Gemino
Reshape with IoT

VISIon Industry
Machinery and departments cabling

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Sensor and probe cabling - MODBUS RTU

Machinery:
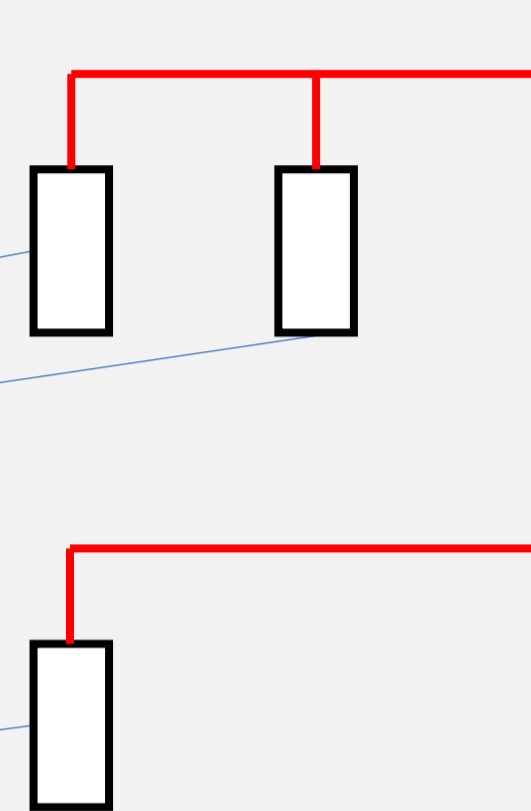Distributed in different areas, departments or floors
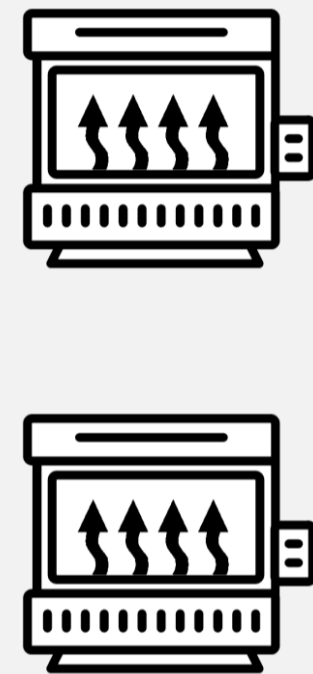
Probes:
- Detect physical quantities;
- Can be one or more for each machinery;
- Have a cable of a few meters that must be connected to a reader;

Sensors and Probe Readers:
- Read the signal from the probes;
- Translate the analog signal into digital;
- Can have a display;
- **Must** have MODBUS RTU (serial RS485) or MODBUS TCP (ethernet) digital output;
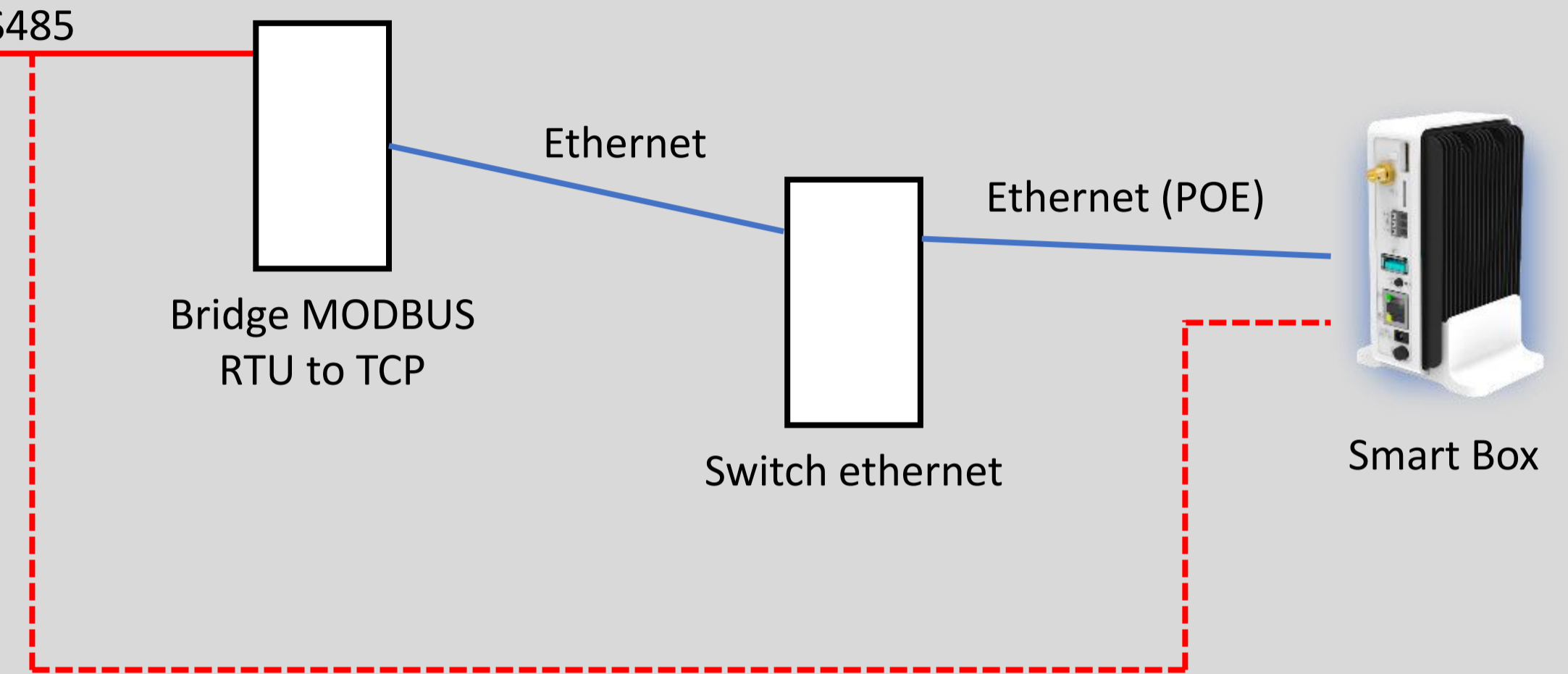
Serial:
- Must be installed according to RS485 best practices, avoiding star topologies or keeping every single branch of the star in the order of meters;

Bridge:
- Can be installed for ethernet cabling;
- Converts MODBUS RTU (serial RS485) to MODBUS TCP (ethernet);
- Connects to the SBO-1000 via an ethernet switch;

Smart Box:
- Reads the data;
- Can be connected directly to the serial (MODBUS/RTU) or to the bridge (MODBUS/TCP);
- Is powered by POE (recommended) or with its power supply;

Sensor and probe cabling - MODBUS TCP

Machinery	Probes	Sensors and probes reader	Connection to GEMINO Smart Box

Ethernet

Ethernet POE

Ethernet switch

Smart Box

Machinery:
Distributed in different areas, departments or floors

Probes:
- Detect physical quantities;
- Can be one or more for each machinery;
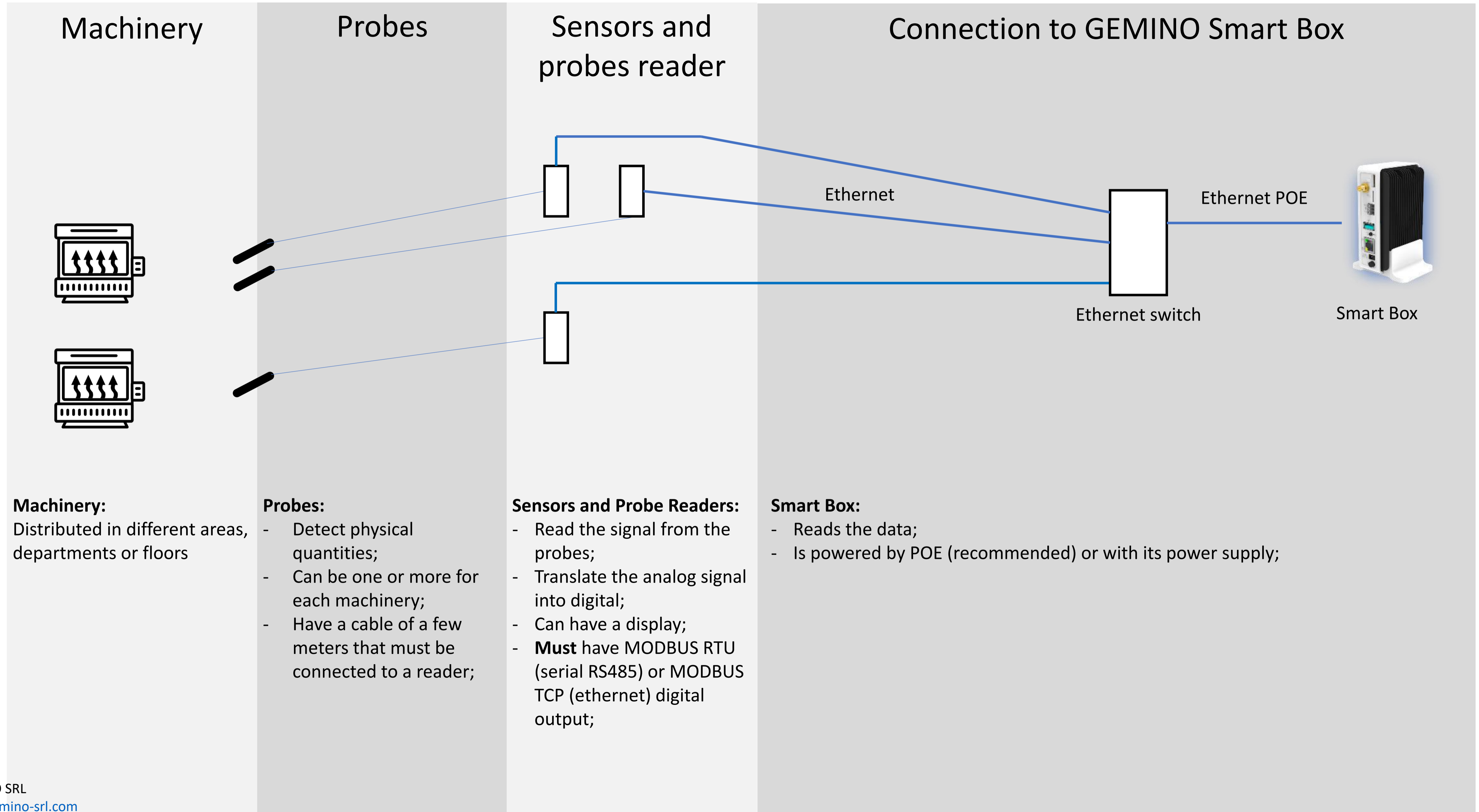- Have a cable of a few meters that must be connected to a reader;

Sensors and Probe Readers:
- Read the signal from the probes;
- Translate the analog signal into digital;
- Can have a display;
- **Must** have MODBUS RTU (serial RS485) or MODBUS TCP (ethernet) digital output;

Smart Box:
- Reads the data;
- Is powered by POE (recommended) or with its power supply;

Connection to machinery with PLC

Machinery	Retrofit PLC / Other	Sensors and probes reader	Connection to GEMINO Smart Box

A

PLC

Additional probes

1 ... N

MODBUS RTU/TCP
OPC UA

Smart Box

B

PLC

S7

Additional probes

1 ... N

MODBUS RTU/TCP

Smart Box

C

PLC

Custom/proprietary protocol

Additional probes

Customer monitoring system

1 ... N

Ethernet (JSON, DB query, custom)

MODBUS RTU/TCP

Smart Box
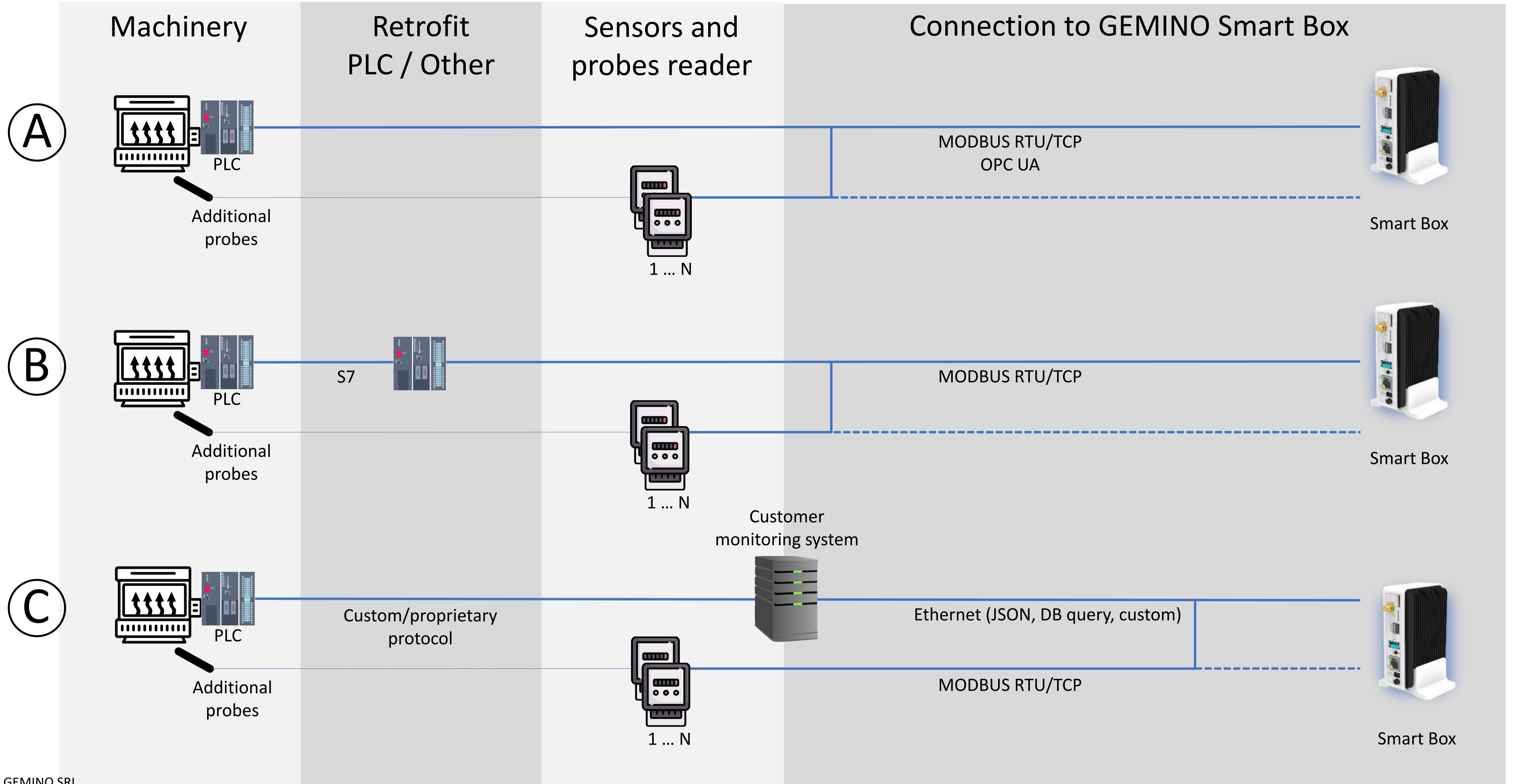
Connection to electro-mechanical machinery

Machinery

Retrofit
PLC / Other

Sensors and
probes reader

Connection to GEMINO Smart Box

Contacts

Additional
probes

MODBUS RTU/TCP
OPC UA

Smart Box

1 … N

Lights / signals

Additional
probes

MODBUS RTU/TCP

Smart Box

1 … N

D