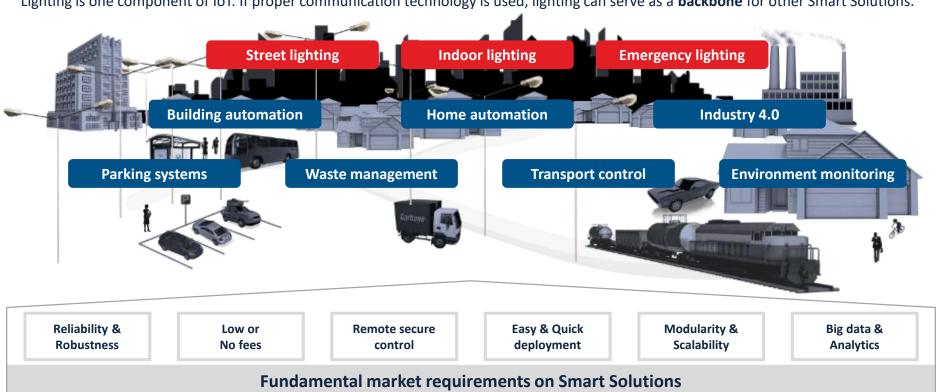




The Lighting Industry has to adapt to market needs for Smart Solutions



Lighting is one component of IoT. If proper communication technology is used, lighting can serve as a **backbone** for other Smart Solutions.



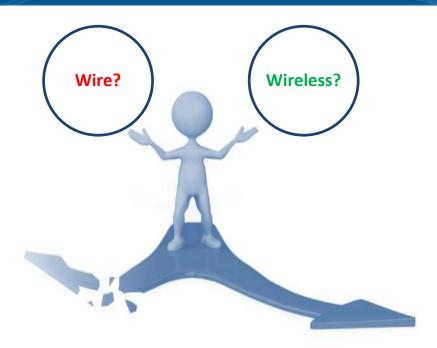
Connectivity is fundamental for "SMART" and wireless is mostly the best option





- Fast response
- Transmission capacity

- High installation costs/time
- Installation not permitted
- Reinstallation difficult
- Scalability issues





- Quick installation
- Lower installation costs
- High flexibility
- Scalable solutions



- Lower throughput
- Slower response

In the Lighting industry benefits of <u>wireless</u> technologies <u>prevails</u> significantly

Challenges for wireless











Non-fitting technology?

- Bidirectional communication not possible or not efficient
- Insufficient transmission range, speed and capacity

High operating, installment costs?

- Operating fees
- Charging per message

Technical challenges?

- Not covering "difficult" areas (deep indoor, obstacles, ...)
- Long product dev. time (on given technology)
- No remote configuration or upgrades

Technical promises vs. reality?

- Higher energy consumption than declared
- Reliability & Security issues
- Poor support

IQRF - proven technology where reliable wireless is a must





Industrial reliability

thanks to unique IQMESH® routing protocol



Simple adoption and commissioning

adding wireless connectivity to any device, OTA maintenance



Ultimate security

based on industrial standards, natively in the IQRF OS



Interoperability

integrators can easily combine all products



Technical parameters

50+km² coverage in MESH by up to 240 hops / network, up to 500 m range / hop, bidirectional network communication ~20 kbps



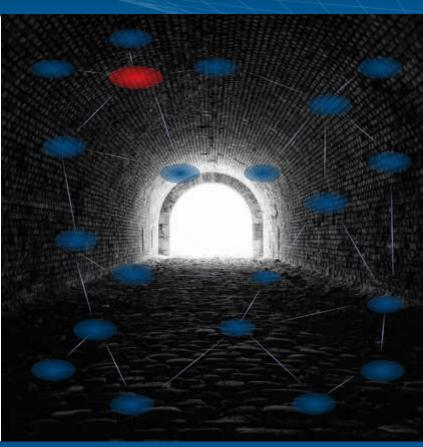
Open and fully documented

every piece of hardware or software and all protocols



Efficient costs

no operating fees, no charges per message



We provide solutions from basic connectivity up to end user services







Remote Services

Cloud computing, predictions, analyzes, recommendations, alarm messages (using partner services)

Local autonomy & connection to external systems



IQRF Gateway

Edge computing (autonomous management of local mesh network) + connection to external networks/services

Control system interface with DALI



DALI Bridge

Reasonable price, immediate connection, ultra-critical autonomous functions

Basic connectivity



IQRF Transceiver

Reliable and secure wireless connection, integration with our support

Existing IQRF interoperable applications represent further huge business potential



There is a number of <u>existing IoT solutions</u> running on the IQRF technology that could further utilize IQRF lighting infrastructure as a **backbone** which increases the **attractiveness** and **use** of the lighting solution



Industrial Solutions

Emergency & Indoor Lighting Vertical



Industrial heating & automation



Safety & Localization



Environmental monitoring



Connected tools



Smart City Solutions

Street Lighting Vertical



Safety monitoring



Traffic monitoring



Smart parking



Air-quality monitoring



Smart Building Solutions

Emergency & Indoor Lighting Vertical



Smart heating



Air-quality monitoring



Occupancy sensors



Power metering & control

Selected references – Lighting





























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