

Expanding Far Edge Networks Wirelessly from Anywhere

ADLINK Arm-based 5G IIoT Gateway

ADLINK
LEADING EDGE COMPUTING

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ADLINK Matrix Embedded Computers

Innovative Design and Rapid Configuration Assistance

Renewable Energy

Smart City

Transportation

Smart Manufacturing



» Expandable High Performance

» Compact High Performance

» Cost-Effective

» IIoT Gateway

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Intelligent Embedded Computers

Enabling Versatile Future-proof Applications



Complete Solutions

- Multiple form factor platforms
- Intel® Xeon®, Core™ and Atom® processors
- Integrate GPU computing from NVIDIA® Ampere® GPUs

Application Featured Design

- Motion/vision/frame grabber cards
- Industrial cameras
- Industrial peripheral modules

Diverse I/O and Expansion

- Application-specific Connectors
- Flexible I/O Combination & Programmable IC Addable
- Add-on Expansion Slots

Ruggedized Design

- -20˚ ~60˚C Wide operating temperature
- Anti-vibration / Shock
- Dust-prone and fanlessproof

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

High-Density Core

Extreme high-performance
multi-stream computing

- 24 Cores
- 128GB DDR5 RAM
- 36MB SmartCache

Remote Edge Management

System control, monitoring and
OTA software updates

- EdgeGO Device Management Software

Reliable and Trusted

Rugged design to ensure system
stability in harsh environments

- -20°C to 60°C (-40 ~ 140 °F) operating temp.
- Rugged SODIMM
- Anti-vibration: 5 Grm

Advanced Security

Highly integrated data encryption
and security features

- Boot Guard
- TPM 2.0
- Secure Boot
- Intel® TME, SGX and TXT

High Bandwidth RF Connectivity

Super-speed data throughput with
low-latency transmission

- WWAN 4G & 5G connections
- WLAN 802.11ax

Compact Form Factor

Fast integration, better scalability
and easy maintenance

- 3.5” SBC
- Embedded Computer
- Industrial motherboard



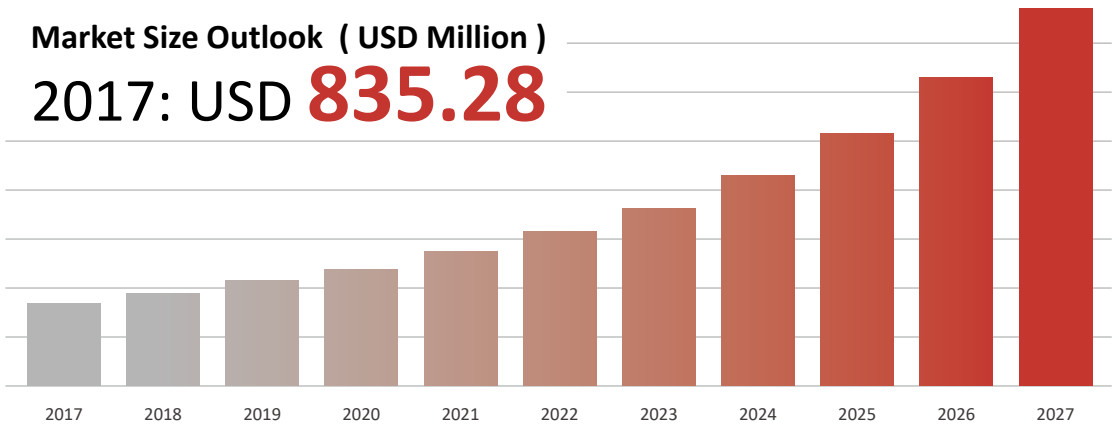
ADLINK’s
Featured Technology

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

IoT Gateway Market is Booming

Market size : 2022 to 2027 ($2288.46 M) at CAGR : 19.8%





16.63%
Year-Over-Year growth rate of 2023

19.8%
CAGR 2022-2027

Accelerating
Growth Momentum

2027
2022
USD **2288.46** Mn
Market Size Growth



Growth Momentum

- Growing 5G-powered IoT adoption
- Rising demand for cloud platforms and data centers
- Increased use of affordable wireless smart sensors and networks

Source: Technavio Industrial IoT Gateway Market Research Report 2023-2027

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

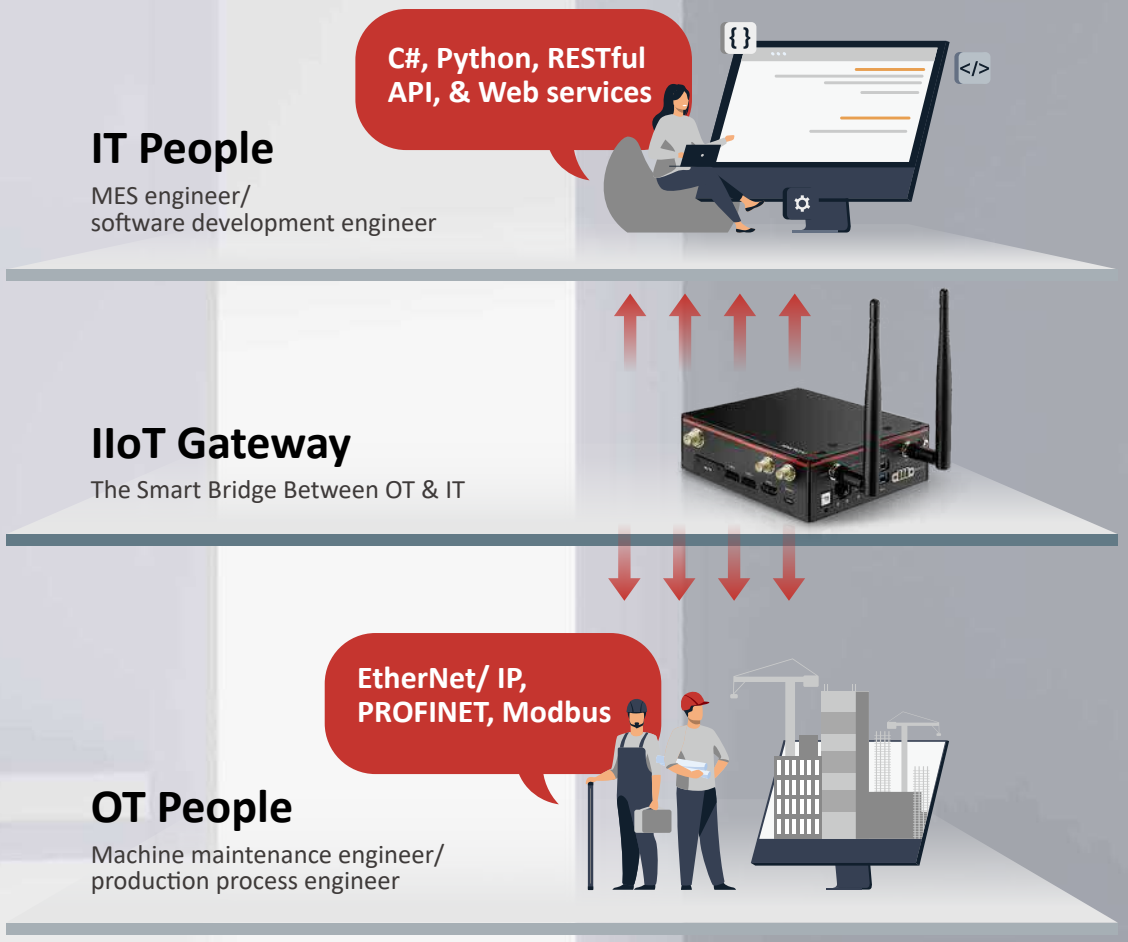
Why IIoT Gateway?

IT and OT speak different languages, so the IIoT gateway provides a bridge between them.

Enhanced Capabilities of IIoT Gateways:

Typical Applications

- **Data collection**
- **Protocol conversion**
- **Data processing**
- **Remote monitoring and control**
- **IIoT gateway / edge computing / machine learning**
- **Telemetry**
- **Others**



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

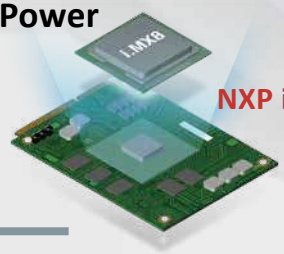
Expanding far edge networks wirelessly from anywhere

ADLINK MXA-200

Arm-based 5G IIoT Gateway

High Performance and Low Power

- NXP i.MX8M Plus with 4x Arm-Cortex A53 cores @1.6GHz
- 2GB DDR4 RAM
- 32GB eMMC system storage



NXP i.MX8



Rugged and Fanless

- Preassembled heatsink for instant 5G solution
- -20 to 70°C operating temperature range
- Fanless design offering higher durability

Wireless-ready

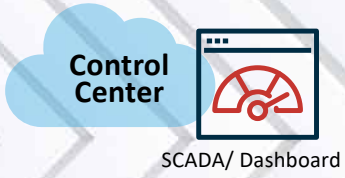
- 1x M.2 E key for Wi-Fi and Bluetooth
- 1x M.2 B key (USB 3.0) for 5G and 4G/LTE





LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Diverse Communication Protocols for the Transportation of OT/IT Data



IT Connectivity

Ethernet | 5G/4G/Wi-Fi

- MQTT
- RESTful API
- Azure IoTHub
- AWS IoT Core

OT Connectivity

Ethernet Serial (RS-232/422/485) | Wi-Fi

- Modbus TCP/RTU
- OPC UA
- OCPP (coming soon)



MXA
Data Acquisition & Transition



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Wide Temperature Support with 5G Communication



5G

5G-specific Heatsink

Attached for 5G module installation

Up to 65°C with 5G module and external heatsink



4G

Standard chassis

Support 4G and WiFi modules in wide temp.

Up to 70°C with 4G module and external heatsink

ADLINK | Leading Edge Computing

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Optional WiFi and Cellular Communication

Bluetooth™ WiFi® 4G LTE 5G



Standard Chassis

-20~70°C



WiFi

-20~70°C



WiF+4G

-20~60°C

Indoor Network (Machine Monitoring, Energy Monitoring)



WiF + 4G LTE (w/ Heatsink)

-20~70°C



5G (w/ Heatsink)

-20~65°C

Outdoor Networks (Smart City, Industry 4.0, Agriculture, Smart Logistics)

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Dimension

Unit: mm

The ADLINK MXA-200: small like an iPhone, big on power. Compact, sleek, and loaded with advanced features – it's the perfect blend of portability and performance.





MXA-200



MXA-200

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Powerful i.MX8M Plus Processor

With up to six Armv8-A cortex cores and two Cortex M4 cores, it offers high-performance graphics, virtualization, and security for AI, graphics, automotive, and industrial applications with a 10-to 15-year product life.



High-Efficiency Computing
64-bits Quad Cortex®-A53

Ready for AI Capability
Integrated NPU 2.3 TOPS

Prepared for Machine Vision
2x High speed USB 3.0

High-Speed Interfaces
2x GbE, IEEE 1588

Data Security
Security TPM 2.0

Multimedia Capability
1x HDMI 2.0, 1920 x 1080, 60MHz

High-Efficiency Communication
2x RS-232/422/485

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Comprehensive Operating Systems Support

ADLINK provides a full range of Operating Systems specific to gateway solutions. Customers can choose the most suitable platform based on their needs.

Debian offers a vast repository of pre-built applications and services, ensuring stability and support for the embedded market.

Yocto, a potent Linux stack, supports x86/ x86_64 cross-toolchains, seamlessly integrates with IDEs like QT Creator, and leverages i.MX6 GPU for swift development.

Windows 10 IoT

(under development)

Windows 10 IoT is a Windows 10 edition designed for various intelligent devices, ranging from small industrial gateways to larger terminals like POS systems and ATMs.



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

MXA-200: Arm-based IIoT Gateway

Flexible Mounting for Various Environment

The MXA-200 is a compact device designed for narrow spaces, like wall enclosures.
It offers flexible installation options for easy use in limited areas.



DIN Rail Mounting 1



DIN Rail Mounting 2



Wall Mounting

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ADLINK MXA-200 Specifications



Item	Specification
CPU	i.MX8M Plus ARM Cortex A53 Quad Core 1.6GHz
Main memory	DDR4L 2GB / 4GB
Main storage	32GB / 64GB EMMC
Sub storage	microSD
TPM	TPM 2.0
RTC	Yes
WDT	Yes
USB	2*USB 3.0
Ethernet	2*GbE
Serial	2*RS232/422/485 4-wire
Display output	1*HDMI
WiFi/BT	1*M.2 E-key with 2xSMA connector
Expanded I/F	1*M.2 B-key (USB 3.0) for 5G or 4G/LTE with 3xSMA connector
Power supply	supply12-24VDC
Cooling method	fanless
Operating temp	-20~70°C (w/o wireless module)
Storage temp	-25-85°C
Outline dimension	110.5 (L) x 40 (W) x 126.5 (H) mm
Mounting	Din rail / Wall

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

MXA – Matrix ARM Platform

Focus Industries



Smart Manufacturing

- Energy management system
- Predictive maintenance



Renewable Energy

- Solar, wind farm energy monitoring
- Energy storage system
- Energy asset management



Smart City

- Smart parking management
- Environmental monitoring
- Smart building

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Application Story

Solar Farm Monitoring

System Requirement

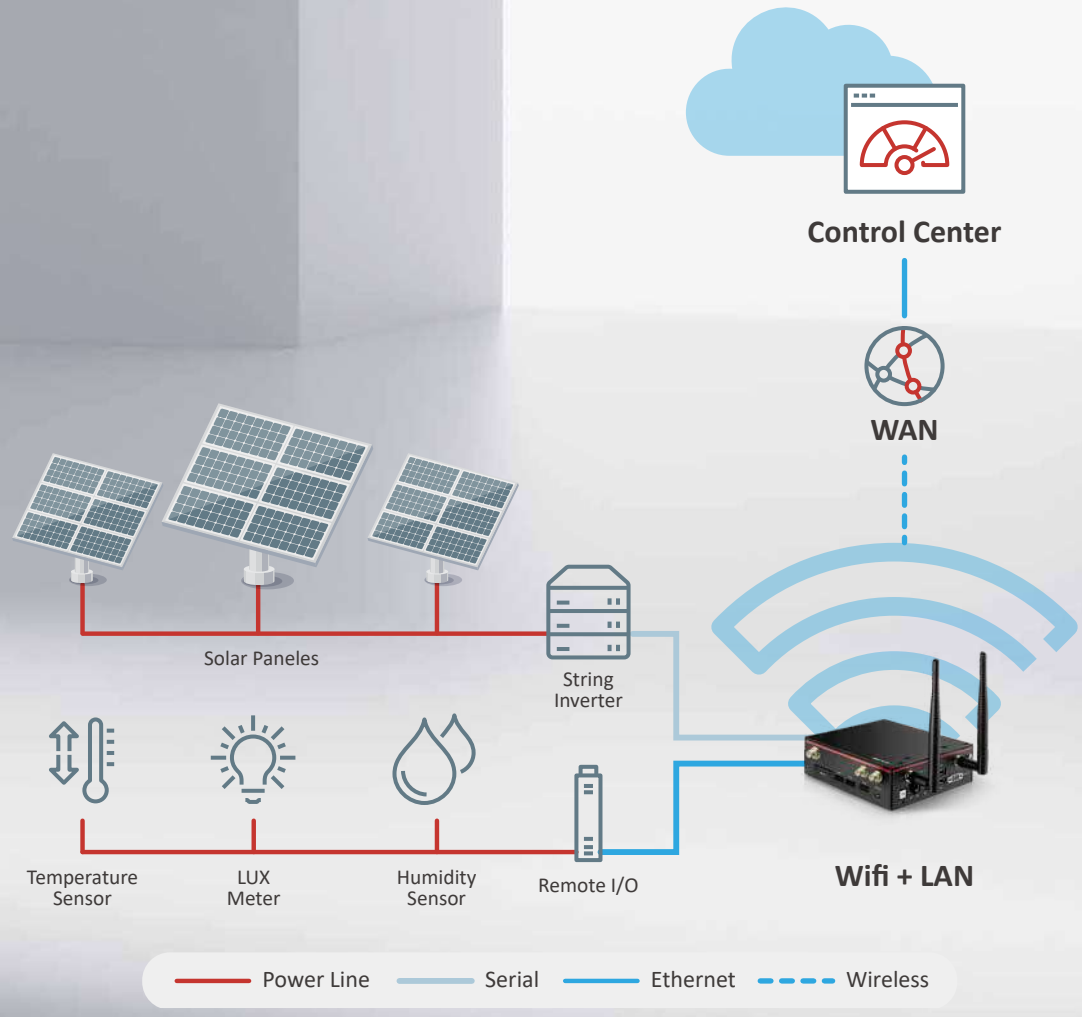
- Robust edge computing solution crafted for the acquisition and logging of inverter and meteorological data, dedicated to monitoring the performance of PV panels.
- Minimized power consumption, ensuring optimal electrical output in solar power plants.
- Dependable operation across a broad spectrum of outdoor temperatures.
- Web-based remote monitoring feature enables tracking of solar array performance, battery load, and environmental data collected by sensors.

Product Highlight

- IIoT gateway with the ability to collect proprietary data from PLCs.
- Performs local intelligence and incorporates wireless capability at the edge.
- Industrial-grade computer designed for cabinet installation on machines.
- Features a compact size and Din-Rail compatibility.
- Wide operating temperature (-20~70°C) to ensure working well in field site.

Wifi+ LAN





Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Application Story

Artificial Lift Monitoring Systems

System Requirement

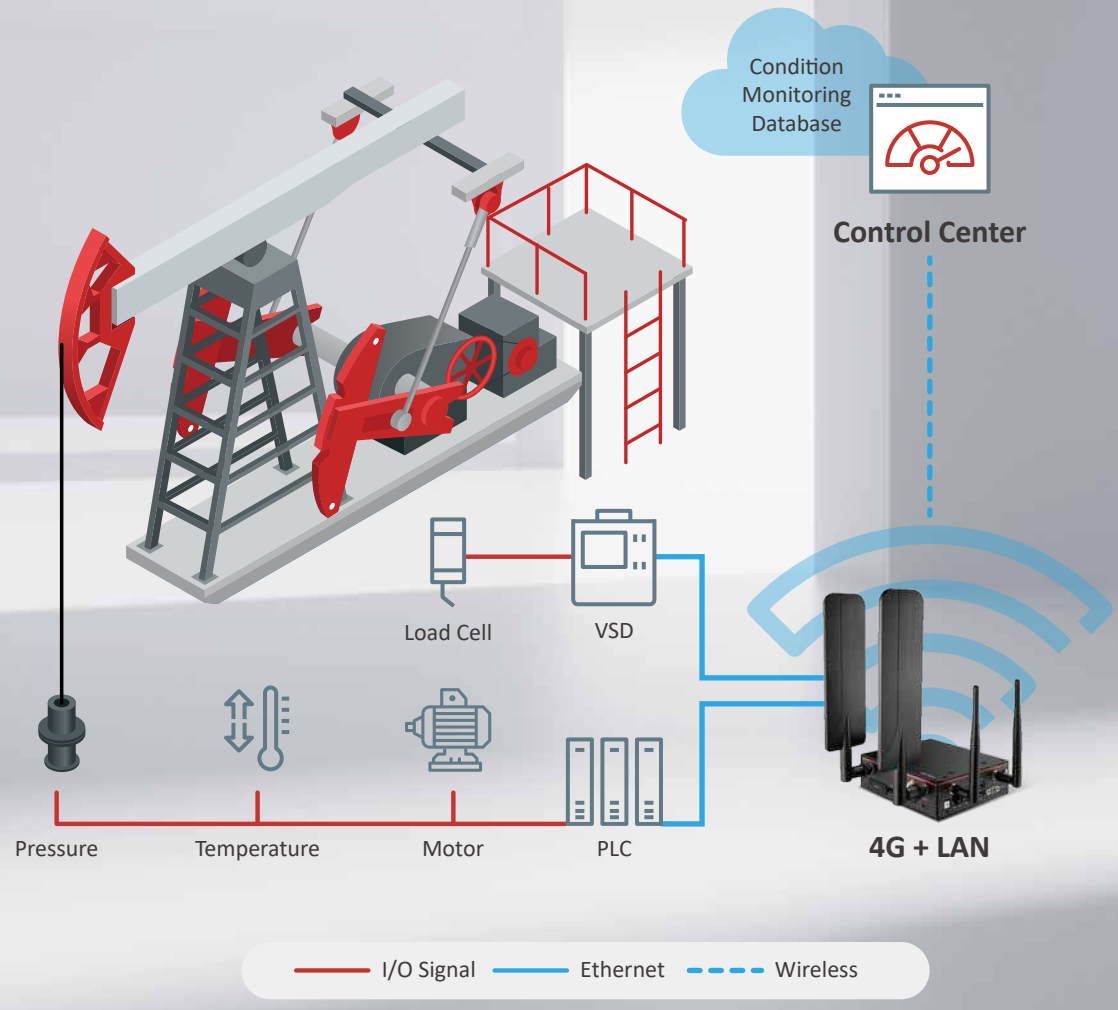
- Compact computer systems designed to easily integrate into existing control cabinets.
- Low power consumption and safe zone installation features.
- Ensures reliable 4G LTE connectivity even in high operating temperatures for continuous data aggregation.
- Supports Trusted Platform Module (TPM) for maintaining data integrity.
- An open platform that facilitates customized application development.

Product Highlight

- High-performance computing capability from NXP i.MX8M Plus with 4x Arm Cortex-A53 cores.
- Reliable LTE connectivity with a wide operating temperature range of -20 to 70°C.



4G + LAN



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Application Story

Machine Data Acquisition through PLC

System Requirement

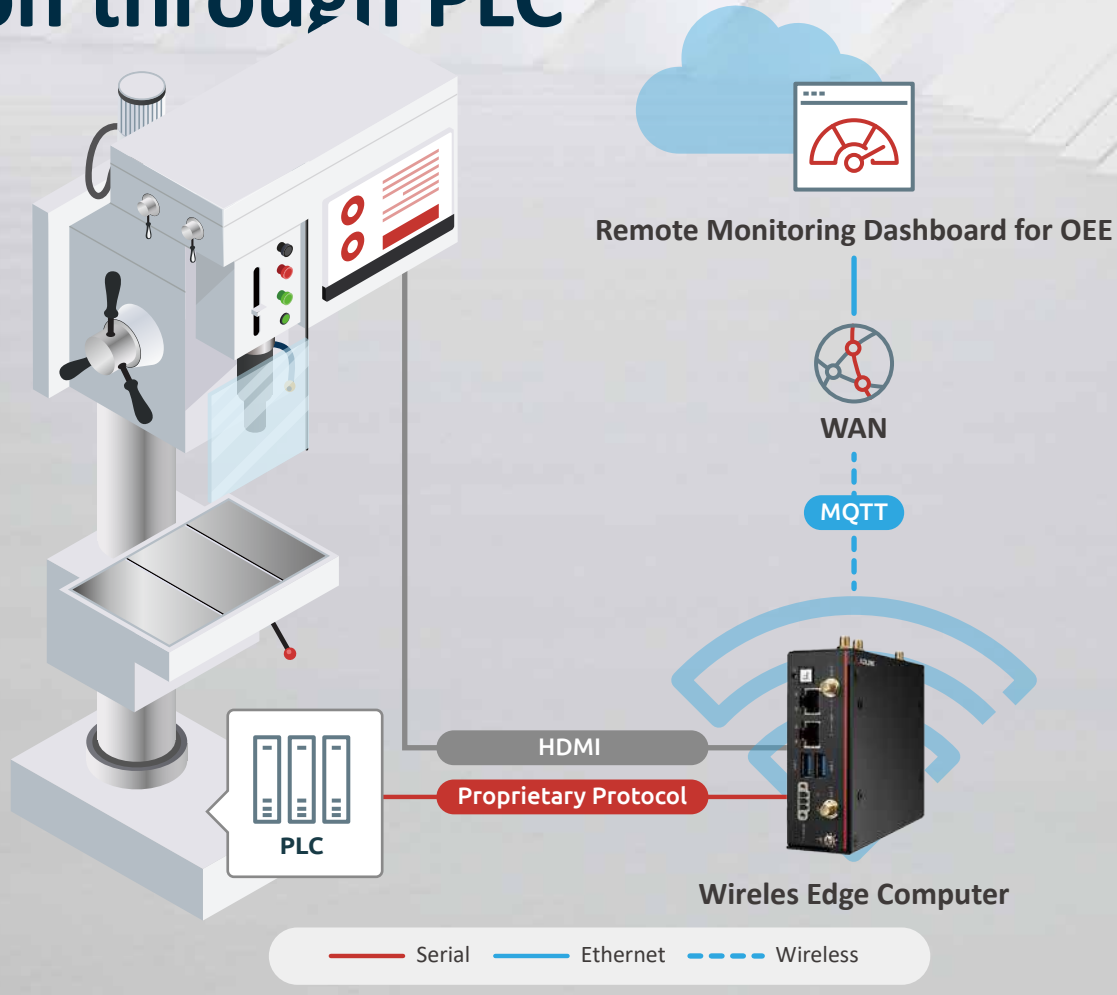
- Customer requirement: Data collection from PLCs for remote and local monitoring of stamping press status via WiFi.
- Compatibility needed with PLCs from multiple brands.
- Essential features: Anti-vibration and compact size for installation within the stamping press cabinet.

Product Highlight

- Embedded computer designed to collect proprietary data from PLCs and execute local intelligence.
- Features wireless capabilities at the edge for enhanced functionality.
- Industrial-grade design with Din-Rail and compact size.
- Specifically tailored for cabinet installation on machinery.
- HDMI port for monitoring machine status.

Wireless





Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Application Story

Gateway Solutions for Smart Cities

System Requirement

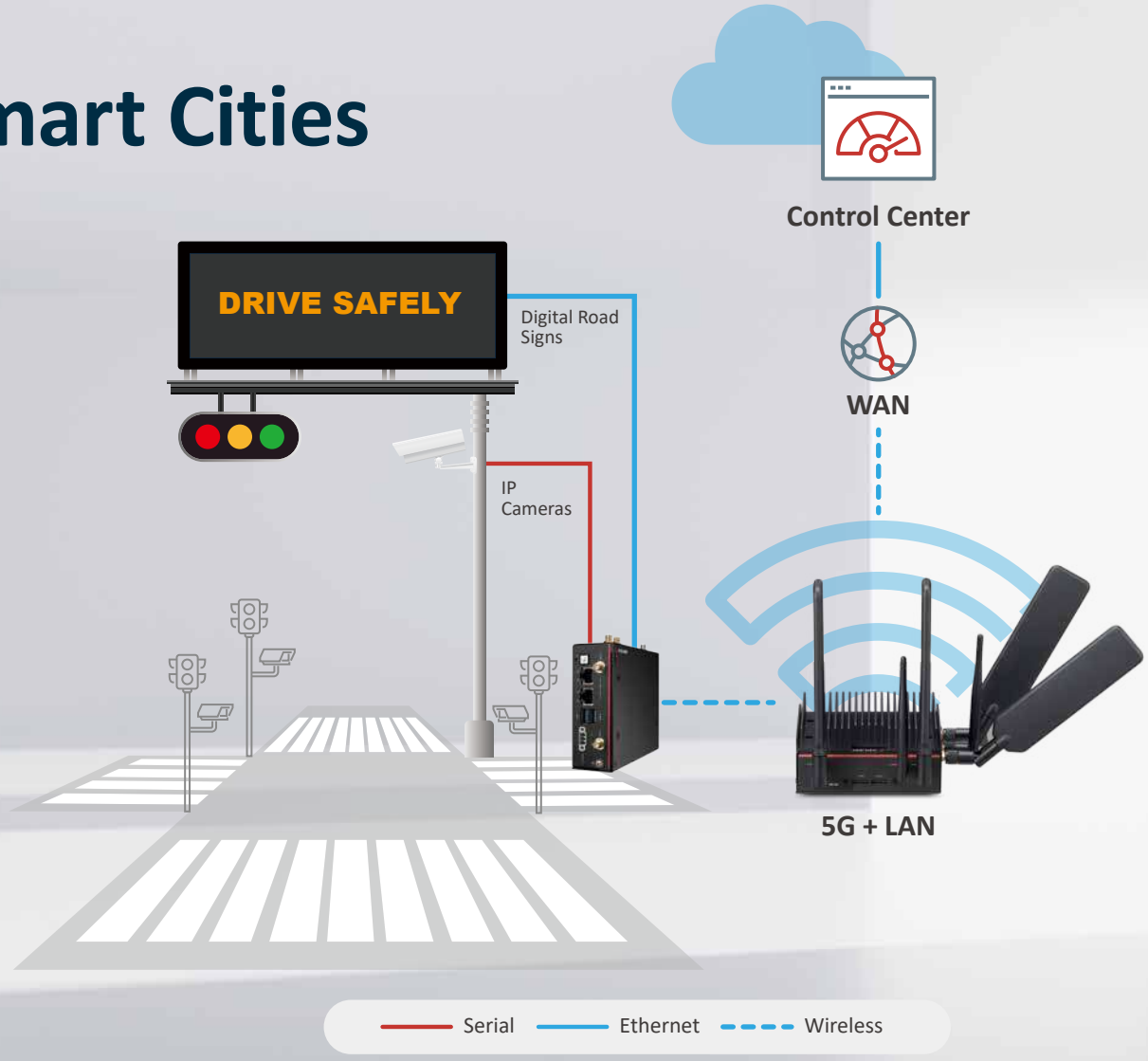
- Sensor Integration: The system must integrate sunlight, motion, air quality, and security sensors in smart streetlights for diverse smart city applications.
- Efficient Communication: A reliable wireless infrastructure, like 4G or 5G, is crucial for transmitting sensor data efficiently to the central management system.
- Edge Processing Capability: The system needs strong localized edge processing in streetlights for handling sensor data, ensuring low latency, reduced bandwidth, and improved scalability.

Product Highlight

- Supports HD 4K and the capability to simultaneously analyze up to 15 1080p decode streams at 30 fps.
- Ready to run drivers to minimize system development time.
- Wireless-ready, including 4G/5G for wide-area connections at relatively high data rates, as well as Wi-Fi or Bluetooth for local maintenance and updates, eliminating the need to climb the pole.
- Rich I/O options allow for the addition of more sensors or cameras over time.



5G + LAN



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Head Office

ADLINK Technology, Inc.

No. 66, Huaya 1st Rd., Guishan Dist., Taoyuan
City 333411, Taiwan
Tel : +886-3-216-5088
Fax: +886-3-328-5706

www.adlinktech.com

Worldwide Offices

Ampro ADLINK Technology, Inc.

6450 Via Del Oro, San Jose, CA 95119-1208, USA Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only) Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.

上海市浦东新区张江高科技园区芳春路 300 号 (201203)
300 Fang Chun Rd., Zhangjiang Hi-Tech Park Pudong New Area, Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5192-3588
Email: market@adlinktech.com

ADLINK Technology Beijing

北京市海淀区上地东路 1 号盈创动力大厦 E 座 801 室 (100085)
Rm. 801, Power Creative E, No. 1 Shang Di East Rd. Beijing, 100085 China
Tel: +86-10-5885-8666
Fax: +86-10-5885-8626
Email: market@adlinktech.com

ADLINK Technology Shenzhen

深圳市南山区科技园南区高新南七道数字技术园 A1 栋 2 楼 C 区 (518057)
2F, C Block, Bldg. A1, Cyber-Tech Zone, Gao Xin Ave. Sec. 7 High-Tech Industrial Park S., Shenzhen, 518054 China
Tel: +86-755-2643-4858
Fax: +86-755-2664-6353
Email: market@adlinktech.com

ADLINK Technology Singapore Pte. Ltd.

84 Genting Lane #07-02A, Axxel Innovation Centre, Singapore 349584
Tel: +65-6844-2261
Fax: +65-6844-2263
Email: singapore@adlinktech.com

ADLINK Technology Singapore Pte Ltd. (Indian Liaison Office)

#50-56, First Floor, Spearhead Towers Margosa Main Road (between 16th/17th Cross) Malleswaram, Bangalore - 560 055, India
Tel: +91-80-42246107, +91-80-23464606
Fax: +91-80-23464606
Email: india@adlinktech.com

ADLINK Technology Japan Corporation

〒 101-0045 東京都千代田区神田鍛冶町 3-7-4 ユニゾ神田鍛冶町三丁目ビル 4F
Unizo Kanda Kaji-cho 3 Chome Bldg. 4F, 3-7-4 Kanda Kajicho, Chiyoda-ku, Tokyo 101-0045, Japan
Tel: +81-3-4455-3722
Fax: +81-3-5209-6013
Email: japan@adlinktech.com

〒 450-0002 愛知県名古屋市中村区名駅 5-31-10 リンクス名駅ビル 3F
LINKS Meieki Bldg. 3F, 5-31-10 Meieki, Nakamura-ku, Nagoya-city, Aichi 450-0002, Japan
Tel: +81-52-589-9018
Fax: +81-52-583-2807
Email: japan@adlinktech.com

ADLINK Technology Korea Ltd.

경기도 용인시 수지구 신수로 767 A 동 1503 호 (동천동 , 분당수지유타워) (우) 16827
A-1503, U-TOWER, 767 Sinsu-ro, Suji-gu, Yongin-si, Gyeonggi-do, Republic of Korea, 16827 Toll Free:+82-80-800-0585
Tel: +82-31-786-0585
Fax: +82-31-786-0583
Email: korea@adlinktech.com

ADLINK Technology, Inc. (Israel Liaison Office)

MIXER Herzliya (Building B, 9 Floor) 3 Arik Einstein st., Zip code 4610301 Herzliya, Israel, P.O.Box - 351
Tel: +972-54-632-5251
Fax: +972-77-208-0230
Email: israel@adlinktech.com

ADLINK Technology GmbH

Hans-Thoma-Straße 11
D-68163 Mannheim, Germany
Tel: +49 621 43214-0
Fax: +49 621 43214-30
Email: germany@adlinktech.com

Ulrichsbergerstraße 17
D-94469 Deggendorf, Germany
Tel: +49 991 290 94–10
Fax: +49 991 290 94–29
Email: germany@adlinktech.com

ADLINK Technology, Inc. (French Liaison Office)

Bâtiment Thalès - Parc des Algorithmes, Route de l'Orme des Merisiers, 91190 SAINT AUBIN, France
Tel: +33 (0) 1 60 12 35 66
Fax: +33 (0) 1 60 12 35 66
Email: france@adlinktech.com

ADLINK Technology, Inc. (UK Liaison Office)

First Floor West Exeter House,
Chichester fields Business Park Tangmere, West Sussex, PO20 2FU, United Kingdom
Tel:+44-1243-859677
Email: uk@adlinktech.com

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

All products and company names listed are trademarks or trade names of their respective companies.
©2024 ADLINK Technology, Inc. All Rights Reserved. All pricing and specifications are subject to change without further notice.