ULTIMATE NETWORK COMPARISON

LoRa®/LoRaWAN® | NB-IoT | Zigbee | Wi-Fi | BLE | 5G

Top Six IoT Network Technologies Compared - Which IoT Network Is Best for You?

Pros & Cons

TOP PROS

LoRa/LoRaWAN

- Ground-up LPWAN design (low battery consumption, long range, seamless Cloud integration)
- Cost-efficient roll-out
- Open business models (public, private, open communities)

NB-IoT

- Leverage existing 4G coverage
- Large volume of data
- Download capacity on licensed spectrum

Zigbee

- Device security
- Better mesh capabilities when compared to Wi-Fi
- Flexibility for users and developers (backwards compatibility, etc.)

Wi-Fi

- Simplified cost-efficient deployment
- Alternative to 5G (Wi-Fi6)
- Ubiquitous mobility (open roaming)

BLE

- Low cost
- Simple setup
- No hardware required

5G

- Higher capacity
- Higher data rates and lower latency
- Software designed core network

TOP CONS

LoRa/LoRaWAN

- Not ideal for applications requiring high data rates
- Not ideal for applications requiring lower latency

NB-IoT

- High battery consumption and mobility issues
- Ecosystem complexity (2G, 3G, 4G, 5G) and multiple releases
- High cost LTE roll-out for massive IoT use cases only

Zigbee

- Low transmission and network stability
- Short range
- High maintenance costs

Wi-Fi

- Limited coverage range
- Limited security
- High energy requirements

BLE

- Short connection time
- Short range
- Low bandwidth

5G

- Short range in the millimeter waves
- High cost and complex infrastructure
- Complex ecosystem (2G, 3G, 4G, 5G releases)

Deployment

COST VS. LIFESPAN

LoRa/LoRaWAN

Reduces upfront infrastructure, operating and end-node sensor costs. Overall reduced costs over time due to battery life.

NB-IoT

Reduces cost over time due to battery life. However, there is a risk that ISP giants will rack up licensing fees in the future. LTE network roll-out is not cost effective for massive only use cases.

Zigbee

Low entry cost, but maintenance, devices, etc., can increase total cost of ownership.

Wi-Fi

Requires a router, and it is recommended that routers are changed every three to four years.

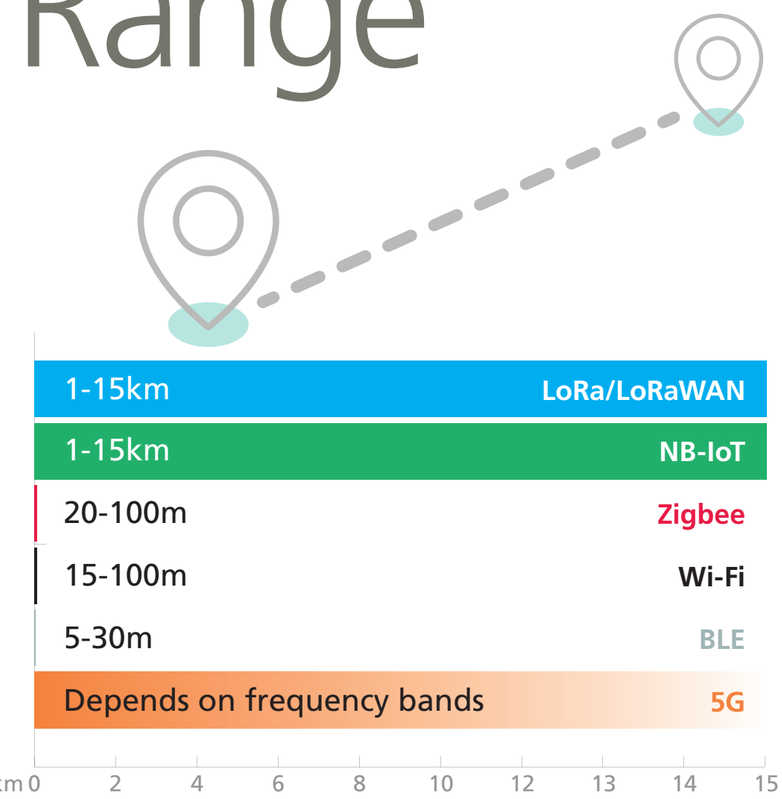
BLE

A cheaper alternative to traditional Bluetooth because it exchanges small amounts of data and has a long battery life (up to five years).

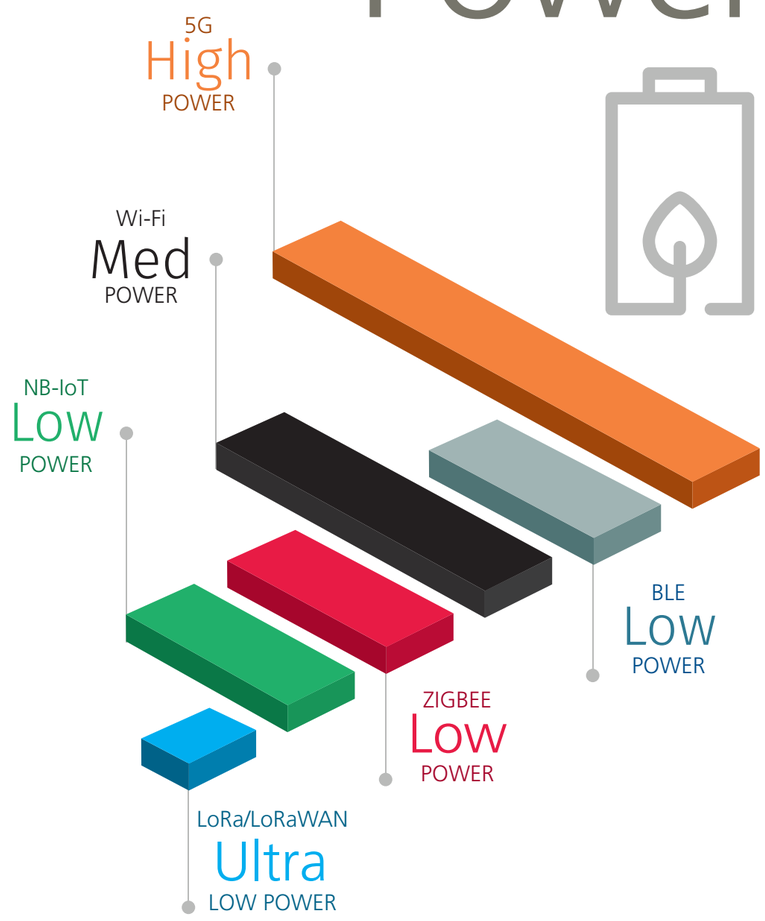
5G

5G requires high investment costs/estimated 10 year lifespan.

Range



Power



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LoRa® LoRaWAN®

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