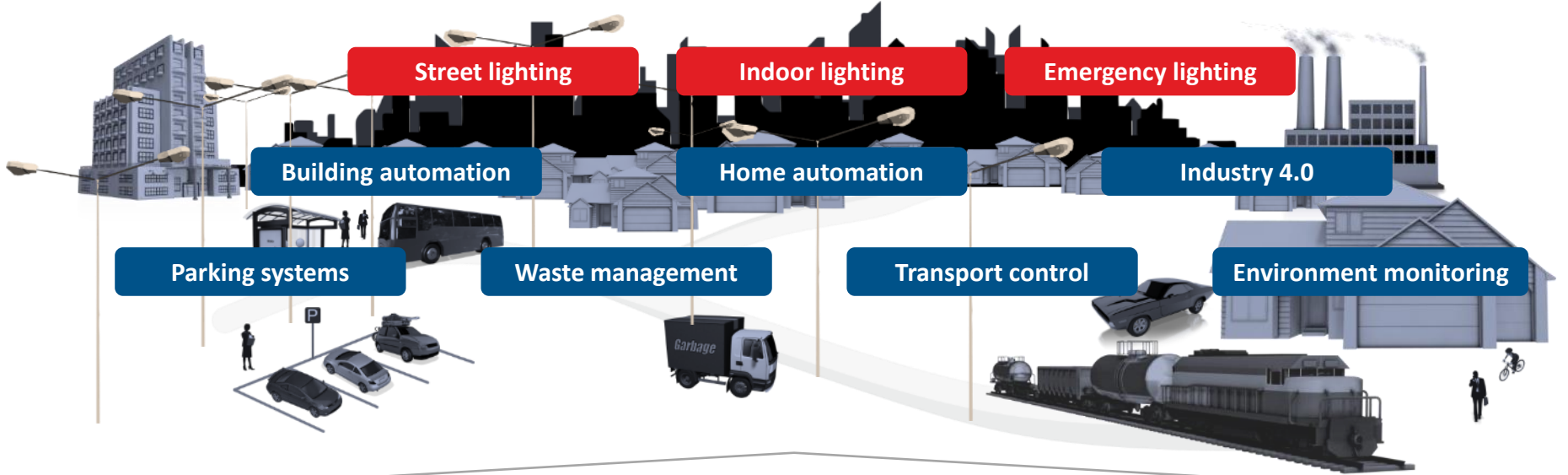# The Lighting Industry has to adapt to market needs for Smart Solutions

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

Street lighting

Indoor lighting

Emergency lighting

Building automation

Home automation

Industry 4.0

Parking systems

Waste management

Transport control

Environment monitoring

| Reliability & Robustness | Low or No fees | Remote secure control | Easy & Quick deployment | Modularity & Scalability | Big data & Analytics |

Fundamental market requirements on Smart Solutions
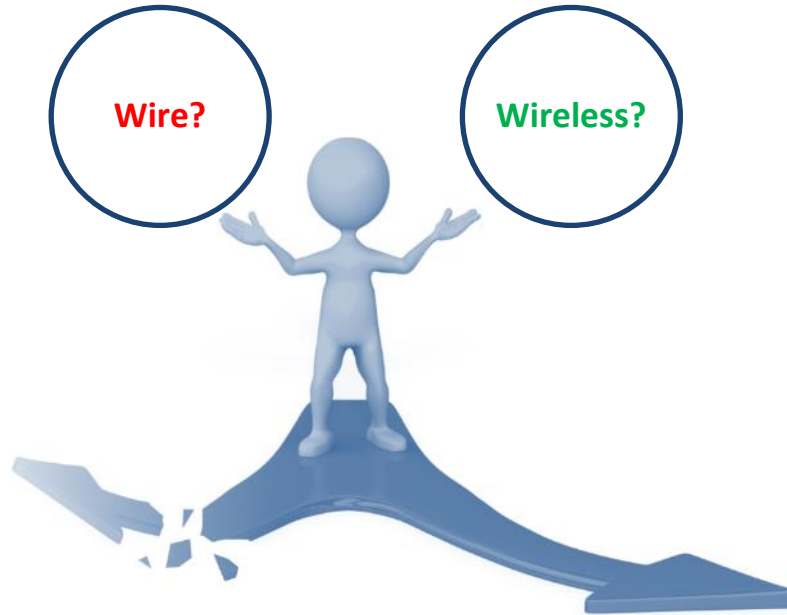
Get your lights connected. Today.

Wire?

Wireless?

+

- Fast response
- Transmission capacity

+

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

−

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

−

- Lower throughput
- Slower response

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

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+km^2 coverage in MESH by up to 240 hops / network,
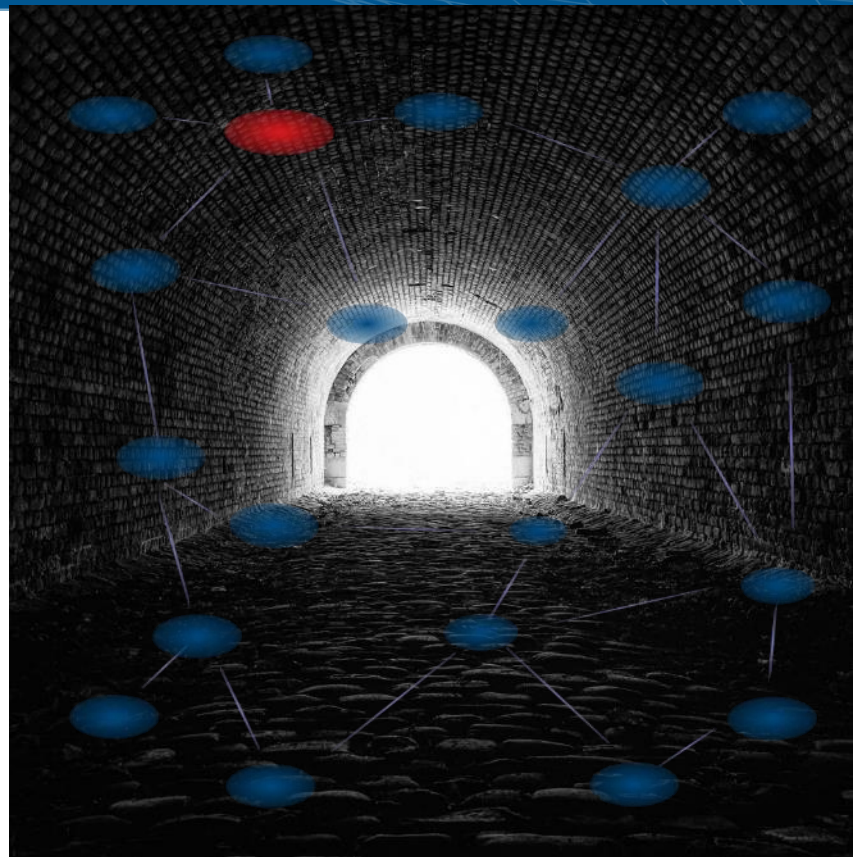up to 500 m range / hop, bidirectional network communication ~20 kbps

Open and fully documented
every piece of hardware or software and all protocols

Efficient costs
no operating fees, no charges per message

Get your lights connected. Today.

We provide solutions from basic connectivity up to end user services

Applications & Services

Storage
Data analytics
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

Get your lights connected. Today.

Existing IQRF interoperable applications represent further huge business potential

There is a number of __existing IoT solutions__ 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

Get your lights connected. Today.

Selected references – Lighting

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Contact

IQRF Tech s.r.o.

Prumyslova 1275

506 01 Jicin

Czech Republic

lighting@iqrf.com

+420 493 538 125

Learn more:
www.wirelesslighting.com