Spring 2014

Express

NEXCOM
The Intelligent Systems

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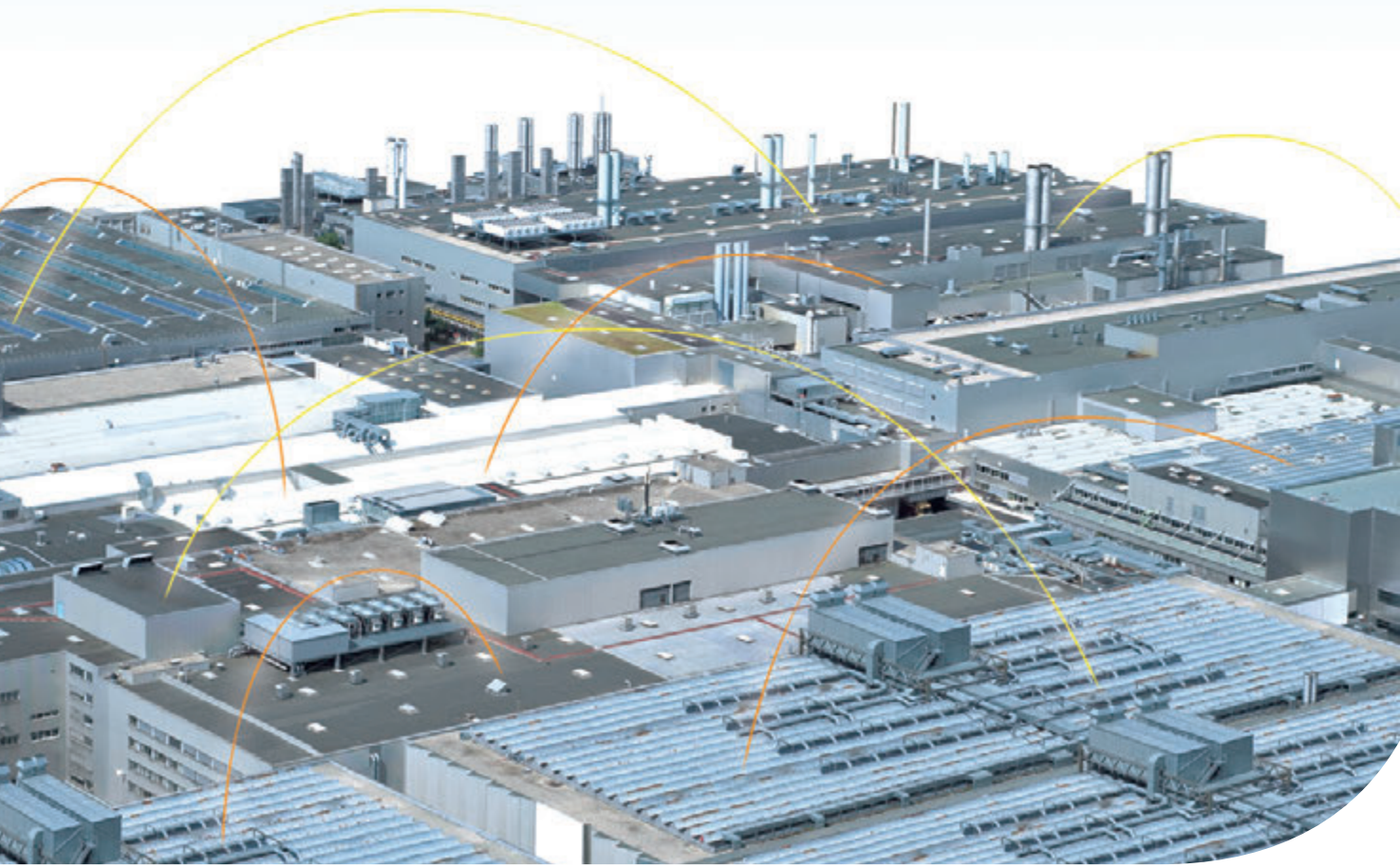
PC-Based Automation Systems

Empower the All IP-based Factory



In Depth
NEXCOM to Pursue In-Vehicle Infotainment Market Opportunity

White Paper
Building Engaging Cloud Classrooms with Digital Media Players

Market Story
Industrial Wi-Fi Infrastructure in High-Temperature Steel & Iron Factory

Dear Partners,

Just like the extreme hot and cold weathers in the world, the IT market is also undergoing the dramatic changes from domain to domain, from country to country. NEXCOM closed the Year 2013 with the flat performance, $ 141M consolidated, almost identical with the revenue of the Year of 2012. The ups and downs market by market offset each other last year.

Good things happen surely but slowly, particularly in our market which the proven product maturity and service capability are the keys for the customers to adopt new solutions. I think all of you have got many messages from NEXCOM about our brand new platforms, appliances, and solutions to address the established application domains. They come adopted surely, although a little bit slowly. However, we work very hard to make them the strong punches in the market because we believe they are in the booming market segments, even to be continuously booming in the coming 10 years!

The ICT, the Intelligence & Communication, especially the mobile computing, now are penetrating into all human life, from the "smart parts", smart phones, smart pads, smart buildings, smart cities, finally to the smart planet! So many cross-boundary business models pop up with the so-called Internet Speed! For all our partners in the market, the keys are quick solutions through seamless collaborations with various vendors to quickly close the deals or win the projects.

The world is moving faster and faster. We have to move even faster than the whole world. That's why we propose the new collaboration model, the One-Stop Shopping approach through our partners to the local SI's or End Users. Only we pre-certify all the necessary or popular solution packages, including the S/W, H/W modules, and platforms; we can satisfy the demanding customers from the very beginning. Then we can win the business together before any competitors even know it.

In the past two years, NEXCOM invested a lot in the appliances and solutions to lay the ground work for One-Stop Shopping. We now have several solution categories ranging from the Surveillance, the MA/FA, the Industrial/Enterprise Wi-Fi Management, and the Retail Solutions. Of course these do not cover all segments, but we focus on some vertical application domains.

With so many exciting new products and solutions to come, we still have to highlight the brand new platforms based on Intel's new architecture like 4th generation Intel® Core™ and Intel® Atom™ processors and many other SoC platforms or appliances. We now have 5 BUs with 10 major product families. Any new requests, just Ask NEXCOM! Not always, but very likely, NEXCOM can fulfill most of your requirements.

This year we'll also have more than 50 NEXCOM Solution Days all over the world. Till now, we have held more than 20 already. The feedback and rewards deserved the heavy investments. Let's collaborate with each other through the One-Stop Shopping approach and push these good solutions to every corner of the smart planet!

Clement Lin

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About NEXCOM

Founded in 1992, NEXCOM has five business units which focus on vertical markets across industrial computer, in-vehicle computer, multimedia, network and communication, and intelligent digital security industries. NEXCOM serves its customers worldwide through its subsidiaries in five major industrial countries. NEXCOM gains stronghold in vertical markets with its industry-leading products including the rugged fanless computer NISE series, the in-vehicle computer VTC series, the network and security appliance NSA series and the digital signage player NDiS series.

NEXCOM to Pursue
In-Vehicle Infotainment Market Opportunity

Vehicles with innate connectivity can replicate connected mobile experience to address the need for in-vehicle infotainment and have considerable market potential. To this end, NEXCOM is planning to roll out a whole new series to turn vehicles an extension of our connected life and bring a new meaning to riding experience.

Time is rife for in vehicle infotainment as required technologies are almost all in position. The migration to 4G wireless technology provides fast internet connection for live multimedia streaming. Intel has released platforms featuring decent computing and multimedia processing capabilities, energy efficiency, and wide temperature supports. Mobile operating system Tizen for vehicle applications has also emerged. It appears that a hardware device is the missing piece to complete the vision, and this is where NEXCOM comes in.

A dedicated IVI solution with 7" all-in-one dashboard computer based on Intel processors and Tizen operating system will be developed to target the aftermarket segment of passenger vehicle in the automotive industry.

In the aftermarket segment, a mid-and-high end car stereo system is priced around six to ten hundred US dollars. With similar price tag, IVI solution can provide more functions and better performance to consolidate a wide variety of applications, including navigation, audio/video system, and video recorder onto a single device.

Taking navigation for instance, an IVI solution can advise the best route based on real time traffic and road information and show directions in street or other view mode to help drivers understand their surroundings. Better still, an IVI solution is built based on a computer and allows users to surf the internet, read emails, or enjoy on-demand media services, replicating connected mobile experience in vehicles.

An IVI system with consolidated applications has cost advantage and is a sweet spot for drivers of mid-range vehicles. This year, NEXCOM will release a whole new dedicated IVI solution in select emerging markets.

2014 Worldwide
Trade Show Calendar at A Glance

ISC West
April 2-4, 2014
Sands Expo Center, Las Vegas, NV USA
Booth # 4044

ROBOTECH
April 23-25, 2014
Pacifico Yokohama
Booth # Q-33

FOOMA JAPAN
June 11-14, 2014
Tokyo Big Sight East, Tokyo, Japan

Hannover Messe
April 7-11, 2014
Convention Center, Hannover, Germany
Booth # D15

WasteExpo
April 29-May 1, 2014
Georgia World Congress Center,
Atlanta, GA USA
Booth # 3131

IFSEC International
June 17-19, 2014
ExCeL London, United Kingdom
Booth # B1375

NAFA Institute & Expo
April 8-10, 2014
Minneapolis Convention Center,
Minneapolis, MN USA
Booth # 708

ESEC 2014
May 14-16, 2014
Tokyo Big Sight, Tokyo, Japan

Semicon West
July 8-10, 2014
Moscone Center, San Francisco, CA USA
Booth # 6171

SEA JAPAN 2014
April 9-11, 2014
Tokyo Big Sight East, Tokyo, Japan
Hall 1-2, Booth # 1E-26

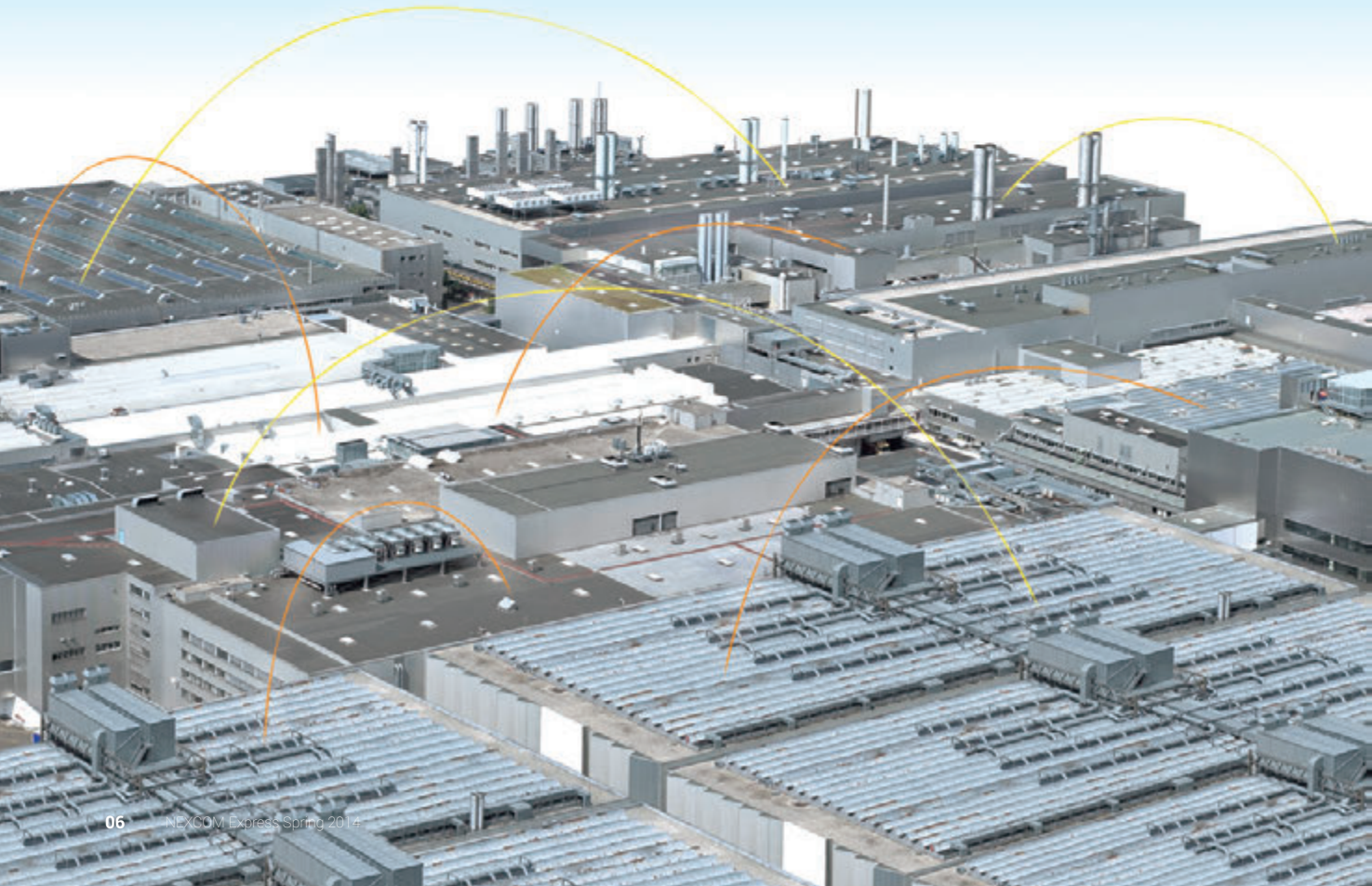
RTECC – Boston
Boston, MA USA

PC-Based Automation Systems
Empower the All IP-based Factory

With the advent of Industry 4.0 – the push to drive a fourth industrial revolution based on the intelligent factory – PC-based automation systems are a critical piece for enabling all IP-based Factory-of-Things. However, building PC-based automation systems requires computers with high reliability, as well as communication and computing capabilities specifically designed for factory automation applications.

To this end, NEXCOM offers a unique solution, the NISE 105 fanless computer based on the Intel® Atom™ processor E3800 product family. Designed to empower the all IP-based factory and help manufacturers realize the vision of smart production, green production and urban production, the NISE 105 encompasses fieldbus control and internet connectivity, computing and graphical capabilities, small form factor and low power design.

In this white paper, NEXCOM will explain how the NISE 105 compact fanless computer provides a fieldbus control interface and leverages the Intel® Atom™ Processor E3826, Intel® Gen 7 Graphics, and low power consumption, to help streamline factory data collection and management, and facilitate production processes, manufacturing operations, and quality control. Furthermore, we will show how the processor's power efficiency enables the small footprint and fanless design of NISE 105, allowing it to achieve high reliability in harsh factory automation environments.



NISE 105 + Fieldbus + SoftPLC = Ready for Smart Factory Controller

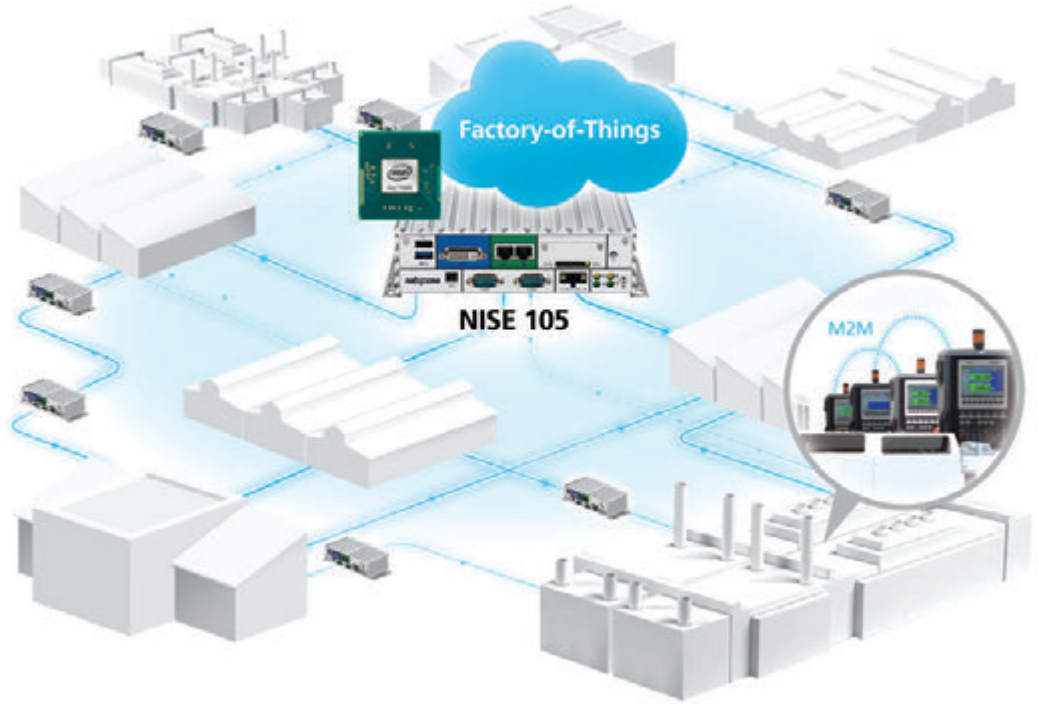


Figure 1. Designed to empower the all IP-based factory, NEXCOM NISE 105 helps manufacturers realize the value of M2M communication for Factory-of-Things.

Let's use the petrochemical industry as an example for how the NISE 105 can help enable the intelligent factory. A petrochemical plant may cover several dozen hectares of space, requiring operators to gather large amounts of monitoring and control parameters from dozens of facilities throughout the plant or multiple plants. Facilities built at different construction periods may also use different industrial control systems and may be responsible for different upstream and downstream processes.

Through strong support for widely-used fieldbus protocols – including PROFIBUS, PROFINET, DeviceNet, EtherNet/IP and EtherCAT – the NISE 105 can provide bi-directional data communication and acquisition of different-branded field devices and PLCs. With an internet connection, the acquired data can be uploaded to higher levels of the network for advanced controls such as SQC (Statistical Quality Control) and SPC (Statistical Process Control).

Petrochemical plants are often located in harsh environments with extreme temperatures. Other process automation use models, such as wastewater

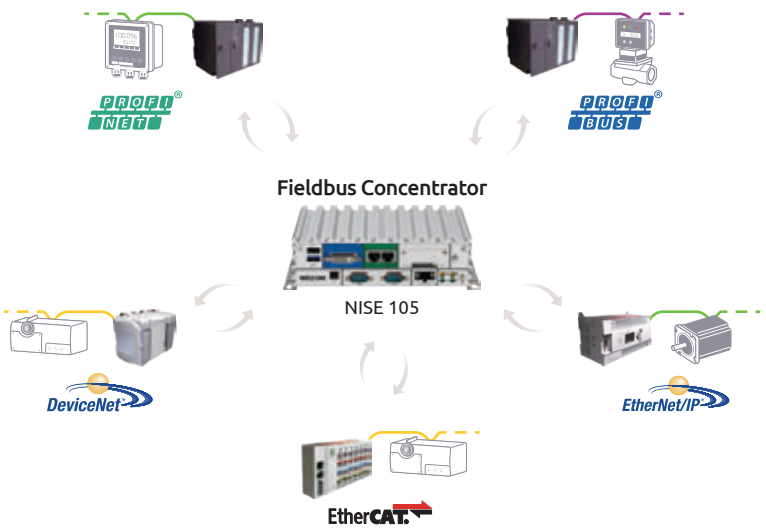


Figure 2. The NISE 105 can provide bi-directional data communication and acquisition of different-branded field devices with integrated fieldbus technology.

treatment, electric utilities, and steel factories, are also associated with harsh environment conditions. Therefore, the PC-based automation systems used in these applications must support wide operating temperature ranges, fanless design, anti-vibration, and signal and power isolation technology.

The NISE 105 based on Intel Atom Processor E3826 can provide high level of system reliability. Thanks to the new 22nm manufacturing technology, the processor offers up to 3x the peak performance at up to 5x lower power consumption over previous generation processors. These enhancements, along with fieldbus and SoftPLC technology, enable the NISE 105 to reliably execute control schemes, display HMI graphics, and provide M2M communication for Factory-of-Things.

The processor's low power consumption and extended temperature capabilities allow NEXCOM to develop PC-based systems like the NISE 105 that deliver non-stop reliability within wide temperature ranges (-20 to 70 degrees Celsius). With its fanless design and support for SSDs (Solid State Drive), the NISE 105 can offer higher reliability in environments with shock and vibration. Based on its power efficient Intel® Atom™ processor, the NISE 105 is also a green product designed for green production.

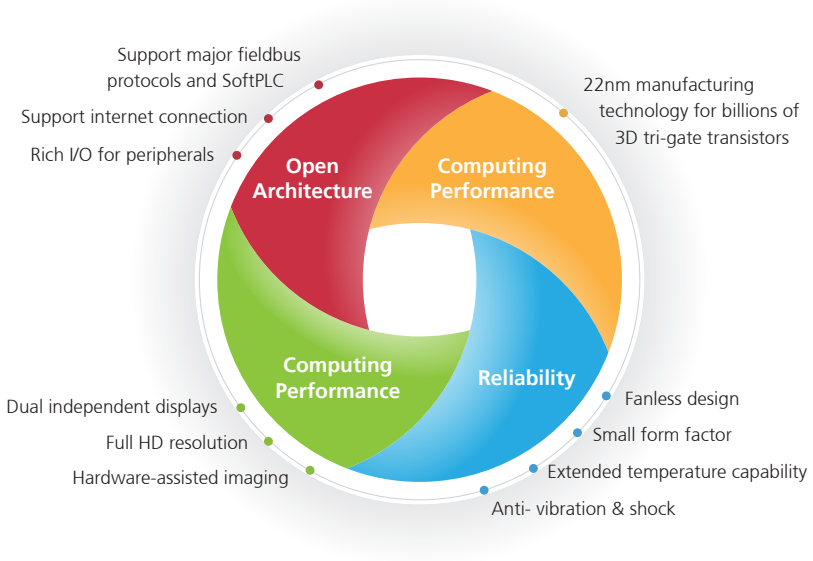


Figure 3. The NISE 105 based on Intel® Atom™ Processor E3826 provides open architecture, reliability, computing, and graphics needed for a PC-based controller.

Designed to Enhance Product Traceability

In many industries, such as the food and beverage industry, manufacturers require product traceability systems to track, trace, and ensure the production quality of goods produced throughout the supply chain. Since much of the food and beverage industry is a highly automated one, the manufacturing of food and beverage goods needs to be monitored in real-time to ensure food safety. The origin of problems such as contaminated foods or inferior ingredients must be readily identified and isolated. Furthermore, to ensure quality of the end product, the production line also requires AOI (Automated Optical Inspection) systems to inspect such parameters as food packaging and quantity per serving.

The NISE 105 features a multitude of I/O connectivity to support the peripherals and equipment used for product traceability, such as barcodes, QR codes, RFID tags, mega-pixel IP cameras and USB 3.0 cameras. Using its network capability, the NISE 105 can scan, store and share production data labeled and tagged by these traceability devices at all levels of the supply chain for a holistic view of manufacturing processes.

To provide image processing and data acquisition of AOI system, the Intel Atom processor E3826 features Intel Gen 7 Graphics. The processor's dedicated hardware image signal processor can help AOI systems process images captured by high definition cameras at a faster rate. The built-in image signal processor supports multiple processing of up to two 1080p cameras and one 720p camera.

Increasing Flexibility in the Production Line

Batch manufacturing used in producing products having a short product lifecycle and a high feature mix such as smartphones, requires a flexible production line that can adapt to customized orders. PC-based controllers like the NISE 105 can provide this high level of flexibility. With the Intel Atom processor E3826, the NISE 105 offers an open architecture platform for running the applications necessary to identify incoming production work orders, download the related control procedure and instructions through cloud server, and then create the relevant operations for

order picking and production. In contrast, traditional special purpose machine tools with fixed functionality are unable to provide this flexible openness.

Bringing Standard Operating Procedures Online

Assembly lines that rely on traditional paper-based SOP (Standard Operating Procedures) to carry out production are not eco-friendly and effective. For instance, when there are process changes in the SOP or a new work order that requires a complete new SOP, changing to the new one can be time-consuming. PC-based automation systems with computing, graphic and network capabilities can provide eSOP (Electronic Standard Operating Procedures) to overcome the shortcomings of traditional SOP. For example, with the NISE 105, eSOP changes can be remotely updated over the network in an instant and cause minimal interruption.

Furthermore, the integrated Intel Gen 7 Graphics enables the NISE 105 to handle DirectX® 11, stereoscopic 3D, and full HD video playback, as well as provide hardware video acceleration and dual-display support. Using the NISE 105, eSOP systems can provide digital instructions with 2D/3D visuals and animations, offering factory floor operators clearer, more effective instructions.

Conclusion

To fulfill the vision of an all IP-based factory requires a smart PC-based system. Using the Intel Atom Processor E3826, NEXCOM has packed high computing and graphics performance and energy-efficient features into a compact and robust system: the NISE 105. Using all these features, the NISE 105 can help transform traditional factories into an all IP-based factory with minimal cost and engineering effort. Without having to upgrade the legacy systems, NISE 105 can be an important component in enabling the Factory-of-Things and its new efficiencies.

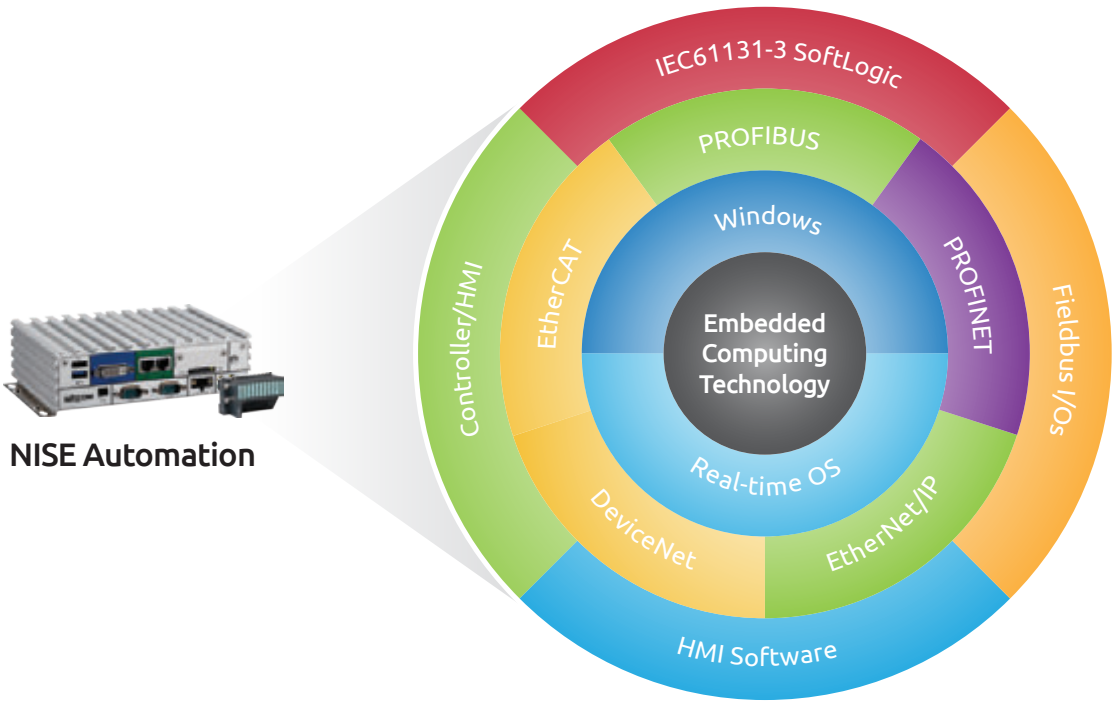


Figure 4. Ready for the smart factory: The NISE 105 is equipped with all the essential pieces to enable the Factory-of-Things

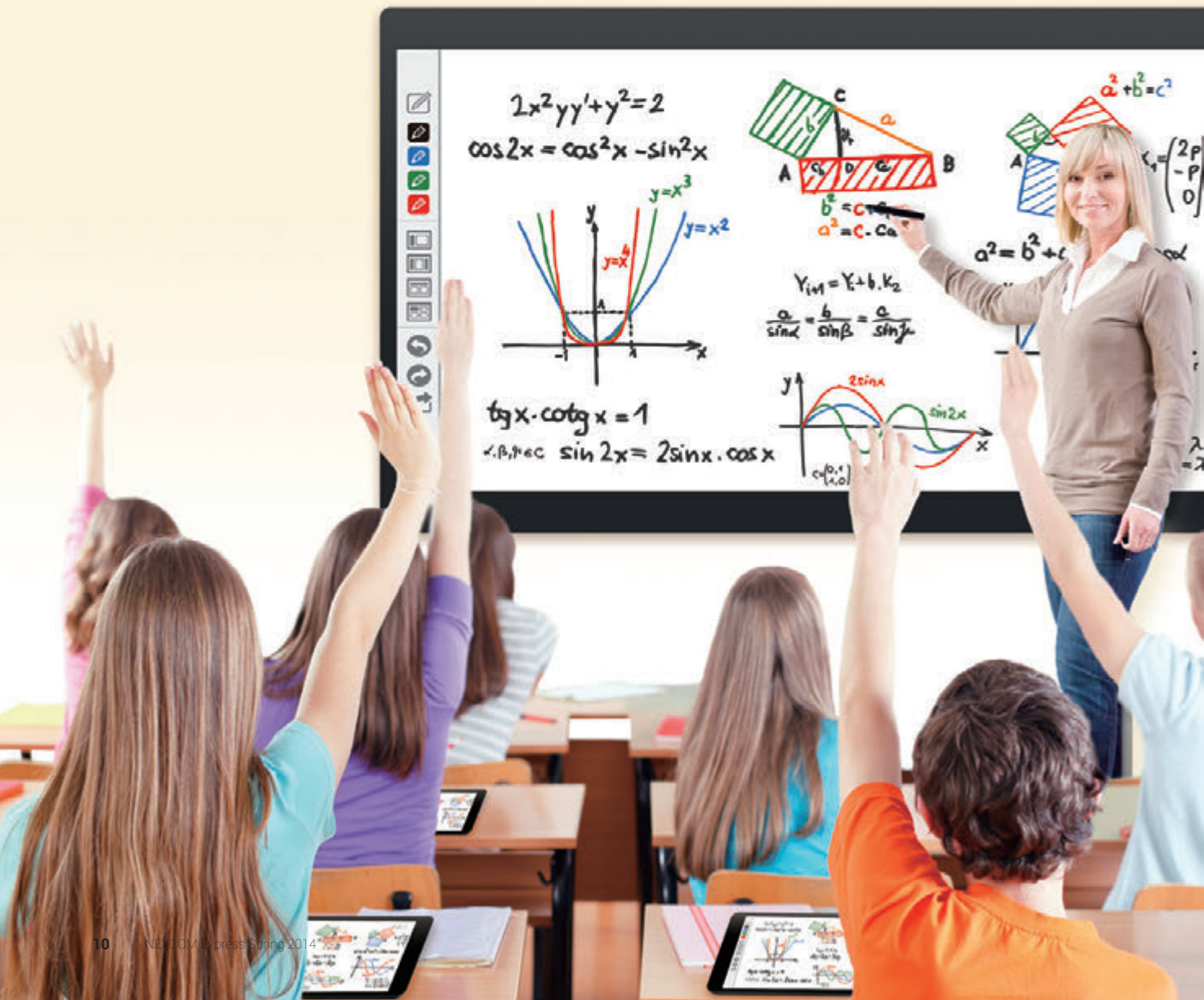
Building Engaging Cloud Classrooms with Digital Media Players

Traditional "chalk and talk" teaching methods that suited previous generations may not necessarily be effective for students who were born in the digital age. Educating digitally savvy students requires more interaction, visual learning, and collaborative activities, and thus demands more sophisticated technology. At the same time, to work well in classrooms, the technology must be reliable and require minimum maintenance.

In this white paper, we show how the NEXCOM OPS media player NDiS M324, based on the Intel® Celeron® processor J1900, meets the above requirements. We demonstrate how the NDiS M324's computing and graphics capabilities enable more modern teaching methods, enrich teaching materials, and encourage participation in the classroom and beyond. We also explain how NDiS M324's OPS form factor, fanless design, and out-of-band remote manageability enhance reliability and ease of use while reducing maintenance costs.

Teaching with Interactive Content

Schools have installed interactive whiteboards to complement



lectured-based chalk-and-talk teaching. Interactive whiteboards support content interaction in many ways, including adding annotations to contents, rotating and zooming in/out on 3D images, and engaging multiple students. Schools also record lectures and share them online, enabling students to review a lecture after class and to learn at their own pace.

The utility and versatility of such technology-assisted teaching underlines the need for computing and graphics processing capabilities which enhance real-time content interaction to improve teaching and learning experiences.

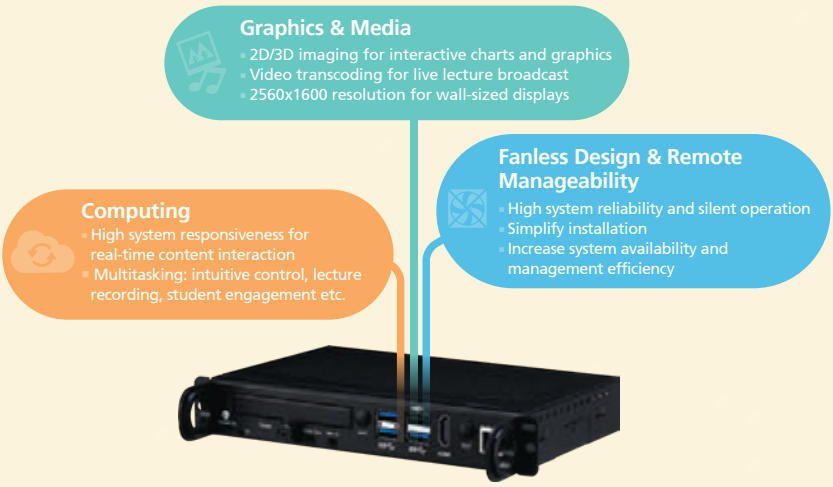


Figure 2. Educating digitally savvy students demands more sophisticated technologies.

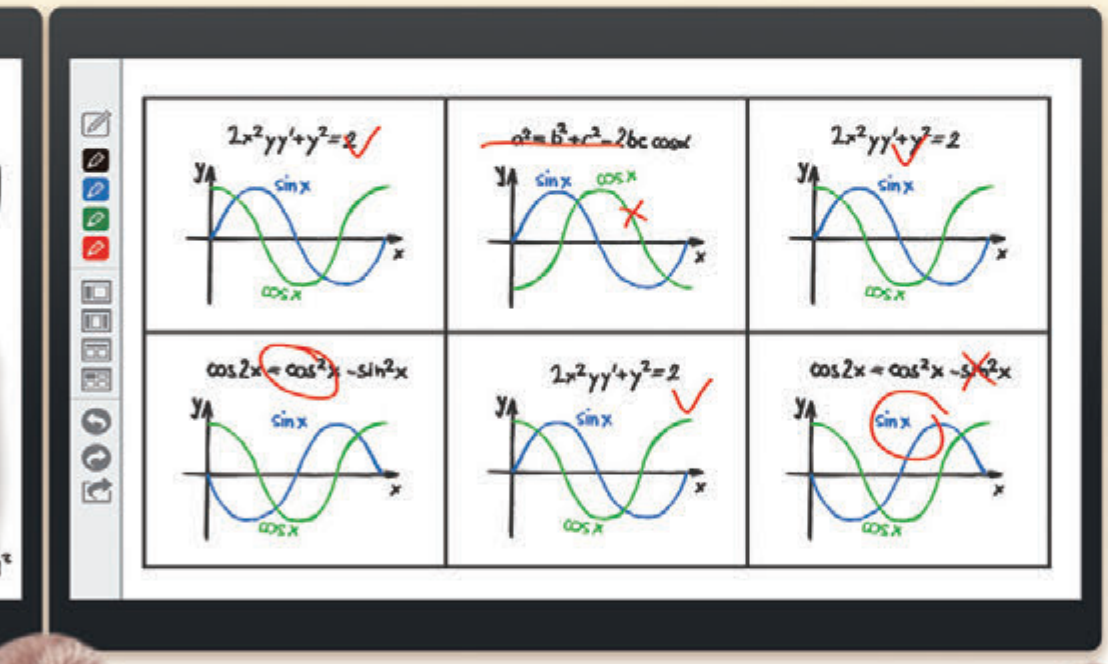


Figure 1. Interactive whiteboards support content interaction in many ways.

To this end, the NEXCOM OPS media player NDiS M324 uses the Intel Celeron processor J1900 to enhance the responsiveness of interactive whiteboards. This processor has four computing cores and can ramp up processor performance on demand through Intel® Turbo Boost Technology. Based on the 22nm Silvermont microarchitecture, this quad-core SoC is part of the recently introduced Intel® Atom™ processor E3800 product family and Intel® Celeron® J1900 and N2910 processors which offer 3X faster computing performance than the Intel® Atom™ processor N2000/D2000 family.

The gain in computing performance enables interactive whiteboards to perform multiple tasks simultaneously and smoothly, as well as support intuitive control. For instance, with the appropriate software and sensors, educators can use a pinch-to-zoom gesture to control contents, write annotations with their fingers, record and save lectures with content changes, and even live stream the lecture to students on remote sites.

With the Intel Celeron processor J1900, a course's contents can include presentations, interactive graphics, dynamic 3D models, and video clips. The processor's integrated Intel® HD Graphics 4000 enables the NDiS M324 to provide outstanding graphics and media processing for a wide range of content formats, eliminating the expense of a third-party graphics card.

Intel HD Graphics 4000 uses dedicated execution units to deliver up to 5X faster performance than the previous generation of Intel® Atom™ processors. The graphic engine supports Microsoft® DirectX 11, OpenGL® 4.0, and OpenGL 1.2 for 2D/3D rendering. The immersive stereoscopic 3D imaging enables educators to resize, move, or rotate contents. These capabilities can be used for everything from introducing abstract basic physic concepts or engaging students in collaborative activities using interactive whiteboards.

As for video transcoding, Intel® HD Graphics 4000 supports full hardware decoding of H.264, MVC, VPG8, JPEG/mJPEG, VC1/WMV9, and MPEG2 formats and encoding of MPEG2 and H.264 formats. In addition, Intel HD Graphics 4000's support for HDMI 1.4a and DisplayPort 1.1 with maximum resolution of 2560x1600@60Hz and dual displays enables NDiS M324 to play 1080P videos on wall-sized screens. Media conversion capabilities enable the NDiS M324 to broadcast live lectures, rapidly compressing the video to provide smooth, high resolution streaming that won't monopolize a school's bandwidth resources.

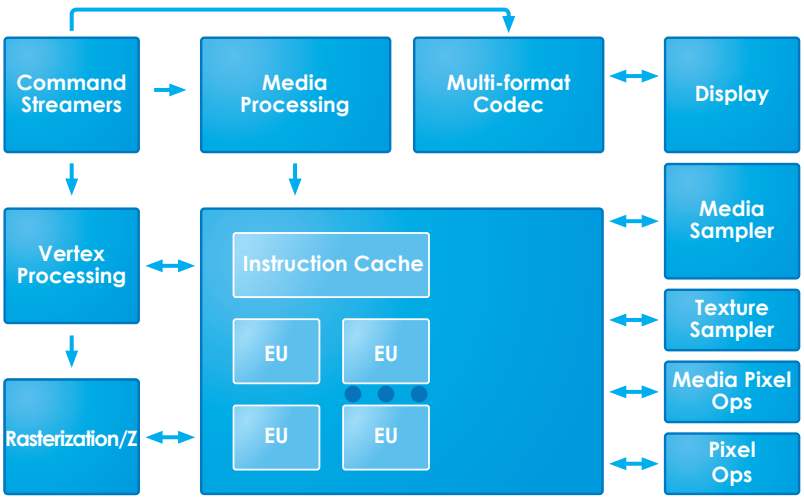


Figure 3. Intel® HD Graphics 4000 provides outstanding graphics and media processing with dedicated execution units.

Taking Classrooms to the Cloud

In the digital age, classrooms are no longer confined to physical walls. There are abundant teaching materials and tools on the internet. By incorporating these resources, educators can bring depth and quality of teaching to the next level. The strong backup of online resources also enables educators to prepare a class with less effort and flexibly adjust course progress based on students' intellectual levels.

The NDiS M324 supports internet connection and commercial off-the-shelf (COTS) peripherals through a wide variety of interfaces, including three USB 3.0 ports. This support enables installation of video cameras, student response systems, and other devices designed to improve teaching and learning experiences.

By integrating video feeds, the NDiS M324 enables educators to invite experts and professionals around the world to speak at lectures, share knowledge that is beyond educators' depth, and deliver real taste for a subject. By taking a classroom to the cloud, the NDiS M324 enables educators to use back channels, allowing students to leave comments, share ideas, and pose questions – all great ways to encourage greater engagement in the classroom.

Educators can also benefit from intelligent search engines. With supports for nature language, these engines can provide instant answers to topics from mathematics to socioeconomic demography. In addition to satisfying students' curiosity, a cloud classroom can also provide instant feedback with, for instance, automated essay scoring (AES), to improve student skills. With the NDiS M324's connectivity, it's easy for educators to create an environment for active, hands-on learning and collaboration on a global scale.

Reliability and Remote Management

A school campus can occupy a large site –

Figure 4. NEXCOM NDiS M324 helps educators incorporate cloud resources to bring depth and quality of teaching to the next level.

sometimes multiple sites – consisting of a large number of classrooms. To install, maintain and manage media players in all these classrooms can be arduous, time-consuming and expensive. As a result, ease of use, remote management, and system reliability become important considerations to schools when choosing hardware.

NEXCOM provides a unique solution with the NDiS M324, which features OPS compliance, a fanless design, and out-of-band remote manageability.

OPS, the Open Pluggable Specification, standardizes the electrical and mechanical specifications for digital signage devices, enabling media players that can inserted into a display to create an all-in-one device. The NDiS M324 comes with the necessary 80-pin JAE connector for insertion in an OPS-compliant display (available from more than 18 manufacturers). This approach reduces wiring, tripping hazards, and malfunctions caused by loose connections. In addition, since the NDiS M324 is designed for fanless operation, it is more durable than media players using fans and provides quiet operation tucked into the monitor in noise-sensitive classrooms.

The NDiS M324's out-of-band remote manageability helps IT staff monitor, recover and reset the player even when the power is off or the operating system is not loaded. Firmware, operating system, and application software can also be updated remotely. This feature improves not only system availability but also management efficiency. For instance, the NDiS M324 can provide IT staff hardware health status. Based on this information, IT staff can identify early indicators of potential problems and analyze the root cause of an existing condition. IT staff can also devise a corrective action before making an expensive on-site visit. If the NDiS M324 requires replacement, the modular design makes it quick and easy.

Many media players aimed at cost-conscious markets such as education are only capable of software-level monitoring and control. This means that players can be left down for a long time if they require an IT onsite. On the contrary, NDiS M324 is an entry-level player built with OOB manageability and can reduce the frequency, duration, and manual effort of maintenance and repair.

Conclusion

Education in the digital age requires digital solutions. The NEXCOM NDiS M324 with the Intel Celeron processor J1900 provides the digital capabilities in compute power and HD graphics to help educators update their teaching methods to better engage students with interactive learning techniques that inspire minds, stimulate thinking, and spark curiosity. A fanless OPS-compliant media player like the NDiS M324 provides the ease of installation, silent operation, and connection capabilities that educators need to bring the digital age into their teaching methods and reach beyond their walls. In addition, reliable operation and remote manageability minimize system downtime and simplify onsite maintenance.

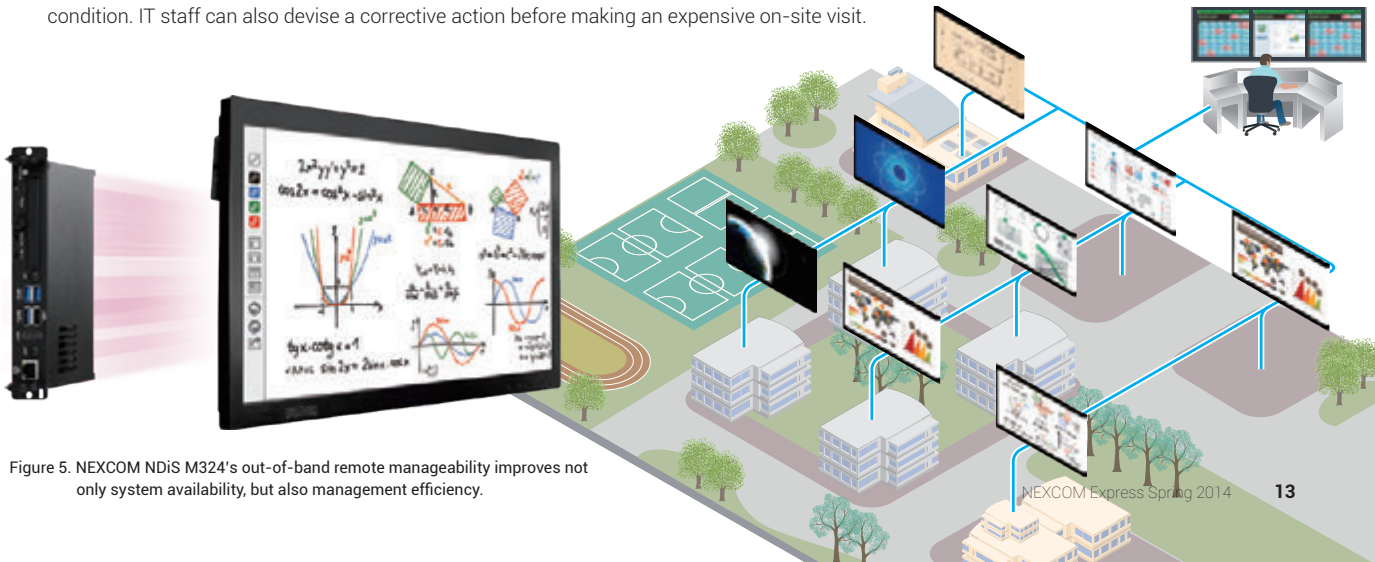


Figure 5. NEXCOM NDiS M324's out-of-band remote manageability improves not only system availability, but also management efficiency.

Industrial Wi-Fi Infrastructure
in High-Temperature Steel & Iron Factory

Background

In this medium-scale steel and iron factory, high temperature and dust conditions are common situations.

A Taiwan-based customer had deployed an ERP and shop floor control system as centralized management to manage work flow. It worked well until the customer needed a mobile operation that can deliver a seamless anywhere, anytime coverage. The existing commercial grade Wi-Fi APs (Access Point) were not reliable enough in the high temperature, dusty shop floor and outdoor environments. Moreover, without a central Wi-Fi management mechanism, the MIS staffs had difficulties in managing APs deployed widely throughout the factory.

Challenge

Since the customer expects workers can freely roam throughout shop floors with rugged hand-held terminals connected to the ERP system and upload and download information remotely in real time, the MIS team faces some challenges:

How to keep the Wi-Fi communication running non-stop in critical shop floors?

The previous commercial grade AP often failed to work, especially the ones near the operating areas and during hot summer seasons. The APs were installed inside shield boxes that were placed outdoors with an ambient temperature higher than 70 degrees Celsius.

How to easily & quickly expand the Wi-Fi coverage?

Some outdoor areas and new pre-planned work sites like material incoming/receiving areas are difficult and costly to install wired networks.

How to efficiently manage factory-wide Wi-Fi APs?

The MIS staffs found it is difficult to access or manage APs deployed in high floors and dangerous areas. The upgrade and maintenance of these APs were troublesome to the staffs located in the central MIS office as the shop floors operated 24 hours daily.

Customer Needs

To resolve the unreliable AP operation and unexpected shutdowns during summer, the customer sought for a reliable and manageable industrial-grade Wi-Fi infrastructure. Flexible and integrated AP deployment without extra licensing is also another concern. Hence, the requirements were as followed:

- Industrial-grade AP solution
- Fully and reliable Wi-Fi coverage
- Flexible expansion
- Centralized management tools

Why NEXCOM Solution

NEXCOM's central managed WLAN control solution perfectly fulfills the customer needs and allows headroom for future expansions such as point-to-point communication and wireless video surveillance.

- **IWF 8405: Central management Wi-Fi solution**
- **AAA certified WLAN controller**
  The IWF 8405 WLAN controller utilizes proprietary protocol to manage IWF series of APs and simplify the IT manager's administration tasks of monitoring, configuring and maintaining the APs remotely, even across other factories.
- **No license fee for future Wi-Fi APs management & expansion**
  NEXCOM IWF 8405 manages up to 150 APs without extra license fees.

- **IWF 3320X: Industrial-grade AP**
- **Protection against high temperature and dust**
  IWF 3320X can operate in wide temperature ranges of -30 to 80 degrees Celsius. The unique conformal coating on the motherboard can resist dust, rain and chemical erosion.
- **Dual RF supports reliable, flexible and redundant Wi-Fi deployment**
  NEXCOM's APs are armed with two radio cards supporting 2.4GHz/5GHz for flexible Wi-Fi deployment.
- **Point-to-point (P2P) and point-to-multi-point (P2MP) wireless bridging**
  NEXCOM IWF series of APs provides up to 4 connections of Wireless Distribution System (WDS) to easily bridge nearby APs.

Application Scenario

Stage 1: PAN-based factory with mobility operation & central management

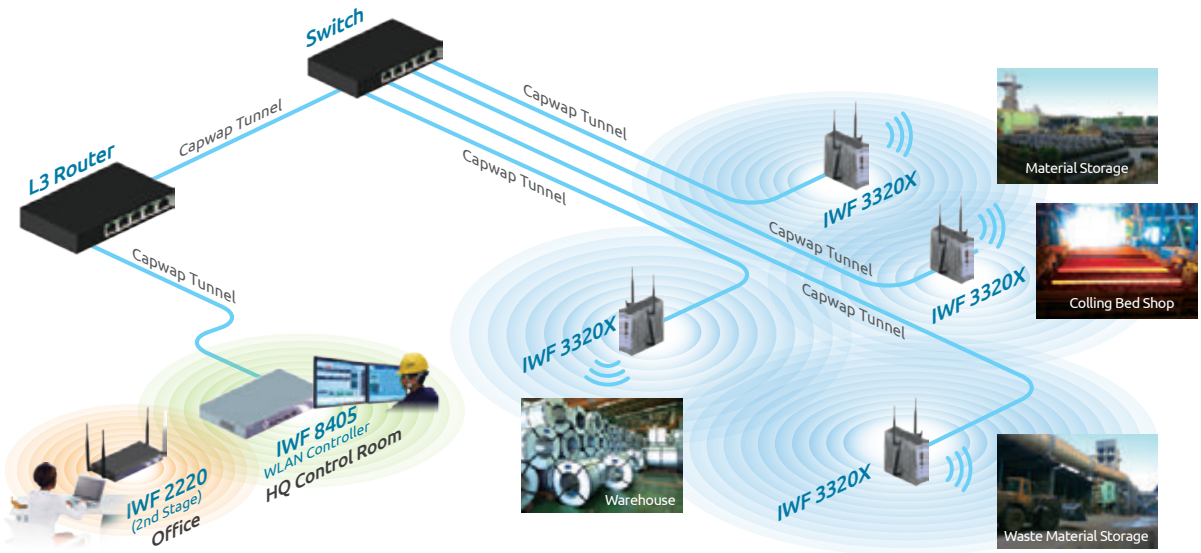
An IWF 8405 WLAN controller was used to monitor the IWF 3320X APs located within the factory. Each IWF 3320X established a CAPWAP tunnel between the access controller to transmit its AP status, and data tunnels between mobile clients to exchange Wi-Fi traffic.

Stage 2: Wi-Fi coverage expansion for video surveillance and automation data acquisition of new plants

More outdoor APs, IWF 5320, and light-duty indoor APs, IWF 2220, will be deployed in the field and office.

Conclusion

After 6 months of deployment, NEXCOM's central managed industrial Wi-Fi solution has delivered zero downtime. With the great success of NEXCOM's IWF solution, the customer plans to install IWF 5320 for outdoor IP surveillance and IWF 2220 for the office in the upcoming second stage of the project. Utilizing NEXCOM's manageable WLAN controller and industrial-grade AP solution, the customer can easily manage their Wi-Fi infrastructure remotely from the office without having to worry about the wireless APs running in harsh environment.



Upcoming New Products
that Take Your Breath Away

1 NIFE 4000
High Performance Fanless Industrial Automation Controller

NIFE 4000 is a high performance fanless computer based on 3rd generation Intel® Core™ i5/i3 processors and paired with mobile Intel® QM77 Express chipset. It is a PC-based controller which is specifically designed for automation solutions and integrates a DC +24V power isolation input.

NIFE 4000 supports up to 8GB of DDR3/DDR3L memory and two front-accessible swappable 2.5" HDD/SSD trays. Designed for industrial applications, NIFE 4000 supports 16 digital inputs and 16 digital outputs (both optical isolation), 1Mb NVRAM for system data backup to prevent data loss after abnormal system shuts down, and 2 optical isolated COM ports (RS232/422/485) for factory devices connection. With all I/O connectors located at the front panel, NIFE 4000 is easy to maintenance and install. NIFE 4000 can operate at the temperature range from -5°C to 55°C.

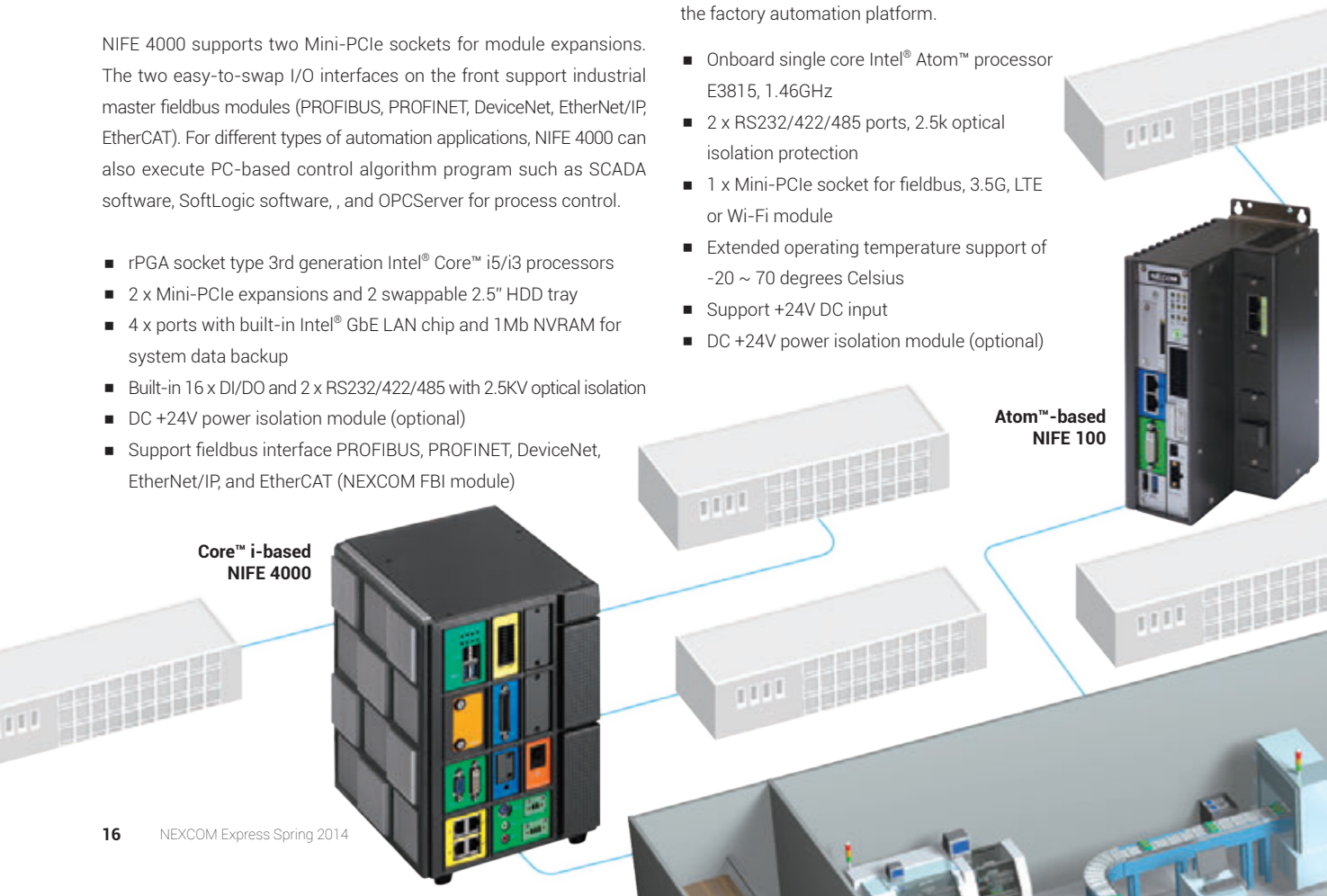
NIFE 4000 supports two Mini-PCIe sockets for module expansions. The two easy-to-swap I/O interfaces on the front support industrial master fieldbus modules (PROFIBUS, PROFINET, DeviceNet, EtherNet/IP, EtherCAT). For different types of automation applications, NIFE 4000 can also execute PC-based control algorithm program such as SCADA software, SoftLogic software, , and OPCServer for process control.

- rPGA socket type 3rd generation Intel® Core™ i5/i3 processors
- 2 x Mini-PCIe expansions and 2 swappable 2.5" HDD tray
- 4 x ports with built-in Intel® GbE LAN chip and 1Mb NVRAM for system data backup
- Built-in 16 x DI/DO and 2 x RS232/422/485 with 2.5KV optical isolation
- DC +24V power isolation module (optional)
- Support fieldbus interface PROFIBUS, PROFINET, DeviceNet, EtherNet/IP, and EtherCAT (NEXCOM FBI module)

2 NIFE 100
Advocate M2M Controller in Factory Automation

The fanless computer NIFE 100 powered by the latest generation of Intel® Atom™ processor E3815 is designed to be used as a PC-based controller mainly for factory automation applications. The NIFE 100 supports extended operating temperature from -20 up to 70 degrees Celsius and +24V DC input. The NIFE 100 also provides high integration ability with optional Mini-PCIe module and 2 x COM ports with optical isolation protection. The NIFE 100 can be flexibly used for various applications such as factory automation controller (with optional PROFIBUS, PROFINET, DeviceNET, EtherNet/IP, and EtherCAT master module), M2M communication applications (with optional GbE LAN, Wi-Fi, 3.5G/4G LTE module), and communication applications (with optional GPIO, RS232/422/485). The NIFE 100 is definitely the top choice of IoT device for the intelligent system and the factory automation platform.

- Onboard single core Intel® Atom™ processor E3815, 1.46GHz
- 2 x RS232/422/485 ports, 2.5k optical isolation protection
- 1 x Mini-PCIe socket for fieldbus, 3.5G, LTE or Wi-Fi module
- Extended operating temperature support of -20 ~ 70 degrees Celsius
- Support +24V DC input
- DC +24V power isolation module (optional)



3 NISE 301

Fanless Industrial Automation Computer with Front Access Mini-PCIe Multi-Expansion

NISE 301 is a fanless system with user-friendly design and built with the quad core Intel® Atom™ processor E3845, 1.91GHz. Driven by the latest quad core Intel® Atom™ processor, NISE 301 can provide excellent computing power and is more power-efficient than the platforms based on the previous generation Intel® Atom™ product family.

NISE 301 supports up to 4GB of DDR3L memory and comes with 1 x VGA, 1 x DVI-D, 1 xCFast, 2 x Gigabit LAN Ports, 2 x COM ports, and 3 x USB2.0 interfaces, all located at front panel. NISE 301 supports power input 24VDC +/- 20% and can operate at the temperature range from -5°C to 55°C. All I/Os are aligned on the front side and can be accessed easily by the users. The key purpose of this design is to make NISE 301 an industrial grade computer with great usability and to simplify installation process.

NISE 301 offers two easy-to-swap I/O interfaces on the front, and can integrate various Mini-PCIe modules. NISE 301 supports fieldbus protocols (PROFIBUS, PROFINET, DeviceNet, EtherNet/IP, and EtherCAT), network connectivity (GbE LAN, Wi-Fi, and GSM), and other I/O interfaces (GPIO and RS232/422/485). NISE 301 supports high flexibility for Mini-PCIe module expansion; such expansion versatility makes NISE 301 a highly popular choice for factory automation and M2M intelligence markets.

- Onboard BGA-type quad core Intel® Atom™ processor E3845, 1.91GHz
- Dual independent display with DVI-D and VGA outputs
- 2 x Giga LAN ports with built-in Intel® I210AT with WoL, Teaming and PXE supports
- 3 x USB2.0, 2 x COM Ports (RS232/422/485)
- 2 x optional interface for automation fieldbus modules/Wi-Fi/3.5G
- DC input: +24V DC input +/- 20%

4 NISE 4000P2E

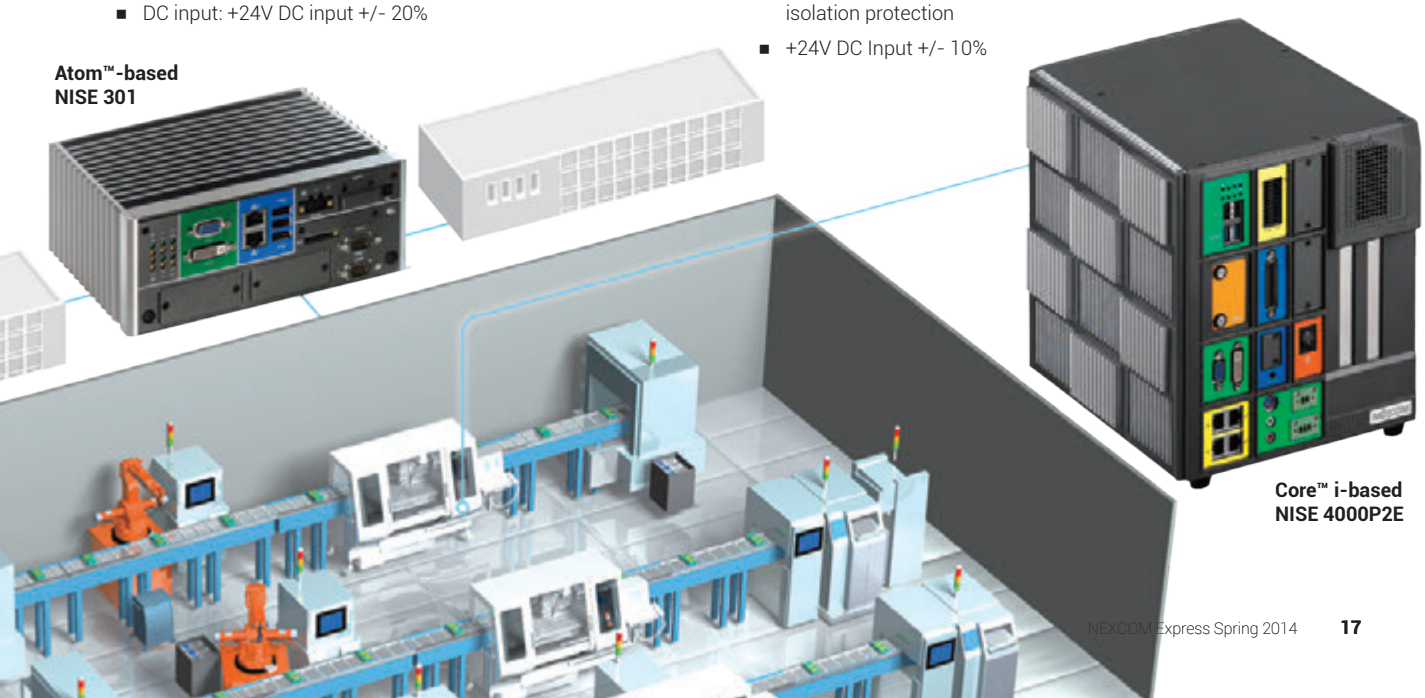
Fanless Industrial Automation Computer with Front Access PCI/PCIe Multi-Expansion

NISE 4000P2E is a high performance fanless system based on 3rd generation Intel® Core™ i5/i3 processors and paired with mobile Intel® QM77 Express chipset. It is a x86-based platform which provides outstanding computing power and multiple PCI/PCIe expansions to address the industrial market requirements.

NISE 4000P2E supports up to 8GB of DDR3/DDR3L memory and three independent displays through VGA and DVI-I outputs. On the front are I/Os including 1 xCFast, 4 x Gigabit LAN Ports, 2 x COM ports (RS232/422/485) with isolation protection, 2 x USB 2.0, 2 x USB 3.0 , and 16 digital inputs and 16 digital outputs (both optical isolated). With all I/O connectors located at the front panel, NISE 4000P2E is user-friendly and easy to install. NISE 4000P2E supports power input of 24VDC +/- 10% and can operate at the temperature range from -5°C to 55°C.

NISE 4000P2E provides two Mini-PCIe sockets for module expansions. The two easy-to-swap I/O interfaces on the front can support fieldbus modules (PROFIBUS, PROFINET, DeviceNet, EtherNet/IP and EtherCAT), networking modules (GbE LAN, Wi-Fi, and GSM), and other I/O interfaces (GPIO, RS232/422/485). With various choices of Mini-PCIe/PCI/PCIe expansions, NISE 4000P2E opens up great opportunities for factory automation and M2M intelligence markets.

- rPGA socket type 3rd generation Intel® Core™ i5/i3 processors
- 1 x PCI, 1 x PCIex4 expansion
- 2 x Mini-PCIe expansions for Wi-Fi/3G/fieldbus support
- 4 x Intel® GbE LAN Ports and 1Mb NVRAM for system backup
- Built-in 16 x DI/DO, and 2 x RS232/422/485 with 2.5KV optical isolation protection
- +24V DC Input +/- 10%



Atom™-based NISE 301

Core™ i-based NISE 4000P2E

5 IPPC 2160P (16:9 LED)

Multi-touch Heavy Industrial Control Panel PC with PCI/PCIe Expansions

IPPC 2160P is a 21.5-inch fanless heavy industrial panel PC featuring powerful 3rd generation Intel® Core™ processor, aluminum zero front bezel, 10-point touch, Full HD 16:9 wide screen, and 7H anti-scratch display. The LED Indicators on the front side of IPPC 2160P show operating status. The IPPC 2160P also provides two expansion slots to support PCI/PCIe card module. The IPPC 2160P has the same cutout size as SEMENS SIMATIC panel PCs and can easily replace them to deliver a higher cost-performance ratio.

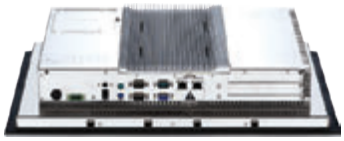
IPPC 2160P Bottom View

IPPC 2160P Top View

- Powerful 3rd generation Intel® Core™ i5 processor, 2.7GHz with 4GB of DDR3
- Two expansion slots for PCI or/and PCIe cards
- 10-point P-Cap touch and fieldbus module
- Metal housing with robust aluminum zero front bezel
- IP66 compliance for use in harsh environments
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x COMs/GPIO/DIO/ Dimming control button
- 1 x Mini-PCIe expansion module and bracket

6 IPPC 1560T (4:3 LED)

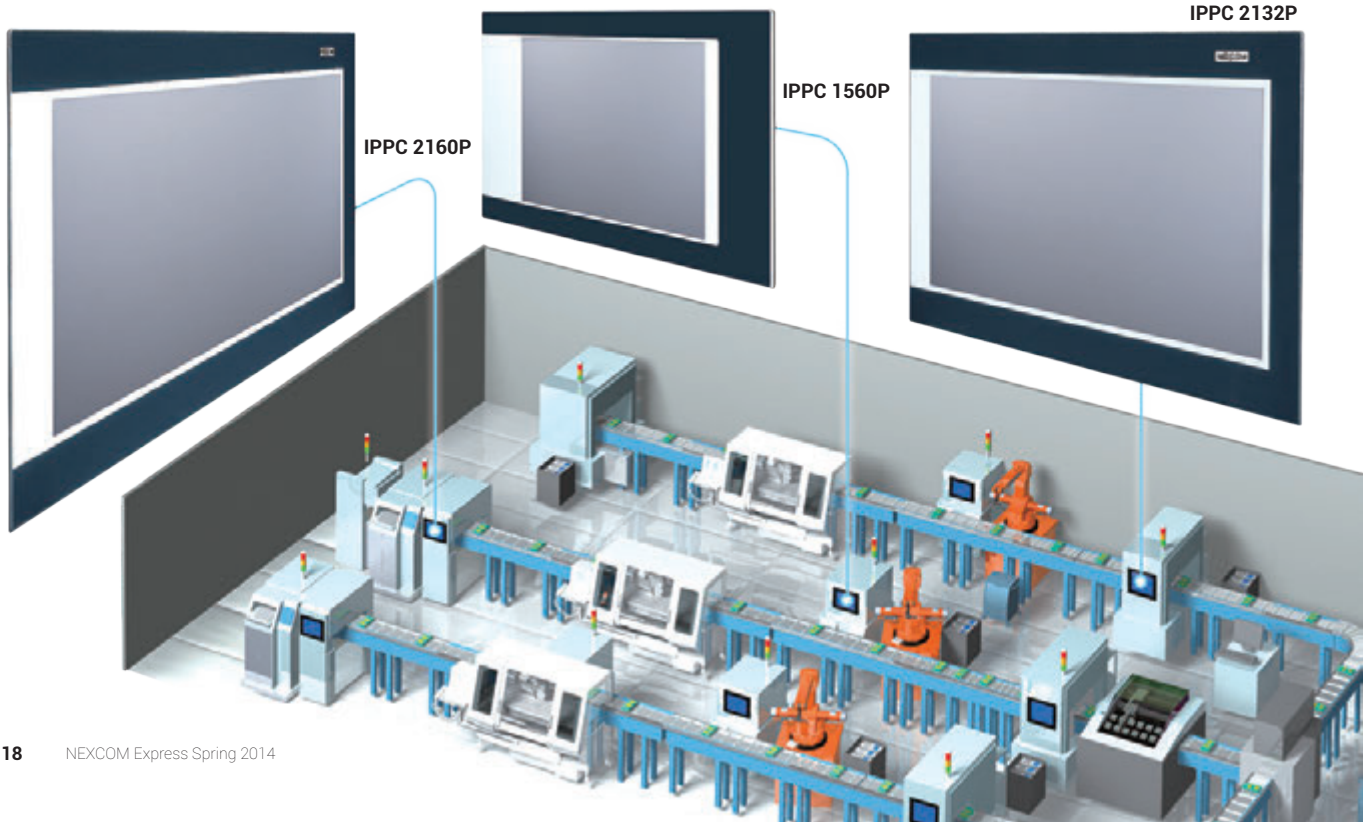
3rd Gen. Intel® Core™ i5 Heavy Industrial Panel PC with PCI/PCIe Expansions



IPPC 1560T Bottom View

IPPC 1560T is a 15-inch fanless heavy industrial panel PC featuring powerful 3rd generation Intel® Core™ processor, LED-backlit TFT LCD panel, and user-friendly touch screen. The IPPC 1560T provides two expansion slots to support two PCI/PCIe modules. Designed for use in outdoor and harsh industrial environments, the NEMA4/IP66-rated IPPC 1560T has a heavy-duty aluminum front bezel and rugged and vibration-resistant chassis. The IPPC 1560T has the same cutout size as SEMENS SIMATIC panel PCs and can easily replace them to deliver a higher cost-performance ratio.

- Powerful 3rd generation Intel® Core™ i5 processor, 2.7GHz with 4GB of DDR3
- Two expansion slots for PCI or/and PCIe cards
- Resistive touch and fieldbus module
- Front accessible USB2.0 for ease of on-site maintenance
- Metal housing with robust aluminum front bezel
- IP66 compliance for use in harsh environments
- Optional 3.5G/Wi-Fi module/2.5" HDD/3 x COMs/GPIO/DIO/ Dimming control button
- 1 x Mini-PCIe expansion module and bracket



7 IPPC 1632P/2132P (16:9 LED)

Multi-touch Heavy Industrial Control Panel PC

The fanless IPPC 2132P (21.5-inch) and IPPC 1632P (15.6-inch) are powered by energy-efficient Intel® Atom™ processor D2550 paired with Intel® NM10 chipset. These Panel PCs feature Hilscher fieldbus, 16:9 wide screen, 7H anti-scratch display, wide power inputs range of from 12V to 30V, and two RS-232/422/485 interfaces with isolation protection. This model has front LED indicator to show operating status. IPPC 2132P and IPPC 1632P have the same cutout size as SEMENS SIMATIC panel PCs and can easily replace them to deliver a higher cost-performance ratio.

IPPC 2132P Bottom View

IPPC 1632P Bottom View

- Dual-core power-efficient Intel® Atom™ processor D2550 with 4GB of DDR3
- Metal housing with robust aluminum zero front bezel
- IP66 compliance for use in harsh environments
- 10-point P-Cap touch and fieldbus module
- Support Citect SCADA and CODESYS SoftLogic (optional)
- Wide power input range: 12V~ 30VDC
- 1 x Mini-PCIe fieldbus module (optional)

8 eTOP 503/507/510

HMI Touchscreen Panel PC with JMobile Run-time

NEXCOM eTOP HMI is a new series designed for factory, marine, and building automation. As a partner of well-know Exor Electronic R&D, NEXCOM integrates EXOR's HMI solution into its eTOP HMI series.

The eTOP HMI series is equipped with an industrial-grade LED backlit LCD display and is available with three display sizes: 4.3", 7", and 10.4". The series also features resistive touch, front IP66 protection, ARM-based ultra-low power consumption, and fanless design.

The eTOP HMI series supports dual protocol communication, networking, Ethernet connectivity, OPC Server, protocol bridging, web server, Windows CE, and JMobile Runtime. JMobile Runtime for Windows is a unique HMI platform that combines advanced HMI features and full vector graphics with powerful web technologies.

JMobile is an innovative software solution for the design of HMI applications in a simple and intuitive way. It is a powerful and versatile tool designed for the rapid creation of new applications and for the maintenance phase, in order to provide a solution for the end customer that is tailored to their needs.

- Resistive touchscreen
- 2 Ethernet ports with switch function/2 USB host ports/SD card slot
- Connection to fieldbus systems and I/O using optional plug-in modules
- Slim design, mounting depth less than 50mm
- Full compatibility with JMobile studio

eTOP 503

PPC Transformers

NEXCOM Panel PCs use modular design. It means the Panel LCD kit and back system chassis can be separated. This feature can simplify system maintain and implement in any environment and allow flexible configuration based on individual orders. Therefore, users can choose the combination of LCD kit size, Panel kit, chassis, and system platform.

LCD Kit		Back Case System		Model
 IPPC LCD Kit	+	 IPPC 60T Core™ i5 3610ME	=	Standard Model **IPPC xx60T**
		 APPC 3xT D2550		Customized Model **IPPC xx3xT**
 APPC LCD Kit		 IPPC 60T Core™ i5 3610ME		Customized Model **APPC xx60T**
		 APPC 3xT D2550		Standard Model **APPC xx3xT**

9 KPPC 1812 (16:9 LED)

True Flat Multi-touch Intel® Atom™/Celeron® J1900-based Kiosk Panel PC

The KPPC 1812 is a 18.5-inch fanless kiosk panel PC based on Intel® Atom™ and Celeron® J1900 processors, which are powerful SoCs (System on Chip) with quad-core high computing performance and low power consumption. The KPPC 1812 can fulfill the demands for kiosk applications used in the retail industry.

The KPPC 1812's modular design and VESA mounting provides lower ROI and service cost. The KPPC 1812 can flexibly integrate expansion kits and COTS peripherals to help retailers provide self-services with kiosks.

Besides, the KPPC 1812 supports 3.5G, Wi-Fi, and NFC reader to help new generation smart kiosk to meet the retail market trends.

- Intel® Atom™ /Celeron® J1900, with up to quad core computing performance, 2.42GHz
- 4GB of DDR3L SO-DIMM memory, 2.5" HDD or SSD
- 18.5" widescreen (16:9) true flat projected capacitive multi-touch screen
- Robust aluminum alloy rear cover and IP65-compliant plastic front bezel for harsh environment
- Swappable HDD and mainboard tray design.
- Two expansion slots for Mini-PCIe cards
- Built-in 2M web camera
- Optional 3.5G/Wi-Fi module and antenna, MSR, fingerprint, NFC reader, 2D scanner, thermal printer

10 OPPC 1230T/1530T/ 1730T/1930T (4:3 LED)

Low Power Fanless Open Frame PPC

The OPPC series consists of 12", 15", 17", and 19" fanless open frame panel PCs. The OPPC series are powered by power-efficient Intel® Atom™ processor D2550 paired with Intel® NM10 chipset and supports 2GB of DDR3 memory. All panels come with LED backlight. The OPPC series are so slim that it takes up little space. Along with latitude of mounting options comprised of open frame mount, VESA mount, panel mount, and wall mount, the OPPC series can be configured with customized enclosures, helping system integrators create a distinctive look for individual project.

The flexibility of OPPC will also assist system integrators to expand product lineup for the market including kiosk with minimalist design that combines simplicity and elegance, vending machine with bulk cabinet that houses complicated configurations, and ATM with extended functions to deliver sophisticated self-services.

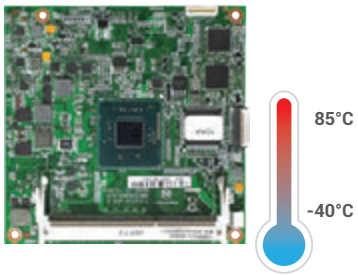
Moreover, OPPC without front bezel is a cost-effective alternative for system integrators. It also supports various types of touch screen based on capacitive, resistive, infrared, and surface acoustical wave technologies.

Besides, the OPPC series with fanless design brings industrial-grade reliability to self-service applications. Features of vibration resistance and an operating temperature of -5~50°C will enhance system durability.

- 4:3 12"/15"/17"/19" fanless LED panel computer
- Dual-core power-efficient Intel® Atom™ processor D2550 with 2GB of DDR3
- Dual GbE/VGA and HDMI for 2nd display/Line-in/Line-out/MIC-in
- 4 x USB/2 x Mini-PCIe sockets/1 x CFast/2 x RS232/422/485
- Optional Wi-Fi Module/2.5"HDD/panel mount kit
- Wide power input range: 12V~30VDC
- Resistive touch

11 ICES 620X

COM Express T6 Compact Module with Wide Temperature Support



The ICES 620X is a COM Express Type 6 compact module (95 x 95mm) featuring quad-core Intel® Atom™ processor E3800 (up to 1.91GHz) and dual SO-DIMM sockets for up to 8GB of non-ECC DDR3L 1066/1333MHz SDRAM. The ICES 620X has Intel® HD Graphics, an integrated graphics engine with Microsoft DirectX® 9 support. The ICES 620X can support two display outputs including DisplayPort and legacy VGA through carrier boards.

The ICES 620X supports 11 x USB2.0, 2 x SATA2.0, and 4 x PCIex1 with NEXCOM carrier board ICES 8060 as well as custom-built solutions based on individual project.

- Intel® Atom™ E3800 Quad core processor up to 1.91GHz
- 2 x non-ECC DDR3L SO-DIMM memory, Max. 8GB
- Board level operating temperatures: -40°C to 85°C.
- Support 2 x DisplayPort/VGA, 1 x GbE LAN, 2 x SATA3.0, 11 x USB2.0
- Support 4 x PCIex1

12 NEX 615

Industrial mini-ITX Board Based on Intel® Atom™ Processor E3800

The NEX 615 is a thin mini-ITX board with I/O connecters and measures less than 25mm in height. The NEX 615 is based on quad core Intel® Atom™ processor E3800 (up to 1.91GHz) and has dual SO-DIMM sockets to support up to 8GB non-ECC of DDR3L 1066/1333MHz SDRAM.

Despite its compact size, the thin mini-ITX board NEX 615 provides a lot of interfaces, including 2 x Intel® GbE LAN, 4 x USB 3.0, 2 x USB 2.0, 4-in/4-out GPIO, 3 x RS232, 1 x RS232/422/485, 1 x SATA2.0, and 1 x mSATA. The NEX 615 also provide 1 x Mini-PCIe and 1 x PCIex1 for I/O, Wi-Fi, and Bluetooth expansion.

The NEX 615 has an integrated Intel® Gen.7 Graphics and to support Microsoft DirectX® 9, 1 x VGA, and 2 x LVDS (2 x DF13 20-pin 18/24-bit single channel).

- Quad core Intel® Atom™ processor E3800 up to 1.91GHz
- 2 x non-ECC DDR3L SO-DIMM memory, Max. 8GB
- Support VGA/2 x LVDS (2 x DF13 20-pin 18/24-bit single channel), two independent displays
- Support 2 x GbE LAN 1 x SATA2.0, 4 x USB3.0, 2 x USB2.0, 3 x RS232, 1 x RS232/422/485
- Support 1 x mSATA, 1 x Mini-PCIe , 1 x PCIex1

13 NEX 616

Industrial mini-ITX Board Based on Intel® Atom™ Processor E3800

The NEX 616 is an industrial mini-ITX board. The NEX 616 is based on quad core Intel® Atom™ processor E3800 (up to 1.91GHz) and has dual SO-DIMM sockets to support up to 8GB non-ECC DDR3L 1066/1333MHz SDRAM.

Despite its compact size, the mini-ITX board NEX 616 provides a lot of interfaces, including 2 x Intel® GbE LAN, 5 x USB 2.0, 1 x USB 3.0, 4-in/4-out GPIO, 5 x RS232, 1 x RS232/485 and 2 x SATA2.0. The NEX 616 also has 1 x Mini-PCIe and 1 x PCIex1 slot for I/O, Wi-Fi, and 3G (with SIM slot onboard) expansion.

The NEX 616 has an integrated Intel® Gen.7 Graphics and to support Microsoft DirectX® 9 and 2 x HDMI display outputs.

- Quad core Intel® Atom™ processor E3800 up to 1.91GHz
- 2 x non-ECC DDR3L SO-DIMM memory, Max. 8GB
- Support 2 x HDMI, 2 x GbE LAN
- Support 2 x SATA2.0, 5 x USB2.0, 1 x USB3.0, 5 x RS232, 1 x RS232/485
- Support 1 x Mini-PCIe , 1 x PCIex1

14 ICES 671

High-Performance COM Express T6 Compact Module

The ICES 671 is a COM Express Type 6 compact module (95 x 95mm) featuring 4th Gen Intel® Core™ i7/i5/i3 processors and dual SO-DIMM sockets to support up to 16GB of DDR3L 1600MHz SDRAM. The ICES 671 integrates Intel® HD Graphics with support for Microsoft DirectX® 11.1, PCI Express Graphic 1 x 16 expansion, and three DDIs (Digital Display Interface) based on PICMG COM.0 Rev. 2.0 specification.

Paired with type 6 carrier boards, the ICES 671 supports display output interfaces including HDMI, DVI, DisplayPort, legacy VGA and dual channels of 18-/24-bits LVDS.

The high performance COM Express compact module ICES 670 supports 2 x USB3.0/8 x USB2.0, 4 x SATA3.0, and 4 x PCIex1 with NEXCOM carrier board ICES 8060 as well as custom-built solutions based on individual project.

- 4th gen. Intel® Core™ i7/i5/i3 processors
- 2 x non-ECC DDR3L SO-DIMM memory, Max. 16GB
- Support VGA/dual 18-/24 LVDS/HDMI/DP/DVI, up to three independent displays
- Support 1 x GbE LAN, 4 x SATA3.0, 10 x USB3.0/2.0
- Support 4 x PCIex1

15 NEX 885

Industrial micro-ATX Board based on 4th Gen. Intel® Core™ Processor

The NEX 885 is an industrial micro-ATX board based on LGA1150 socket-type 4th generation Intel® Core™ i7/i5/i3 processors as well as Intel® Celeron® processors. The board has four memory sockets to support up to 32GB of 1066/1333/1600MHz DDR3 RAM in dual channel configuration.

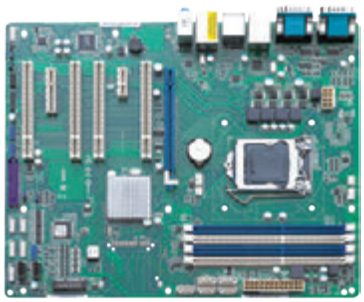
The Q87 chipset allows simultaneous control of three displays over 2 x HDMI, VGA and DisplayPort. Furthermore the chipset supports 10 x USB (3 x USB3.0, 7 x USB2.0), 3 x RS232, 1 x RS232/422/485, 2 x Intel® GbE LAN, and Intel® AMT 9.0 remote management technology. Moreover, remote boot via LAN is also supported with PXE function.

For data storage, the NEX 885 has 6 x SATA 3.0 and support RAID 0/1/5/10 functions to protect data in case of hard drive failure. The NEX 885 also supports system extensions with 1 x PCIex16 (Gen.3.0), 1 x PCIe x4 as well as 2 x PCIex1 slots.

- LGA1150 socket-type 4th gen. Intel® Core™ i3/i5/i7 processors
- 4 x DDR3 LONG-DIMM memory, Max. 32GB
- Support DisplayPort/2 x HDMI/VGA, up to three independent displays
- Support 2 x GbE LAN, 6 x SATA3.0, 10 x USB3.0/2.0, 4 x COM, 8 x GPIO
- Support 1 x PCIex16(Gen. 3.0), 1 x PCIex4, 2 x PCIex1

16 NEX 981

Industrial Standard ATX Board based on 4th Gen. Intel® Core™ Processor



The standard ATX NEX 981 features LGA1150 socket-type 4th generation Intel® Core™ i7/i5/i3 processors as well as Intel® Celeron® processors. To meet demand for high computing performance and system responsiveness, the NEX 981 has four 240-pin DIMM sockets and can support up to 32GB of 1066/1333/1600MHz DDR3 in dual channel configuration.

Paired with Intel® Q87 chipset, the NEX 981 provides a lot of interfaces and extension slots, including 2 x Intel® GbE LAN connectors with Intel® AMT 9.0 support, 4 x USB3.0, 8 x USB2.0 (4 of internal), 2 x RS232/422/485, 4 x internal RS232, and 4 x GPI/4 x GPO.

The NEX 981 has 5 x SATA 3.0 and supports software RAID 0/1/5/10 to store high volume of data. The NEX 981 also supports system extension with PCIex16 (Gen.3.0), PCIex4, PCIex1, legacy 4 x PCI slots. For use in graphics-demanding applications, including digital signage, the NEX 981 supports 3 independent displays with 1 x HDMI, 1 x DisplayPort, and 1 x VGA interfaces. The board can fit in in 1U, 2U or 4U rackmount systems as well as desktop towers.

- LGA1150 socket-type 4th gen Intel® Core™ i3/i5/i7 processors
- 4 x DDR3 LONG-DIMM memory, Max. 32GB
- Support DisplayPort/HDMI/VGA, up to three independent displays
- Support 2 x GbE LAN, 5 x SATA3.0, mSATA, 12 x USB3.0/2.0, 6 x COM, 8 x GPIO
- Support 1 x PCIex16 (Gen. 3.0), 1 x PCIex4, 1 x PCIex1, 4 x PCI (v2.3)

17 APC F2611

Freescale iMX6 Android Panel PC

The APC F2611 is an ARM-based panel computer. It has a 23.6 inch infrared touch LCD display with full HD resoluiton. Featuring Freescale i.MX6 DualLite dual core processor, running up to 1.0GHz and supporting 1GB DDR3 RAM and 4GB EMMC, the APC F2611 is equipped with sufficient processor power to provide accelerated 3D graphics algorithm execution and to run interactive 1080P graphics with similar quality to desktops. The GPU3D provides OpenGL ES 2.0, including extensions, OpenGL ES 1.1, and OpenVG 1.1. The APC F2611 is also equipped with versatile I/O ports, including 6 x series ports, 4 x USB hosts, 1 x USB OTG, 2 x SD cards, 1 x GbE LAN, and 1 x Mini-PCIe interface for optional Wi-Fi or 3G module expansion. The APC F2611 is a great solution for the advanced SoC applications which require full-HD graphic performance.

- Freescale i.MX 6 Dual Lite 1GHz, Dual core CPU
- Support 23.6 inch Full HD LCD panel
- Support IR touch input
- Support real RTC chip and has coin battery backup
- Support watch dog function
- Main memory DDR 64bits bus, 1Gb, 800 MT/s
- Storage flash: EMMC 4GB
- Support Android 4.04 OS

18 NEXCOM Wireless Field Network Solution

Wireless technologies have been widely adopted in industrial automation applications. The use of wireless technology in automation field apparently reduces cost by eliminating troublesome wiring, simplifying maintenance task, and supporting flexible installation and better asset management.

As intelligent automation processing relies on information, such as temperature, pressure, etc., to be exchanged among sensor devices and Human Machine Interface (HMI), rises the need for more and more wireless sensor networks (WSN). To meet the requirement, the wireless solution should have qualities including professional standard compliance, low power consumption, and support for flexible deployment in the field. Among all wireless technologies, ISA100 and WirelessHART are two major standards used in field network market. Both standards provide tested interoperability and reliability to ensure reliable communication in the field.

NEXCOM is one of the few industrial computing solution companies who can provide Wi-Fi infrastructure, ISA100 and WirelessHART devices in the world. The integration of these emerging wireless technologies fulfills the need for “mesh all the way”. Not only the Wi-Fi infrastructure but also wireless sensor network can be flexibly deployed in the plant and significantly reduce the total cost of ownership.

19 IWF 6330/6320

Outdoor Mesh/Mobility AP 3 RFs, 2x2 MIMO, 802.11 a/b/g/n

The IWF 6330/6320 series is made up enterprise- and carrier-grade outdoor wireless access points which support up to three 802.11n radios to offer robust and high performing solution for PTP, PTMP, hot zone, hopping, mesh, mobility Wi-Fi applications in both license-free 2.4GHz and 5GHz bands.

Multiple radio interfaces can be configured independently to meet different wireless connection purposes. With the fast data switching between multiple radio interfaces, the backbone throughput will remain at a high level even after several relays between APs.

The IWF 6330/6320 are the most ideal candidates for service providers inclined to provide carrier-grade wireless services in market segments such as railway train, bus, rapid transit system, campus mesh network, hospitality, healthcare, warehousing, and wider metropolitan area deployments.

- Mesh: self-forming, self-healing, multi-hopping, and high throughput
- Triple/dual radios and compliant with IEEE802.11a/b/g/n, 2x2 MIMO high power
- Fast roaming (handover switch time less than 20 ms)
- 48VDC PoE input
- Operating temperature range from -35 ~ 75°C
- IP67 protection

20 IWF 3310X

Industrial Mesh/Mobility AP/CPE, 2x2 MIMO, 802.11a/b/g/n

The IWF 3310X series is made up of enterprise- and carrier-grade 802.11n industrial wireless access points which offer customer a robust and high performing solution for PTP, PTMP, hot zone, hopping, mesh, mobility applications in both license-free 2.4GHz and 5GHz bands.

The IWF 3310X series is the most ideal candidate for service providers inclined to provide carrier-grade wireless services in multiple market segments such as railway train, bus, rapid transit system, campuse mesh network, hospitality, healthcare, warehousing, and wider metropolitan area deployments.

- Mesh: self-forming, self-healing, multi-hopping, and high throughput
- Fast roaming (handover switch time less than 20 ms)
- Single radio and compliant with IEEE802.11a/b/g/n 2x2 MIMO
- DC dual power redundancy, support 802.3at PoE
- Operating temperature range from -40 ~ 80°C
- IP30 protection

21 IWF 501/502

Cost Effective Outdoor AP/CPE Works at -35°C ~ 75°C

IWF 501/502 series are made up of cost effective outdoor APs/CPEs. The IWF 501 series supports IEEE 802.11b/g/n and the IWF 502 series supports IEEE 802/11a/n. The two series can operate in 2.4GHz or 5GHz band. It has a built-in dual-polarity antenna or detachable SMA connectors with dual Ethernet ports. The IWF 501/502 series support passive 24VDC PoE to allow easy installation and to overcome environmental limitations.

- IWF 501 series compliant with IEEE802.11b/g/n 2x2 MIMO; IWF 502 series compliant with IEEE802.11a/n 2x2 MIMO, high power up to 29dBm
- Embedded attenna for IWF 501/502; External RP-SMA connectors for IWF 501D/502D
- AP/client/bridge/router mode
- 24VDC PoE input
- Operating temperature range from -35 ~ 75°C
- IP55 protection

22 IWF 3432XR

Industry's First

First 802.11ac Industrial Wi-Fi with 3RFs & Central Management

IWF 3432XR is an industrial-grade access point which supports concurrent dual-band IEEE 802.11ac and 3x3 MIMO. This industrial Wi-Fi is designed specifically for high-density (384 clients) environments, for instance, offices, universities, hotels, and hospitals. This AP features two 802.11ac radios, each supporting up to 1.3Gbps, one 802.11 a/b/g/n radio that can support up to 450 Mbps data rate, and 3x3 MIMO. IWF 3432XR is built to outperform wired connections. Traffic prioritization ensures that bandwidth-hungry applications, such as HD video streaming, are delivered smoothly while enforcing strict quality of service requirements for VoIP and mission critical services.

- Multiple function: AP/Repeater/WDS
- Centrally managed with access controller (IWF 8405 and IWF 3320C)
- Triple radios: 2 x IEEE 802.11ac; 1 x IEEE 802.11 a/b/g/n, 3x3 MIMO
- IEEE 802.3at power over Ethernet and power redundancy (DC and PoE)
- 2 x Gigabit Ethernet WAN ports, 4 x Gigabit Ethernet LAN ports
- Operating temperature range from -40 ~ 80°C

23 VMC 4000

12.1" Robust All-in-one Vehicle Mount Computer

VMC 4000 Front View

VMC 4000 Bottom View

The VMC 4000 series is made up of 12.1-inch robust all-in-one vehicle mount computers targeting the logistics and material handling application. Providing different processor choices from Intel® Atom™ to Intel® Core™ i7, the VMC 4000 series also offers a varied selection of LCD, including general industrial grade LCD, high brightness up to 1000 nits, and 5-wire resistive touch sensor.

In addition to the user-friendly human machine interface with intuitive touch input, the VMC 4000 series provides ten function keys and warning LEDs to help monitor the system condition. These all-in-one vehicle mount computers also support the smart power management features, including auto ignition detection, low voltage protection, and support for wide voltage input. It also reserves the expansion design for CAN bus module to support either SAE J1939 or J1708. The latitude of mounting methods offers easy installation in the vehicles via the proprietary U-shape or VESA mount.

The rugged VMC 4000 series is encased in an aluminum enclosure which is compliant with IP67, enabling the series to work in dirty and harsh environments. The VMC 4000 series is ideal for use as a vehicle terminal on forklifts, straddle carriers, mining vehicles, agricultural machine, and construction truck.

- Robust design with die-cast aluminum
- All enclosure compliant with IP67
- Wide range DC input from 9~36V
- 12.1" XGA LCD up to 1000 nits with 5-wire resistive touch
- Variety wireless communication options (Wi-Fi, 3G, 4G, LTE...)

24 VTC 6210

Telematics Computer Ensures Vehicles Connected and Secured

VTC 6210 is equipped with Intel® Atom™ quad core processor. It provides complete communication interface between vehicles and computer with built-in CAN BUS 2.0B interface and optional OBDII, easing the access to vehicle status to enable driver behavior analysis.

VTC 6210 supports three SIM cards, which can backup each other to allow flexible switch between network operators for cost efficiency and quality connection. Furthermore, the support for dual WWAN modules can increase bandwidth for data transmission. VTC 6210 also supports two-way voice communication.

By integrating a variety of I/O ports and 4 x Mini-PCIe sockets, VTC 6210 can easily adapt to different telematics applications, such as infotainment, fleet management, dispatching system, and video surveillance.

- Powerful Intel® Atom™ quad core processor E3845, 1.91GHz
- Flexible three SIM cards and dual WWAN module
- Built-in CAN 2.0b and Optional OBDII (SAE J1939/J1708)
- Rich expansion with 4 x Mini-PCIe sockets
- Wake on RTC/SMS
- Data and voice communication via WWAN module

VTC 6210 Rear View

VTC 6210 Front View

25 VTC 7200

Most powerful In-Vehicle Mini-server with Rich I/O Features

VTC 7200 features powerful 4th generation Intel® Core™ i7-4650U/ i5-4300U/i3-4010U processor. The integrated Intel® HD graphics 5000 helps VTC 7200 deliver smooth, seamless and stunning graphic performance through three different video outputs (VGA, DP, LVDS).

VTC 7200 is equipped with two swappable SSD/HDD trays so users can easily access or store data or video for offline use. With intelligent power manageability, the VTC 7200 supports ignition with delay on/off setting, RTC timer, and SMS/Ring remotely.

VTC 7200 supports three SIM cards and can flexibly switch between network operators for cost efficiency and quality connection. The support for dual WWAN modules can increase bandwidth for faster data transmission. VTC 7200 also supports two-way voice communication.

Integrating a variety of I/O ports and 4 x Mini-PCIe sockets and a powerful processor, VTC 7200 is an ideal in-vehicle mini-server suitable for video surveillance, passenger infotainment system, fleet management and dispatching system.

- Intel® Core™ processor i7-4650U/i5-4300U/-i3-4010U
- Support for three SIM cards and dual WWAN modules
- Two swappable SATA 3.0 SSD/HDD
- Built-in CAN 2.0B. and Optional OBDII function (SAE J1939/J1708)
- Wake on RTC/SMS
- Data and voice communication via WWAN module

VTC 7200 Rear View

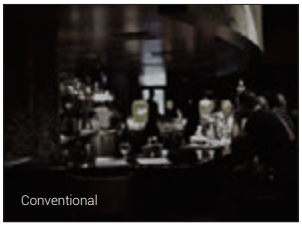
VTC 7200 Front View

26 NCb-221

2 Megapixel IP Camera Works in Dim Light

Ultra Low-Light Surveillance

NCb-221 is a unique NexCam particularly designed for use in the low light surveillance environment. With Sony 1/2" Exmor image sensor, NCb-221 provides excellent image quality under the low-light condition. Besides, TI 3D-DNR technology can effectively reduce motion blurs while using slow shutter. Hence NCb-221 extremely fits city surveillance project requirements.



1080P@30fps

NCb-221 supports high performance H.264/ MJPEG compression technology and offers extra smooth video at up to 30fps in 1080p resolution. Furthermore, the video ROI (Region of Interest) function reduces bandwidth and storage requirements to help optimize bandwidth usage and storage efficiency.

Digital WDR (DWDR)

NCb-221's digital wide dynamic range (DWDR) feature is designed to handle a scene in which different areas have different brightness levels. DWDR applies different exposures to differently lit areas in a scene to generate a clear image. On the contrary, on the image generated by using a typical camera, objects in the relative dark area would hardly be visible.

27 DNA 125B

Desktop Security Hardware Secures VPN with Intel® AES

The DNA 125B network security platform based on Intel® Atom™ processor E3815 has an extremely low power profile. Targeted at Soho UTM, VPN client, and SMB Wi-Fi controller, the DNA 1250B's compact size and advanced processor make it ideal for use in SMB environments.

DNA 125B

The DNA 125B supports Intel® Advanced Encryption Standard (Intel® AES) to provide secured network communication for small and home office networks. The palm-size DNA 125B is based on Intel® Atom™ processor E3815 which runs at 1.46GHz and is based on the 22nm Intel® Silvermont microarchitecture. The DNA 125B integrates Intel® Advanced Encryption Standard, 2 x LAN ports and 8 x switch ports. This fanless desktop security hardware can provide reliable network connectivity to transmit encrypted data over secure communication channels and block unauthorized network access, protecting both wired and mobile internet devices in the workplace from network security threats.

- Intel® Atom™ processor E3815, BGA type
- DDR3L- SO-DIMM memory, Max. 8GB
- Support 2 x Giga LAN ports
- Support 8 x GbE switch ports
- Support 1 x Mini-PCIe slot

28 NSA 3150

1U Network Security System with 4th Gen. Intel® Core™ Processor

Based on 4th generation Intel® Core™ processor and paired with H81 chipset, NSA 3150 features Intel® AES New Instruction (Intel AES-NI) which allows security algorithms to benefit from hardware acceleration for data encryption and decryption. The NSA 3150 is a 1U rackmount network security system targeted at UTM, firewall, VPN, IPS, and WAN optimization applications in small and medium enterprise environments. The system has eight Intel® GbE LAN ports with support for LAN bypassing and one LAN module expansion.

- 1U rack mount network platform
- 4th generation Intel® Core™ processors
- Support up to 16GB of DDR3 1333/1600 Memory
- Support one LAN module, up to 16 LAN ports
- one internal 3.5" HDD bay/two 2.5" HDD bays (optional)

29 NSA 5150

Scalable Network Security Platform for All Applications

NSA 5150 can be scaled to address a full range of applications. In pursuit of various different vertical market segments, network security vendors require scalable platforms which are suitable for both entry-level and high-end applications. In response to these demands, NEXCOM has unveiled the NSA 5150, a unique network security platform which features expandable port density and functionality, to fulfill a multitude of application requirements. NSA 5150 can be configured with eight to sixteen GbE ports, 10GbE fiber ports with LAN module, and one PCIe card to give network performance an extra boost. Computing performance can also be modified with a wide range of processors including Intel® recently launched Xeon® E3 family, 4th generation Intel® Core™, Pentium®, and Celeron® processors.

NSA 5150's scalability can help vendors optimize the combination of port density and computing performance based on application requirement and service capacity. It can be used in port hungry virtual private network, adapted for CPU-demanding Antispyware, or turned into a VoIP gateway with telephony card. It can be a cost-effective model for lower-end market segments and also be transformed into a premium platform chasing high-end market opportunities.

NSA 5150 also features extra flexibility. In addition to 8+8 GbE ports, the network security platform has DDR3 memory up to 16GB, 1 x CF expansion slot, 1 x 3.5" SATA HDD, and 1 x PCI expansion slot. NSA 5150 can also be tailored for SSL, xDSL card, or wireless card.

- Intel® Xeon® E3 family, 4th gen Intel® Core™ family, Pentium®, and Celeron® processors
- Intel® C226 chipset
- 8 x GbE LAN ports with 1 x LAN module (optional 8 x GbE LAN ports)
- 4 x latch bypass
- 4 x memory slots to support up to 32GB of DDR3 1066/1333
- Support 1 x PCIe slot
- 1 x 3.5" HDD bay/2 x 2.5" HDD bays (optional)

NSA 3150

30 IFA 3610/1610

5-port Industrial Firewall with VPN Function

The Henge™ IFA 3610 is a fully integrated 5-port industrial firewall router with VPN function. This completely equipped, broadband-capable firewall router offers a stateful packet inspection (SPI) firewall, denial-of-service (Dos)/distributed denial-of-service (DDoS) protection, intrusion prevention, port scan detection, and real-time alerts to provide additional protection to machinery and equipment installed on the secure side of the firewall. Equipped with IPSec and SSL VPN functions, the firewall router provides a remote access infrastructure for secure connection and helps machine builders and system integrators easily design a system which can be monitored and maintained remotely and securely. For large scale installation, the Henge™ VPN Dispatcher can define and manage network connections with extreme flexibility, adapting them to meet users' specific needs by, for instance, creating multiple and distributed networks using VPN gateway to gateway, enabling remote connections to networks, and taking advantage of the intuitive VPN client.

Furthermore, the firewall router adopts rugged design, supports an extended operating temperature range of -20 to 70°C, and is perfectly suited for use in harsh environment.

The combination of firewall functions and secure VPN capability makes the Henge™ IFA 3610 an ideal endpoint connection and security solution for industrial automation, process control, energy and medical instrument management application.

- Stateful packet firewall
- Intrusion detection/prevention
- Secure remote access by SSL VPN
- Unified VPN user management
- RS232/485 serial communication

NSA 5150

IFA 3610

31 NDiS B324

Slim Fanless Power Efficient Digital Signage Player

NDiS B324 is a fanless digital signage media player based on Intel® Celeron® processor J1800. It is housed in a compact chassis and uses fanless design to fulfill requirements for small size, low power consumption, and high reliability. NDiS B324 supports HDMI and VGA video outputs, has one Gigabit Ethernet port and optional Wi-Fi expansion, and is equipped with one USB3.0, 3 x USB 2.0, and 1 x COM port. Because of its slim size, NDiS B324 can be wall mounted. NDiS B324 can offer full-HD video playback on two displays. NDiS B324 is an ideal entry-level digital signage player for use in advertising, hospitality, branding, and digital menu board application.

- Intel® Celeron® processor J1800
- HDMI and VGA independent displays
- Supports USB3.0
- Support WLAN
- Compact and fanless design

NDiS B324

32 NDiS M324

Remote manageable Quad-core OPS Digital Signage Player

NDiS M324 is based on Intel® Celeron® processor J1900 and follows the electrical and mechanical specifications of the Open Pluggable Specification. NDiS M324 can be plugged into any OPS-compliant display devices to render rich multimedia contents. Thanks to the modular and cable-less design, NDiS M324 satisfies the need for quick deployment and hassle-fee maintenance of large digital signage network dispersed in different geographical locations.

The digital signage player has an integrated Intel® Gen.7 graphic engine and supports Microsoft DirectX® 11. NDiS M324 also supports dual SO-DIMM, four USB3.0 and remote management, pluggable HDD tray, memory, and Mini-PCIe slot for quick easy installation and maintenance. NDiS M324 signage player is an ideal choice for education, hospitality, corporate, banking, transportation, retail store, restaurant, and interactive whiteboards.

NDiS M324

- Intel® Celeron® processor J1900
- Integrated Intel® Gen.7 graphics
- Dual SO-DIMM slots for up to 8GB of DDR3L 1333 memory
- WWAN/WLAN/TV tuner support
- Remote management

NEXCOM's Digital Signage Solutions Shone at ISE 2014

NEXCOM's digital signage players took the spotlight at ISE. The real-case demonstrations for retail, food service, education and transportation applications revealed the true value of digital signage, which can facilitate the technology adoption.

The box media players, NDiS B533 and B324, and OPS media players, NDiS M533 and M324, caught most eyes. Powered by 4th generation Intel® Core™ processors, the NDiS B533 demonstrated powerful computing and graphic performance for use in retail applications. The NDiS B533 showcased how digital signage can interact with and engage targeted audiences at the mobile phone shop and café. ISE visitors were attracted to try and see how digital signage can be activated by event triggers, QR code or NFC to respond to the audience.

For educators, the NDiS M533 and NDiS M324 OPS player demonstration highlighted how these players can facilitate students' learning, elevate viewing experience, and give quick interactive responses. The NDiS M533 delivered 4K Ultra HD contents, which were good to be used in lecture halls. Based on Intel® Celeron® Processor J1900, the NDiS M324 can be plugged into any OPS-complaint display devices to render rich multimedia contents. Taking advantage of the latest Intel technology, the NDiS M324 with accelerated 3D rendering, image processing and video decoding capabilities can replace physical forms of teaching tools and materials with digital contents covering unlimited topics, which was good to be utilized in limited classroom space.

The fanless and compact form factor of NDiS B324 was an ideal choice for entry level players for most buyers. Based on Intel® Celeron® processor J1900, the NDiS B324 demonstrated its capabilities to handle multiple data resources to show live flight information of the Amsterdam airport.

Finally, the video wall player NDiS B862 provided an immersive showcase for multi-display digital menu board for food services. NEXCOM utilized its digital signage software PowerDigiS to show how digital signage can help food services update real-time menu with an instant.

NEXCOM's Networking and Industrial Wi-Fi Solutions
Fuel the Opportunities in Big Data Market

At Mobile World Congress 2014, NEXCOM demonstrated its high CP value communication appliance and industrial grade Wi-Fi solutions with great customer interest and response.

NEXCOM's IWF 3432XR, industry's first 802.11ac industrial Wi-Fi, made its debut at MWC and became one of the highly sought-after products. Armed with 802.11ac and 3 radios, the IWF 3432XR demonstrated how it can provide high-density connection of up to 384 concurrent devices and wireless speed of 1.3Gbps to meet the surging demand for increased mobile device access in both enterprise and industrial networks. Furthermore, the IWF 3432XR also displayed how its wide operating temperature of -40 to 80 degrees Celsius, dual WAN connection, dual redundant power and centralized mesh management provided reliability and manageability for large industrial wireless networks.

The communication appliance NSA 5150 also garnered widespread interest at MWC with its scalable design. The NSA 5150 exhibited how it can be configured with eight to sixteen GbE ports, 10GbE fiber ports with LAN module, and one PCIe card to give network performance an extra boost. NEXCOM also highlighted its NSA 5150 capability to support a wide range of processors including Intel® Xeon® E3 family, 4th generation Intel® Core™, Pentium®, and Celeron® processors, which can fulfill a multitude of application requirements, particularly for network security vendors in pursuit of a scalable platform for both entry-level and high-end applications.

In addition to NEXCOM networking security platforms, NEXCOM industrial Wi-Fi solutions were also on display to show how they offered reliable connectivity for outdoor Wi-Fi applications. Features such as centralized mesh management and fast roaming were highlighted to advertise NEXCOM industrial Wi-Fi solutions' capability to provide network redundancy and seamless mobility for outdoor wireless infrastructures.

Seize IoT Market with Intelligence Inside

To address the market for IoT, NEXCOM presented its intelligent systems ranging from dedicated computers for vertical markets, industrial wireless solutions, to a full spectrum of latest ARM SoC and x86 embedded boards at Embedded World 2014.

All embedded professionals gathered at Embedded World to look for the latest platforms to fulfill the demands of building a smarter world. Specializing in vertical market applications, NEXCOM's dedicated intelligent systems are designed for special applications, such as industrial automation, transportation, and multimedia. At the event, besides the highly sought-after NISE fanless computers, NEXCOM's VTC in-vehicle computers, PPCs for light industry and heavy industry, nROK train PCs, nTUF marine computers, and NDiS digital signage players, all received significant interests from customers in different fields.

NEXCOM also held a live demonstration of how its IWS (Industrial Wireless Solution) family featured trusted connectivity that answers the need for IoT connectivity in critical industrial network applications. The demonstration showcased how multi-hopping, P2MP offloading, fast roaming and mesh networking functionalities can help create connected workplaces.

In addition, a number of embedded boards utilizing the 4th generation Intel® Atom™ processors were in the spotlight.

For example, the EBC 355 3.5" board displayed how its wide temperature range, low power consumption, Intel® Gen 7 Graphics, multi-display and USB 3.0 support were ideal for deeply embedded applications. The NEX 615 mini-ITX embedded board highlighted how it can drive large multi-display applications with dual LVDS outputs, while the compact COM Express board, ICES 620X, emphasized its capability to support wide operating temperature ranges of -40 to 85 degrees Celsius for harsh railway information system applications.

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NEXCOM
The Intelligent Systems

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