



Alliance

IQRF

Wireless mesh technology, ecosystem and alliance
for robust and reliable IoT solutions



Šimon Chudoba

IQRF Alliance, CEO, simon.chudoba@iqrfalliance.org, (0) 7936 365 298

Sponsor



Contributors



Adopters



110+ members

20+ countries

Institutions



The biggest IoT community in CEE



Alliance

Ecosystem



Open Ecosystem



Alliance

Clouds & Services



↑ HTTPS / MQTT / WebSocket ↓
JSON format

Gateways



↑ IQRF DPA ↓

End Devices





Alliance

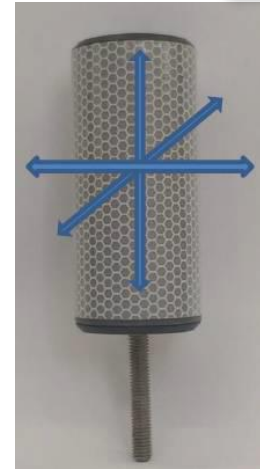
Realized Projects



Save lives with railway embankments monitoring



Alliance



Over **10,000**
sensors located
along the length
of the railway

Over **5**
years on battery
for wireless
sensors work

?
of lives saved
thanks to early
warning



1

Austyn Global
Supervisor system for
control

Over

500

infrared heaters
controlled by the IQRF
network

Over

1.8

MW of input
power for
infrared heaters



Over **300**
street lights
installed and
controlled

0
problems
since the first
day of the run

Over **50%**
cost savings
thanks to the modern
technology



70%

of energy savings
thanks to efficient
control and LEDs

Over

100%

of lights in production
hall remotely controlled
and monitored

Over

3

years of
return on
investment



1

reservation system
controlling
heating

9

floors with rooms
in a hotel
controlled

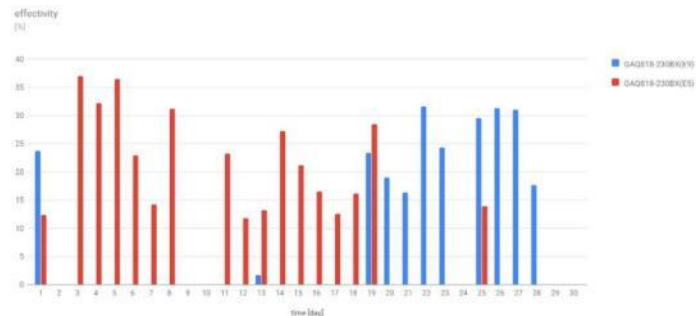
Over **180**

electronic digital
thermostatic
heads installed

Wireless pneumatic grinding tools



Alliance



DEPRAG
DEPRAG CZ a.s., Lázně Bělohrad

100%

connected to Industry 4.0 with full systém control

0

no need for external electricity

Over **1000**

of euros possible savings with maintenance recommendations

Over **100**

meters wireless range in open spaces

Wireless control of 1.5 MW turbine blades



Alliance



2

transceivers in every rotor for redundancy and higher reliability

Over

4

years trouble-free operation

Over

40

systems equipped with this control

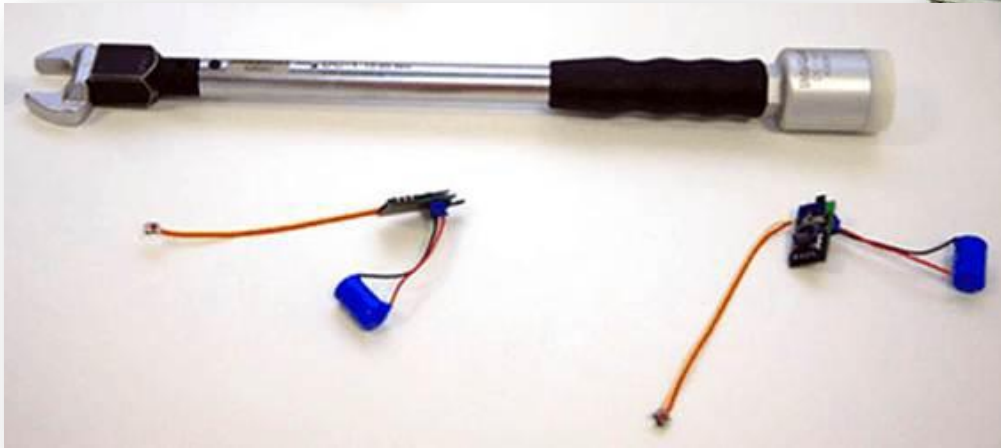
2

different RD channels

Wireless torque wrenches in Skoda Auto production



Alliance



Over

300

Torque wrenches
operate in a field

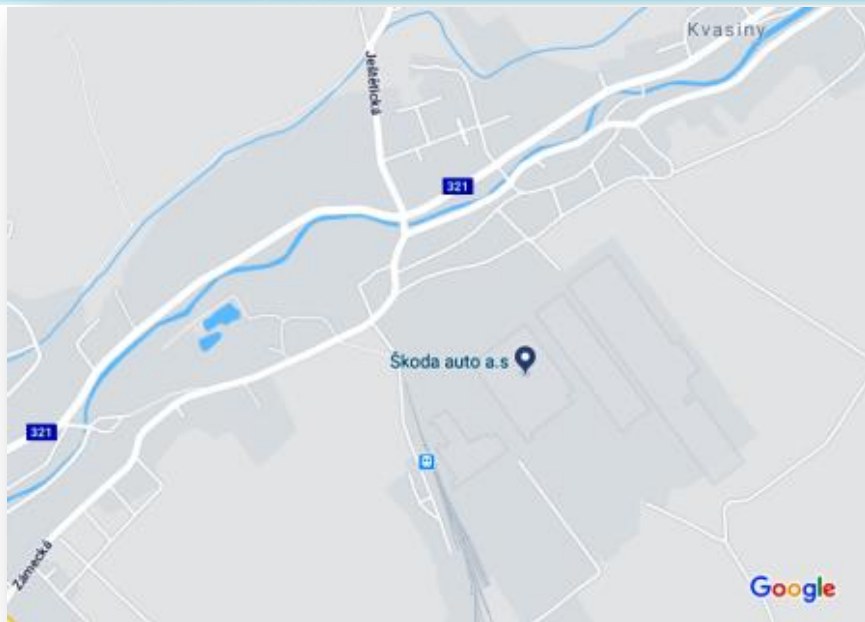
Over

8

years of proven
functionality

?

kilometers of expensive
and impractical wires
spared



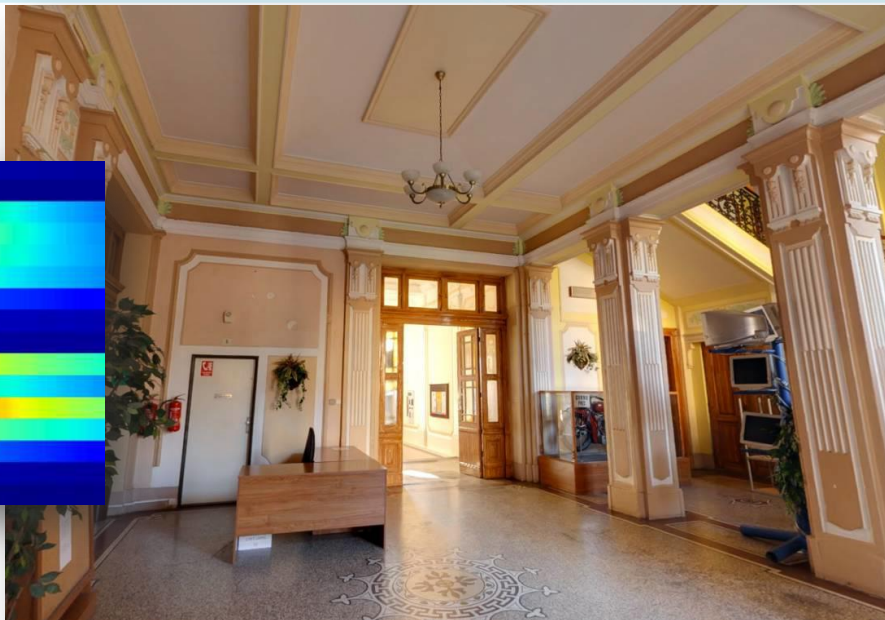
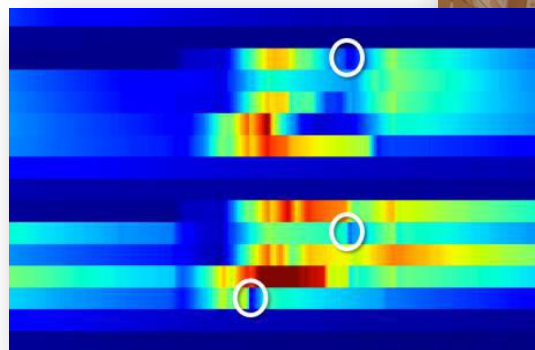
CITIQR

Over **80**
parking
detectors
in parking lots

Over **140**
traffic flow
detectors
in adjacent villages

8000
employees per day
navigated to an empty
parking place

Up to **10**
years on battery
thanks to extra low
power communication



4

months of
continuous
measurement

10

combined sensors
of CO₂, temperature
and relative humidity

Over **74%**

of the schooltime
dry air
(RH<30%)

Over **47%**

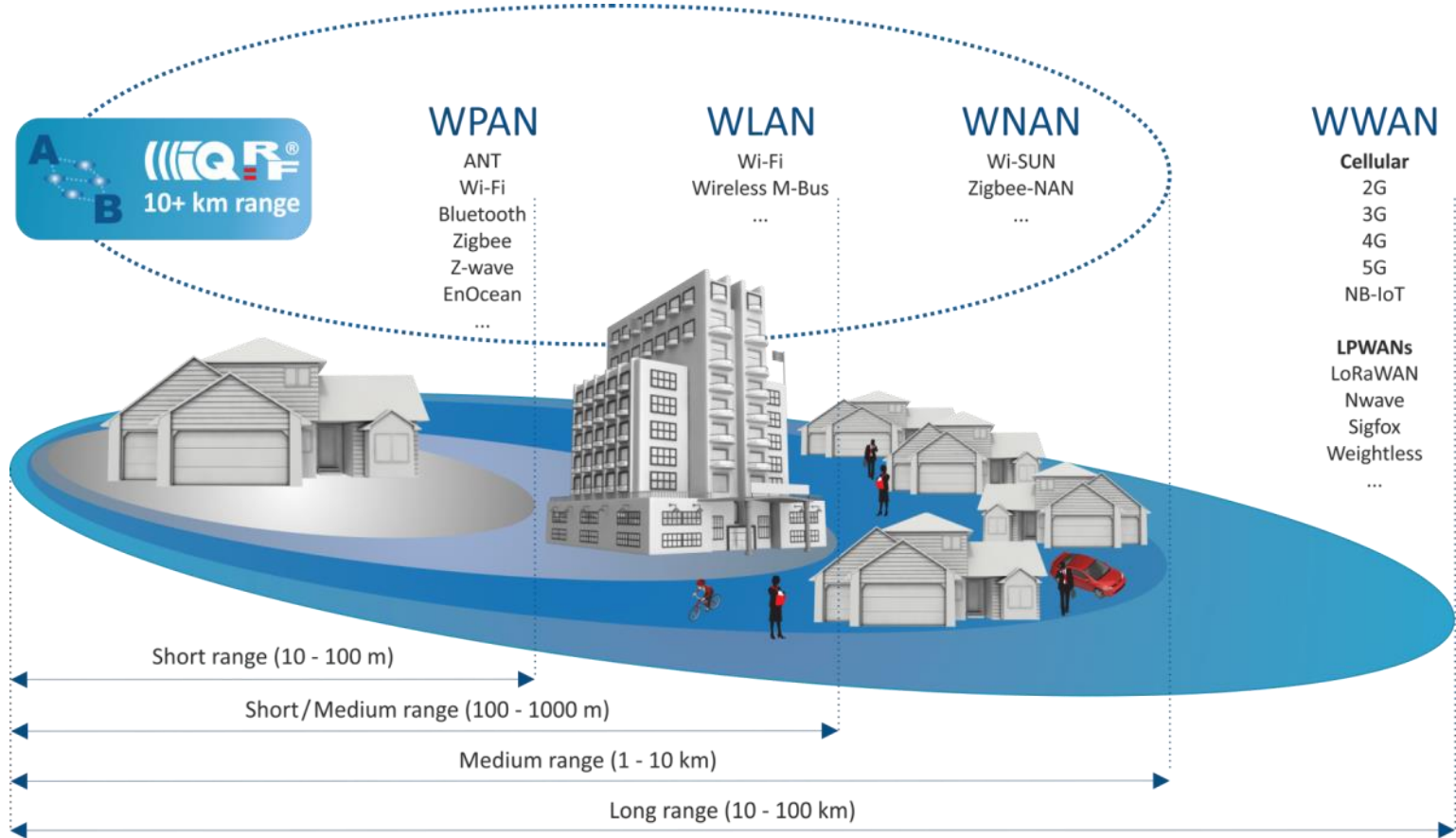
of the school-time
a bad-quality air
high CO₂ (>1000 ppm)



Alliance

IQRF Technology



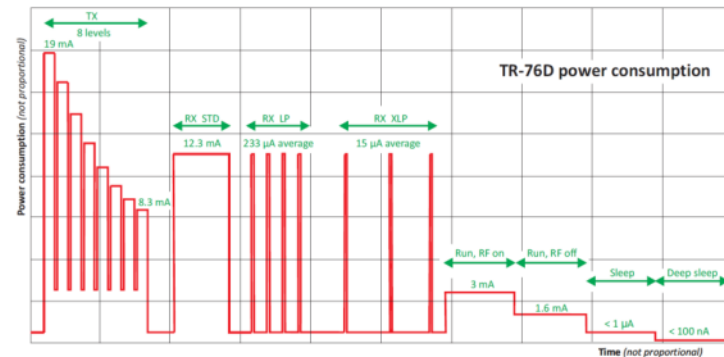


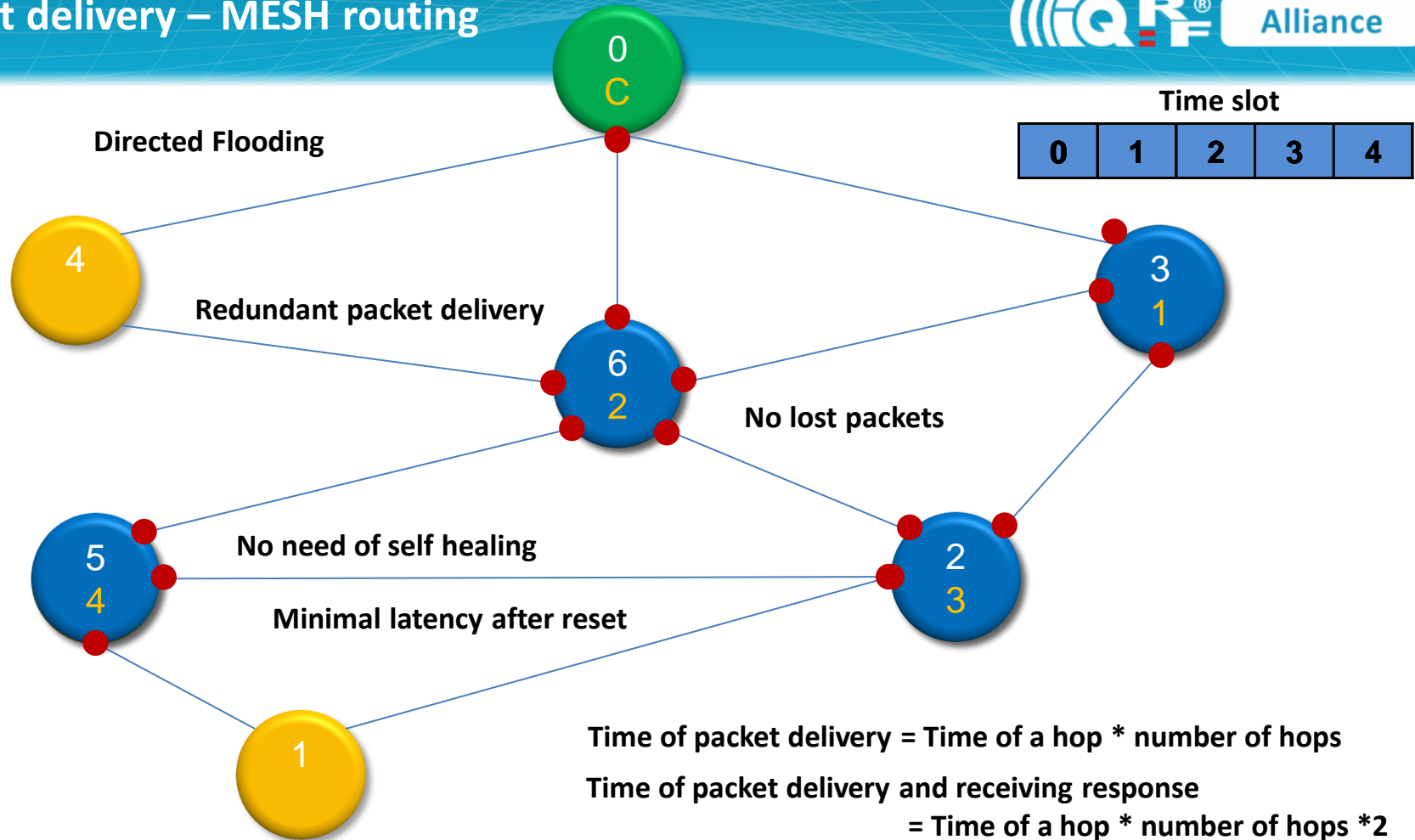
IQRF Technology – Basic features



- **Bands** 868, 916, 433 MHz
- **Topology** full mesh with 240 hops (used in real applications), 239 nodes
- **References** mature technology, on the market since 2008
- **Protocol** IQMESH[®], patented directed flooding networking, secure communication, redundant packet deliver, no need for self healing, no latency after reset, etc.
- **Data** 20 kBauds, up to 64 B in 1 packet
- **Range** 500m+ line of sight @ 12 mW
- **Power consumption**

| | |
|----------------------|-------------|
| Standard RX | 12.3 mA |
| Low Power RX | 233 μ A |
| Sleep with watch dog | 2 μ A |
| Deep sleep | 100 nA |

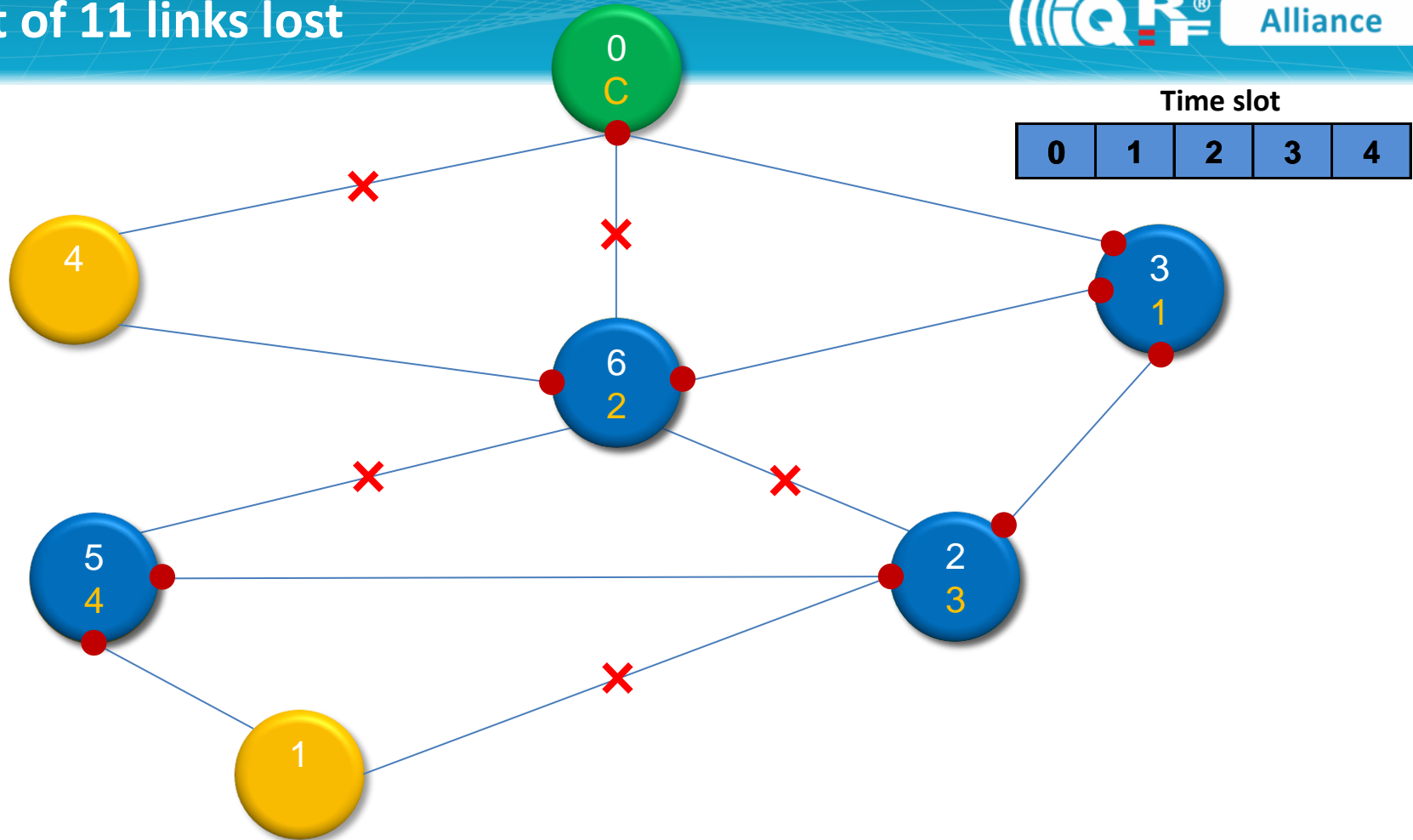




5 out of 11 links lost



Alliance





Alliance

IQRF Meetup UK 2019

November 27th, 2019
IBM Client Center, London, UK





- **IQRF Alliance** www.iqrfalliance.org
- **IQRF Technology** www.iqrf.org
- **IQRF Summit** <http://iqrfsummit.org/>
- **IQRF Shop** <https://iqrf.shop/>