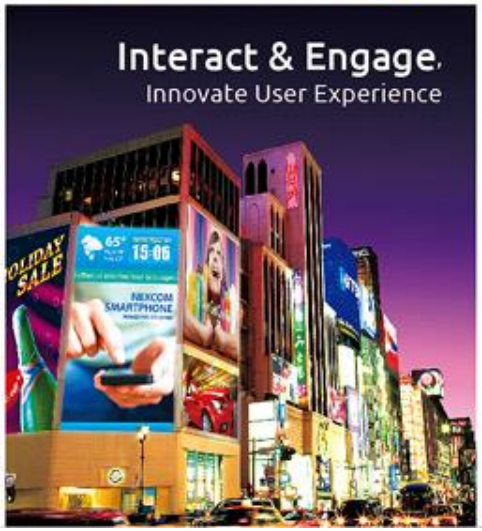
NEXCOM
The Intelligent Systems

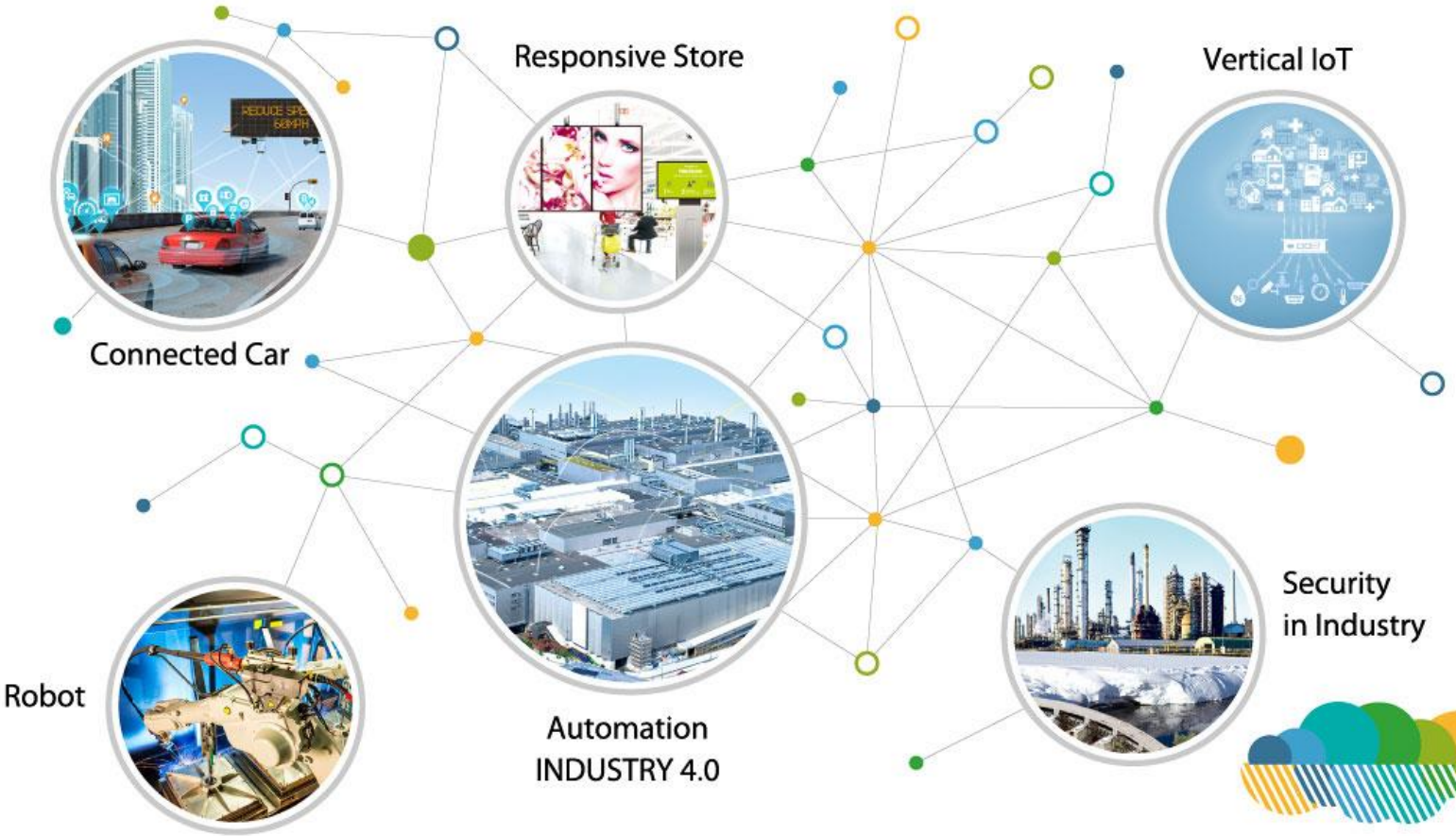


NEXCOM
Industrial IoT Solution Provider

Sep, 2016

Business Prospective

Ride the IoT Wave with NEXCOM Solutions



Business Segment

IAS

IoT Automation Solutions

- iAutomation
- Industrial Wireless and Firewall Solutions
- Intelligent System Services

IDS

Intelligent Digital Security

- IP Camera
- NVR

MCS

Mobile Computing Solutions

- Telematics Computers for Car, Heavy Duty Vehicle & Train

IoT

Internet of Things

- Solutions for Vertical IoT Applications
- Solutions of Healthcare & Medical Informatics

ISP

Interactive Signage Platform

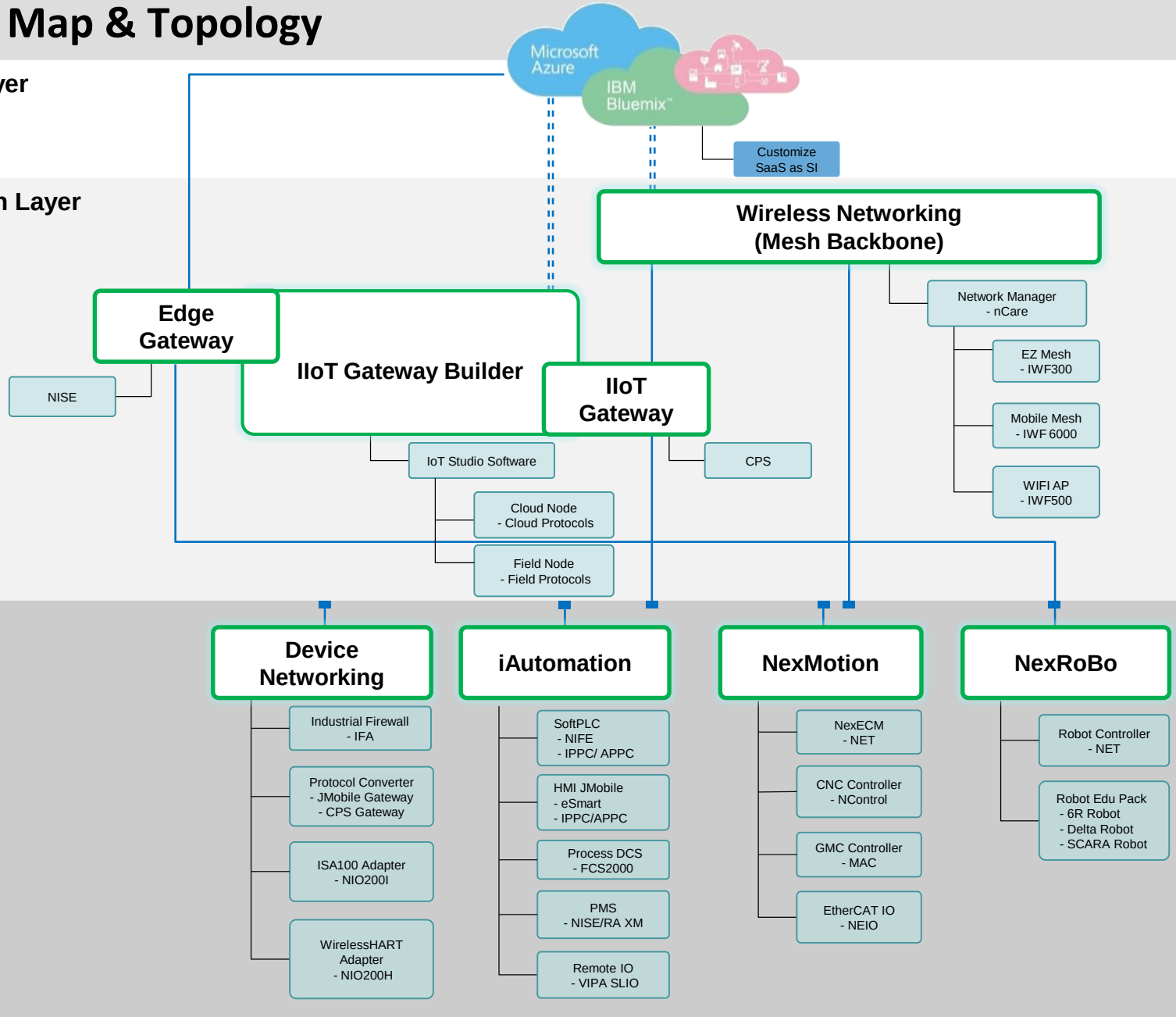
- Digital Signage
- Interactive Kiosk

NCS

Network & Communication Solutions

- Network Security
- Storage
- Switch
- SDN & NFV
- Industrial Security

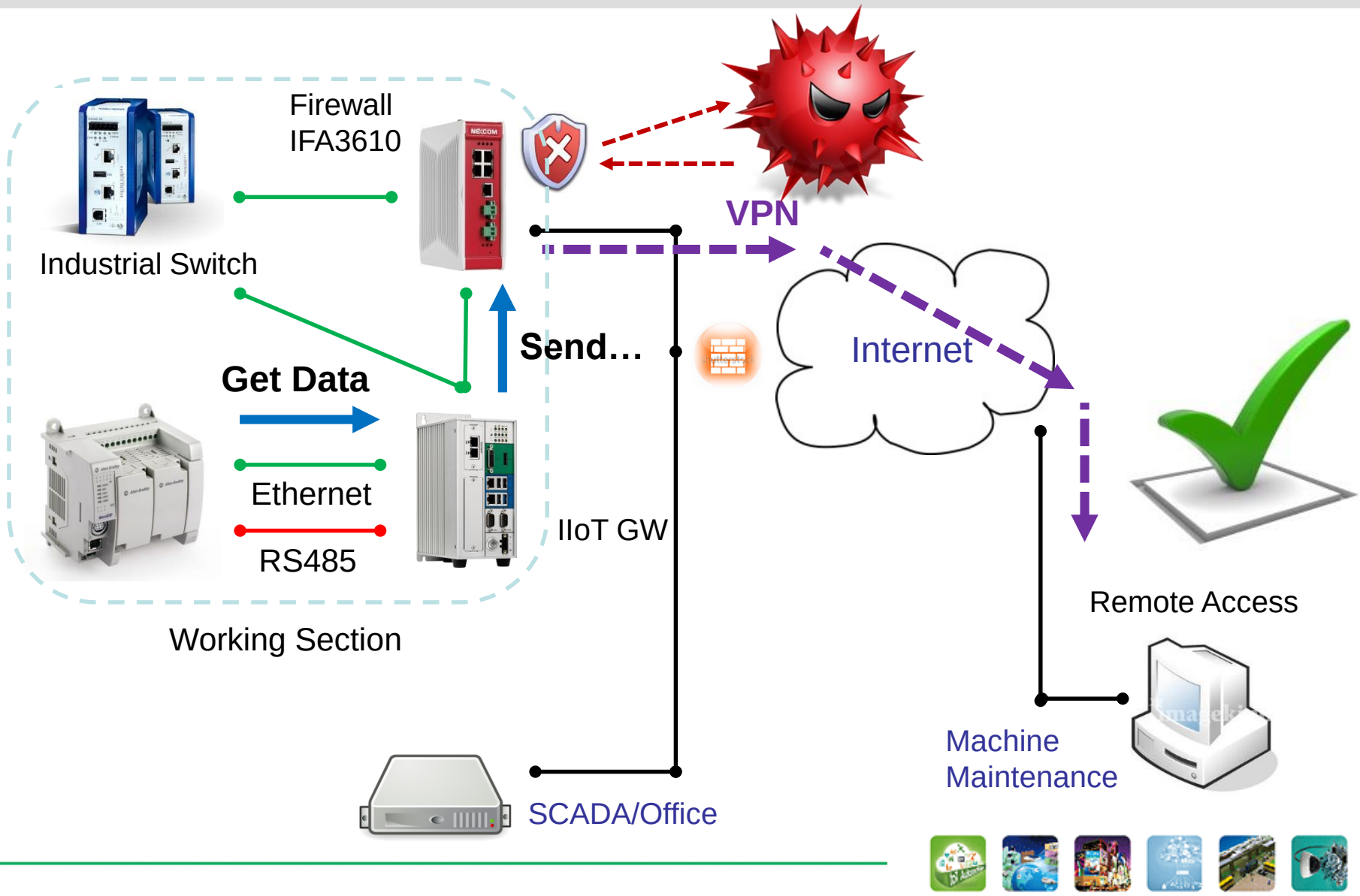
NEXCOM I4.0
Solution Map & Topology



NEXCOM toward Industrial IoT Application Story Sharing

Industry IoT Gateway in SPS 2015 - Hilscher

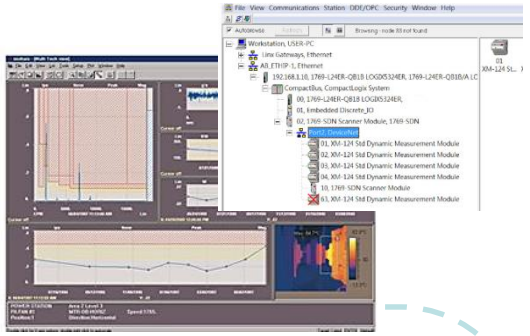
Secure IIoT Remote Monitoring



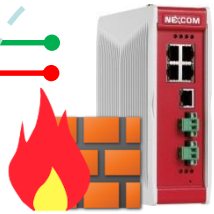
FAB Application - Predictive Maintenance

Network

Monitoring System



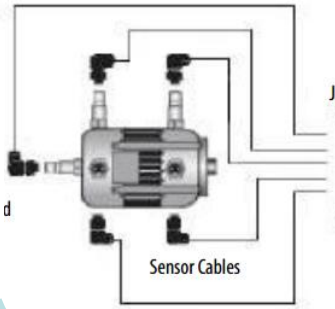
VPN Tunnel



Malware

Ethernet

EtherNet/IP

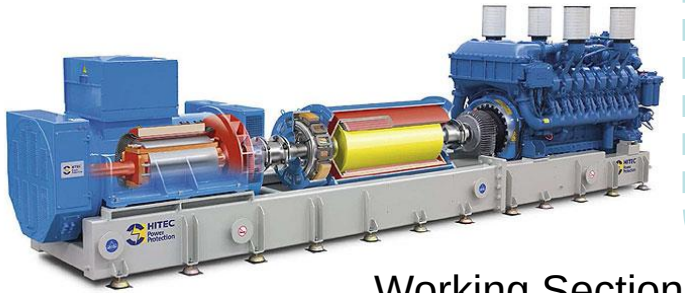


Junction Box

Sensor to XM Monitor

XM Machine Monitor

DeviceNet



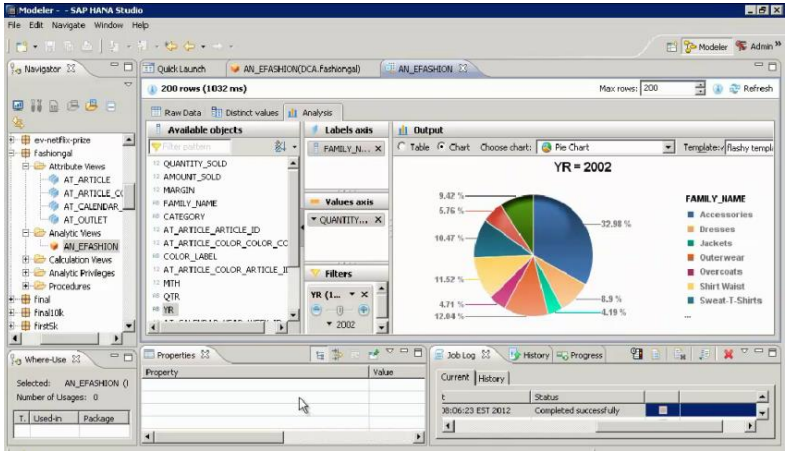
Working Section

Industrial IoT Gateway – SAP Hana

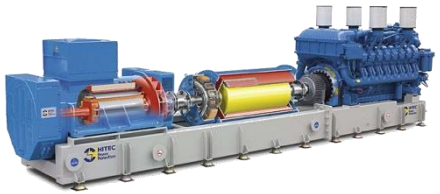
SAP HANA

MQTT.ORG

SQLite

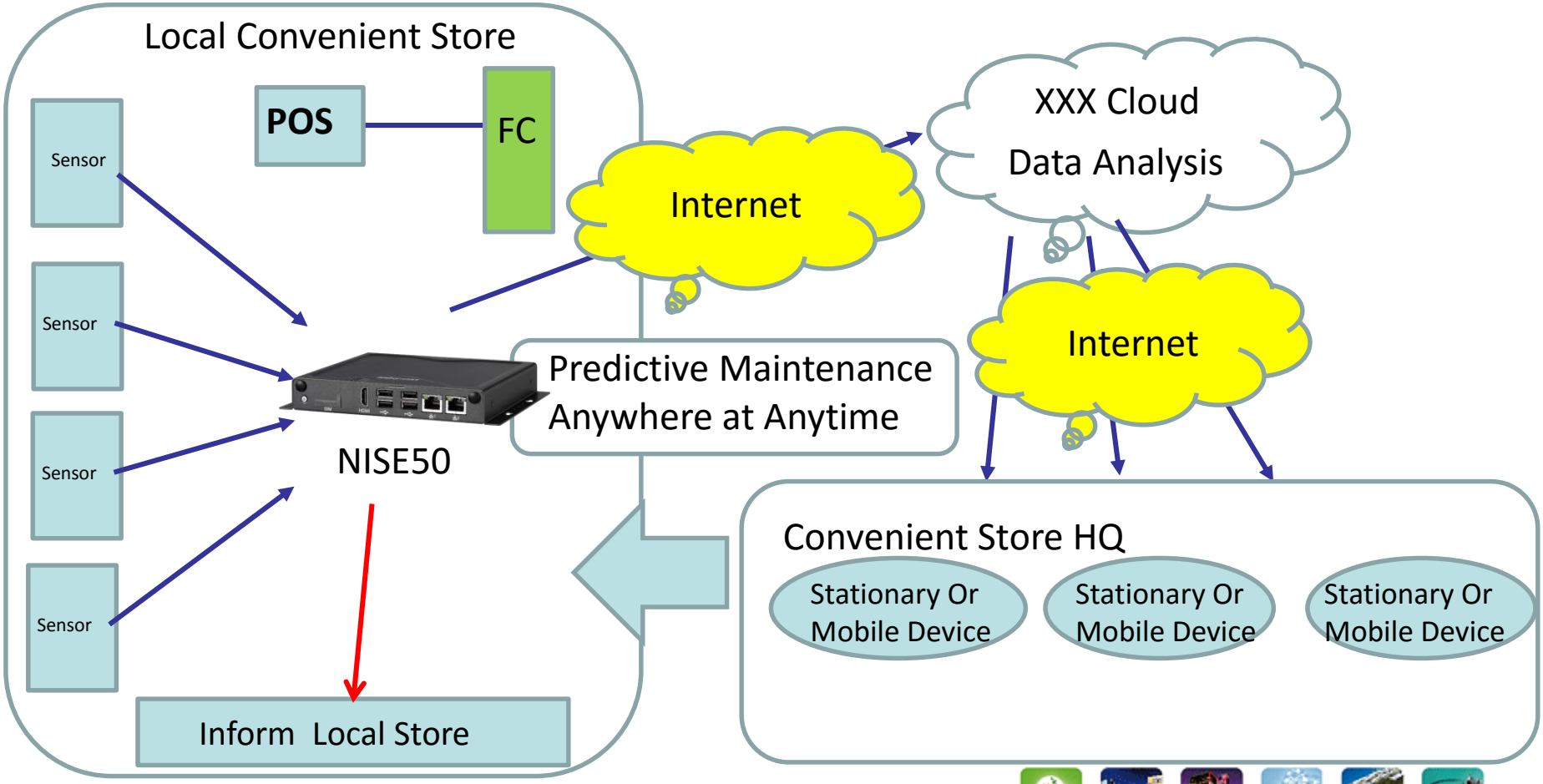


OPC Unified Architecture

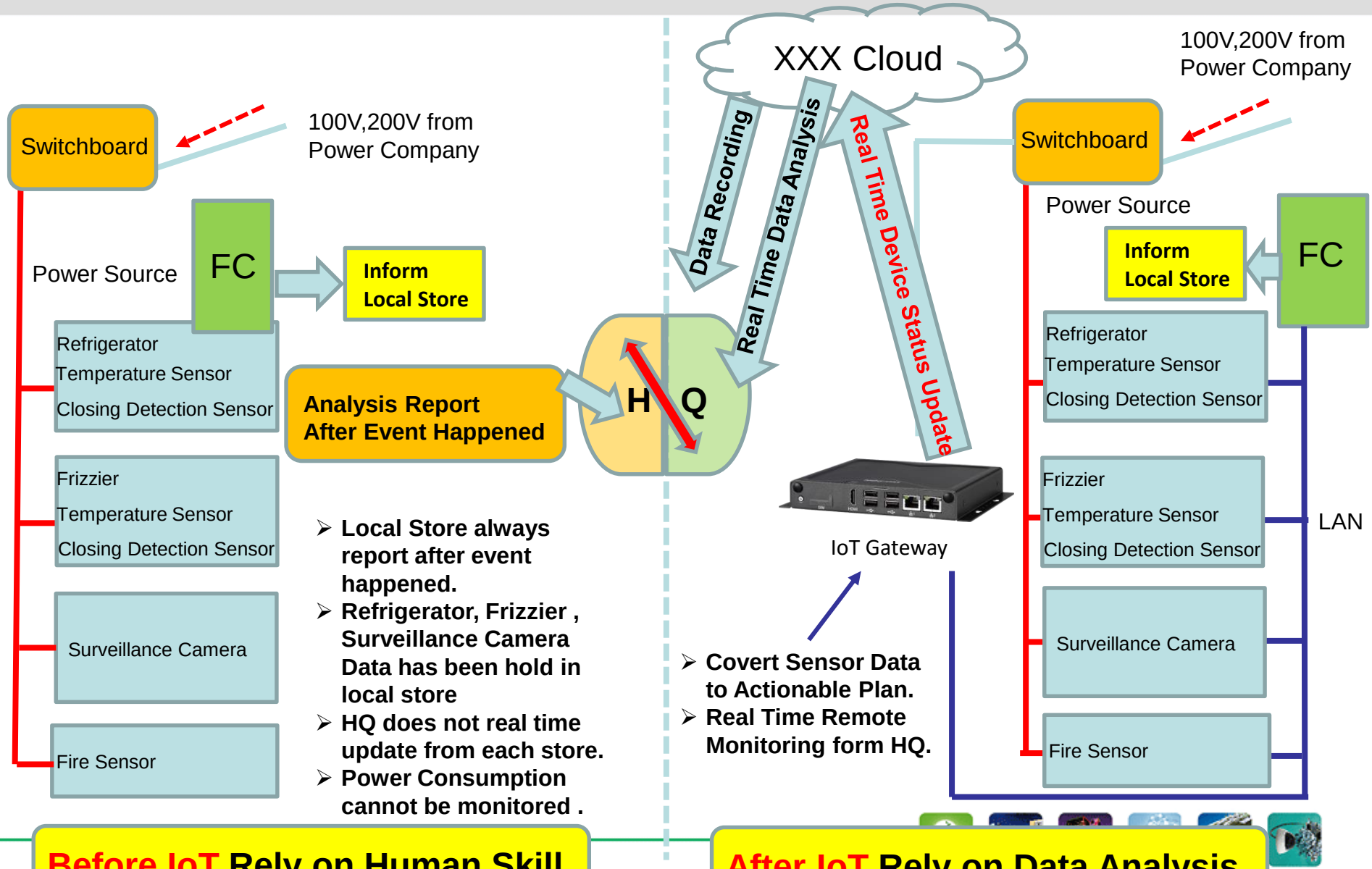


Japan IoT Gateway Architecture I

Japan IoT Infrastructure Development Division also launched, developed in 3000 people scale, are trying to sell to various industry sales. NISE50 is needed as a gateway to combine with all kind of sensors.



Japan IoT Gateway Architecture II



- **Local Store always report after event happened.**
- **Refrigerator, Frizzier , Surveillance Camera Data has been hold in local store**
- **HQ does not real time update from each store.**
- **Power Consumption cannot be monitored .**

- **Covert Sensor Data to Actionable Plan.**
- **Real Time Remote Monitoring form HQ.**

Before IoT Rely on Human Skill

After IoT Rely on Data Analysis

Converting Data to Valuable Data

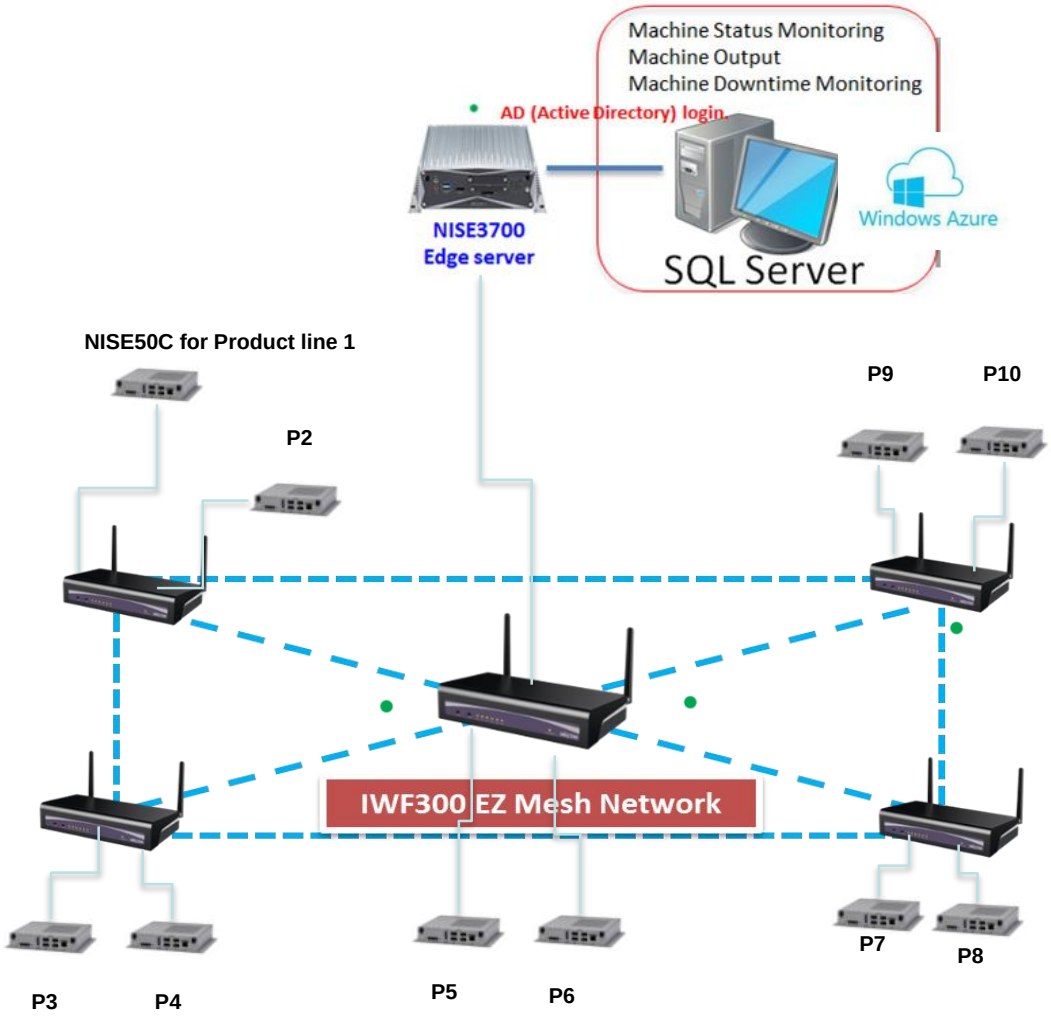
If, Convenient Store reduced to US$111 per month in one store?

US$111 x 12 months x 18,000 stores

US$24M/Year Electric Power Cost Reduction

Over the years, Big ROI !!

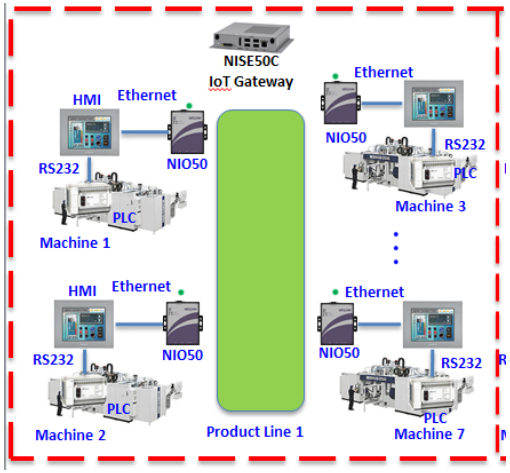
NISE50C for IoT Machine Monitoring Solution



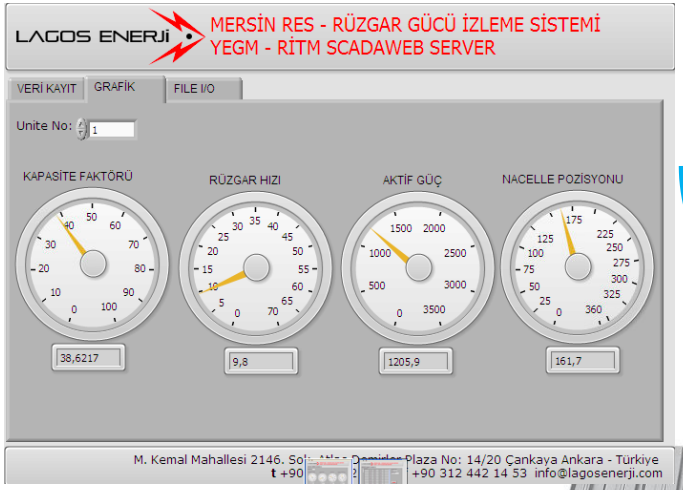
Configuration in Leading Toy Manufacturer

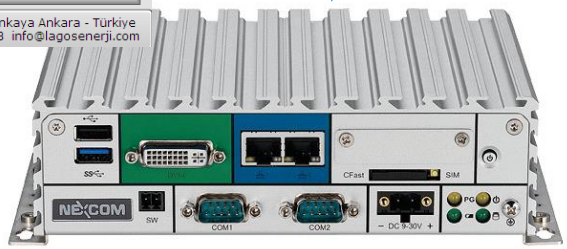
10 Production Lines

- Edge server: NISE3700E (WES7 + IoT Studio)
- WIFI AP: IWF300
- IoT Gateway: NISE50C (Win10 IoT Core + IoT Studio)
- WIFI converter: NIO50
- Proface HMI Model : LT4301TM
- Omron PLC Model : CJ2M-CPU13



Energy Quality Control Unit for Windpower Plant (Ankara)





- Each Power Plant Panel Board contents 1 pcs NISE105-3845 as edge PC
- Energy Quality Measuring via RS-485 serial-bus
- Monitor wind speed, Plant efficiency and some other I/O positions.
- If any quality problem on renewable energy system will be suspend by NISE105-3845 Automatically.
- http://www.lagosenerji.com/en/

Mobile Traffic Control Station (İstanbul Police)

- Mobile Police Enforcement System
  - Red Lights Violations
  - Pedestrian Crossing
  - Speed Detection
  - HOV (High-occupancy vehicle lane)
- Number plate recognition
- NISE3600E is collecting whole data from all sensors (like ANPR, Doppler Radar etc.) then comparing with valid regulation and reported to central management software
- http://tkm.ibb.gov.tr

NISE3600E

NISE50C in Agriculture Farm

Windows Azure

- **H/W: NISE 50C w/3G module**
- **OS: *Windows 10 IOT Core***
- **UDM: Modbus/TCP Slave driver**
- **UAP: Demo app with control box**
- **Cloud: Azure**
- **PLC: Wago (Modbus TCP Master)**
- **Event:**
  - IOT Congrass 2015 – Barcelona Spain Microsoft booth
- **On Progress platform:**
  - NISE105/ NIFE100 / NIFE200

Plant Factory Pack by Windows 10 IoT

- **H/W: NISE 50C**
- **OS: *Windows 10 IOT Core***
- **UDM: Modbus/TCP Slave driver**
- **UAP: Demo app with control box**
- **Cloud: Azure**
- **PLC: Wago (Modbus TCP Master)**
- **Event:**
  - Microsoft Internal Training USA IoT World Congress Spain
  - Intel ICP Prague (2015/9/17)
  - Taipei WinHEC (2015/11/3)
    - https://www.youtube.com/watch?v=pPRZGNnb_nU (WinHec Keynote)
    - https://www.youtube.com/watch?v=Ft_V4iM9PBk (English)

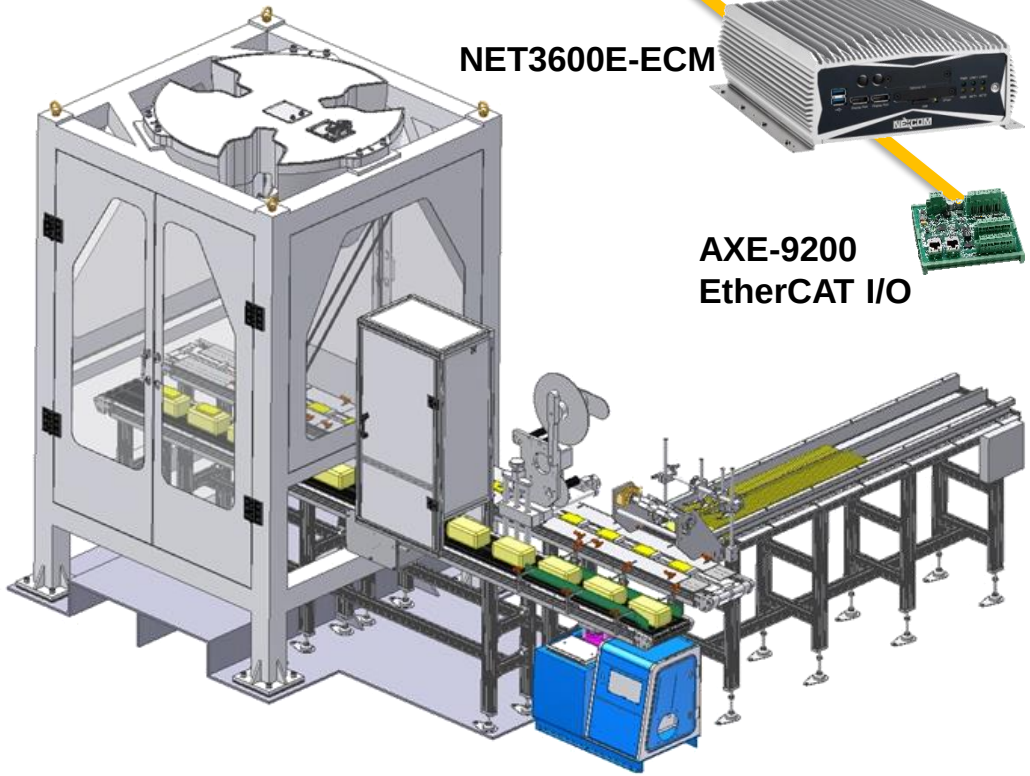
Smart Machinery over IoT Solution

IPPC 1632P

EtherCAT

NET3600E-ECM

AXE-9200
EtherCAT I/O



Device & Equipment

- Machine Status Management through Ethernet (Operation, Setting, Data Logging)
- Web-based HMI (MES/ERP Integration, Remote Access)

Robotic Control

- 60/min Pick & Place
- NEXCOM EtherCat Master
- Machine Vision Integration (Object tracking on conveyor)

Energy ~ NISE3600E @ Battery Charge Station

NISE3600E

◆ Application: Battery Charge Station for e-scooter sharing (Taiwan-Gogoro/Germany-Coup)

◆ Requirements:
- 3.5G connection for checking ID and battery exchange.

- COM5 for GPIO communication for data exchange

Startup Gogoro Inc. has forayed into the global market with the launch of its electric scooter-sharing service in Germany. The Taiwan-based company has partnered with Coup for the initiative. (Gogoro Inc.)

NEXCOM Targeted Industrial IoT Applications

Smart Factory

Smart City

Smart Energy

Safety

Transportation

Logistics

Agriculture/ Farm

Environment

More… More… More

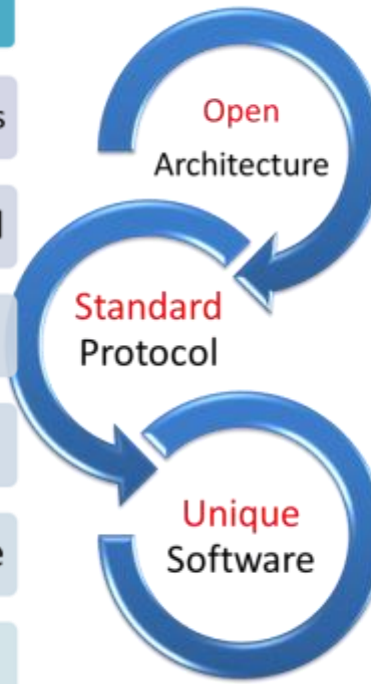
IoT Automation Solution

EtherCAT
PROFINET
EtherNet/IP
PROFIBUS
DeviceNet
eIPC
PLCopen logic ST LD IL SFC FBD IEC 61131-3
PLCopen motion control

4:3 APPC Series

IPPC Series

Platform	Automation
Multi-Core	Soft-logic / OS / APPs
NVRAM	PLCopen standard
2~3 GbE LANs	Web-based HMI
Fieldbus ready	Ethernet-based Protocol ready
Expansion	Open architecture
Fanless	EN61000-4-2/-4



iAutomation Product Lines

Gateway	Industrial Computer	Industrial Panel PC	PC-based Controller	Control Panel	Data Concentrator
NEW CPS	NISE	APPC	NIFE	IPPC	NISE300 series
smtPLC	Slice I/O (VIPA)	Block I/O (NEIO)	Fieldbus NVRAM	Battery Pack	HMI

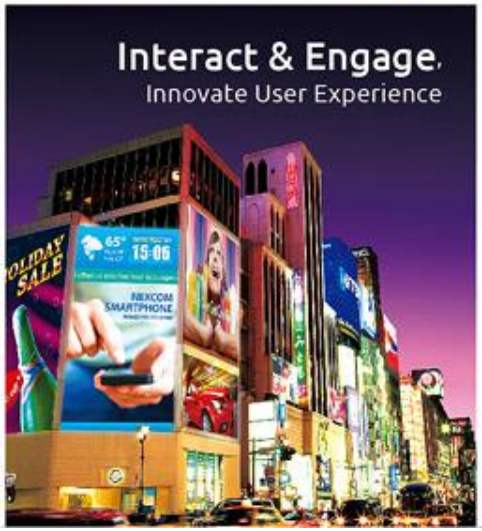
Ride the IoT Wave with NEXCOM Solutions

Talk Industrial IoT & I4.0, sell Platform, Automation Solution and Customization Service

Talk Vertical, sell add-on value embedded PC / automation PC

Talk Platform, sell embedded product and Fanless System

NEXCOM
The Intelligent Systems



Thank You!