



Wireless Solutions with Supernico Products

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Wireless Solutions with Supernano Products

- 1. Wireless market**
- 2. Potential IOT applications**
- 3. Supernano options to sell wireless products**

What is this presentation about?

ABOUT: How to offer our servers with wireless connectivity

- WiFi, BT, Cellular (LTE, 5G), LPWA, etc
- Servers + M.2 Modules
- Servers + External wireless CPE



NOT ABOUT: 5G Telco Network product range!

THIS PRESENTATION IS ABOUT CPE – Customer Premises Equipment!!



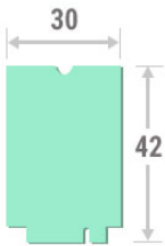
1. Wireless market

What is a wireless modem?

A function of Modulation and Demodulation

4G 5G NB-IoT
 GNSS LTE Cat M
 LORA Bluetooth Wi-Fi

Embedded module/modem providers:



* M.2 3052 for 5G modules mostly



Traditional wireless modem companies, over 30 years expertise. Mostly ARM Cortex CPU

Newcomers

M.2 Wireless Modules

Gateway, Router, Hub

Traditional players have software agents

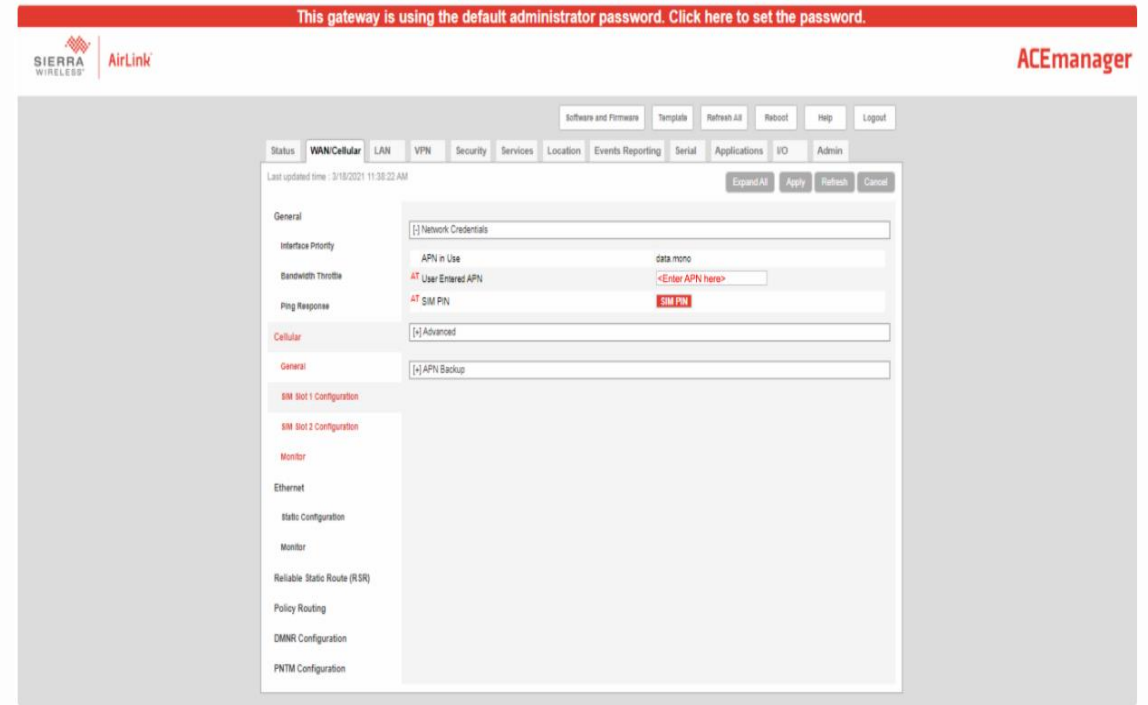
M.2 modules:

- Connection Manager (APN, SMS, Signal, etc)
- Set of AT Commands
- SDK (APIs) for SW dev.



Router/Gateways:

- GUI → APN, Bands, Security, LAN, etc



Certifications / Regulatory

Certification Responsibility → Seller

Europe:

- CE Marking → RED directive
- GCF (Global)

USA

- FCC
- PTCRB

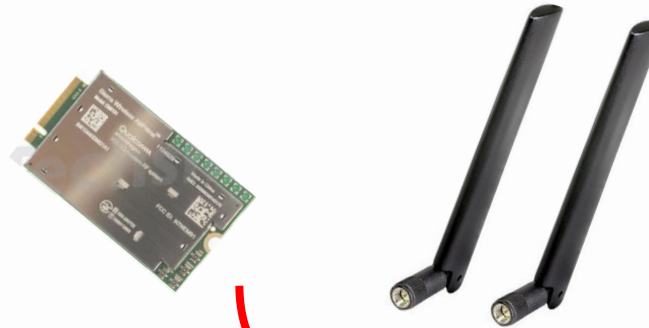
Japan, Taiwan:

- JATE/TELEC, NCC

China, Canada, Brazil:

- CCC, ISED, Anatel

CE
GCF



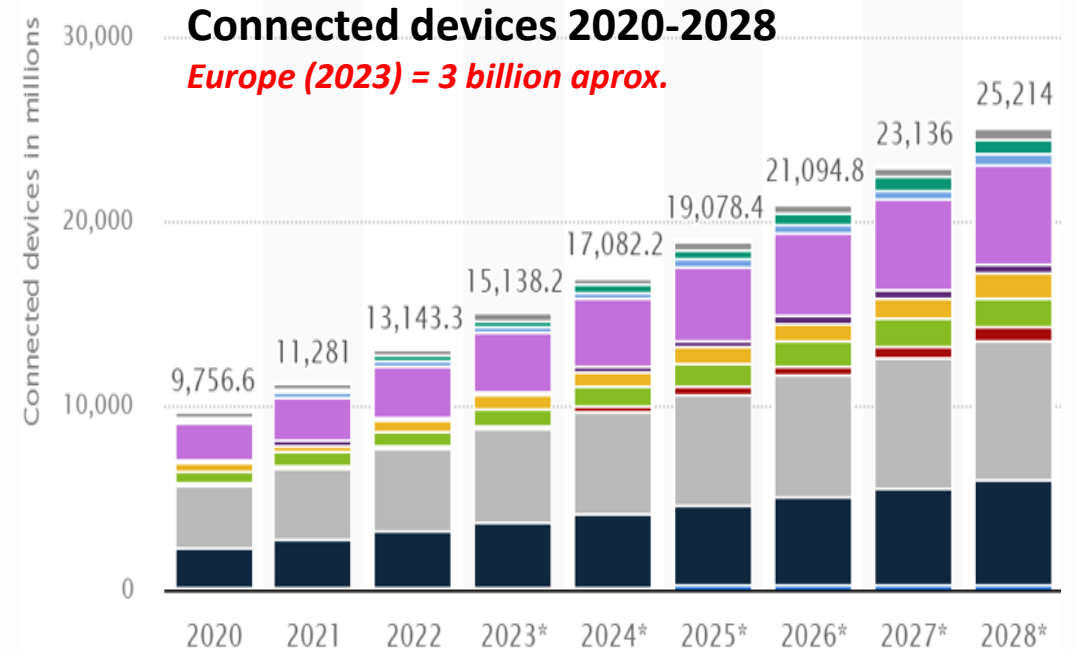
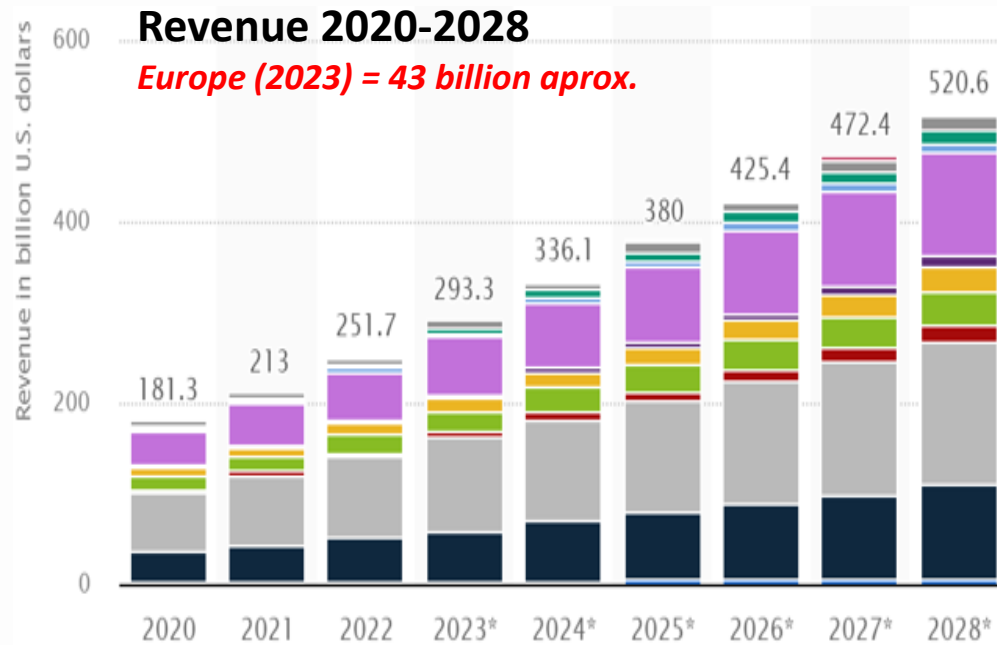
Recertification



Non-harmonised tests +
Decl. Conformity

IOT Market

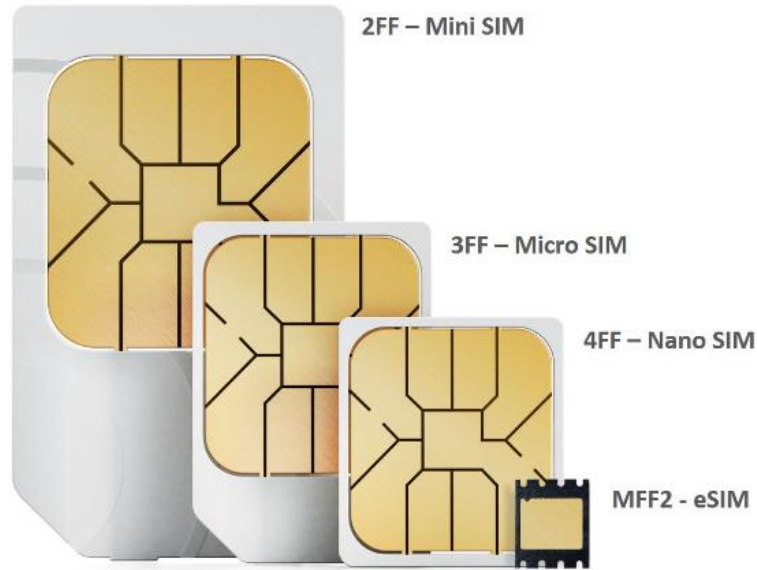
2023 Europe: \$43B Rev. and 3B connections - Huge Opportunity!



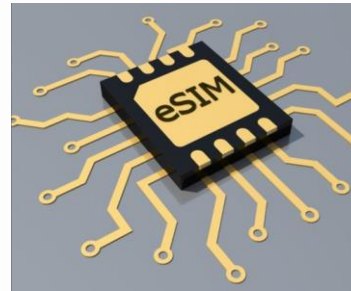
- Australasia
- Europe
- Greater China
- India and South Asia
- Japan
- Latin America
- MENA
- North America
- Russia & Central Asia
- South East Asia
- South Korea
- Sub-Saharan Africa

<https://www.statista.com/statistics/1194677/iot-connected-devices-regionally/>

SIM card and SIM technologies in the market

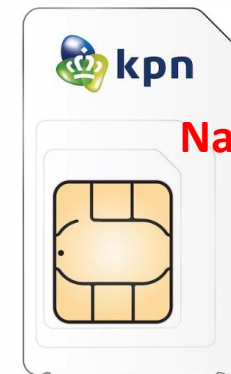


SIM card physical sizes



A wide range of SIM technologies and mix of technical name and marketing names such as GSMA eUICC, eSIM, Multi-IMSI

Roaming M2M SIM Card



National SIM

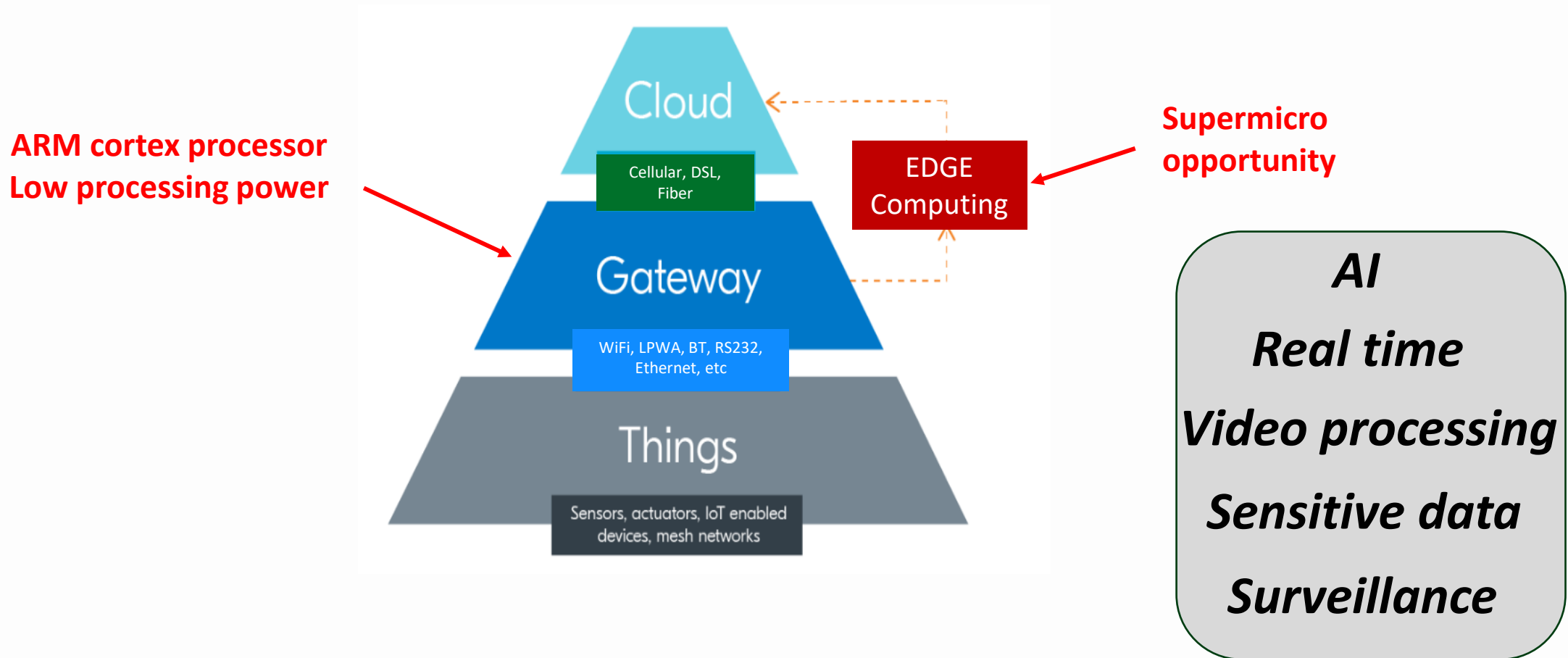
Roaming SIM and National SIM

A photograph of a server rack with multiple server units installed, set against a blue background. The rack is black and the servers are silver and black.

2. Potential IOT applications

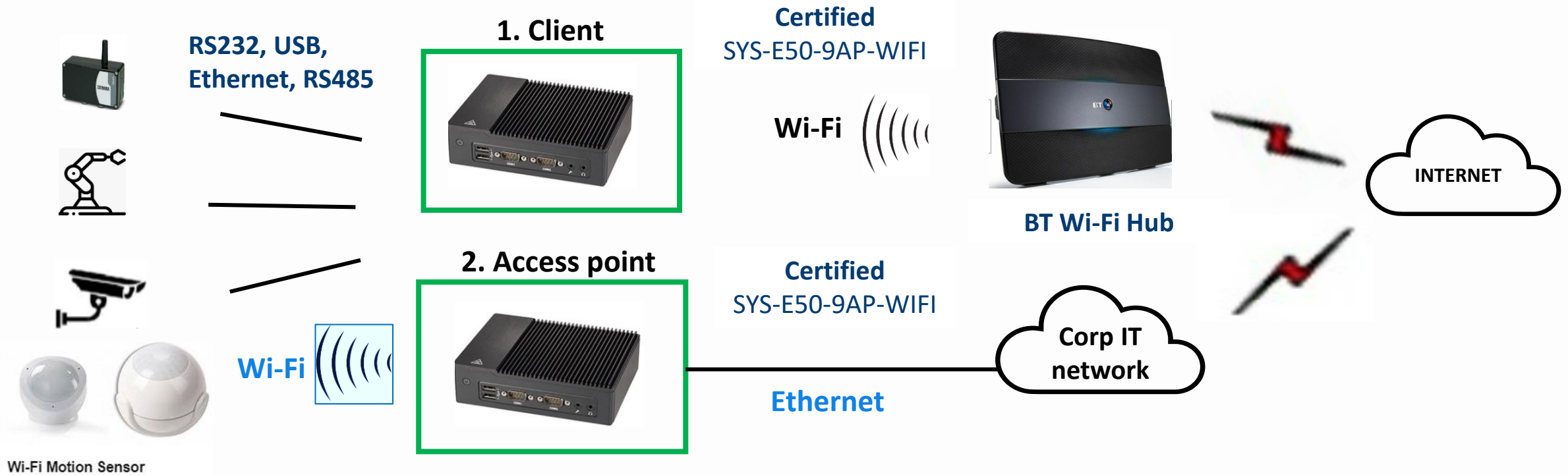
Potential IOT applications – Edge computing

Any App requiring EDGE Computing



Potential IOT applications – Wi-Fi

[Vertical Markets] - Industry 4.0 / Any Indoor Wi-Fi Solutions / Wi-Fi Sensors

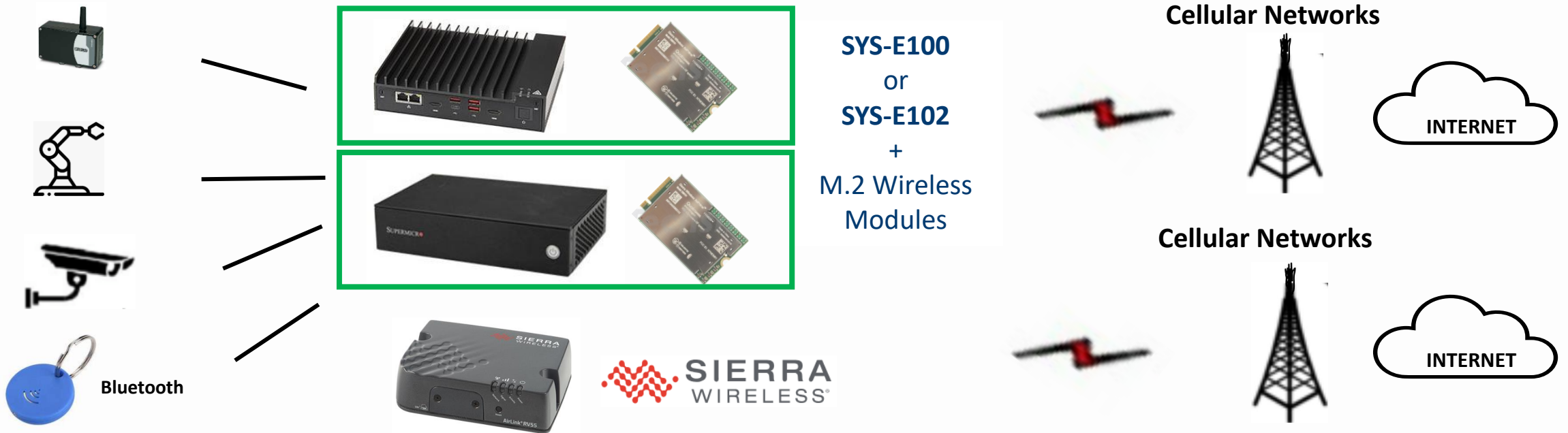


Supermicro have certified E50-9AP-WiFi ready.

- 1. avoid 5G data plan – save customer OPEX
- 2. Wi-Fi connected Sensors.

Potential IOT applications – Green Fields

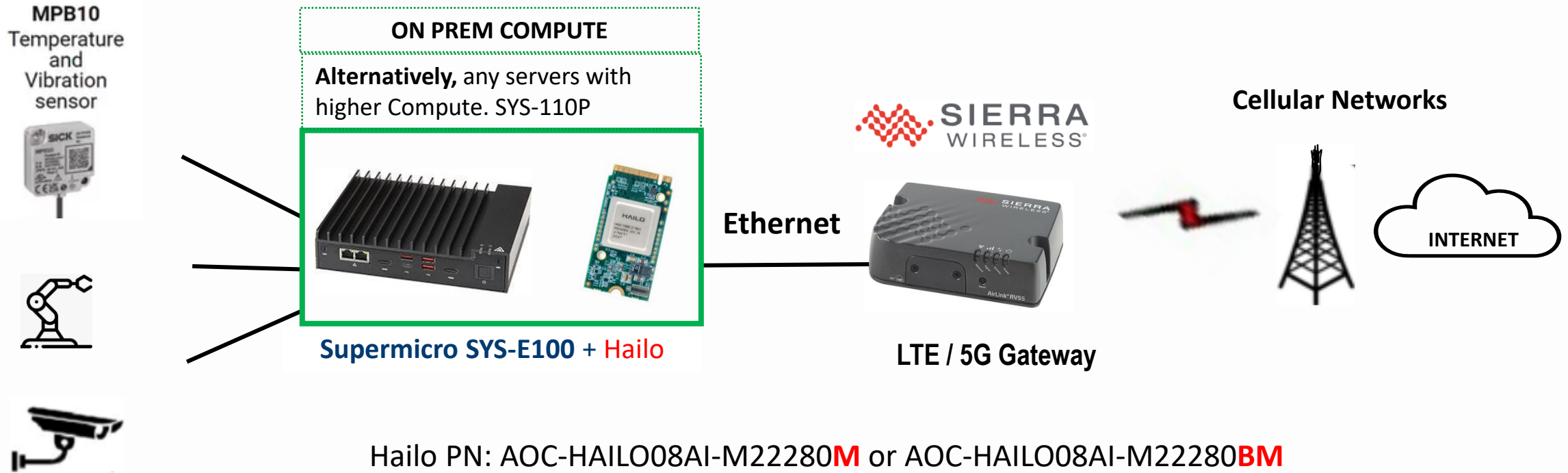
[Vertical Markets] Asset Management / Property Management / Smart City / Industry 4.0 / Logistics tagging



Supermicro have options to support System Integrators (SI).
SI needs to add their applications (or GUI) to drive edge hardware and wireless modules

Potential IOT applications – Piggyback

[Vertical Markets] Asset Management / Property Management / Smart City / Industry 4.0 / Digital Twin



- On Prem - Higher Performance Edge Compute,**
1. Saving 5G mobile data cost and cloud compute cost (OPEX)
 2. On Prem latency for critical applications on Supermicro Edge.

A photograph of a server rack with multiple server units installed, set against a blue background. The rack is black and the servers are silver and black.

3. Supermicro options to sell wireless products

Supermicro option 1

Existing Supermicro WiFi servers / Certified

- Module and antennas embedded
- Certification for EU, USA
- EOL but new WiFi6 version comes in Q4 2024



Supermicro option 2

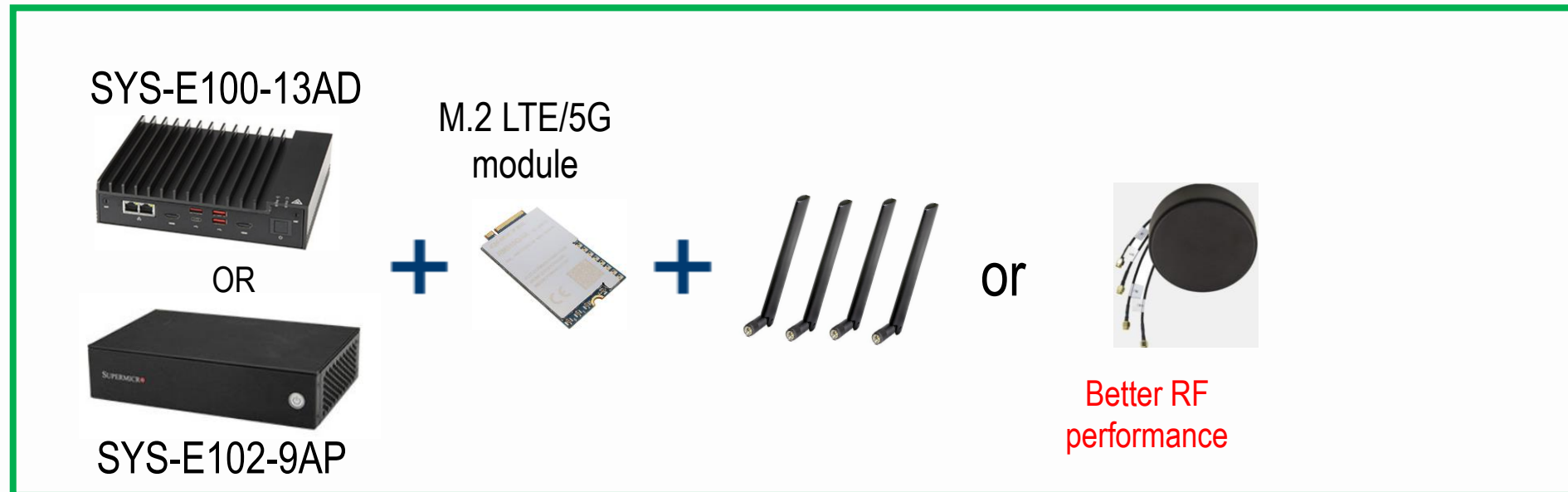
Supermicro server + M.2 module of choice

Questions for customer:

Q1. Which module customer needs?

Q2. SIM Form factor?

Q3. Volume > 5K pieces ?




Supermicro option 3

Supermicro server + Embedded module + SOP

Questions for customer:


Q1. Which module?

Q2. SIM Form factor?




Integration instructions: SOP

SYS-E100-13AD




OR




SYS-E102-9AP


M.2 LTE/5G module



+



or



Better RF performance

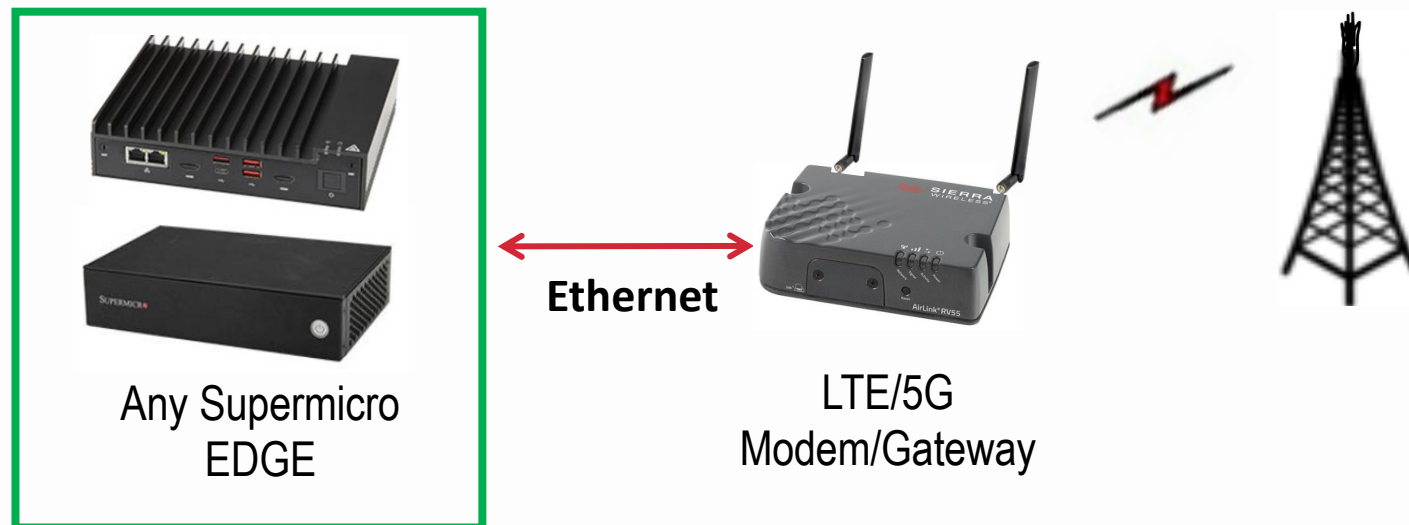
Supermicro option 4

Supermicro server + External Wireless Gateway / Certified

Questions for customer:

Q1. What minimum CPU, RAM, Storage, and form-factor requirement?

Q2. Deployment location?



Supermicro options

External gateways. Examples:

Sierra Wireless

RX55 LTE 300Mbps → Price: \$759.00 – \$949.00

XR80 5G + WiFi → Price: \$1,799.00



Cradlepoint:

IBR900 LTE 600Mbps → Price: \$943.00 – \$2,489.00

R1900 5G + WiFi → Price: \$1,999.00 – \$3,999.00



Teltonika

RUT901 LTE 150Mbps → Price: \$190

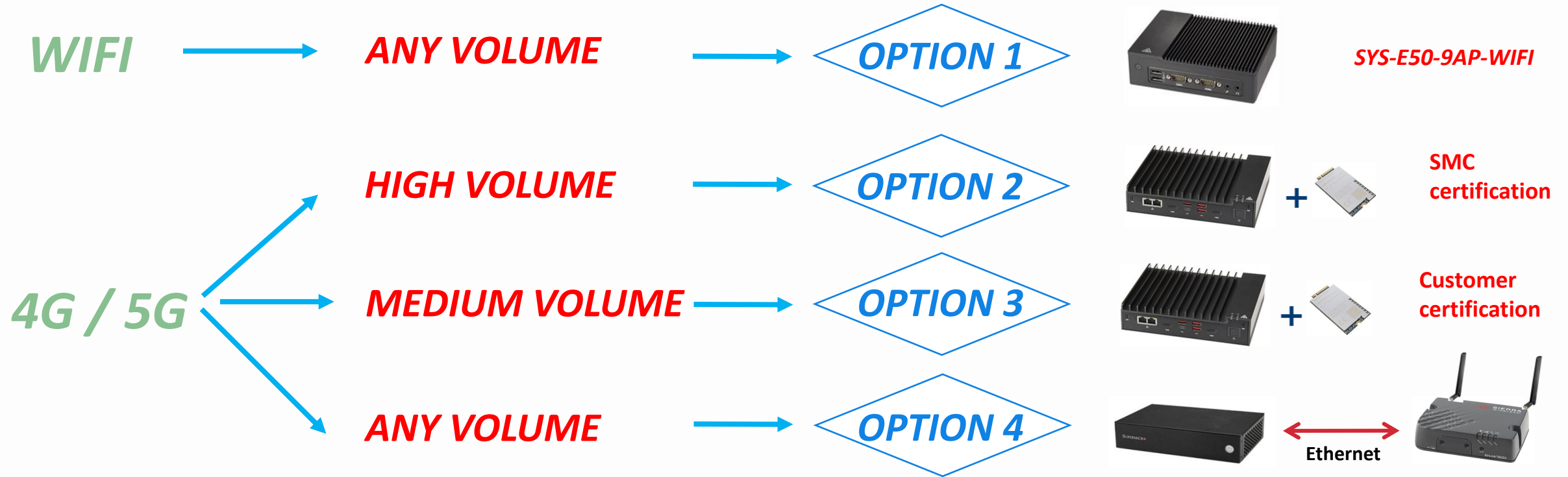
RUTX50 5G + WiFi → Price: \$590



<https://www.industrialnetworking.com>
<https://www.senetic.es/>

Supermicro options

SUMMARY:



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