DECT nr+ for metering -

heating, electricity, water, gas

Oliver Wierichs

Lobaro
Industrial IoT Solutions

Lobaro GmbH

Company Data
- Founded: **2014**
- Number of Employees: **15**
- Headquarter: **Hamburg**

Device manufacturer for metering with its own IoT platform
- Cellular IoT
- LoRaWAN
- Wireless M-Bus

Development service provider
- Sensors / Gateways (Prototypes through to series production)
- Firmware
- Backend & Frontend IoT

- Online (DE): www.lobaro.de
- Contact (DE, EN): sales@lobaro.de
- Product Manuals (EN): manuals.lobaro.com

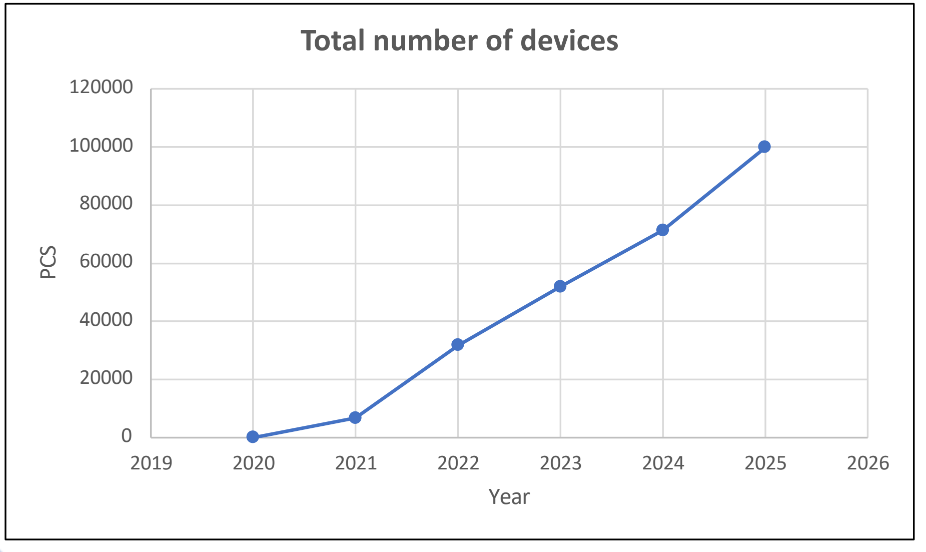
LTE-M NB-IoT + LoRaWAN®
Hybrid Connectivity

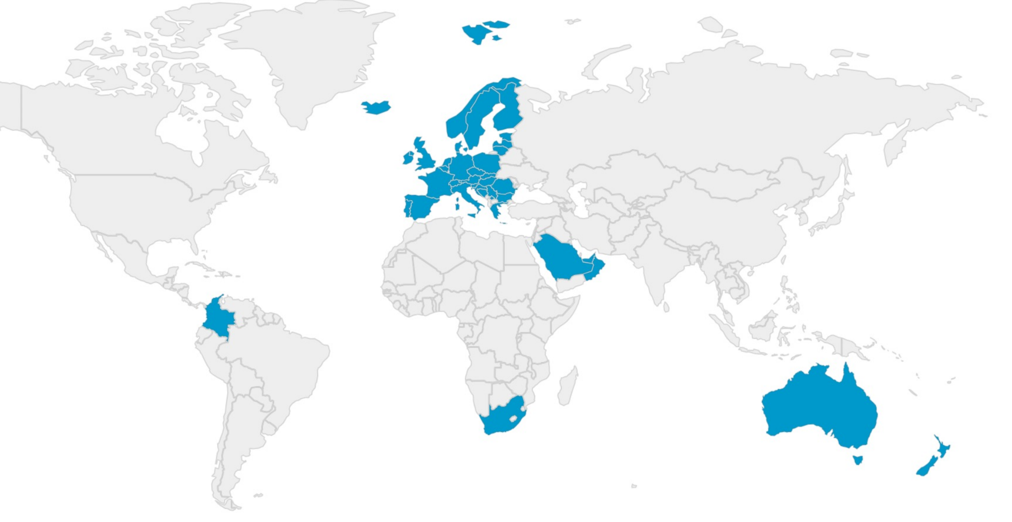
NORDIC SEMICONDUCTOR DESIGN PARTNER

LoRa Alliance Member™

Market

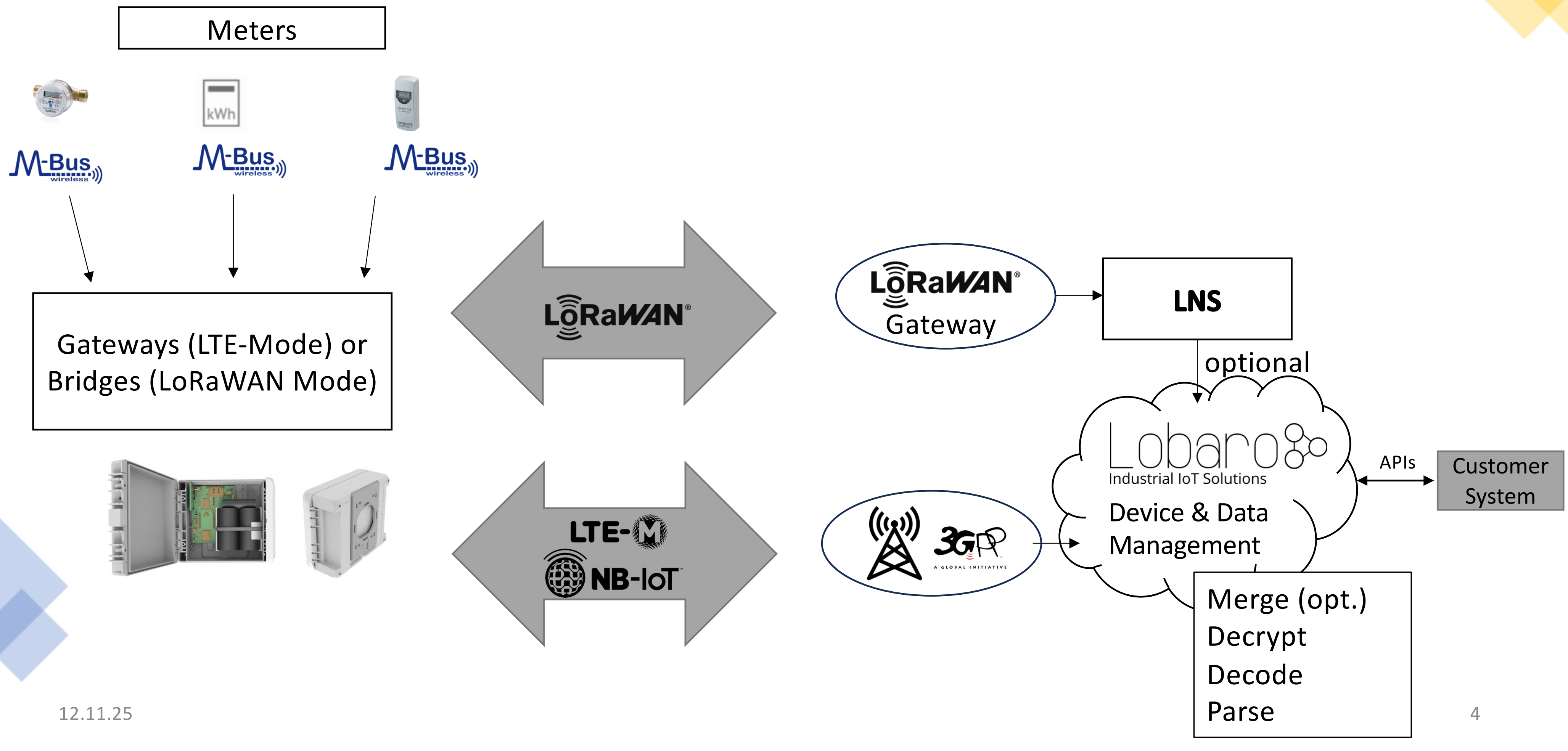
- Over 100,000 active devices in the field (11.11.2025) / round about 10,000 in LoRaWAN mode



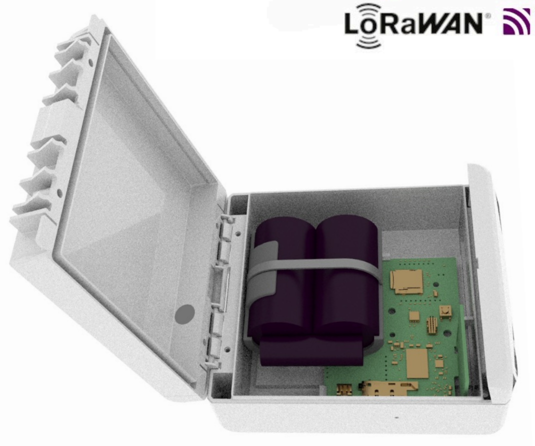


- A large part of the devices are located in
  Germany
  Scandinavia (Denmark and Norway)

Submetering Usecase



Wireless M-Bus Gateway V4



- Upload with **NB-IoT or LTE-M**
- Alternative **Upload with LoRaWAN v1.0.2** (EU-868)
- Compatible with **wM-Bus S1, C1/T1 Modes** (868 MHz) according to OMS
- Compatible with **Sensus RF (BUP, 868 MHz) and Müller Funk (µ-Line)**
- Batteries: 2x ER34615 + SPC 1550 (38 Ah) – **12 years lifetime** (2 x transmissions per month)
- **8 MB Flash** – headroom for firmware at data storage > **64.000 wMbus** telegrams and **4x longer whitelist** (2,500+)
- Antenna layout - improved reception
    - **Approx. 10...15%** more meters
    - Better performance for LTE-M (Band 3) and DECT nr+ (1.9 GHz)
- Support for **DECT nr+** planned

Product Variants for Wireless M-Bus Gateway V4

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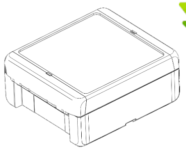
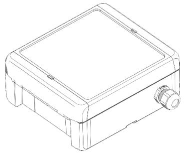
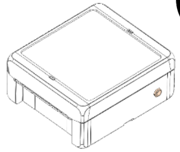
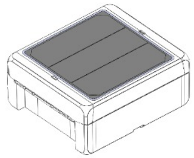
M-Bus wireless · NB-IoT · LTE-M · LoRaWAN · MQTT

Power

Batterie (38 Ah)	100-277 V (Standard: 230 V)	9-36 V (Standard: 12 V Stecker)	Solar (+ Back-up Battery)
	230V 		

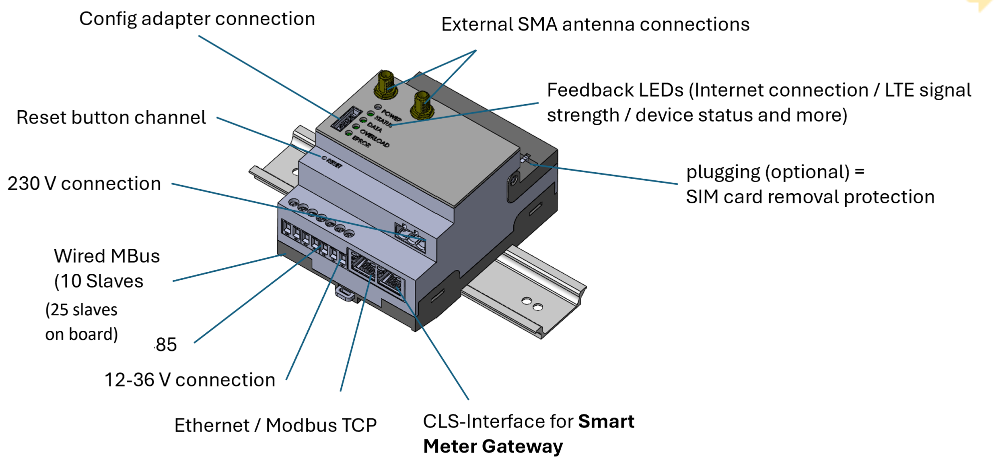
Base	+	Feature	(Power	,	antenna	,	IP class	,	costumized)
		Modbus	Battery		Internal LTE + wMBus (868 MHz)		IP 66/67 (Standard)		DIN rail adapter
Gateway V4	+	M-Bus	+ 230V	,	External LTE + internal wMBus (868 MHz)	,	IP 66/**68**	,	PG Cable glance instead of SP 13 connector
		4-20mA	9-36 V		Internal LTE + external wMBus (868 MHz)		IP67		Smaller housing (Factor x 0,5)
		1-Wire	Solar + Battery		External LTE + external wMBus (868 MHz)		IP68		….
		….							

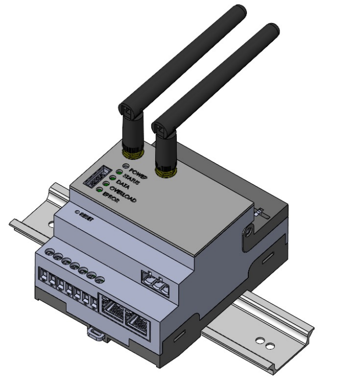
Gateway V4 Edge

New Device in 2026:

- DIN rail mounting
- Supporting most of our protocols
  - Wireless M-Bus
  - M-Bus
  - Modbus
- 2x Ethernet
- 230V power supply
- LTE-M, NB-IoT **or DECT nr+**

Dinrail Version





DECT nr+ for enhanced connectivity

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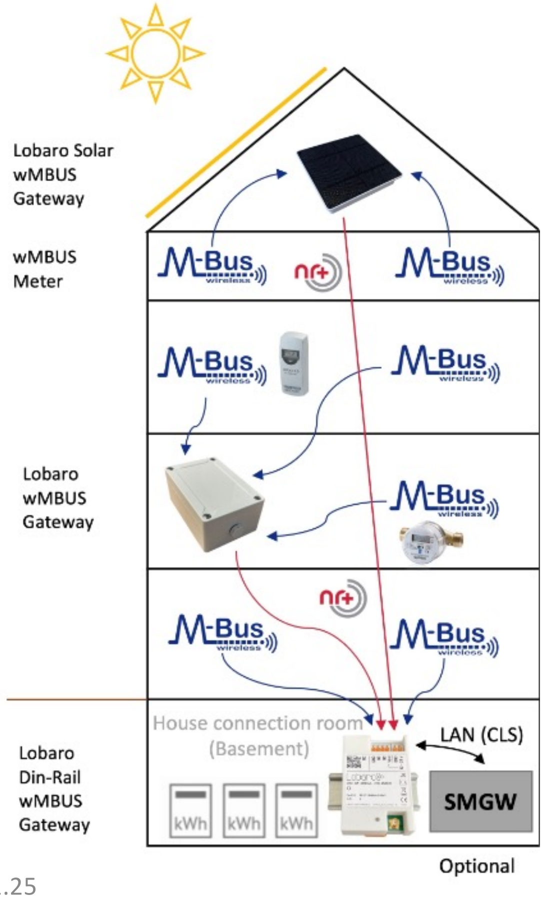

Problem:

- wM-Bus protocol has limited reach – in buldings

Solution:

- **DECT nr+** as a complimentary technology to overcome connectivity challenges

→ **Based on existing Hardware**

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DECT nr+ for building automation

4-20 mA M-Bus wireless

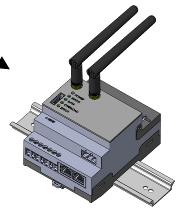
- air quality sensors (CO_2 sensors, PM2.5)
- light intensity sensors
- current sensors

1-Wire M-Bus wireless

- Room temperature sensor (wall or duct sensor)
- Outdoor temperature sensor
- Flow and return temperature in heating circuits

Modbus RTU M-Bus M-Bus wireless

- pressure sensors
- level and flow sensors



Modbus RTU
Modbus TCP/IP

- Heating, ventilation, and cooling controllers
- Battery management / PV inverters
- Energy meters & smart meters

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Device & Data Management

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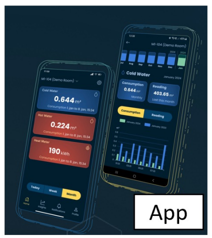

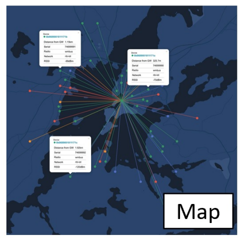

Thank you

Questions?