



A mature technology connecting devices to IoT via **wireless mesh** networks

### Why IQRF®

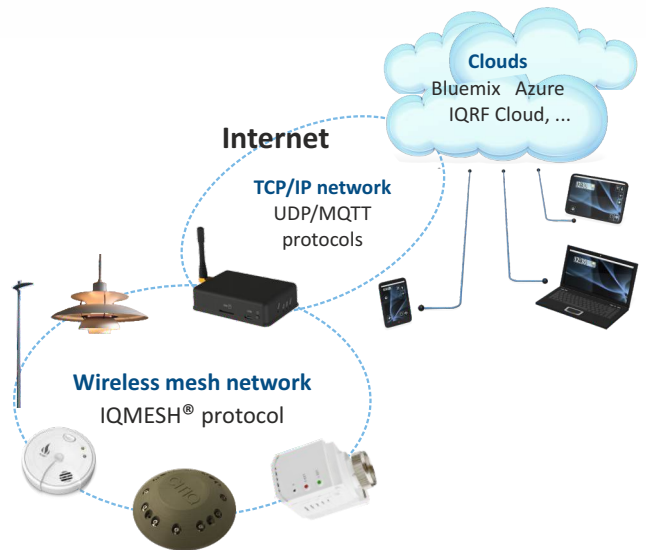
- **Simple integration** → shorter **time to market** and **lower costs**
- **Security** based on **standards** effectively protects customers
- **Interoperability** → **new business**
- **Proven** technology – real applications, thousands of projects

### Typical customers

- Typical customer is a manufacturer requesting **reliably wireless** his products and connect them to **IoT**. Simply, securely and without hidden development and maintenance costs or fees.

### Typical applications

- IQRF fits to thousands of applications and products, but excels especially in **control** applications, where **reliable** communication is a must, thus it is so popular e.g. in **street lighting**.



IQRF extends existing TCP/IP infrastructure with **bidirectional wireless low power** connectivity.

<p><b>LOW POWER</b> 4.55 nAh/B @ TX 50 nA @ sleep Years on AA battery</p>	<p><b>UP/DOWN</b> <b>Fast link</b> 20 kb/s Centralized maintenance</p>	<p><b>SECURE</b> AES-128 Encryption Based on standards</p>	<p><b>RANGE</b> 500+ m 8 mW Reasonable coverage</p>	<p><b>ROUTING</b> IQMESH® up to 240 hops Robustness + reliability</p>
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### IQRF® unique values

- **IQMESH®** routing protocol utilizing directional flooding brings outstanding network **robustness**
- **IQRF® DPA** commands (a standardizing language) assure **simple** integration and **interoperability**
- **FRC®** (Fast Response Commands) dramatically increase network throughput and reliability
- **OTA** (Over-The-Air) service enables remote centralized network management lowering maintenance costs
- **Multilayer security** based on **industrial standards** is extended by dynamic keys generation and exchange
- **Low power** with sophisticated **power management** modes
- Lots of outstanding features are **patented**

### IQRF® basic specifications

**SW:** OS + DPA + Appl. + SDK

**Band:** 433 / 868 / 916 MHz

**Network topology:** mesh

**Range (device to device):** 500+ meters

**Range (device to gateway):** tens of kilometers

**Native multihop:** 240 hops per packet

**Routing algorithm:** oriented flooding

**Security:** multilayer, AES-128, dynamic keys

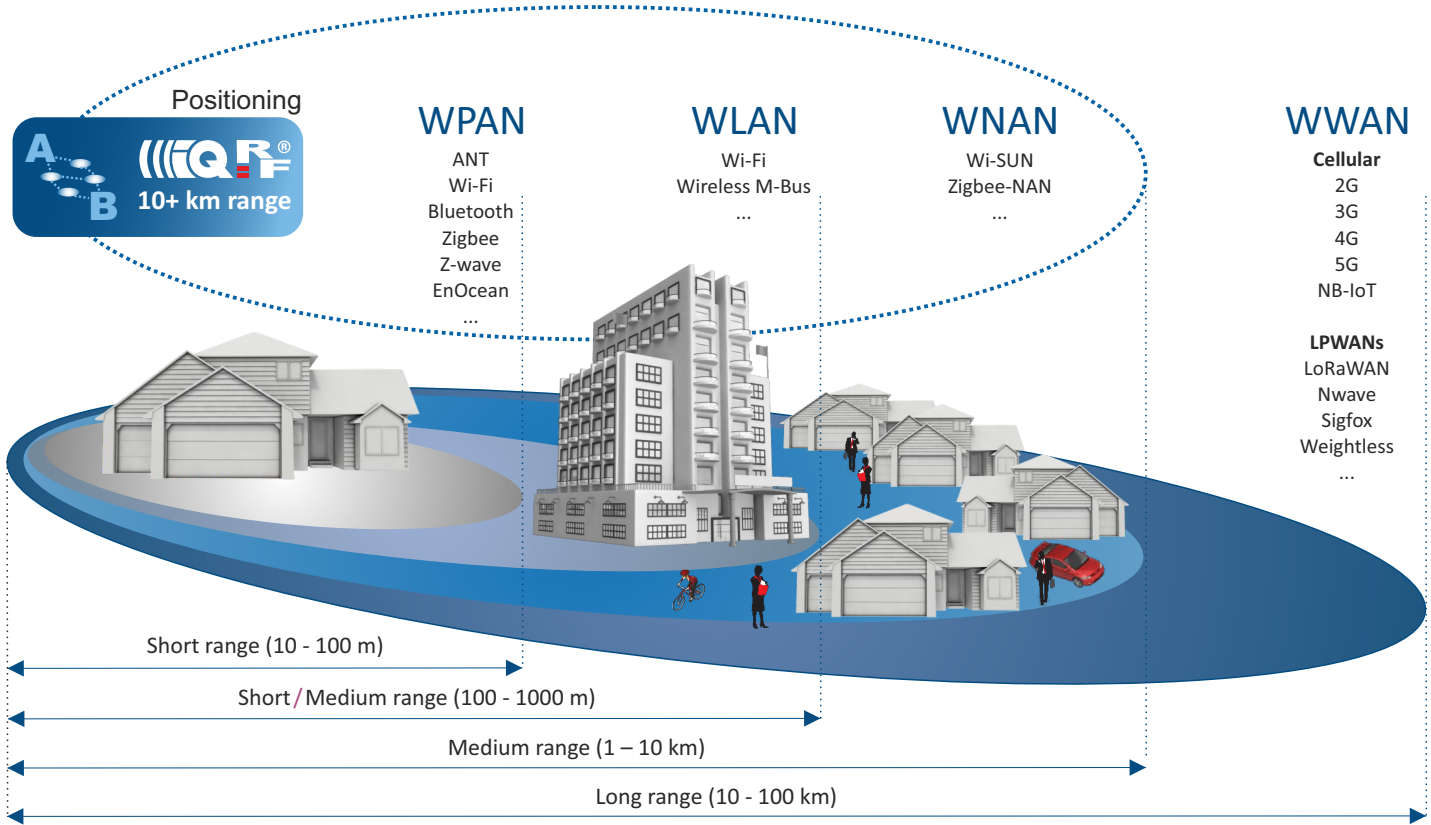
**Directionality:** bidirectional

**End devices OTA management:** for all operations needed

**Main benefit:** easy adoption / reliability

**Low power:** sensors operate over several years on a battery

With **240 hops** and **robust routing**, IQRF® is the best fit for large control applications, such as street lighting or parking, where **reliability** and **security** is a must.



Over 250,000 devices in hundreds of real significant IoT projects



Smart City

- Environment monitoring
- Smart parking
- Street lighting
- ...



Smart Building

- Indoor lighting
- Energy monitoring
- Building automation
- ...



Industry 4.0

- Heavy duty tools monitoring
- Predictive maintenance
- Devices control
- ...

IQRF Alliance

The IQRF Alliance is a team of companies and institutions building up an ecosystem of interoperable wireless devices based on the IQRF technology and related gateways, various sorts of SW, clouds, mobile apps, integration platforms etc.

IQRF Alliance helps members to find the right partners for their projects, set up IQRF Interoperability Standard and promote products and solutions of the members on international marketplace. IQRF ecosystem enables system integrators to accomplish their IoT projects quickly and cost effectively.

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MICRORISC s.r.o., the IQRF wireless technology inventor, was developing IQRF during 2004-2017. IQRF Tech s.r.o. (Ltd.) is a MICRORISC's technological spin-off and successor for all IQRF related activities with a strong, experienced and fully dedicated R&D and Sales teams.

IQRF Tech s.r.o. is the future of IQRF.

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