News, Visions, Values

Dr. Vladimír Šulc, CEO, IQRF Tech s.r.o. + MICRORISC s.r.o.

IQRF® is unique wireless technology simply connecting devices to IoT through wireless mesh networks.

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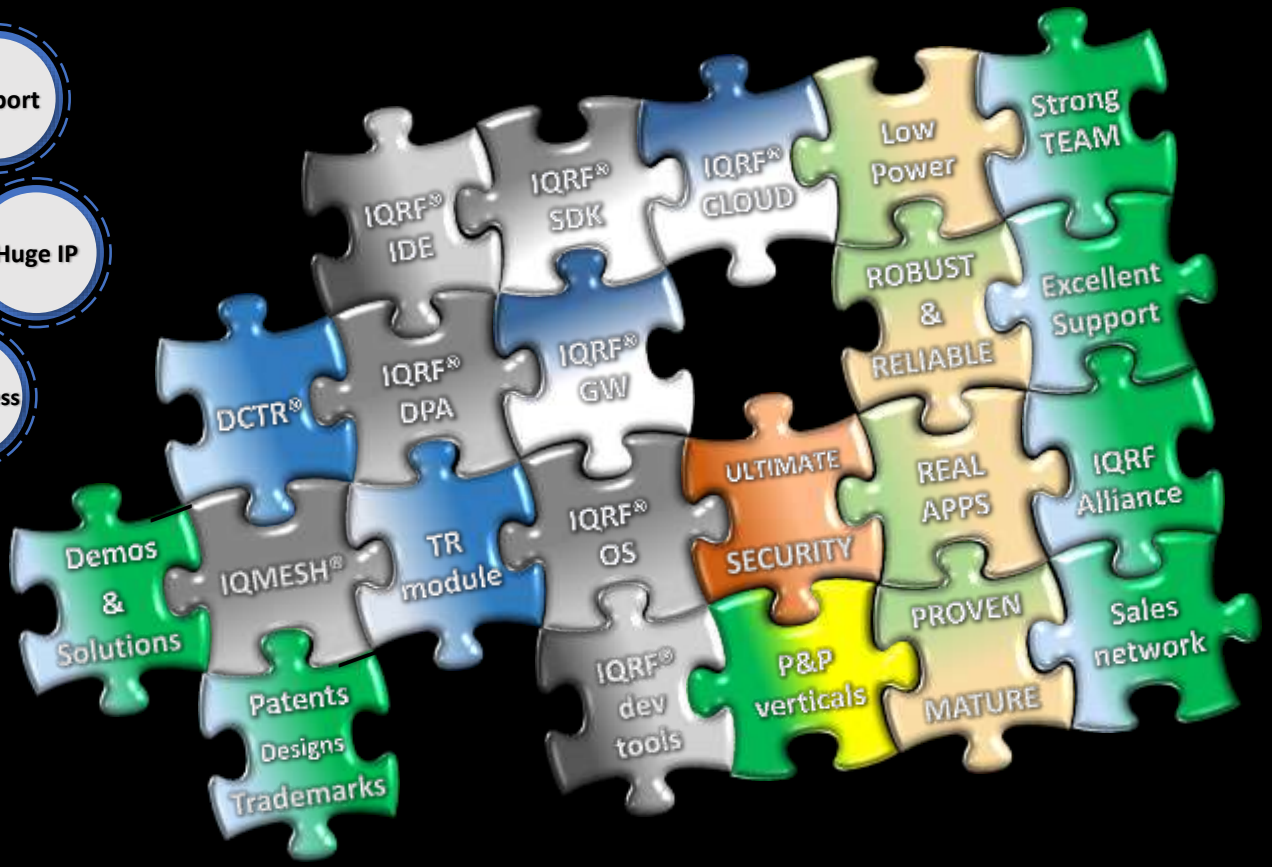


The IQRF® is growing ecosystem and horizontal platform based on a mature wireless mesh technology.

The IQRF® - unique values

IQRF® is **mature** wireless technology, which **can be easily integrated** into any electronic product by ready-to-use transceiver modules, dramatically shortening time-to-market.

Devices talking by the same language, IQRF® DPA commands, are fully interoperable.

IQRF® is complementary to standards (cellular, WiFi, Ethernet), deploying existing communication infrastructures, enabling local autonomy in wireless mesh networks.

IQMESH® FRC®
DCTR® HWP DPA
IQRF Smart Connect™
True Low Power™

SECURE
SECURE
SECURE
Based on standards
+ security extensions

SIMPLE, SECURE, INTEROPERABLE

reasonable speed
& bidirectional

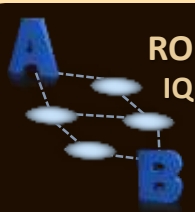
control + centralized maintenance
OTA management + reliability

LOW POWER

4.55 nAh/B
<< LPWAN

500+ m

reasonable coverage
outdoor + indoor



ROUTING
IQMESH®

reliability + robustness
+ deeper indoor

The IQRF® positioning

ANT
Wi-Fi
Bluetooth
Zigbee
Z-wave
EnOcean
WPAN

Wi-Fi
Wireless M-Bus
WLAN

Wi-SUN
Zigbee-NAN
WNAN

5G
4G
3G
2G
WWAN
LoRaWAN
Nwave
Sigfox
NB-IoT
Weightless

Short range (10 - 100 m)

Short/Medium range (100 - 1000 m)

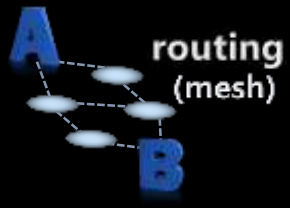
Medium range (1 – 10 km)

Long range (10 - 100 km)

The IQRF® is growing ecosystem and horizontal platform based on a mature wireless mesh technology.

Challenges for (wireless) mesh
beauty of IQMESH® approach

reasonable coverage



extends range and coverage
reliability + robustness

ROUTING

AODV,
TPMS,
VECTOR,
...

IQMESH®

fast data aggregation
network maintenance

uniqueness

FRC®

2004 - 2017

Sponsor
Devices manufacturer

MICRORISC s.r.o.

95 %

2017 -

IP related to the IQRF®
IQRF® Core Infrastructure development

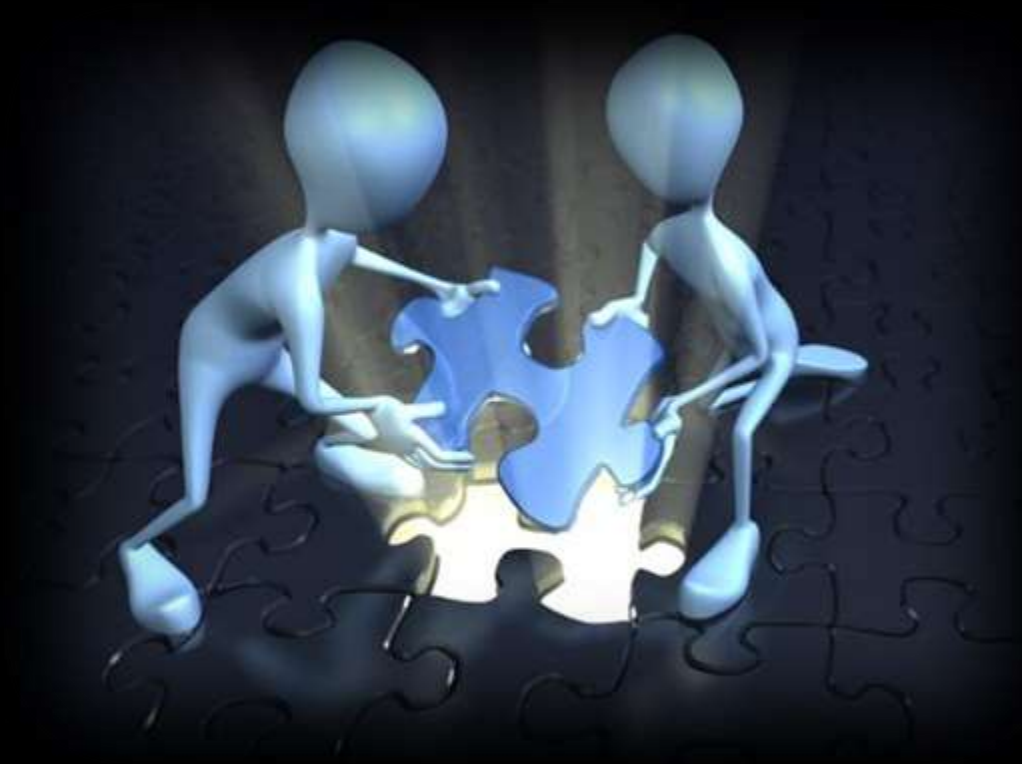
IQRF Tech s.r.o.

2014 -

Interoperability
Community

IQRF Alliance z.s.

What we have prepared for you?



IQRF Tech s.r.o.

Simple.
Secure.
Interoperable.

IQRF® Core Infrastructure

Industrial gateway

IQRF® Daemon + SDK

Dedicated repeater

Commercial gateway

IQRF® IC

IQRF® IDE

IQRF® HWPs

IQRF® OS

Data Controlled Transceiver

IQRF ZONE

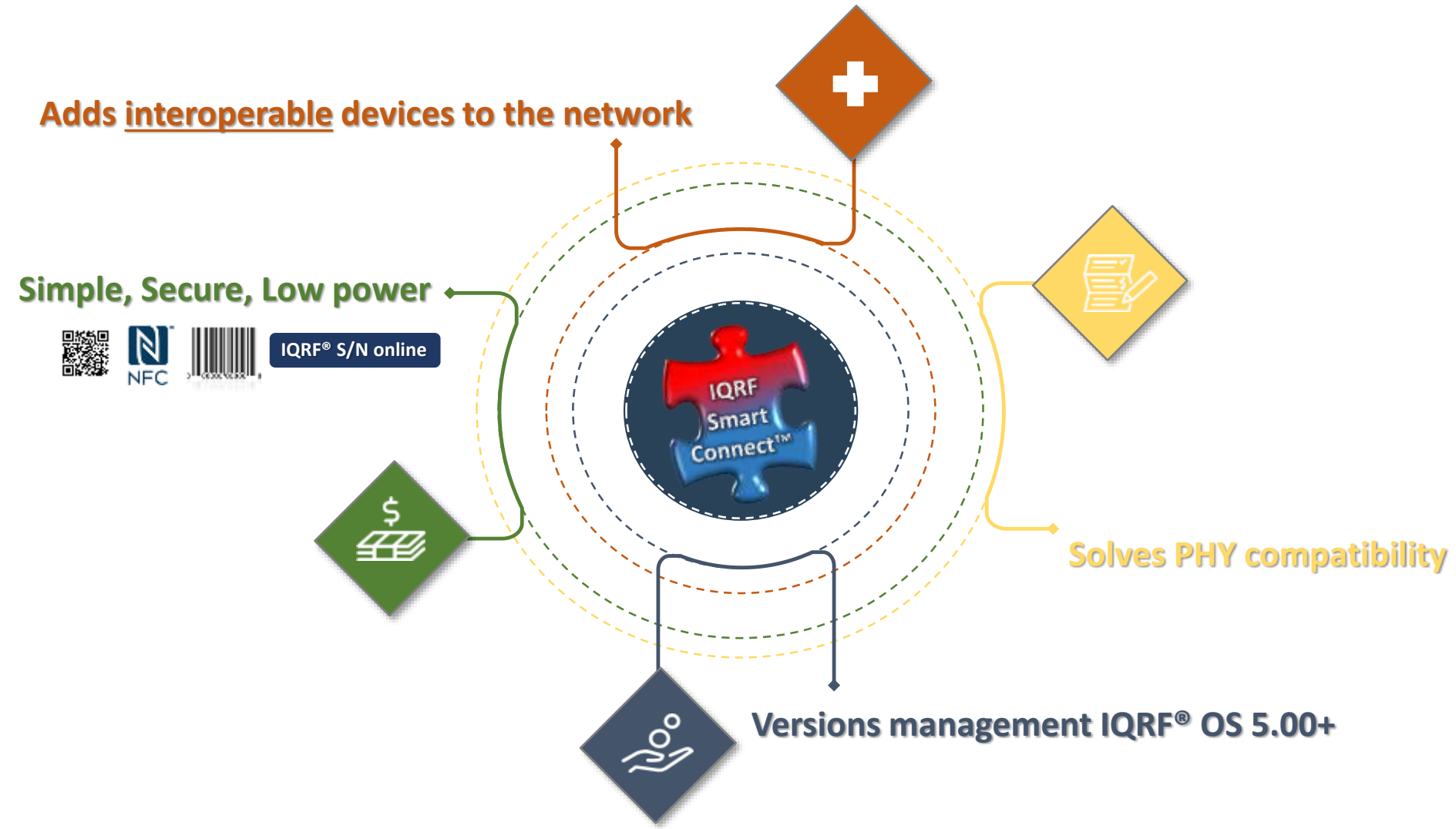
wireless mesh technology for IoT

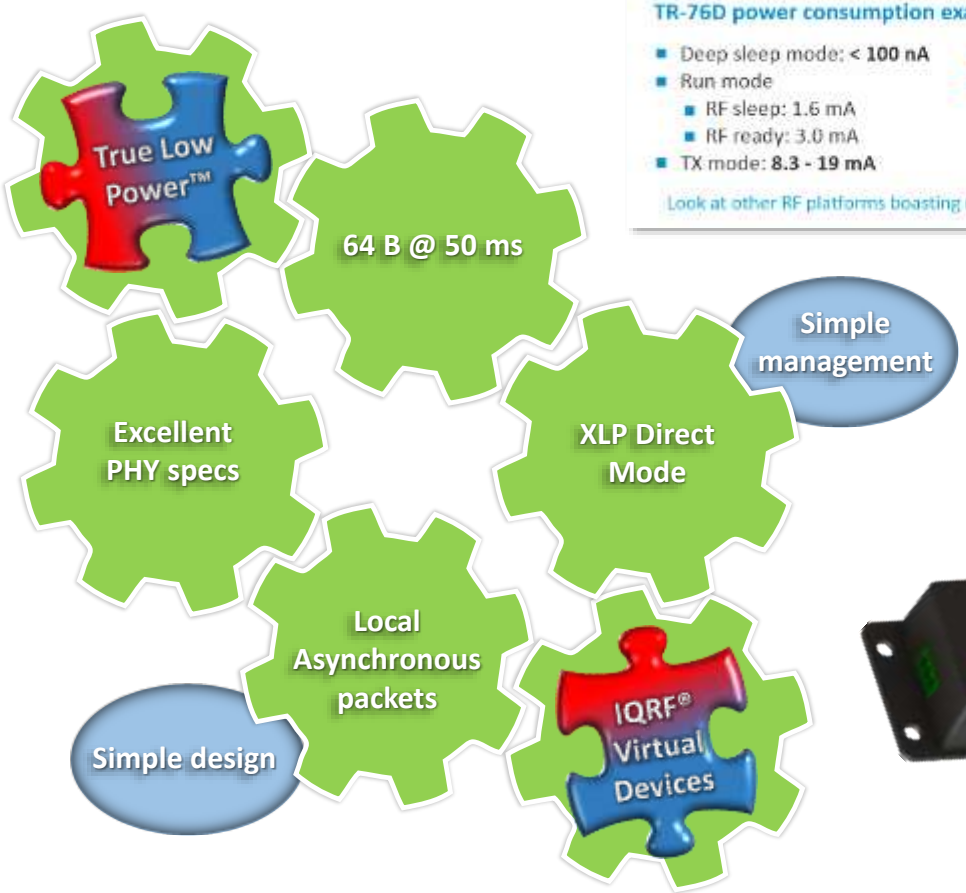
The IQRF® is growing ecosystem and horizontal platform based on a mature wireless mesh technology.

New pieces making your life nicer

Simple.
Secure.
Interoperable.

IQRF Summit 2017


Adds interoperable devices to the network
Simple, Secure, Low power
NFC
IQRF® S/N online
IQRF Smart Connect™
Solves PHY compatibility
Versions management IQRF® OS 5.00+



TR-76D power consumption example

- Deep sleep mode: **< 100 nA**
- Run mode
  - RF sleep: 1.6 mA
  - RF ready: 3.0 mA
- TX mode: **8.3 - 19 mA**
- Sleep mode: **< 1 µA**
- RX mode
  - STD: 12.3 mA
  - LP: **233 µA**
  - XLP: **15 µA**

Look at other RF platforms boasting ultra / extra low power.

IQRF **lifetime** * for 1 Ah, 3.6 V, ½ AA sized battery:

- **1000 years** in Deep **sleep**
- **7 years** continually **receiving** in XLP **
- **300 MB** data **received**
- **200 MB** data **transmitted** (at highest RF output power)

* *Theoretical values*

** *Without an incoming RF signal including a noise*

Controllers

- Normally sleeping device, activated by user
- Life expectancy: years
- **True life expectancy: >100.000 events**

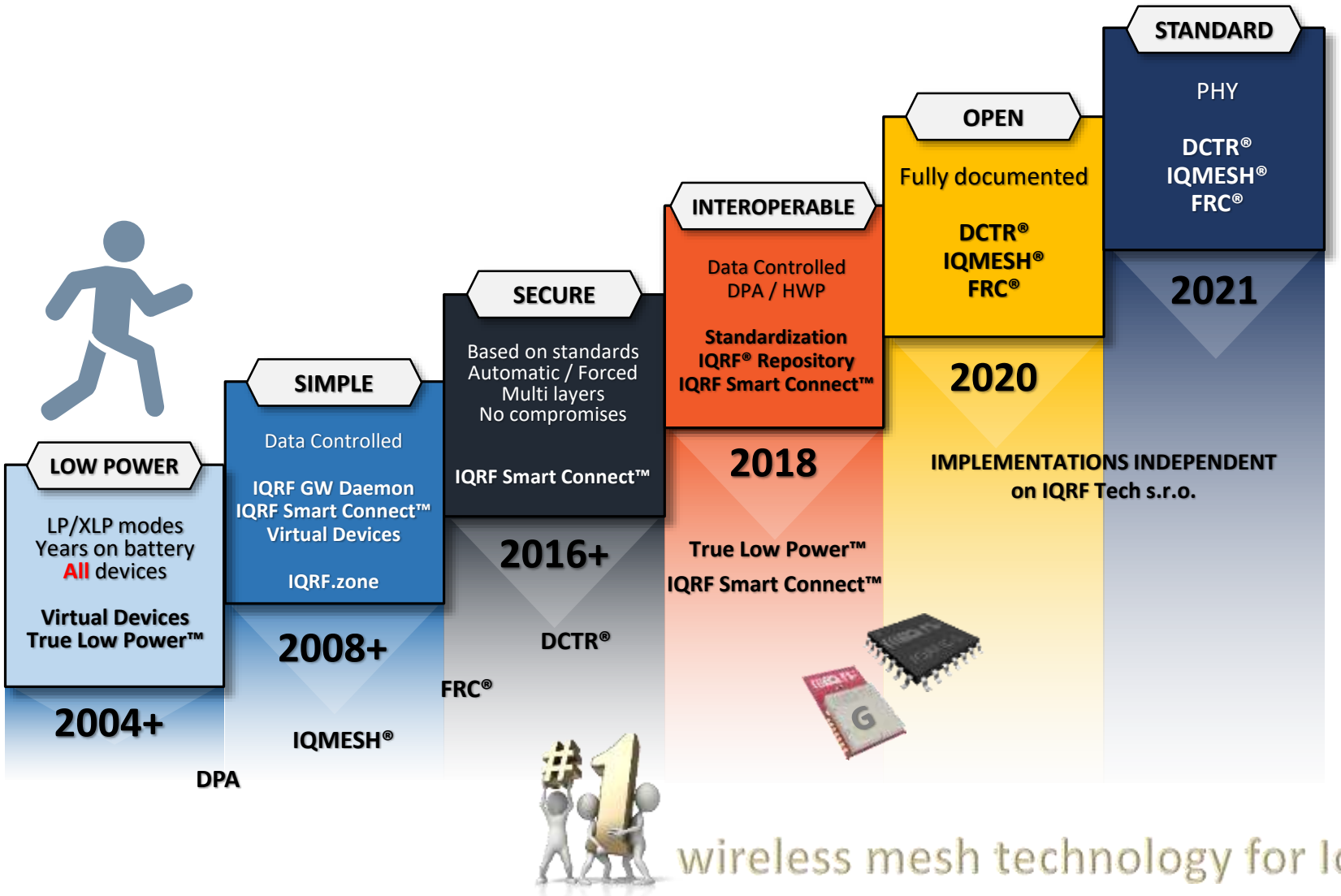
Actuators

- Battery operated device processing commands
- **True life expectancy: years being online**

Sensors

- Sending data when needed
- Life expectancy: years
- **True life expectancy: >100.000 events**

Where are we going to?



IQRF Summit 2018: real solutions and clear visions