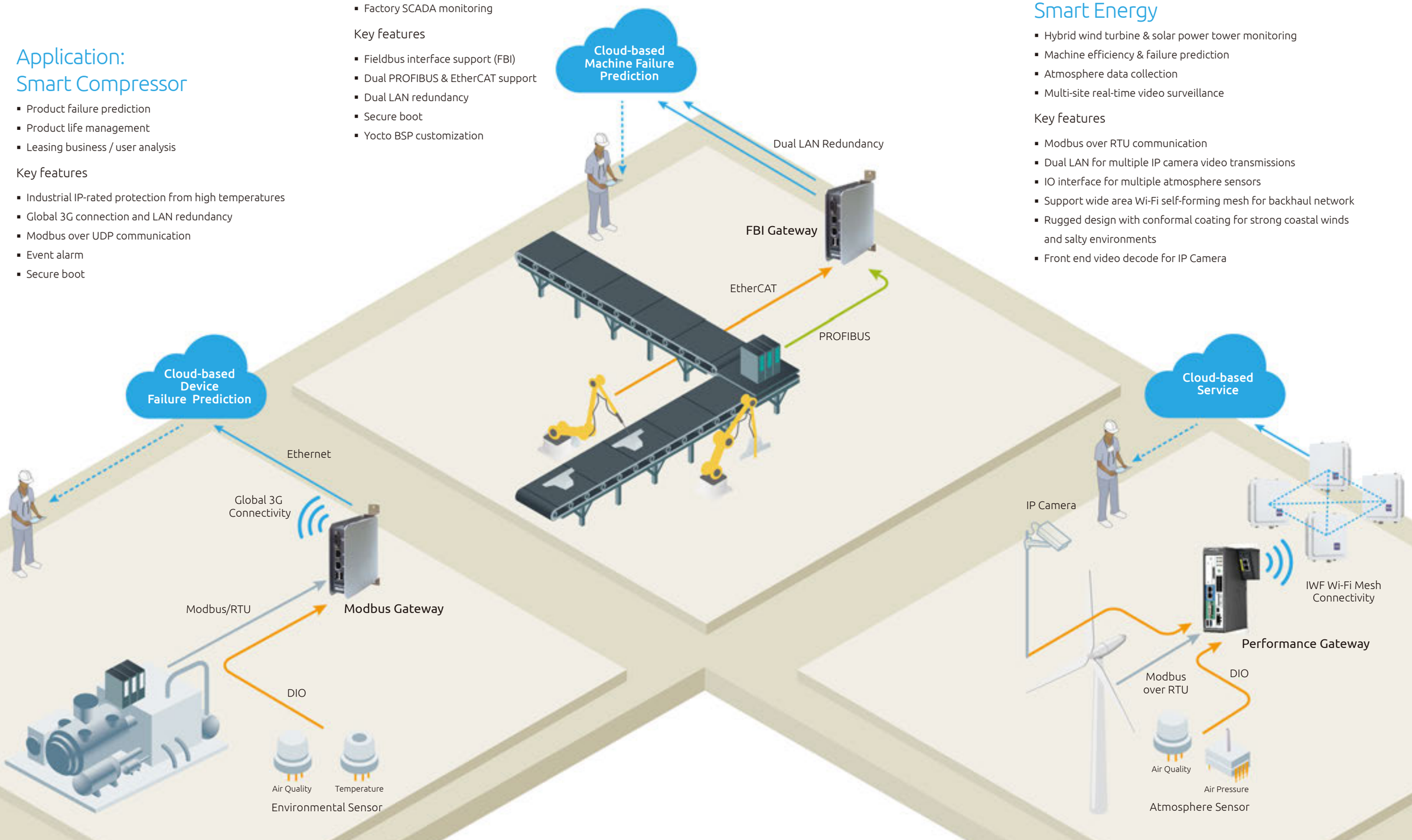
- Fieldbus interface support (FBI)
- Dual PROFIBUS & EtherCAT support
- Dual LAN redundancy
- Secure boot
- Yocto BSP customization

Application: Smart Energy

- Hybrid wind turbine & solar power tower monitoring
- Machine efficiency & failure prediction
- Atmosphere data collection
- Multi-site real-time video surveillance

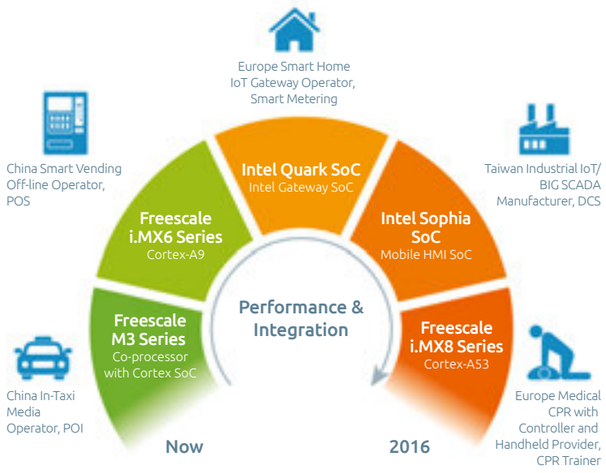
Key features

- Modbus over RTU communication
- Dual LAN for multiple IP camera video transmissions
- IO interface for multiple atmosphere sensors
- Support wide area Wi-Fi self-forming mesh for backhaul network
- Rugged design with conformal coating for strong coastal winds and salty environments
- Front end video decode for IP Camera



IoT SoC Platform

NEXCOM IoT SoC platform solution is a SoC-based intelligent system which can connect clouds with/ without IoT gateways. The IoT SoC platform is aimed to offering customers an OS-ready computing platform to build their own front-end IoT devices. The IoT SoC platform usually is based on a light slim low-power computing processor and integrated with embedded operating system BSP like Android. NEXCOM IoT SoC platform service offers a customized fast time-to-market solution which can be integrated into a functional system yet allows customized options including housing, touch panel, and 3G communication. Today, with leading competence in SoC embedded technology, NEXCOM IoT SoC platform service has been applied to including smart taxi infotainment system, smart vending machine, smart HMI (Human Machine Interface), and kiosk. With functionality-proof IP library of SoC solutions and an experienced RD team, NEXCOM's Design to Order Service makes commitments to provide a sample in a six-week time.



NEXCOM IoT SoC Platform Roadmap & Milestone

NEXCOM IoT Core Competence

- Expertise in Freescale i.MX6 series
- NEXCOM ultra-small form factor, all-in-one functional computer-on-module
- **6-week** DTOS (Design-to-Order Services) through NEXCOM's solid experience in SoC and proven functional IP blocks for CSB (Customer Solution Board) development
- Android / Linux OS porting and migration of customers' software drivers and utility development
- Industrial fanless computer system integration
- Rugged tablet computer / in-vehicle PC

Hardware
Intel, Freescale i.MX6, M3, DSP, micro controller
Robust power isolation
Diverse IO controllers
GPS, communication module integration
Wide range of panel interface

Software
Android and Linux BSP
3rd party driver modification & integration
Fieldbus protocols
OTA / Xcare™ utility
Customized validation utility

SoC-based DTOS Service

System
Fanless design
Wide operating temperature design
Panel and touch sensor integration
ID and mechanical design service

Communication
Industrial Wi-Fi development
3G/LTE module integration
Fieldbus Interface (FBI)
WSN interface (ZigBee, Z-Wave, etc.)
Radio scanning and certification

Application: In-Taxi Smart Advertising

- Mobile interactive digital signage
- Location-based service
- Mobile interactive online shopping
- Passenger user experience management
- Most competitive cost advantage
- Proven by 30k+ on road taxi service

Key features

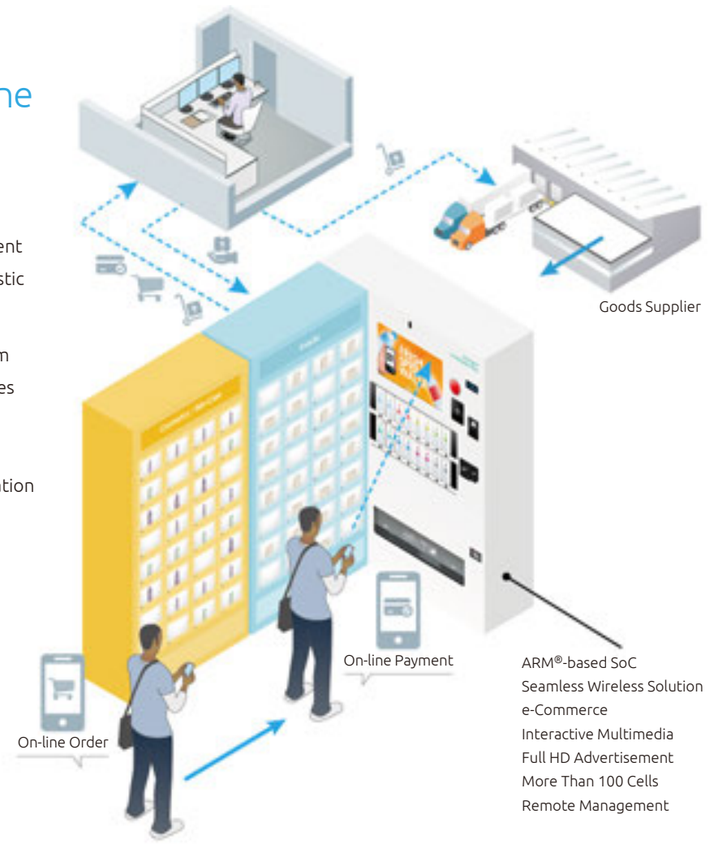
- Freescale i.MX6 / Android 4.2.x platform
- In-vehicle power ignition design
- GPS / 3G / Wi-Fi RF design and integration
- Panel and touch sensor integration
- Anti-vibration rugged in-vehicle system design
- Over-the-Air (OTA) upgrade utility
- Auto recovery utility

Application: Smart Vending Machine

- Multiple vending machines chain store
- Online advertising
- Mobile interactive online shopping
- Shoppers profile & behavior management
- Central management & remote diagnostic

Key features

- Freescale i.MX6 / Android 4.3.x platform
- Rich IO: 5 x RS232 and 5 x USB interfaces
- Dual 3G redundancy
- On-the-spot Wi-Fi hotspot
- 21" HD panel with touch sensor integration
- Fanless system design



Industrial Wireless Product Selection Guide

Product Selection Guide

Access Point

Family	Central Management Industrial Wi-Fi					EZ Family		Mesh/Mobility Wi-Fi		
Model	IWF 2220	IWF 3320X	IWF 5210	IWF 5320	IWF 5320P	IWF 300	IWF 600	IWF 3310X	IWF 6320	IWF 6330
Photo										
Category	Light Duty Industrial AP	Industrial AP	Outdoor AP	Outdoor AP	Outdoor P2P	Industrail EZ Mesh AP	Outdoor EZ Mesh AP	Industrial Mesh AP/CPE	Outdoor Mesh AP	Outdoor Mesh AP
WLAN Standard	802.11b/g/n + 802.11a/n	802.11a/b/g/n	802.11 a/b/g/n	802.11a/b/g/n	802.11a/b/g/n	802.11ac+a/b/g/n 2x2 MIMO	802.11ac+b/g/n 3x3 MIMO	802.11a/b/g/n	802.11a/b/g/n	802.11a/b/g/n
Number of Radios	2	2	1	2	2	2	2	1	2	3
Number of Antenna	4	4	2	4	4	2	6	2	4	6
Type of RF Connector	RP-SMA	RP-SMA	N-Type Female	N-Type Female	N-Type Female	RP-SMA	N-Type female	RP-SMA	N-Type Female	N-Type Female
Number of WAN Port	1	1	1	1	1	1	1	1	1	1
Number of LAN Port	4	2	0	1	1	4	1	0	0	0
Type of LAN	RJ45	RJ45	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	RJ45	RJ45 (encapsulated by M25)	RJ45	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)
Console Port	DB-9	DB-9	N/A	RJ45 (Encapsulated by M25)	RJ45 (Encapsulated by M25)	N/A	1	N/A	N/A	N/A
USB2.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IP Rating	IP30	IP30	IP68	IP68	IP68	IP30	IP68	IP30	IP67	IP67
Conformal Coating	N/A	N/A	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A
Mounting Style	Wall Mount	Wall/DIN-Rail Mount	Wall/Pole Mount	Wall/Pole Mount	Wall/Pole Mount	Wall mount	Wall/Pole mount	Wall/DIN-Rail mount	Wall/Pole Mount	Wall/Pole Mount
Temperature	0°C to +60°C	-40°C to +80°C	-35°C to +75°C	-20°C to +70°C	-20°C to +70°C	-40°C to +80oC	-40°C to +80°C	-40°C to +80°C	-35°C to +75°C	-35°C to +75°C
Dimension (mm)	213 x 125 x 37.4	58.8 x 139.6 x 167	182 x 111 x 45	240 x 230 x 130	240 x 230 x 130	190 x 106 x 38.9	200 x 70.4 x 250	58.8 x 139.6 x 167	220 x 220 x 77	220 x 220 x 77
PoE Input	IEEE 802.3at	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af	IEEE 802.3af	N/A	IEEE 802.3at	IEEE 802.3at	PoE: 48V	PoE: 48V
DC Input	+12V	+9 ~ +36V	N/A	N/A	N/A	12VDC	24VDC	2 x DC input: +12~+48V	N/A	N/A
Certification	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC	CE, FCC, EN50155	CE, FCC	CE, FCC
Safety	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1	EN60950-1
Operation Mode	AP/WDS	AP/WDS	AP/WDS	AP/WDS	Point to Point	AP/Client Bridge/Router/EZ Mesh	AP/Client Bridge/AP Router/EZ Mesh	AP/Station/Mesh (* Mesh model only)	AP/Station/Mesh	AP/Station/Mesh
Management Mode	Central/GUI Management	Central/GUI Management	Central /GUI Management	Central/GUI Management	GUI Management	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management	SNMP/GUI Management

Access Point

Family	Hotspot Wi-Fi	Cost-effective AP/CPE		
Model	HWF 1310	IWF 501/501D	IWF 502/502D	IWF503/503D
Photo				
Category	Hotspot AP	Outdoor AP/CPE	Outdoor AP/CPE	Outdoor AP/CPE
WLAN Standard	802.11b/g/n	802.11b/g/n	802.11a/n	802.11ac/an/a 3x3 MIMO
Number of Radios	1	1	1	1
Number of Antenna	2	IWF 501: 12dBi Embedded Antenna IWF 501D: 2 x RP-xSMA Female	IWF 502: 14dBi Embedded Antenna IWF 502D: 2 x SMA Female	IWF503: 10dBi Embedded Antenna IWF503D: 3x RP-SMA female
Type of RF Connector	RP-SMA	IWF501D: 2xRP-SMA Female	IWF502D: 2xRP-SMA Female	IWF503D: 3xRP-xSMA Female
Number of WAN Port	1	1	1	1
Number of LAN Port	4	1	1	1
Type of LAN	RJ45	RJ45	RJ45	RJ45
Console Port	DB-9	N/A	N/A	N/A
USB2.0	x1	N/A	N/A	N/A
IP Rating	IP30	IP55	IP55	IP55
Conformal Coating	N/A	N/A	N/A	N/A
Mounting Style	Wall Mount	Pole Mount	Pole Mount	Wall/Pole mount
Temperature	0°C to +60°C	-35°C to +75°C	-35°C to +75°C	-30°C to +75°C
Dimension (mm)	165 x 82 x 25	280 x 93 x 45	280 x 93 x 45	240 x 135 x 58
PoE Input	N/A	PoE: 12~24V	PoE: 12~24V	Passive PoE: 24V
DC Input	+5V	N/A	N/A	N/A
Certification	CE	CE, FCC	CE, FCC	CE, FCC
Safety	EN60950-1	EN60950-1	EN60950-1	EN60950-1
Operation Mode	AP/WDS	AP/Client/Router/WISP	AP/Client/Router/WISP	AP/Client Bridge/AP Router/Client Router/WDS
Management Mode	GUI Management	GUI Management	GUI Management	SNMP/GUI Management

Controller

Model	IWF 800 EZ Controller	IWF 8405	IWF 3320C
Photo			
Number of AP	50	150	8
Local user	1000	6000	2000
On-demand User	1000	6000	2000
Number of Antenna	N/A	N/A	4
Type of RF Connector	N/A	N/A	RP-SMA
Number of WAN Port	2	2	1
Number of LAN Port	4	4	2
Console Port	RJ-45	RJ-45	DB-9
USB2.0	N/A	2	N/A
Mounting Style	Wall mount	19" 1U Rack	DIN-Rail & Wall Mount
Temperature	-40°C to +80°C	0°C to +40°C	-40°C to +80°C
Dimension (mm)	250 x 194.2 x 46.4	426 x 236 x 44	58.8 x 139.6 x 167
PoE Input	802.3at (WAN1)	N/A	IEEE 802.3af
Power Input	+12 ~ +48V	100 ~ 240 VAC, 50/60 Hz	+9 ~ +36V DC (Thru Terminal block)
Certification	CE, FCC	CE, FCC	CE, FCC
Safety	EN60950-1	EN60950-1	EN60950-1

IWF Antenna

Part Number	603ANT0014X00	603ANT0010X00	603ANT0013X00
Photo			
Category	Dual Band, Omni-directional	Directional Sector Antenna	Directional Sector Antenna
Frequency Range	2400 ~ 2500/5150 ~ 5875MHz	2400 ~ 2500MHz	5150 ~ 5875MHz
Peak Gain	4dBi@2.4GHz; 7dBi@5GHz	14±0.5 dBi	15±0.5 dBi
VSWR	2.0 : 1 (Max.)	2.0 : 1 (Max.)	2.0 : 1 (Max.)
Polarization	Linear, Vertical	Linear, ±45°	Linear, ±45°
HPBW/Horizontal	360°	60°	60°
HPBW/Vertical	30°/20°	13°	6°
Power Handling	2W (cw)	10W (cw)	6W (cw)
Front to Back Ratio	N/A	-25dB (Max.)	-20dB (Max.)
Isolation (Front/Back)	N/A	20dB (Min.)	20dB (Min.)
Impedance	50Ω	50Ω	50Ω
Connector*	N type, Male	N type, Female	N type, Female
Survival Wind Speed	216km/hr	216km/hr	216km/hr
Temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Humidity	95% at 55°C	95% at 55°C	95% at 55°C
Radome Color	Gray	Gray	Gray
Radome Material	ABS, UV Resistant	ABS, UV Resistant	ABS, UV Resistant
Weight	70g	970g	1060g
Dimensions (mm)	Ø22 x 183	540 x 116 x 39	540 x 116 x 39
Mount Kit	Directly Mount, N jack	Pole & Wall Mount	Pole & Wall Mount

Part Number	603ANT0008X00	603ANT0011X00	603ANT0009X00	603ANT0012X00
Photo				
Category	Omni-directional	Omni-directional	MIMO, Directional	MIMO, Directional
Frequency Range	2400 ~ 2500MHz	4900 ~ 5350MHz	2300 ~ 2700MHz	5150 ~ 5875MHz
Peak Gain	8 dBi	8 dBi	16~17 dBi	20 dBi
VSWR	2.0 : 1 (Max.)	2.0 : 1 (Max.)	2.0 : 1 (Max.)	2.0 : 1 (Max.)
Polarization	Linear, Vertical	Linear, Vertical	Linear, Vertical/Horizontal	Dual Linear, ±45°
HPBW/Horizontal	360°	360°	18°~ 25°	10°
HPBW/Vertical	15°	12°	18°~ 25°	10°
Power Handling	20W (cw)	20W (cw)	6W (cw)	6 W (cw)
Front to Back Ratio	N/A	N/A	-25dB (Max.)	-30dB (Max.)
Isolation (Front/Back)	N/A	N/A	16dB (Min.)	24dB (Min.)
Impedance	50Ω	50Ω	50Ω	50Ω
Connector*	N type, Female	N type, Female	N type, Female	N type, Female
Survival Wind Speed	216km/hr	216km/hr	216km/hr	216km/hr
Temperature	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Humidity	95% at 55°C	95% at 55°C	95% at 55°C	95% at 55°C
Radome Color	Gray-white	Gray-white	Gray-white	Gray-white
Radome Material	Fiber Glass, UV Resistant	Fiber Glass, UV Resistant	PC, UV Resistant	PC, UV Resistant
Weight	340g	280g	1.1kg	1.245kg
Dimensions (mm)	80 x 78 x 520	80 x 78 x 373	320 x 320 x 18	320 x 320 x 20
Mount Kit	Included with Antenna	Included with Antenna	Pole & Wall Mount	Pole & Wall Mount

* The antenna with N-type female connector needs additional low loss cable in order to connect to AP while N-type (male) style connector is directly connect to AP.

Access Point Feature Overview

		EAP210	EAP701	EAP727	EAP760	EAP767	OWL530	OWL630
Performance	Airtime Fairness	v		v	v	v	v	v
	Band Steering			v	v	v		v
	Optimal Client Filtering	v		v	v	v	v	v
	Dynamic Channel Selection	v		v	v	v	v	v
	Multicast to Unicast Conversion	v	v	v	v	v	v	v
	Proxy ARP	v	v	v	v	v	v	v
	Wireless QoS (WMM)	v	v	v	v	v	v	v
	Configurable QoS Parameters	v		v	v	v	v	v
Security	Station Isolation	v	v	v	v	v	v	v
	Layer 2 Firewall	v	v	v	v	v	v	v
	CP Snooping	v	v	v	v	v	v	v
	WPA / WPA2	v	v	v	v	v	v	v
	Local MAC ACL	v	v	v	v	v	v	v
	RADIUS MAC ACL	v		v	v	v	v	v
	Trusted Interfaces	v	v	v	v	v	v	v
Deployment	Number of Radios	1	1	2	2	2	1	2
	Maximum # of ESSID	16	8	32	32	32	16	32
	Additional LAN Ports	0	2	0	1	0	0	1
	IPv6	v		v	v	v	v	v
	CAPWAP Tunnel	v	v	v	v	v	v	v
	Channel Analysis (2.4 GHz)	v		v	v	v	v	v
	Channel Analysis (5 GHz)	v		v	v	v	v	v
	Wireless Link Bonding							v

* Feature availability is subject to software versio.

EAP/OWL Models

Model	EAP210	EAP701	EAP727	EAP760	EAP767	OWL530	OWL630
Photo							
Deployment	Indoor	Indoor	Indoor	Indoor	Indoor	Outdoor	Outdoor
Wireless Standard	802.11a/b/g/n	802.11b/g/n	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n/ac	802.11a/b/g/n	802.11a/b/g/n/ac
MIMO	2 x 2 : 2	2 x 2 : 2	2 x 2 : 2	3 x 3 : 3	3 x 3 : 3	2 x 2 : 2	3 x 3 : 3
PoE Specification	802.3af	802.3af	802.3af	802.3af	802.3at	802.3af	802.3at
Uplink Ports	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)	1 x GbE (PoE)
LAN Ports	No	2 x FE	No	1 x GbE (802.3af PSE)	No	No	1 x GbE (802.3af PSE)
Console Port	1 x DB9M	No	No	1 x RJ-45	No	No	1 x RJ-45
RJ-11/RJ-45 Bypass	No	No	No	No	No	No	No
Output Power*[1]	2.4 GHz: Up to 27 dBm 5 GHz: Up to 23 dBm	2.4 GHz: Up to 15 dBm	2.4 GHz: Up to 23 dBm 5 GHz: Up to 23 dBm	2.4 GHz: Up to 23 dBm 5 GHz: Up to 23 dBm	2.4 GHz: Up to 25 dBm 5 GHz: Up to 25 dBm	2.4 GHz: Up to 27 dBm 5 GHz: Up to 23 dBm	2.4 GHz: Up to 23 dBm 5 GHz: Up to 23 dBm
Antenna Gain	Detachable 3/4 dBi	Built-in 3 dBi	Built-in 3/5 dBi	Detachable 2/3 dBi	Built-in 3/5 dBi	-	-
Max. Power Consumption	12W	7W	14.4W	22W	17W	12W	22W
Max. Concurrent Users*[2]	256	128	384	384	384	256	384
Dimensions (W x D x H; cm)	19.0 x 13.3 x 3.3	12.0 x 7.0 x 2.6	16.0 x 16.0 x 2.8	18.3 x 18.3 x 3.6	18.0 x 18.0 x 4.4	18.2 x 11.1 x 4.5	25.0 x 20.0 x 7.4
Weight	0.820 kg	0.099 kg	0.280 kg	0.520 kg	0.610 kg	0.900 kg	2.800 kg

* 1: Maximum power is limited by local regulatory requirements * 2: Capacity limits may vary depending on confi guration parameters

WHG Models

Model	WHG321	WHG325	WHG425	WHG525	WHG711	WHG801
Photo						
Managed APs	40	50	150	300	500	1200
Local Accounts	3000	4000	6000	10000	15000	30000
On-Demand Accounts	3000	4000	6000	10000	15000	30000
Form Factor	Desktop	19" Rack-mount (1U)	19" Rack-mount (1U)	19" Rack-mount (1U)	19" Rack-mount (1U)	19" Rack-mount (2U)
WAN Ports	2 x GbE	2 x GbE	2 x GbE	2 x GbE	2 x GbE/2 x 1G SFP	2 x GbE/2 x 1G SFP 1 x 10G SFP
LAN Ports	2 x GbE	2 x GbE	4 x GbE	4 x GbE	10 x GbE/2 x 1G SFP	6 x GbE/6 x 1G SFP 1 x 10G SFP
Dimensions (W x D x H; cm)	33.0 x 18.0 x 4.5	43.0 x 28.0 x 4.4	42.6 x 23.6 x 4.4	42.6 x 23.6 x 4.4	42.6 x 45.0 x 4.4	43.0 x 58.0 x 8.8
Weight	2.00 kg	5.00 kg	5.00 kg	5.00 kg	8.00 kg	19.00 kg
High Availability / Redundancy	Yes (N+1)	Yes (N+1)	Yes (N+1)	Yes (N+1)	Yes (N+1)	Yes (N+1)
Power Redundancy	No	No	No	No	No	Yes

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