

# Reach 100% readout of your network

LoRaWAN and wireless M-Bus (wM-Bus) networks often do not reach all installed heat meters via remote reading. For hard-to-reach locations, this gap can be closed with NB-IoT technology. A hybrid solution offers 100% coverage - efficient, scalable and ready for urban and remote areas.



## LoRaWAN and wM-Bus network challenges

LoRaWAN and wM-Bus technologies sometimes face challenges such as signal interruptions due to long distances or poor penetration.

- **Long distances**  
LoRaWAN and wM-Bus solutions reach their limits in rural areas due to long distances.
- **Connectivity**  
Poor penetration into deep basements can cause interruptions in the LoRaWAN and wM-Bus radio signals.
- **Meters per gateway**  
The additional installation of gateways for a small number of meters or sensors is cost intensive.
- **Search for antenna locations**  
The search for suitable antenna locations in unfavorable areas or on private buildings is time-consuming and expensive.



## Coverage of hard-to-reach locations with the addition of an NB-IoT solution

The Elvaco NB-IoT solution complements LoRaWAN and wM-Bus networks for seamless connectivity, deep reading and easy integration.

- + **Hybrid network**  
Use LoRaWAN or wM-Bus network for the majority of meters. Add NB-IoT to cover longer distances and remaining meters.
- + **Depth reading**  
NB-IoT enables indoor/basement depth readings where LoRaWAN and wM-Bus cannot connect.
- + **Software integration**  
Seamless integration into your meter data management software, Elvaco Evo, or into an existing software solution.
- + **Plug & Play solution**  
An Elvaco NB-IoT module enables quick setup on site, is immediately operational and delivers data without hassle.