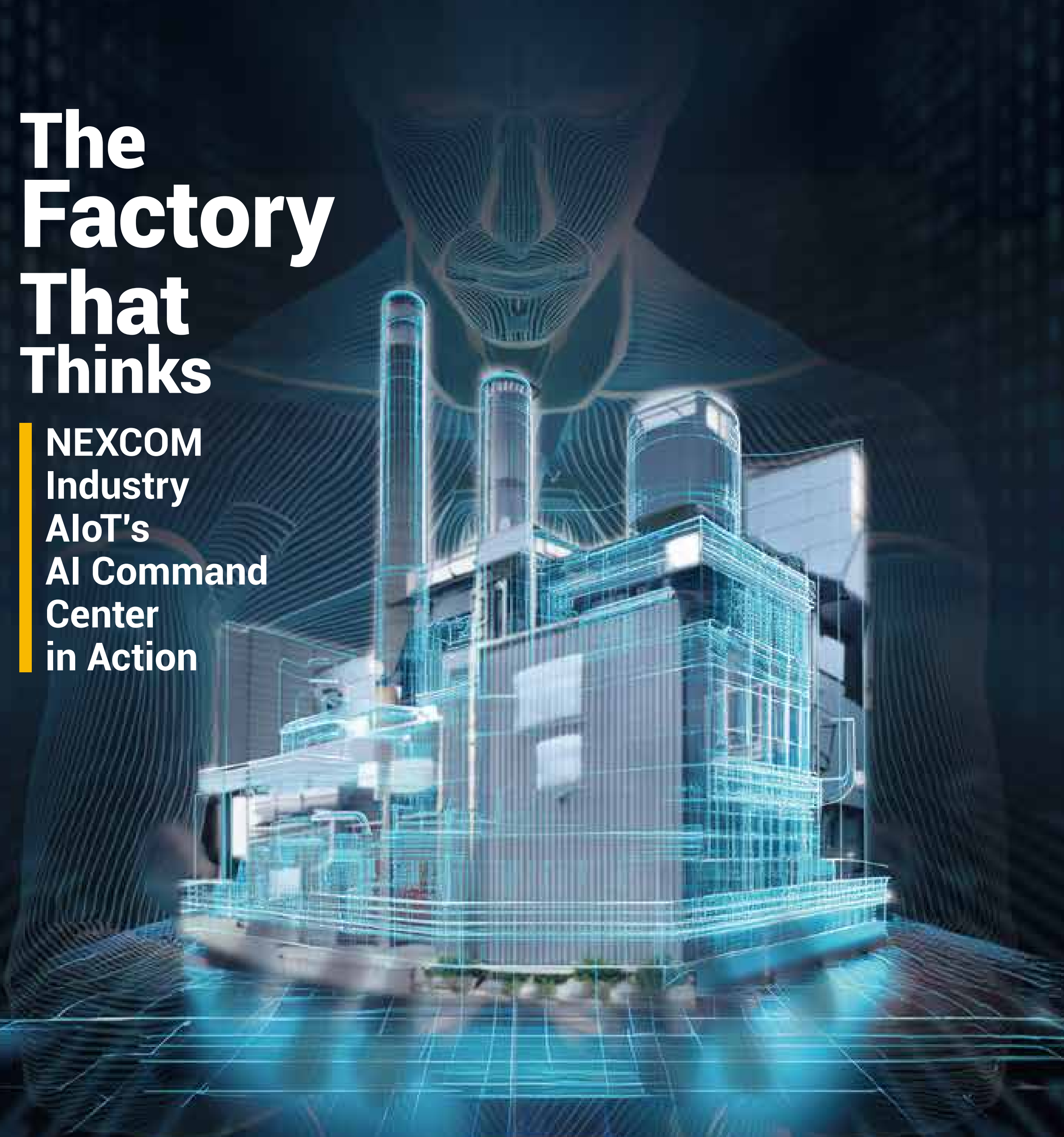
NexAIoT Express



The Factory That Thinks

NEXCOM Industry AIoT's AI Command Center in Action

Vol. 01
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NEXCOM Industry AIoT

Chief Editor's Perspective

Unveiling the Next-Gen Smart Manufacturing Strategy

Joe Lin
President of NEXCOM Industry AIoT Ltd.

As artificial intelligence, robotics, and green manufacturing deeply converge, this industrial revolution not only defines the future—it has become our mission today. As a leading brand in the Industrial Internet of Things (IIoT), NEXCOM Industry AIoT is helping global enterprises enter a new era of digital transformation with agile thinking, forward-looking vision, and a commitment to sustainability.

Our integrated solutions span four core domains: AI edge computing, industrial PCs, IoT automation, enterprise digital intelligence, and cross-platform control systems. Among them, the nDAS product series and VIC-Flow software have become industry favorites due to their exceptional flexibility, scalability, and seamless integration capabilities. VIC-Flow fully supports four major hardware platforms—NISE, APPC, nDAS, and AIGE—enabling real-time OT/IT data exchange and streamlined data flow. Its customizable workflows and visual analytics also help reduce energy consumption and promote environmental sustainability.

In terms of safety technology, we place special emphasis on human-machine collaboration. All our robotic solutions are equipped with multiple safety mechanisms, including:

- Advanced collision detection systems that can halt operations within milliseconds,
- Intelligent force control technology compliant with ISO 10218 and ISO/TS 15066 international safety standards, ensuring safe close-proximity operation with humans,
- Real-time monitoring and alert systems to prevent potential risks.

These innovations allow our collaborative robots to safely operate in factories, hospitals, warehouses, and other environments, working seamlessly with humans to enhance productivity.

Looking ahead to 2025 and beyond, we are not only driving digital transformation but also building a green manufacturing ecosystem aligned with ESG standards. NEXCOM Industry AIoT's reliable products and professional services have already been adopted by top-tier manufacturers in Germany, Japan, the United States, and mainland China, and are gaining traction across Europe, Asia, and the Americas. This widespread adoption is a testament to our excellence in technological innovation and quality control.

With over 1500 professionals and a global service network, NEXCOM Industry AIoT is ready to be your best partner in realizing your smart manufacturing vision and ushering in a new era of human-machine collaboration.

We don't just offer cold machinery—we deliver solutions built on trust, intelligence, and sustainability. Every innovation we share is a key step toward a better world.

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Cover Exclusive

The Factory That Thinks

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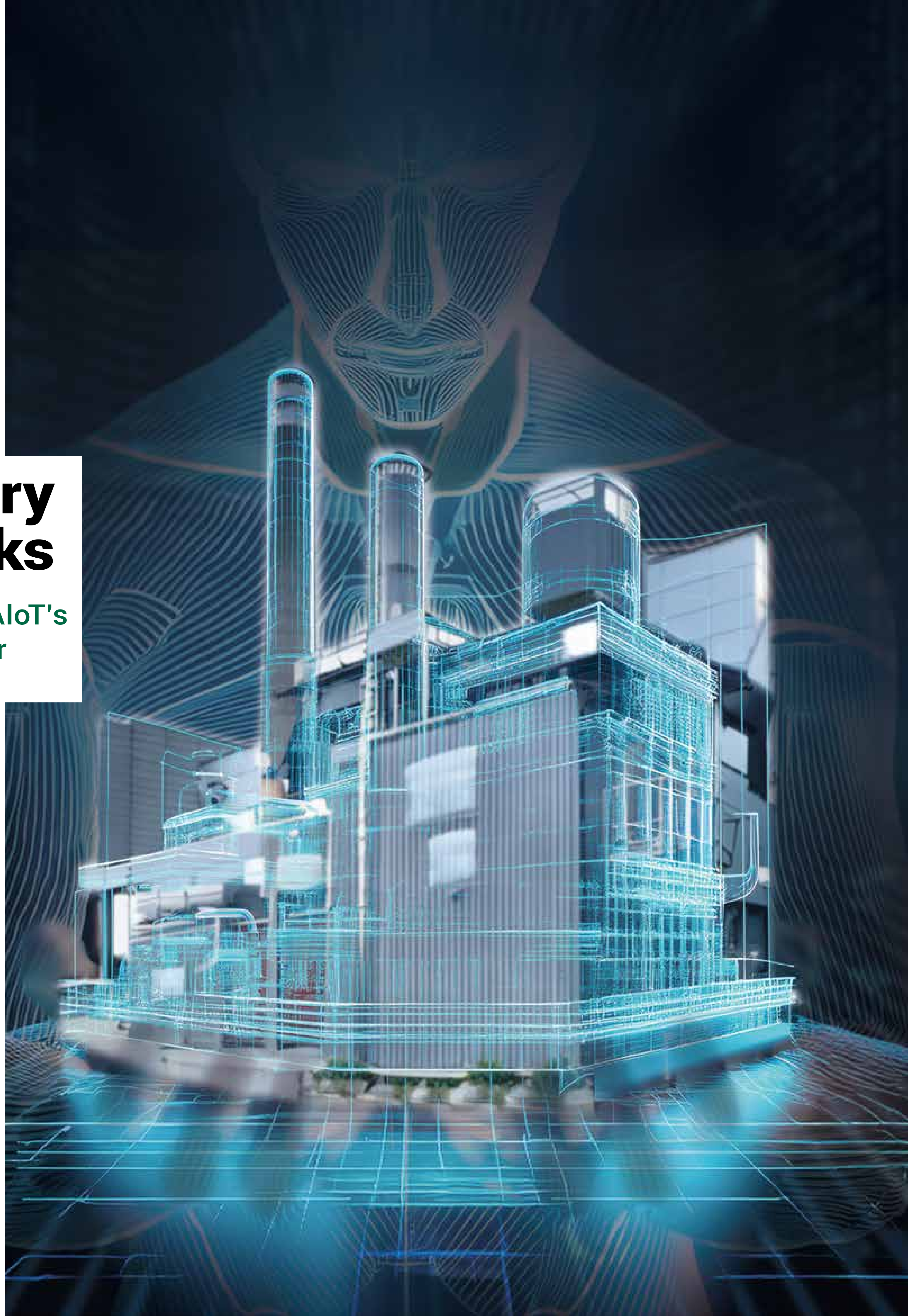


In the race toward smart manufacturing, factories are no longer just "automated"—they're beginning to "think." This feature reveals the core architecture behind NEXCOM Industry AIoT's groundbreaking AI Command Center, showing how a factory evolves from data collection and real-time response to predictive decision-making, transforming into a system with perception, judgment, and action.

This isn't just a stack of technologies—it's a complete reimagining of manufacturing logic. Through the NexDATA platform, ESG carbon footprint modules, AI virtual plant manager, and war room architecture, we witness how a factory shifts from an "information island" to a "smart hub," and from "passive response" to "proactive prediction."

▲ Exclusive Look Inside NEXCOM Industry AIoT's War Room: Data-Driven Decisions Power Efficiency and Sustainability

War Room Spotlight:
Taiwan's First Zero-Blind-Spot Smart Factory

From Industrial PC Giant to Smart Manufacturing Trailblazer

Back in 2017, global IPC leader NEXCOM kicked off its digital transformation journey by building an 8,000-square-meter “Factory of the Future” in Taoyuan's Huaya Tech Park. We got our hands on exclusive data: this networking equipment hub, powered by just two SMT lines and the iAT2000 cloud-intelligence system, pulled off a jaw-dropping feat—cutting labor by 30% while increasing output by 25%.

The Game-Changer: 3 Hardcore IIoT Data Collection Breakthroughs

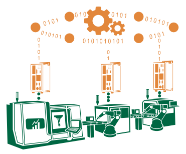
“Traditional automation is like flying blind,” says Eric Lo, project lead at NEXCOM Industry AIoT. One of the biggest challenges at the Huaya plant? “40% of legacy machines had no communication interface.” Their solution? A total game-changer:

The Hardcore ABCs of Data Collection

A. “Screen Hunter” Nonprotocol Gateway:

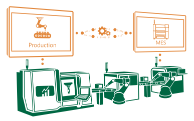
- World's first OCR-based real-time machine screen capture
- Installs in 30 minutes—no downtime needed

B. Wireless Environmental Sensor Network:



- WiFi gateways replaced 2.3 km of wiring
- 400% faster updates for temperature, humidity, and vibration data

C. Predictive Maintenance AI Module:



- Motor spectrum analysis detects issues 14 days in advance
- Prevented two major shutdowns in 2023

▲ Smart Manufacturing Command Center Turns Monitoring into a Money-Making Machine, Generating Millions in Profit

Taiwan's Smart Manufacturing Star: Drawing Delegations from the U.S. and Japan

This “thinking factory” has already hit three major milestones:

√ Hosted over 100 visiting groups from 37 countries in 2025, including Toyota suppliers
√ Transformed the old Sanmin plant, cutting manpower to 70% of traditional levels
√ Landed three full-factory smart manufacturing contracts in Southeast Asia

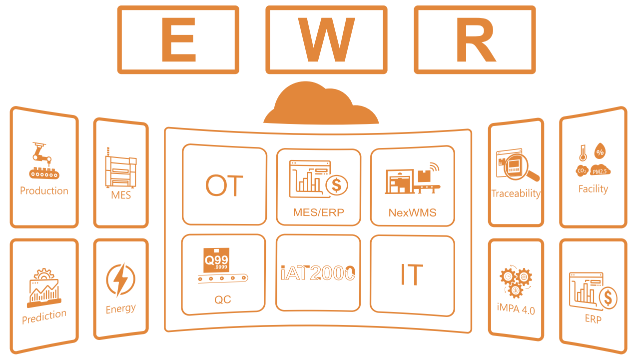
“We turned 20 years of IPC know-how into IIoT ammo,” says NEXCOM Industry AIoT's CTO. The most disruptive innovation? Their first-of-its-kind “Nonprotocol + OCR” data collection tech that gives even 1950s-era machines a voice.

War Room = Profit Engine: In ODM, 7% Margins Are the Norm

Step into the command center and you'll see massive screens pulsing with real-time data:

30% cut in electricity bills: Smart meters exposed hidden energy hogs
6% boost in line balancing: SCADA + MES integration eliminated bottlenecks
97.5 audit score: Only 3 points deducted out of 122—an industry record

“This isn't just a monitoring system—it's a money printer,” says Plant Manager Eva Yeh. One global ODM client even gave them a 7% premium over competitors, adding millions in annual profits.



▲Know all of the information by our enterprise war room.

What's Next? A Metaverse Factory?

NEXCOM Industry AIoT has already kicked off its “Digital Twin” initiative, bringing in AR-based remote maintenance and blockchain traceability. This smart manufacturing revolution—born in Taoyuan, Taiwan—proves that when war rooms meet IIoT, even the most traditional factories can become profit powerhouses. Turning data into gold? It's already happening.

<Video Tour>

Full Reveal of NEXCOM Industry AIoT's Smart Factory War Room

Step inside NEXCOM Industry AIoT's “War Room” at the Huaya plant in Linkou and get a glimpse of the future of smart manufacturing! This video takes you behind the scenes to see how NEXCOM Industry AIoT leverages IIoT solutions—integrating edge computing, AIoT, and 5G—to build a high-efficiency, low-energy smart factory.

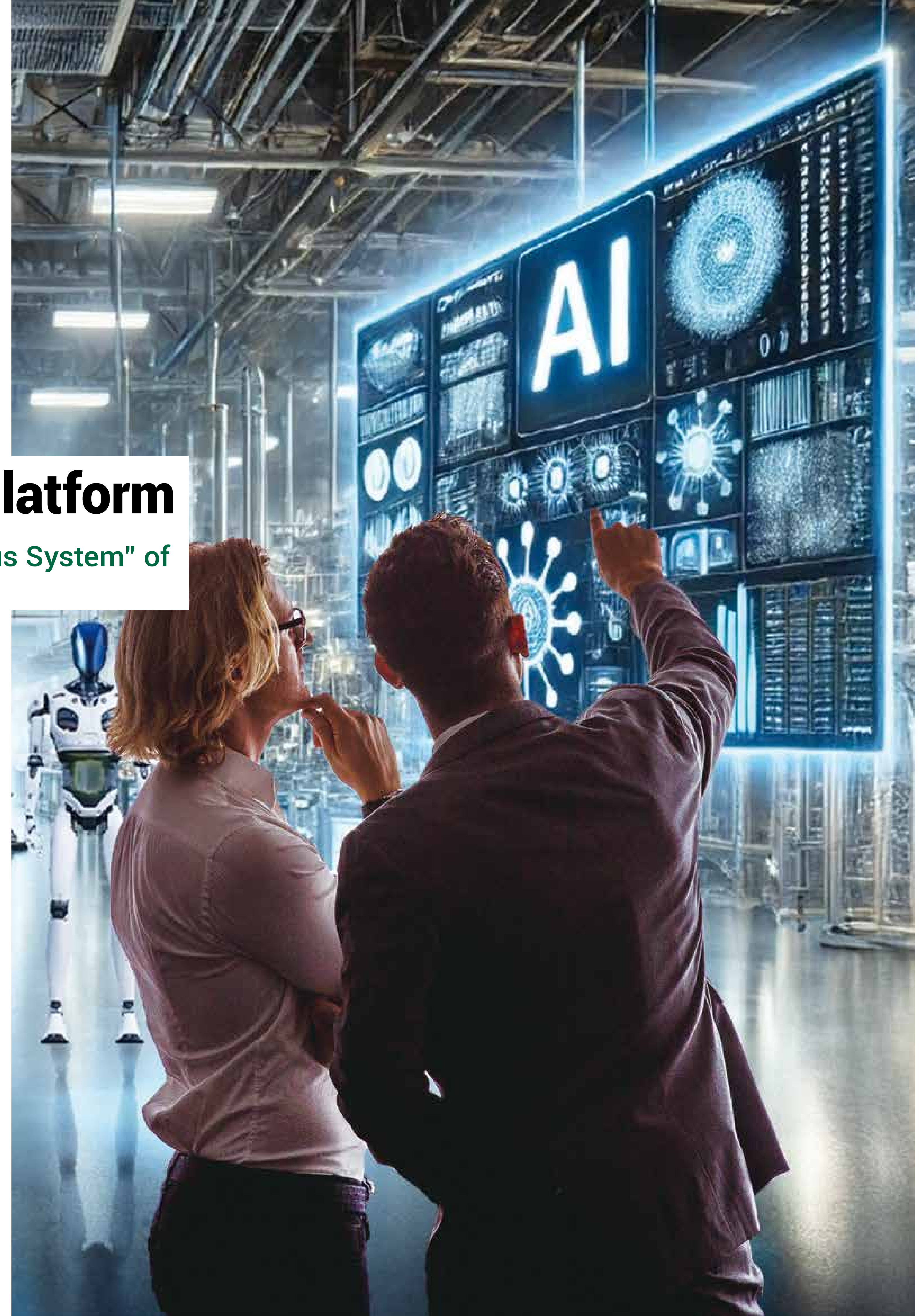
Scan Now!

▲ The NEXCOM Industry AIoT Smart War Room is now live—come explore the data revolution transforming the manufacturing world!

Future Manufacturing Feature

NexDATA Platform

The “Central Nervous System” of Industrial Data



In most factories, data isn’t lacking—what’s missing is integration and insight. ERP, MES, SCADA, and WMS systems all operate in silos, creating information gaps and slow response times. Managers often rely on delayed reports to make decisions, missing the optimal window of action.

ESG Pressure Reveals Data Blind Spots

No Equipment-Level Tracking: Only whole-factory estimates, lacking detail

No Real-Time Energy Monitoring: Can’t identify abnormal energy usage

Manual ESG Reporting: Data is scattered and must be manually compiled

The Solution: Unified Platform and Dashboard

Unified Data Platform: NexDATA collects and organizes data from IoT, ERP, MES, and more, creating a seamless data flow

Data Cleansing Engine: Transforms raw data into structured formats for analysis and visualization

Analytical Reports: Offers historical data views and integrated insights to support strategic decisions

From Report-Driven to Real-Time Response

Before: Data is siloed and difficult to integrate.

After: Centralized heterogeneous data enables streamlined operations and timely decision-making.

> Factories used to be “islands of information.” Now, with NexDATA, they’ve become responsive systems with real-time intelligence. Data isn’t just recorded—it drives action.

<Video Tour>

NexDATA Industrial Data Platform Explained

See how NexDATA integrates OT/IT data and accelerates decision-making—transforming your factory from a “report-driven” to a “reaction-driven” operation.

Scan Now!

▲ ESG Carbon Footprint Management System

ESG Benchmark:
Real-Time Carbon Footprint Visualization

ESG has become a baseline requirement for global manufacturers. Yet most factories still rely on manual carbon estimates, lacking equipment-level data and real-time visibility. This leads to low report credibility and unclear improvement strategies.

Among NexDATA's many applications, the ESG Carbon Footprint Module stands out for its sustainability impact. As ESG becomes a global standard, NexDATA helps companies shift from carbon estimation to precision management, turning green manufacturing into a measurable, verifiable competitive edge.

ESG Pressure Reveals Data Blind Spots

No Equipment-Level Tracking:
Only whole-factory estimates, lacking detail
No Real-Time Energy Monitoring:
Can't identify abnormal energy usage
Manual ESG Reporting:
Data is scattered and must be manually compiled

The Solution: Carbon Footprint Module + Energy Integration Architecture

Carbon Footprint Module: Calculates emissions per work order and machine based on ISO 14067
Energy Integration Architecture: Collects real-time energy data, supporting ISO 50001
ESG Report Engine: Automatically generates reports in international formats for audits

From Sustainability Slogan to Competitive Metric

Before: Rough carbon estimates, vague energy management
After: Make carbon data visible. Take control of energy efficiency—and improve it.

With NexDATA, sustainability is no longer just a slogan—it's a quantifiable, manageable, and verifiable business advantage.

Recommended Product

nDAS6000: Smart I/O System

▲ NexDATA AI Agent Natural Language Interface

Virtual Plant Manager:
How the War Room Predicts Production Risks

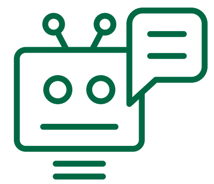
Even with data integration in place, many managers still face a major hurdle: they can't make sense of the data. Reports are too complex, queries are slow, and analysis depends heavily on IT teams. Decision-makers struggle to detect anomalies or forecast risks in time, missing critical intervention windows.

The NexDATA AI Agent is an advanced module designed for managers—a virtual assistant that combines natural language queries, real-time analytics, and war room integration. Instead of relying on dense reports, managers can now ask questions and get instant answers, enabling smarter, faster decisions.

Even with Data, Real-Time Response Is Still Missing

High Query Barriers: Managers can't operate systems directly; they rely on tech teams
Delayed Anomaly Detection:
No instant access to data or quality alerts
Opaque Decision Processes: Reports are hard to interpret; war rooms lack real-time support

The Solution: AI Assistant + War Room Integration



Natural Language Interface:
Ask questions like "Which line had the longest downtime today?"
AI Auto-Analysis Module: Instantly generates charts and recommendations to support decisions
War Room Integration: Multi-dimensional data visualization enables cross-department collaboration

From Report-Driven to Conversation-Driven Management

Before: Hard-to-access info, slow reactions, unclear decisions
After: Ask-and-answer interface, instant response, transparent decision-making

Factory management used to be like "driving while looking in the rearview mirror." With NexDATA AI Agent, managers now have a windshield and GPS—predicting risks and navigating the future with confidence.

Recommended Product

NISE3000 C30: AI-Driven High-Performance Expan

From Data Islands to Smart Decisions:
How NexDATA Makes Factories Think

Factories may have tons of data, but without integration, transformation, and real-time decision-making, that data is just "sleeping assets." Most companies are still stuck in the "data collection" phase, unable to unlock its full value.

Current Reality:
Lots of Data, No Actionable Insights

Systems Don't Talk: ERP, MES, SCADA operate independently, blocking integration.
Poor Data Quality: Raw data lacks cleansing and standardization, making analysis difficult.
No Decision Support: Data isn't converted into actionable recommendations in real time.

The Solution: Three Core Capabilities Driving Smart Decisions

Integration Power: NexDATA connects OT and IT into a unified data platform
Transformation Power: Cleanses, structures, and standardizes data for efficient analysis
Decision Power: AI assistant and real-time dashboards enable fast, informed judgments

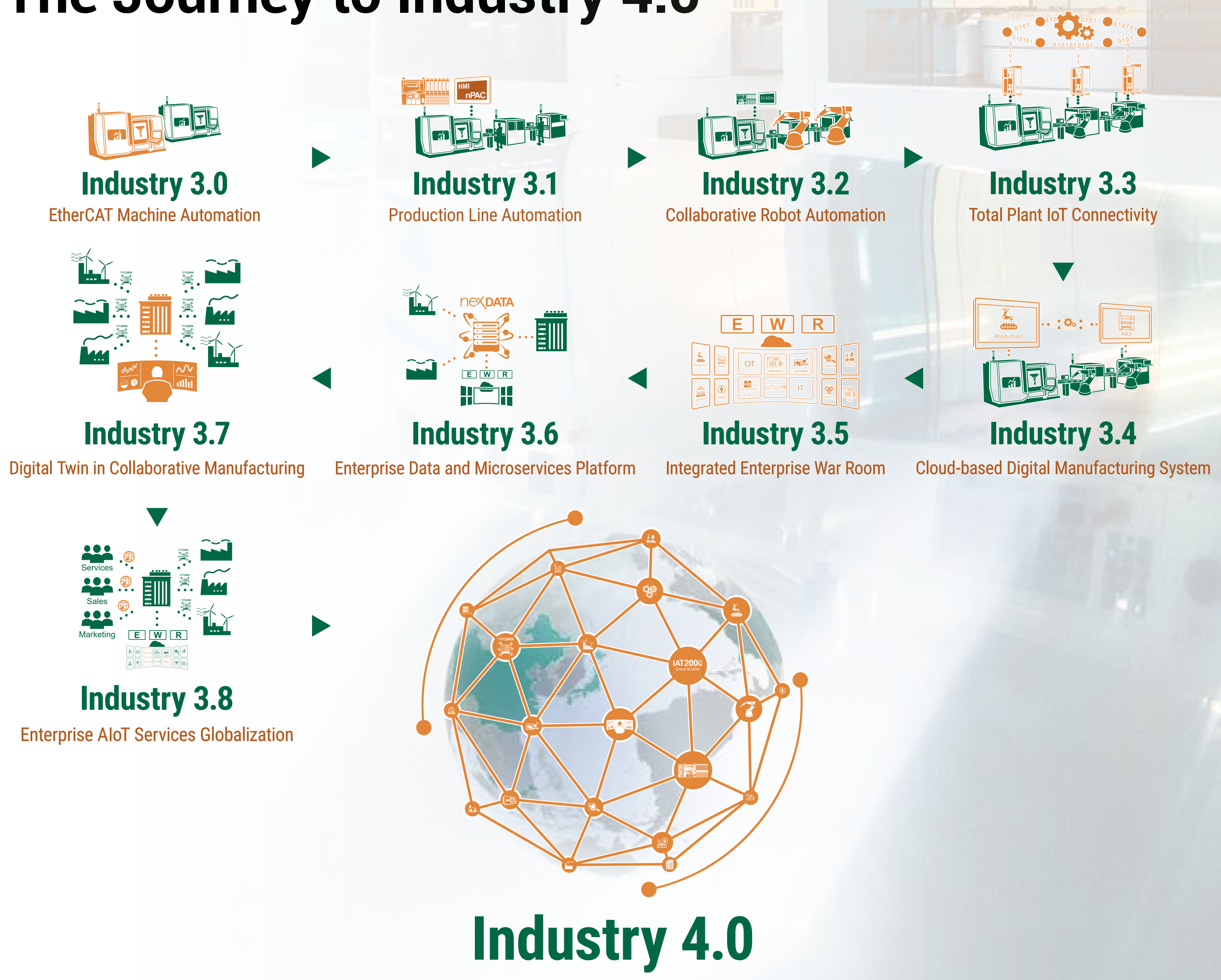
From Dormant Data to Intelligent Action

Before: Data asleep, systems isolated, decisions delayed
After: Data activated, systems connected, decisions agile.

Secret Sauce

NexDATA isn't just a data platform—it's the brain of your smart factory. It doesn't just see—it understands and acts fast, ushering manufacturing into the age of intelligent decision-making.

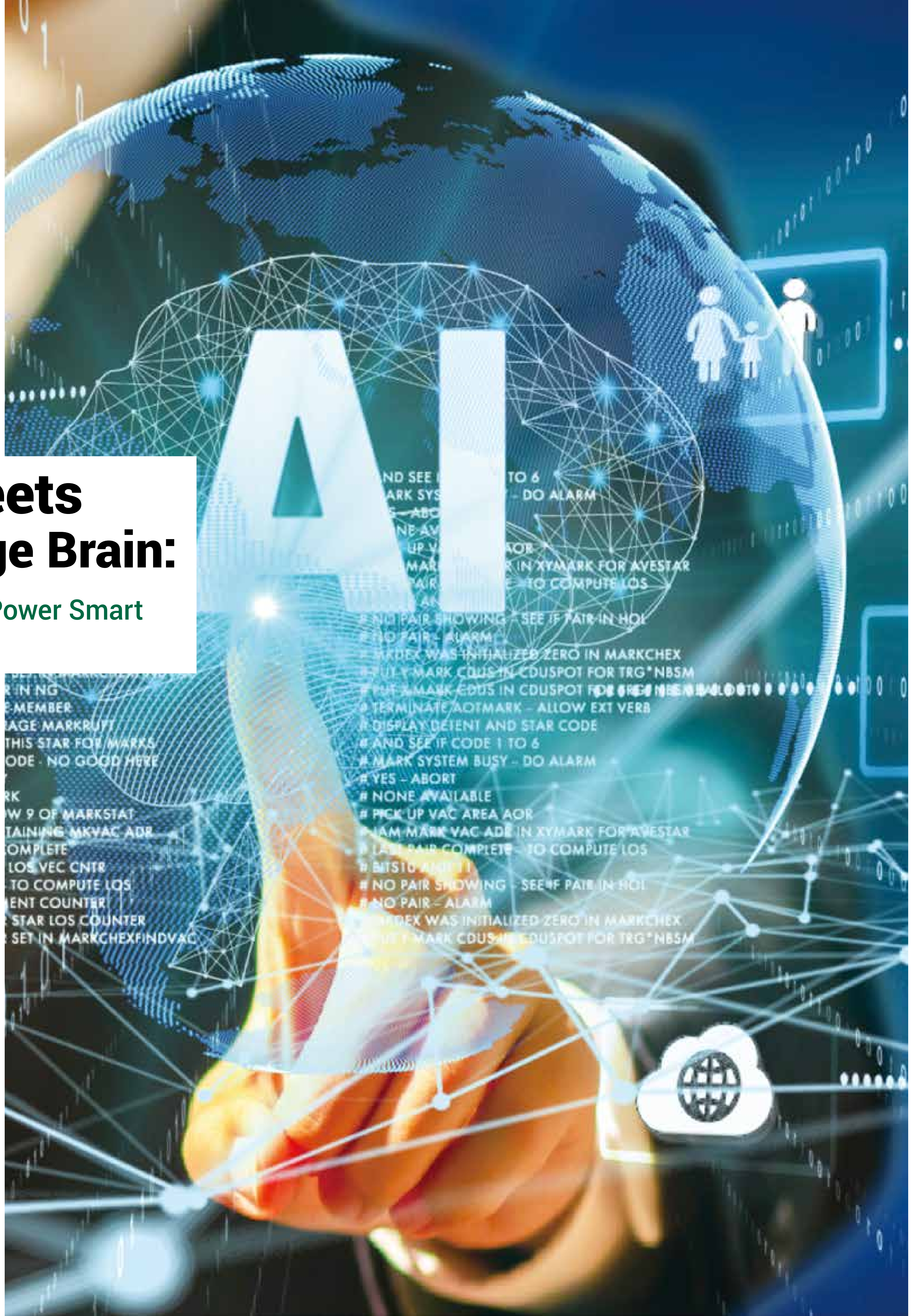
The Journey to Industry 4.0



Edge Intelligence Frontline

AI Core Meets the Language Brain:

AIGE Dual Platforms Power Smart Thinking



In the wave of smart manufacturing, AI is no longer just a cloud-based assistant—it's now the decision-maker on the factory floor. NEXCOM Industry AIoT's **AI Edge,** 《**AIGE series**》 was built for this moment: high-performance, low-power, modular edge AI platforms designed for real-world deployment.

Our reporters uncovered two flagship products from NEXCOM Industry AIoT:

AIGE 1000 C10:

By expanding high-end GPUs via PCIe x16, the system delivers over 1000 TOPS of AI inference performance—ideal for industrial AI servers, AOI, and machine vision applications.

AIGE 100:

Powered by NVIDIA Jetson AGX Orin, supports language model inference, voice interaction, and multi-sensor fusion—perfect as the "thinking core" for robotics

Both platforms support NexRTOS real-time OS and NexECM EtherCAT master modules, enabling microsecond-level scheduling and nanosecond-level synchronization. Smart factories are now faster, more precise—and capable of independent thought.

Edge AI Is the Brainpower Behind Smart Manufacturing

Edge inference platforms aren't just a tech upgrade—they're a mindset shift. With AIGE, NexRTOS, and EtherCAT, NEXCOM Industry AIoT gives every machine real-time thinking capabilities. In this industrial revolution, AI isn't a remote assistant—it's the on-site decision-maker. This leap isn't just about speed—it's about autonomy, safety, and sustainability.

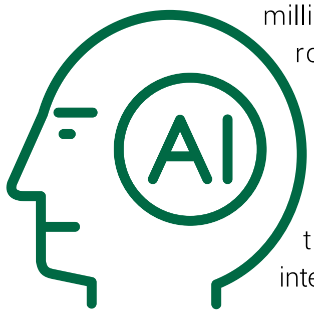
▲AIGE 1000 C10

AIGE 1000:
Giving Every Device a “Super Brain”

AI inference no longer depends on the cloud. NEXCOM Industry AIoT believes every machine should think and react instantly—ushering in a new era of smart manufacturing.

The Challenge: Cloud-Based AI Can't Keep Up

Cloud AI is powerful, but it faces latency, bandwidth, and security issues. On the factory floor, machines need millisecond-level responses and rock-solid reliability. Cloud architecture simply can't deliver. That's why edge computing is the key—bringing AI inference directly to the device for real-time intelligence.



Key Pain Points

Latency Risks: Cloud inference requires network transmission, delaying control

Bandwidth Bottlenecks: Sensor data overloads cloud pipelines

Security Concerns: Sensitive production data leaves the premises

Isolated Devices: Machines lack AI capabilities, can't make autonomous decisions

NEXCOM Industry AIoT's Solution: Distributed AI Inference Architecture

High-performance GPU expansion: Equipped with advanced graphics cards such as the RTX 5080 or RTX 4090, the system delivers over 1000 TOPS of AI computing power. It supports simultaneous multi-model inference, significantly enhancing image recognition and deep learning performance.

Containerized Architecture: Separates AI models from control logic for system stability

NexRTOS Real-Time OS: Microsecond-level scheduling for precise task execution

NexECM EtherCAT Master Module: Supports 128-axis synchronized control, cycle time <1ms, sync precision ±20ns

Ultra-compact design: Enables high-efficiency AI computing even in space-constrained environments.

The Result: Every Machine Thinks in Real Time

Cloud Dependency >> Edge Autonomy: Inference happens locally, reactions are faster

Data Transmission >> Local Processing: Sensitive data stays on-site, boosting security

Device Isolation >> Intelligent Networking: Every machine gains AI capabilities, forming a smart network

Delayed Response >> Millisecond Decisions: Real-time control and prediction enhance efficiency and safety.

▲AIGE 100

From Hands to Minds:
How AIGE 100 Redefines Robotics

AIGE 100 isn't just a hardware platform—it's the thinking core of modern robots, enabling every movement and decision to be smart and instantaneous.

The Challenge: Robots Struggle to Think

In smart factories, robots like AMRs play a key role in logistics and operations. But the real challenge isn't movement—it's thinking. Most robots rely on cloud-based control for path planning and task decisions, causing delays, poor adaptability, and failure during network outages. What they need is a local brain that can process, understand, and decide in real time.

Key Pain Points

Cloud Reliance: Remote decision-making slows response to unexpected events

Sensor Fragmentation: Lack of real-time fusion reduces accuracy

Unstable Control: AI and control logic deployed together causes interference

Complex Systems: High development and maintenance costs hinder deployment

NEXCOM Industry AIoT's Solution: AIGE 100 as the Robot's Brain

Jetson AGX Orin: 275 TOPS compute power for NLP, 3D perception, and sensor fusion

Multi-Sensor Fusion: Real-time integration of LiDAR, cameras, and IMUs

NexRTOS: Linux-based Real-time OS scheduling for stable control execution

Containerized Architecture: Separates AI and control logic for safety and reliability

Isaac ROS SDK Support: Streamlines AMR development and speeds up deployment

From Movement to Thought: A Leap in Robotics

Remote > Autonomous: Robots make decisions on-site, instantly

Scattered > Fused: Real-time sensor fusion improves environmental awareness

Mixed > Isolated: AI and control logic separation ensures system stability

Complex > Fast: ROS and containers accelerate time-to-market

<Video Tour>

What Is AMR? Autonomous Mobile Robot Demo

Scan Now!

AMRs (Autonomous Mobile Robots) navigate, avoid obstacles, and respond to changes in real time. Unlike traditional AGVs, AMRs don't rely on fixed paths—they use sensors and AI to adapt and complete tasks.

Industrial Safety Gatekeepers:
How NexRTOS + NexECM Prevent Millisecond Mistakes

The Real-Time Control Challenge in Smart Factories

In smart factories, control system speed and stability directly impact equipment safety and product quality. In multi-axis robotics, precision machining, and high-speed operations, even a millisecond delay can cause collisions, defects—or worse, injuries.

NEXCOM Industry AIoT's NexRTOS real-time OS and NexECM EtherCAT master module are built to solve this. Integrated into AIGE 1000 and AIGE 100 platforms, they act as the factory's "safety gatekeepers," protecting every critical moment.

Control Delays Are a Growing Risk

As automation increases, coordination and response speed demands rise. Traditional PLCs can't handle microsecond scheduling or nanosecond synchronization, leading to delays, errors, and safety hazards.

Four Major Control System Pain Points

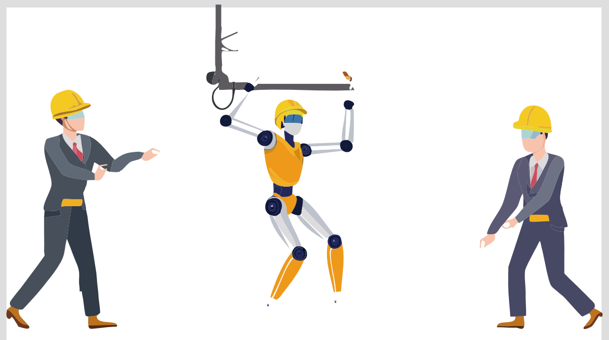
Slow Response: Delayed commands can cause collisions or defects
Unsynchronized Axes: Poor coordination affects precision and safety
Unstable Systems: Mixed AI and control logic increases interference risk
Limited Scalability: Integrating multiple devices is costly and complexNEXCOM Industry AIoT's Safety Control Architecture

Related News

<Test Lab Jumpscare>
Humanoid Robot Malfunctions, Engineers Scramble to Safety

A humanoid robot suddenly malfunctioned during testing, violently swinging its limbs and damaging equipment. Engineers narrowly escaped injury. The incident drew massive attention and highlighted the importance of functional safety in autonomous systems.

Scan Now!

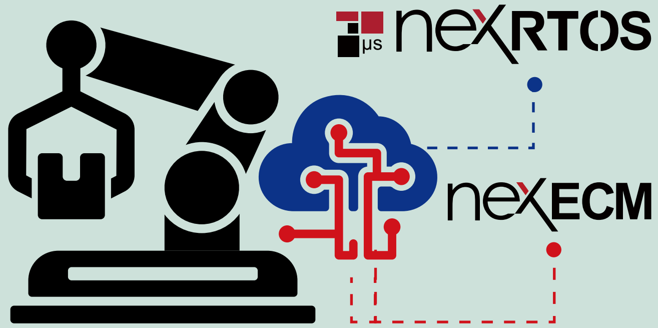


Edge Intelligence Frontline

NexRTOS & NexECM Explained

Think of them as the robot's brain and nervous system:

- **NexRTOS** handles decision-making and control logic
- **NexECM** rapidly transmits commands and connects devices



NexRTOS: Real-Time Control Core

Designed for industrial automation, NexRTOS executes tasks with microsecond precision. Its containerized architecture keeps AI applications and control logic isolated, ensuring stable and interference-free operation.

NexECM: High-Speed Industrial Communication

Powered by EtherCAT, NexECM enables data exchange between devices in under 1 ms, supporting up to 128 synchronized nodes with ±20 ns accuracy.

NEXCOM Industry AIoT's Safety Control Architecture

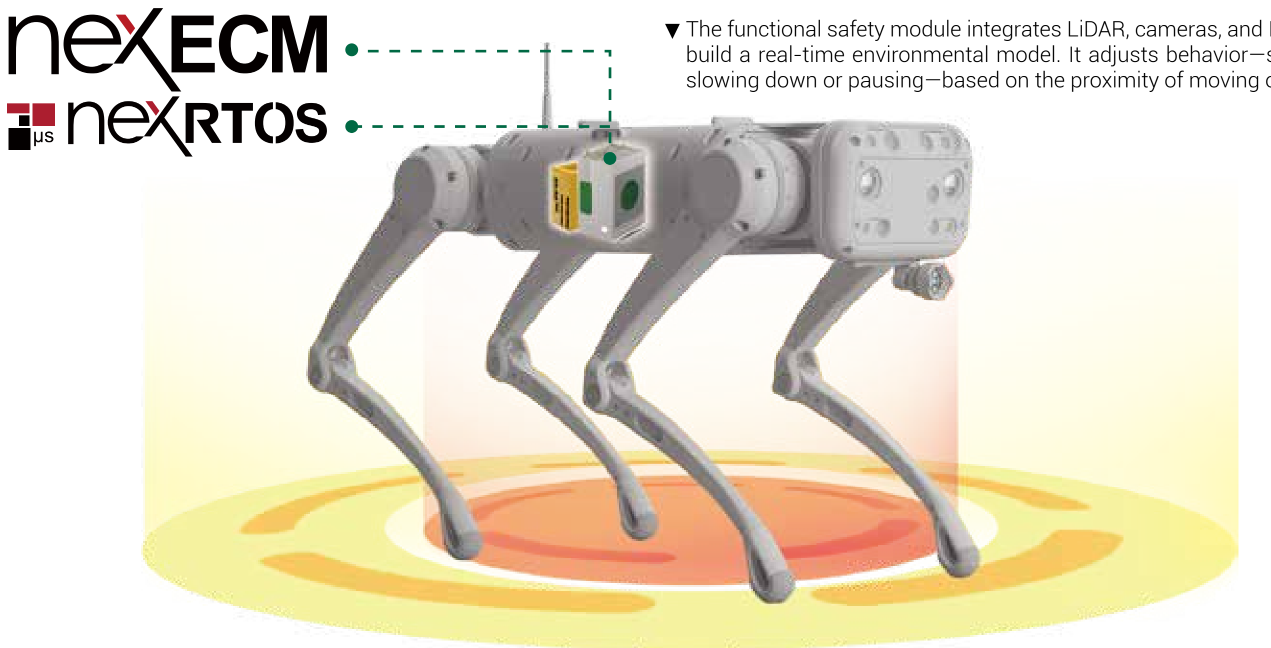
NexRTOS Real-Time OS: Based on Linux PREEMPT_RT, supports microsecond scheduling for precise execution
NexECM EtherCAT Master Module: 128-axis sync control, <1ms cycle time, ±20ns sync precision
Containerized Architecture: Separates AI and PLC logic for stability and safety
ROS SDK Integration: Speeds up robot and automation system development

Boosting Both Safety and Efficiency

Faster, More Accurate Control: Real-time scheduling and nanosecond sync prevent errors and collisions
More Stable Systems: Isolated modules reduce interference risks
Flexible Expansion: Plug-and-play support for multiple devices
Stronger Safety Assurance: Instant response capabilities reduce risks to people and equipment

The Safety Baseline of Smart Factories—Non-Negotiable

In the fast-paced evolution of smart manufacturing, control systems are not just drivers of efficiency—they're the gatekeepers of safety. The integration of NexRTOS and NexECM ensures that factories no longer pay the price for millisecond-level errors. From device coordination to personnel protection, this architecture is more than a technical upgrade—it's the foundation of safety in intelligent factories.



▼ The functional safety module integrates LiDAR, cameras, and IMUs to build a real-time environmental model. It adjusts behavior—such as slowing down or pausing—based on the proximity of moving objects.

Real-World Insights

Smart Manufacturing Is More Than a Buzzword:

From consultation to implementation, NEXCOM Industry AIoT provides full-spectrum services to drive your success.

In the world of smart manufacturing, the real challenge isn't advanced technology—it's implementation. This section highlights two real-world cases showing how NEXCOM Industry AIoT helps companies upgrade on-site operations, from boosting production efficiency to ensuring medical safety.

Case 1: SMT Line Smart Upgrade

By deploying nDAS smart I/O monitoring system and the VIC-Flow war room, the OT-IT data flow was fully integrated. This led to a 40% increase in utilization and lightning-fast anomaly response. Beyond efficiency, the architecture became simpler and more scalable.

Case 2: Smart Pharmacy System

Combining e-paper labels, light-guided picking, and visual recognition, this system created a zero-error medication process. Pharmacists no longer memorize drug locations, nurses pick with high accuracy, and inventory checks and prescription verification are done simultaneously—ensuring 99.9% medication safety.

These aren't just tech showcases—they're proof that smart manufacturing can truly transform the shop floor. Each deployment comes with clear challenges, solutions, and measurable results.

▲NEXCOM Industry AIoT's intelligent and professional team is here to serve you.

Real-World Insight

Real-World Insight

<Video Tour>

How Does a Smart Pharmacy Achieve 99.9% Medication Safety?

Scan the QR code to watch a live demo and discover how e-paper labels, light-guided picking, and visual recognition systems create an error-free dispensing workflow—ensuring every prescription is handled with precision.

Scan Now!

<SMT Line Upgrade>

Boosting Efficiency Like Never Before

Challenge

SMT lines often juggle multiple machines and processes. Manual monitoring is labor-intensive and slow, leading to yield fluctuations and delivery delays—especially under high-mix production demands.

Solution

By connecting legacy OT machines to IT systems using nDAS smart I/O monitoring system and building a real-time war room with VIC-Flow, we enabled automatic alerts and pinpointed root causes instantly.

Results

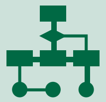
Once OT and IT were fully integrated, utilization rates soared, anomaly response times dropped, and the simplified system architecture cut setup costs in half. Future expansions? Just plug and play.

<Deployment Toolkit> Recommended Setup for SMT Smart Production Lines

To achieve real-time monitoring, fast response, and scalable flexibility in high-mix SMT environments, these four tools are your go-to:

nDAS 6000 | Smart I/O Monitoring System

Installed on each SMT machine, it integrates PLC and sensor data, converting OT signals into visualized data—the first step in bridging OT and IT.

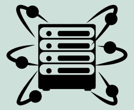


NexVIC-Edge | Real-Time Visualization War Room Platform

Builds a centralized dashboard that displays machine data in real time, triggers automatic alerts, and helps quickly locate root causes—boosting on-site responsiveness.

NISE 3000 C30 | Edge Computing Host

Acts as the brain of the production line, offering stable, high-performance computing with multi-protocol support and real-time data processing.



NexDATA | Industrial Data Integration Platform

NexDATA consolidates OT and IT data, supports historical analysis, and empowers decision-making—transforming the factory from a "report-driven" to a "real-time responsive" operation.

<Medication Safety Hero>

How the Smart Pharmacy System Ensures 99.9% Accuracy

Challenge

In hospital pharmacies and nursing stations, medication dispensing is complex. Pharmacists memorize drug locations, nurses risk picking errors, and manual processes compromise both safety and inventory accuracy.

Solution

NEXCOM's Smart Dispensing Guidance System combines e-paper tags, light indicators, and visual recognition to automate the entire workflow. Drug locations light up automatically, inventory updates in real time, and prescriptions are verified instantly—even inside refrigerators.

Results

The system automates drug location and dispensing, significantly improves nurse accuracy, and synchronizes inventory checks with prescription verification. It also supports fast onboarding and real-time stocktaking—cutting human error and boosting overall safety.

<Deployment Toolkit> Recommended Setup for Smart Pharmacy Systems

To ensure every prescription is filled accurately, these four components are essential:

AP Module + NEXAIOTag Wireless E-Paper Tags

Handles wireless communication and enables light-guided picking and inventory sync. Works reliably even in refrigerated environments—ideal for various medical settings.

WMS + E-Paper Tag Management System

Uses e-paper tags and light indicators to guide drug picking, supports drawer and shelf storage, updates inventory in real time, and verifies prescriptions—boosting both speed and accuracy.

NIFE3910-A | System Host Platform

The computing core of the smart pharmacy system, offering stable data processing and multi-module integration.

Smart Dispensing Guidance System | Full-Process Safety Platform

Integrates pharmacy, nursing station, and drug storage workflows with light guidance, visual ID, and inventory management—creating a zero-error medication safety net.

IoT Automation Reimagined

From Silent Machines to Smart Feedback

Factory Upgrades Made Easy

In the journey toward smart manufacturing, many factories still face bottlenecks: machines that can't connect, logic that's hard to design, data that's tough to collect, and on-site monitoring that's missing. Especially for small and medium-sized manufacturers, high retrofit costs and complex system integration make Industry 4.0 feel out of reach.

NEXCOM Industry AIoT's IoT Automation Framework was built to solve these upgrade challenges. With modular tools like nDAS, VIC-Flow, RPA, and nHMI, factories can digitize without rewiring or coding. It's not just technical simplification—it's the democratization of smart manufacturing.

▲ From Silent Machines to Smart Reporting—Factory Upgrades Are Within Reach

▲nDAS6000 ▲nDAS1000

Old Machines, New Life:
nDAS Connects 40% of Offline Equipment

Old Machines Still Run—But Can't Speak the Modern Language

Many factory machines still rely on controllers from the 1950s, making it impossible to connect with modern systems. The nDAS Data Acquisition Gateway not only brings these machines online, but also translates communication protocols across brands and languages—unlocking data flow and enabling legacy equipment to join smart manufacturing.

Manual Data, Guesswork Decisions:

No Connectivity: Machines lack interfaces to connect with MES or SCADA systems.
Manual Logging Risks: Data is recorded by hand—slow and error-prone.
Limited Insights: Missing production history hinders real-time decisions and quality tracking.

nDAS: Bringing Legacy Equipment to the Cloud

Protocol Translation: Supports Modbus, OPC-UA, MQTT, and more.
Fast Deployment: RS-485 connection enables quick setup and simple wiring.
Real-Time Visualization: Works with VIC-Flow to build dashboards—no machine modification needed.
Flexible Integration: Compatible with NISE PCs, APPC touch panels, and nHMI displays.

From Silent to Smart

Faster Data Capture: Improved speed and reduced reporting errors.
Quick Installation: Setup time cut from weeks to just 30 minutes.
Clear Use Cases: Ideal for machines with signal output but no communication protocol.

<Video Tour>
nDAS - The Language Translator for Smart Factories

Built for IoT automation, nDAS helps machines of all generations join the digital transformation.

Scan Now!

▲VIC-Flow Real-Time Dashboard

▲VIC-Flow User Interface (UI)

DIY Workflow Design:
VIC-Flow Empowers On-Site Supervisors

They Understand the Process—But Can't Build It Themselves

Shop floor supervisors understand production best, but technical barriers keep them from designing workflows. VIC-Flow HMI Platform makes automation as easy as drawing a flowchart. With customizable logic and a drag-and-drop interface, even non-engineers can take control.

When IT Owns the Workflow, the Floor Has to Wait

Slow Changes: Every update requires engineering support and long wait times.
No Frontline Input: Non-technical staff can't design or adjust workflows.
Lack of Flexibility: Hard to adapt quickly to changing production needs.

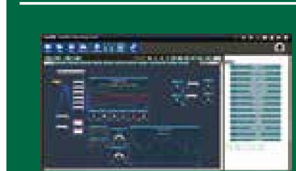
VIC-Flow: Workflow Design Made Simple

Low-Code Interface: Drag-and-drop logic design—no coding required.
Advanced Logic Support: Python module integration for power users.
Real-Time Dashboards: Built-in HTML5 components for fast UI creation.
Cross-Platform Integration: Works with nDAS, NISE, APPC, nHMI, and more.

Modify Workflows On-Site for Faster Response

Lower design threshold: Non-engineers can quickly complete workflow design.
Efficient Maintenance: Fewer errors, faster fixes.
Site-led workflow optimization: Supervisors can directly refine logic, enhancing flexibility and responsiveness.

<Video Tour> VIC-Flow Online Tutorial Series
Get started quickly, customize logic, and design dashboards—all in one place.



We've prepared a comprehensive series of VIC-Flow online tutorials, covering everything from basic operations to advanced logic configurations. These videos offer a deep dive into the powerful features of the graphical control platform. Whether you're a site supervisor or an engineer, you'll find the right learning resources in this playlist.

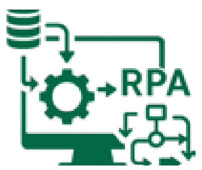
Scan Now!

▲VIC 7210W

Data Collection Made Simple:
RPA Makes Screens Speak

When Equipment Can't Be Modified, Data Gets Stuck on the Screen

Some machines can't be upgraded—or don't even output signals. The only way to access data is by reading the screen. With RPA (Robotic Process Automation) and screen capture technology, even these devices can join the digital world—no hardware changes, no coding required.



If You Can Only See but Can't Connect, It's Like the Machine Is Whispering

No hardware upgrades: Devices can't install communication modules or output signals.
No API integration: Data can't flow automatically into systems.
Manual logging is slow and risky: Human input leads to errors and delays.

Screen Capture + Workflow Simulation = Automated Data Flow

Real-time screen capture: OCR (Optical Character Recognition) extracts values directly from device screens.
Simulated human actions: RPA mimics clicks and inputs to automate reporting.
No coding required: Fast deployment with a simple interface.
Integrated monitoring: Works with VIC-Flow and nHMI for real-time dashboards and alerts.

Digitalization Without Hardware Changes—No More Stuck Data

High accuracy, fast setup: 98.7% capture accuracy; deploy in the time it takes to drink a coffee.
Designed for tough cases: Ideal for devices with no communication capabilities.
Low entry barrier: No coding, low cost, minimal risk—perfect for small and mid-sized factories.

Secret Sauce

RPA is the key to bringing "see-only" devices into the digital transformation.

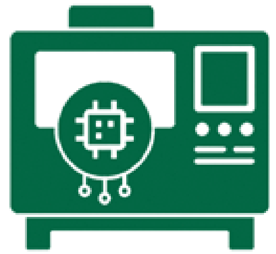
IoT
Automation
Reimaged

▲nHMI 1000

Smart Monitoring for All:
nHMI Gives Every Device a Monitoring Panel

Equipment Has Data, But the Site Can't See It

For machines that can't be modified, the nHMI smart panel offers an independent window for real-time visibility—no backend systems or complex operations required. It's especially useful for devices where data can only be read from the screen, bridging the last mile of on-site visualization.



Lack of Visibility = Slow Response

No real-time view on-site: Relies on backend systems, causing delays.
Traditional HMIs are hard to use and update: Not intuitive, difficult to maintain.
Limited flexibility and integration: Can't support multi-device or multi-site monitoring.

nHMI Smart Panel: A Monitoring Panel for Every Device

Industrial-grade touch design: Powered by ARM Cortex-A55, supports multi-touch and glove operation.
Real-time data integration: Combines data from nDAS, VIC-Flow, and RPA for status and alerts.
Wireless communication: Supports Wi-Fi, 4G, and Bluetooth—ideal for mobile or distributed setups.
Intuitive interface: Built-in HTML5 dashboards and Chrome browser for easy use and maintenance.

Real-Time Visualization On-Site = Faster, Smarter Response

Dashboard for every device: Live status and alerts improve transparency.
Intuitive and responsive: On-site staff can quickly identify and resolve issues.
Wide applicability: Perfect for non-modifiable devices needing real-time monitoring.

Secret Sauce

nHMI: The Perfect Partner for Non-Modifiable Equipment—Bringing On-Site Monitoring Back into View

▲nDAS6000

Case Study
Unlocking Stamping Line Efficiency with nDAS

Production Line Is Running, But Output Doesn't Match the Plan

At a stamping factory, managers relied on manual reporting and estimates to track performance. Machines kept running, but actual output and scheduling never aligned—causing inventory issues, missed deadlines, and unclear equipment efficiency.

No Visibility, No Improvement

Inconsistent data sources: Manual reports don't sync with actual cycle times.
Unknown downtime causes: No real-time logs make root cause analysis difficult.
OEE is just an estimate: No live data on utilization, yield, or cycle time.

One Gateway Per Machine —Real-Time Reporting for Every Press

Live data capture: nDAS gateways connect to PLCs and sensors to track cycle time, output, and downtime
Protocol support: Works across different equipment brands
Real-time OEE analysis: Data flows to dashboards via VIC-Flow
On-site visibility: nHMI panels show live status and alerts

No More Guesswork—Clear Performance, Instant Insights

Real-time OEE: Shift from post-event estimates to live data analysis.
Quick bottleneck detection: Identify hidden downtime and inefficient cycles to optimize scheduling.
Smarter decisions: Use accurate data to improve operations and allocate resources effectively.

A shop floor supervisor shared, "It's not just better efficiency—it's the first time we truly see what's happening on the stamping line."

<IoT Automation Essentials – Stamping Line Deployment Guide>

In high-speed stamping lines, how do you track performance in real time?
These two tools help you move from guesswork to precision:

nDAS 6000 Smart I/O Monitoring System
Install one per press to capture cycle time, output, and downtime via PLCs and sensors. Supports multiple protocols to unify data across different machine brands.

VIC-Flow Real-Time Performance Platform
Visualizes nDAS data in real-time dashboards—showing utilization, yield, and cycle time to help identify bottlenecks and optimize scheduling.

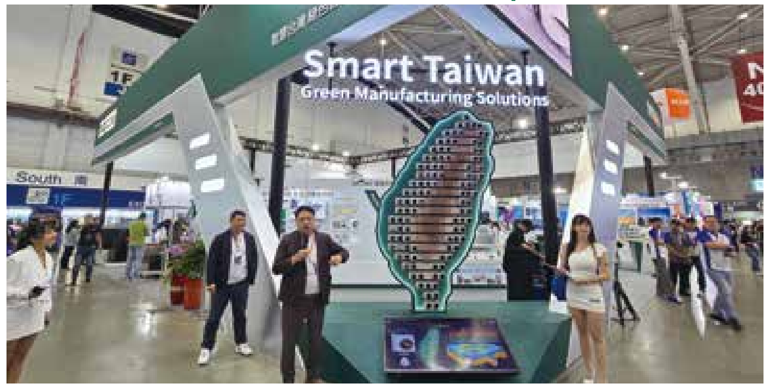
Global Trends
Taiwan's Tech Power Goes Global ...

From Germany to Tokyo, Bangkok to Taipei—NEXCOM Industry AIoT is making waves across four major tech expos with its AI war room, edge computing, and ESG solutions, showcasing Taiwan's global strength in smart manufacturing.

HANNOVER MESSE 2024

The world's largest industrial trade fair focused on Green Manufacturing and Open Platforms.
NEXCOM Industry AIoT showcased its in-house data platform, AI Edge series, and smart factory solutions—demonstrating how to bridge OT/IT systems and accelerate sustainable transformation in manufacturing.

2024 Automation Taipei



Under this theme, NEXCOM Industry AIoT joins forces with ecosystem partners to present three major pavilions, showcasing innovations in AI robotics, edge AI–powered industrial intelligence, and the achievements of digital and green manufacturing transformation. These exhibits highlight NEXCOM Industry AIoT's deep expertise in Industrial IoT and smart manufacturing.

AI EXPO Taiwan 2025

Held at Taipei Expo Park, this event focused on AI-powered smart factories, featuring AI assistants, edge language models, and digital twin platforms.
NEXCOM Industry AIoT demonstrated how on-premise AI enables autonomous decision-making on the shop floor.
Vice President Hsiao Bi-khim visited the booth to show her support.

Embedded World 2025

The world's leading embedded systems trade show in Nuremberg.
NEXCOM Industry AIoT joined the Taiwan Excellence Pavilion, showcasing EdgeGPT, AI robot controllers, and edge LLM platforms, highlighting Taiwan's strength in on-device AI.

FFG FAIR FRIEND GROUP

Smart Manufacturing Alliance:

NEXCOM Industry AIoT × Fair Friend Group

NEXCOM Industry AIoT partnered with global top-3 machine tool group FFG (Fair Friend Group) to present the iAT2000 and AI War Room integration.

The joint solution focused on CNC intelligence and energy optimization, featuring real-time dashboards, AI-powered Q&A systems, and the SkyEye platform for carbon monitoring—addressing the urgent need for energy-saving and smart management in manufacturing.

▲Taipei International Machine Tool Show (TIMTOS 2025)

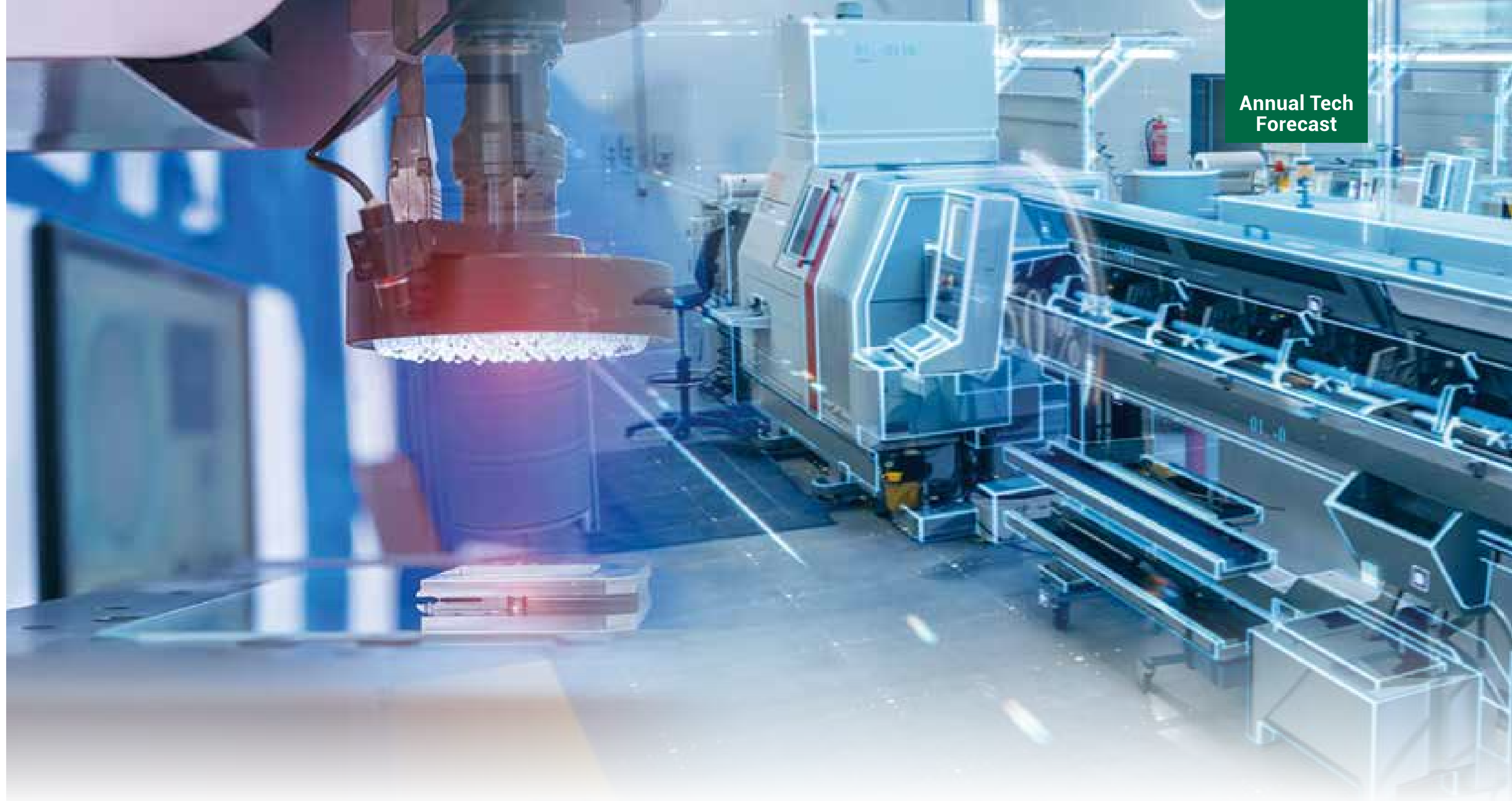
▲China International Machine Tool Show (CIMT 2025)

Global Trends

Annual Tech Forecast

Tech Trends Uncovered

What's the Most Impactful Way to Upgrade Smart Factories in 2025?



Fanless IPC × LLM
Launching the Edge AI Silent Revolution

As edge computing and AI converge, Edge AI is rapidly becoming the driving force behind industrial automation, IIoT, and embedded systems. But traditional platforms often fall short due to high power consumption, heat issues, and poor adaptability to harsh environments.

That's where fanless industrial PCs shine—now stronger, quieter, more energy-efficient, and smarter than ever, thanks to LLM inference capabilities.

3 Key Drivers of the Edge AI Silent Revolution

1. Hardware Evolution
Fanless PCs like NISE 3910 and NISE 3000 C30 offer high performance, low power use, and wide temperature tolerance—perfect for tough industrial settings.

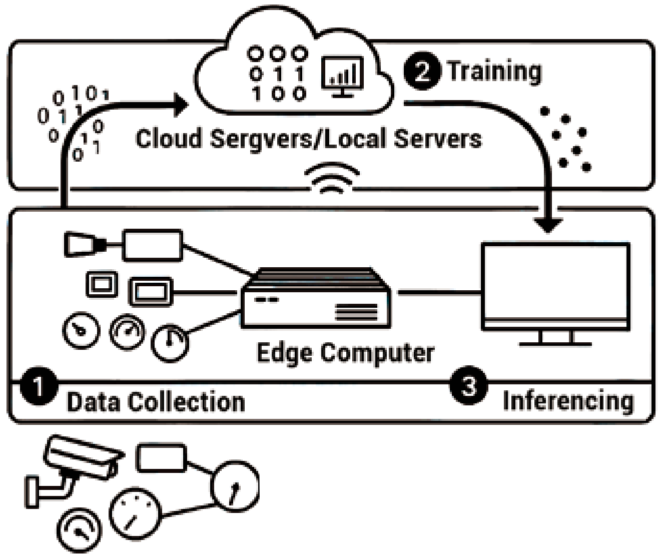
2. AI Empowerment
The AIGE 1000 delivers 1000+ TOPS for LLM inference. The AIGE 100, powered by NVIDIA Jetson AGX Orin, supports voice interaction and sensor fusion—giving machines real-time decision-making power.

3. Software Integration
With NexRTOS and NexECM, achieve microsecond-level scheduling and nanosecond sync. Add NexDATA ESG for real-time carbon tracking and energy management.

From Silent to Smart: The Future of Edge AI

As edge chips break the 5nm barrier, fanless PCs will support more complex AI workloads—driving predictive analytics, autonomous systems, and smarter manufacturing.

In a world where intelligence must be local, silent, and sustainable, fanless industrial PCs are no longer a compromise—they're the future of Edge AI.



New Launch!
5 Core Platforms Powering Smart Manufacturing in 2025

NEXCOM Industry AIoT introduces five upgraded platforms—from edge computing and industrial control to HMI and IoT automation—designed to accelerate digital transformation and AI deployment in smart factories.

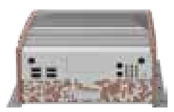
NISE | Fanless Edge Computing Platform

Industrial-grade PCs built for harsh environments, offering high performance and stability for device monitoring, data collection, and on-site AI inference.

NISE 50 A04
Slim and Cost-Effective Fanless Edge PC with Multiple I/O Design
More Details

NISE 110
Industrial Compact Fanless Edge PC with Extended Operation Temperature
More Details

NISE 3910-A
12th/13th Generation Intel® Core™ i9/i7/i5/i3 Fanless System
More Details



NISE 3000 C30
Intel® Core™ Ultra 200 Series Processors Fanless System
More Details

APPC/IPPC | Multi-Size Industrial Touch Panels

Available in various sizes and configurations, with powerful processors and intuitive interfaces for process monitoring, equipment control, and on-site management.

APPC07 A61-01
16:9 7" HD
Applied Panel PC
More Details

APPC10 A61-01
16:9 10.1" HD
Applied Panel PC
More Details

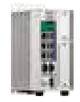
APPC 2160-A01
16:9 21.5" FHD
Applied Panel PC
More Details

IPPC 1611-C11
16:9 15.6"
Industrial Panel PC
More Details

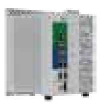
NIFE | Industrial Automation Control Platform

Combines PLC and IPC functions, supports multi-axis control and high-speed communication—ideal for smart machinery and automated production lines.

NIFE 106
Palm-sized Factory Automation Fanless System with Fieldbus Expansion
More Details



NIFE 210
Ultra Slim Factory Automation Fanless System
More Details



NIFE 300 C10
High Performance Factory Automation Fanless System
More Details

AIGE | AI Edge Inference Platform

Equipped with high-performance AI chips, supports voice interaction, sensor fusion, and real-time inference—giving robots and smart factories the power to "think."

AIGE 1000 C10
High Performance System with Expansion
More Details

AIGE 100
Edge AI Computer
More Details

IoT Automation | Smart Connectivity & Data Collection

From nDAS gateways to nHMI smart panels, enabling legacy equipment to connect, monitor, and upgrade with low cost and high flexibility.

nDAS 1000
NEXCOM Industry AIoT Smart Gateway Solution
More Details

nHMI 1000
NEXCOM Industry AIoT Web Browswer Terminal with Chromium
More Details

Annual Tech Forecast

<Smart Manufacturing Cheat Sheet>
Platform Overview & Selection Guide

Each platform is designed for specific application scenarios and offers unique technical advantages. Here's a quick guide to help you understand and choose the right one:

NISE Series | Fanless Edge Computing

Application
Edge data acquisition, Industrial gateways, Self-service kiosks, Remote monitoring

Key Feature
Fanless design, Wide temperature tolerance, Low power consumption, Rich I/O interfaces

Selection Tips:

NISE 50 A04 NISE 110

Entry-level models
Ideal for space-constrained and budget-sensitive environments

NISE 3910-A NISE 3000 C30

High-performance models
Suitable for AI inference, image processing, and intelligent surveillance

NIFE Series | Automation PC Control Platform

Application
Industrial control, PLC replacement, IoT gateway, Robotic control

Key Feature
Supports multiple industrial communication protocols (e.g., EtherCAT, PROFINET), DIN rail mounting, Front-facing I/O design

Selection Tips:

NIFE 106

NIFE 210

NIFE 300 C10

Advanced Controller
Ideal for multi-axis control, machine-to-machine (M2M) communication, and core equipment in smart factories

APPC / IPPC Series | Industrial Touch Panel PCs

Applications:
Human-Machine Interface (HMI), Equipment operation panels, On-site monitoring

Key Features:
Multiple size options, IP65/IP66-rated protection, Supports dual displays and various communication modules

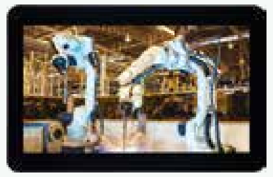
Selection Tips:

APPC07 A61-1

APPC10 A61-1

Compact Models:
Ideal for embedded systems and space-constrained environments

APPC 2160-A01



IPPC 1611-C11

Mid-to-large models:
Suitable for control rooms and multi-screen monitoring setups

AIGE Series | AI Edge Computing Platform

Applications:
AI inference, Robotic control, Voice interaction, Smart factory decision-making

Key Features:
Supports NVIDIA GPUs and Jetson platforms, Built-in NexRTOS and EtherCAT master controller, Compatible with LLMs (Large Language Models)

Selection Tips:

AIGE 100

Suitable for Autonomous Mobile Robots, Ideal for multi-sensor fusion and real-time control

AIGE 1000 C10

High-performance AI servers:
Optimized for deploying large language models and industrial AI inference

Annual Tech Forecast

IoT Automation Series | Smart Connectivity & Data Acquisition

Applications
Legacy equipment upgrades, Energy monitoring, Cross-protocol integration, ESG tracking and reporting

Key Features:
Supports Modbus, OPC UA, MQTT, SECS/GEM protocols, Built-in VIC-Flow visual logic editor for intuitive configuration

Selection Tips:

nHMI-1000

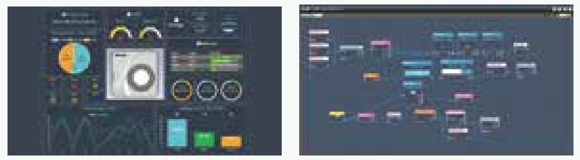
nHMI-07L 7"

nHMI-10M 10"

Smart Monitoring Panels:
Ideal for on-site supervision and energy management

nDAS 6000 Series

nDAS 1000



VIC-Flow

VIC-Flow & nDAS 6000 Smart I/O System: Designed for device networking and data integration

Headquarters

NEXCOM Industry AIoT

12F, No.922, Zhongzheng Rd., Zhonghe Dist., New Taipei City, Taiwan 23586, R.O.C.

TEL: +886-2-8226-7786
Fax: 8226-7926
W: www.nexaiot.com
E: contact@nexaiot.com

Contact Us

Offices

Taiwan

NEXCOM Industry AIoT
NexAIoT Co.LTD
13F, No.916, Zhongzheng Rd., Zhonghe Dist., New Taipei City, Taiwan 23586, R.O.C.

Tel: 8226-7786
Fax: 8226-7782
W: www.embux.com
E: info@embux.com

NEXCOM Robotic Solution
NexCOBOT Co.LTD
13F, No. 916, Zhongzheng Rd., Zhonghe Dist., New Taipei City 23586, Taiwan

TEL: +886-2-8226-7786
FAX: 8226-7926
W: www.nexcobot.com
E: sales@nexcobot.com

NEXCOM TaiChung Branch Office
16F, No.250, Sec. 2, Chongde Rd., Beitun Dist., Taichung City 406, R.O.C.

TEL: +886-4-22491179
FAX: +886-4-22491172
W: www.nexaiot.com
E: sales@nexaiot.com

NEXCOM KaoHsiung Brahch Office
15F.-1, No. 21, Yixin 2nd Rd., Qianzhen Dist., Kaohsiung City 806601 , Taiwan (R.O.C.)

TEL: +886-2-8226-7786 #6054
Fax: 07-5369362
W: www.nexaiot.com
E: sales@nexaiot.com

China

NEXCOM Beijing
NexGemo Technology
2F, 1 Fazhan Road, Beijing International Information Industry Base,Huilongguan, Changping District, Beijing, China

Tel :+86-10-8072-2025
Fax:+86-10-8072-2022
W : www.nexgemo.com
E : sales@nexgemo.cn

NEXCOM Shanghai
NEXCOM
4th Floor, Building B, No. 16, 1699 Duhui Road, Minhang District, Shanghai, 201108, China

TEL: +86-21-5278-5868
FAX: +86-21-3251-6358
W: www.nexaiot.com .cn
E: sales@nexcom.cn

NEXCOM Chongking
NexGOL
No.999, Xingguang Avenue, Yongchuan, Chongqing, China,402160

TEL: +86-23-4960-9080
W: www.nexgol.com
E: sales@nexgol.com.cn

NEXCOM Chongking Factory
NexRAY Electronic Technology
No.999, Xingguang Avenue, Yongchuan, Chongqing, China,402160

TEL: +86-23-4984-3622
E: garytu@nexcom.com.tw

USA

NEXCOM USA
2883 Bayview Drive, Fremont CA 94538, USA

Tel: +1-510-656-2248
Fax: +1-510-656-2158
E: sales@nexcom.com(English)
E: ventas@nexcom.com(Spanish)

Japan

NEXCOM Japan
9F, Tamachi Hara Bldg., 4-11-5, Shiba Minato-ku, Tokyo, 108-0014, Japan

Tel: +81-3-5419-7830
Fax: +81-3-5419-7832
E: sales@nexcom-jp.com

NEXCOM Industry AIoT