

## Solution Brief

# NEXCOM Simplifies OT-IT Convergence to Scout for Factory Intelligence for Enterprises



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NEXCOM IoT Automation Solution combines operational technology (OT) and information technology (IT) to depict a comprehensive overview on factory operations. To put Industry 4.0 into practice, NEXCOM IoT Automation Solution closely integrates heterogeneous industrial automation and control systems, provides end-to-end connectivity to form a tightly-knit industrial internet of things (IIoT), and simplifies the adoption of remote monitoring of real-time production status and cloud analysis for operation optimization. NEXCOM IoT Automation Solution offers manufacturers a feasible, holistic approach to control, communication, and cloud integration, fast-tracking the implementation of virtual war rooms, preventive maintenance and Industry 4.0 applications alike.

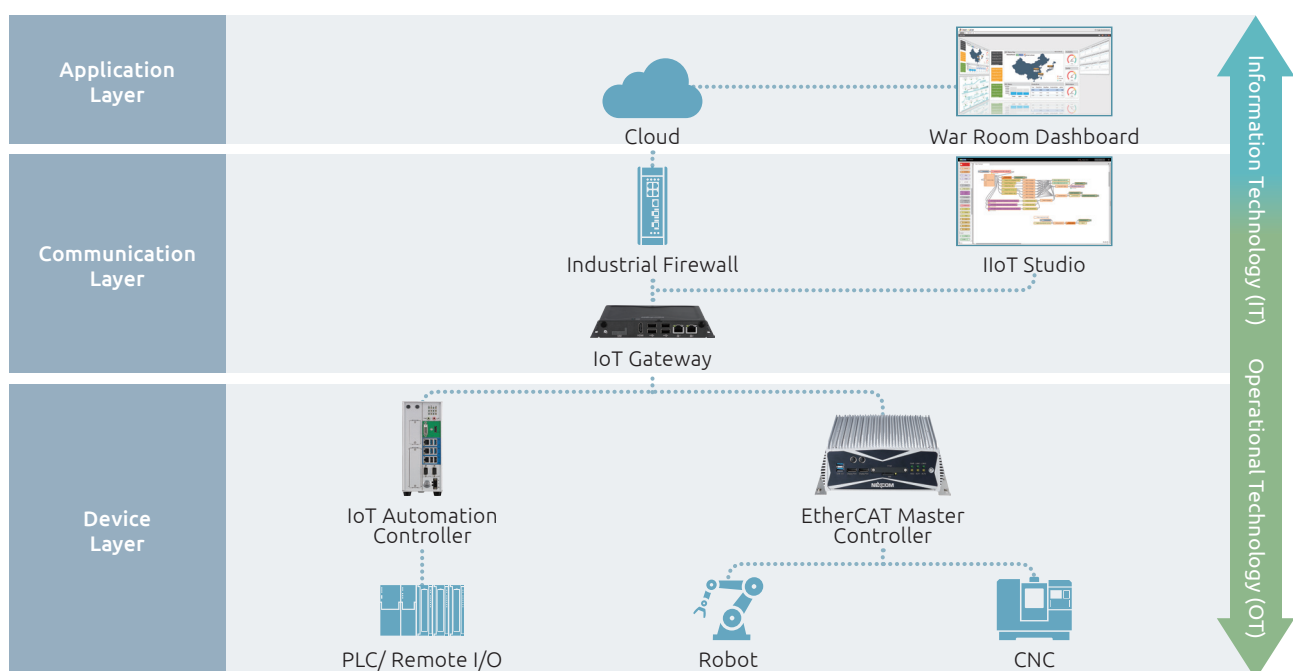
## Solution Overview

NEXCOM IoT Automation Solution adopts a layered approach to establishing a solid IIoT framework for OT-IT convergence. The solution suggests using IoT automation controller NIFE 300 and EtherCAT Master controller NET 3600E-ECM to control

industrial control and automation systems at the bottom device layer of IIoT; bridging the gap between the communication and application layer with IoT gateway NISE 50 and NEXCOM IIoT Studio, and leveraging Microsoft® Azure® IoT Suite and third party data visualization services to realize innovative application scenarios at the application layer.

## The Device Layer

Targeted at the device layer, the NIFE 300 provides a unified system architecture to orchestrate production lines and manufacturing machines. Intended for large-size machines and distributed control systems, the PC-based NIFE 300 features high interoperability to control hundreds of control nodes and high computing power to consolidate multiple functions. To accelerate system development, the IoT automation controller supports CODESYS Control SoftMotion RTE and is certified for PLCopen Motion Control. Engineers can program the NIFE 300 like a PLC, taking advantage of already written codes and function libraries without the need to create control schemes from scratch.



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Meanwhile, the EtherCAT Master controller NET 3600E-ECM is designed for complex motion control and robotic applications. With an open, modular architecture, the EtherCAT Master controller provides pre-validated compatibility to smoothly communicate with EtherCAT slave modules from different brands. The NET 3600E-ECM allows custom-built functionality and, more importantly, effective collaboration between robots and EtherCAT-based industrial automation and control systems, extending the scope of automation across the factory floor.

## The Communication Layer

NEXCOM IoT gateway NISE 50 holds a pivotal role in cloud integration. More than linking the device and application layers, the NISE 50 can interface with industrial automation and control systems, extract information from field data, and upload preprocessed data to cloud service platforms such as Microsoft Azure. Paired with NEXCOM IIoT Studio configuration tool, the NISE 50 simplifies network configuration by enabling OT professionals lacking IT expertise to configure end-to-end connections using drag-and-drop operations without understanding the underlying programming languages.

## The Application Layer

The integration of NEXCOM IoT Automation Solution with Microsoft Azure automates data processing tasks—like sorting, archiving, and analyzing data. The automated data processing paves the way to employ third-party cloud services, fostering numerous applications towards Industry 4.0. For instance, machine learning can be applied to equipment health data to implement predictive maintenance schedules; data visualization

can convert real-time production and machine status to dashboard statistics for real-time data-driven decision making; data crunching can navigate through copious data sets to explore operational improvement opportunities.

## Main Features

- Open, flexible and yet standard solution
- Fast time to market deployment
- All digitized and Ethernet-based architecture
- Real-time performance management and data-driven decision making by data visualization

## Ordering Information

### IoT Automation Solution

#### **NIFE 300 system (P/N: 10J70030000X0)**

IoT automation controller following PLCopen standards to realize cyber-physical systems

#### **NET 3600E-ECM (P/N: 10J10360002X0)**

Powerful EtherCAT Master controller equipped with real-time EtherCAT technology and high computing performance for complex motion and robotics control

#### **NISE 50 (P/N: 10J00005000X0)**

Compact IoT gateway connects the field devices to harvest and transfer shop floor information to the cloud

#### **Software Bundles (Contact NEXCOM for details)**

NEXCOM Industrial IoT Studio for intuitive flow-based programming paradigm; Microsoft Azure IoT Suite to capture and analyze untapped data to improve business results; Smart eVision for intuitive war room service with visualized dash board for fast decision-making



The Intelligent Systems

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Founded in 1992, NEXCOM integrates its capabilities and operates six global businesses, which are IoT Automation Solutions, Intelligent Digital Security, Internet of Things, Interactive Signage Platform, Mobile Computing Solutions, and Network and Communication Solutions. NEXCOM serves its customers worldwide through its subsidiaries in five major industrial countries. Under the IoT megatrend, NEXCOM expands its offerings with solutions in emerging applications including IoT, robot, connected cars, Industry 4.0, and industrial security.

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