



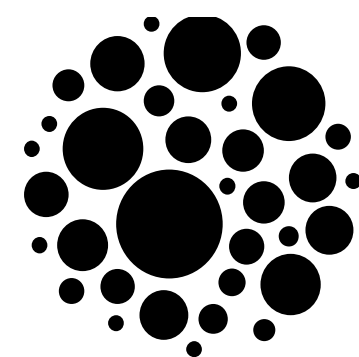
CELTIC EUROOGIA

Online Proposers Day

15th & 16th September 2020

Pitch of the Project Proposal

(USWA) Ultra Scalable Wireless Access



WIREPAS

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Challenge



For future Digitalization, it vital that wireless systems are:

- *Easy to deploy by anyone and anywhere.*
- *Support different system architectures and network topologies.*
- *Futuristic scale in terms density, network size enables “sensor dust”, and low latencies.*
- *Open for new innovative products without significant legacy.*
- *Open for futuristic research to develop co-operative radio use cases and spectrum usage.*

We believe that distributed wireless systems will play important role for future Digitalization.

WIREPAS

Wirepas' mission is to **scale up global efficiency, safety and sustainability** by developing scalable and economical wireless connectivity IPs. Wirepas focus on **mesh stack software**, related utility and value add software, end-to-end references and partner ecosystem.

CONNECTIVITY

Most reliable, optimized, scalable and simple to use connectivity for massive IoT.

SOFTWARE

Mesh Software makes any wireless IoT device to be access point for other devices.

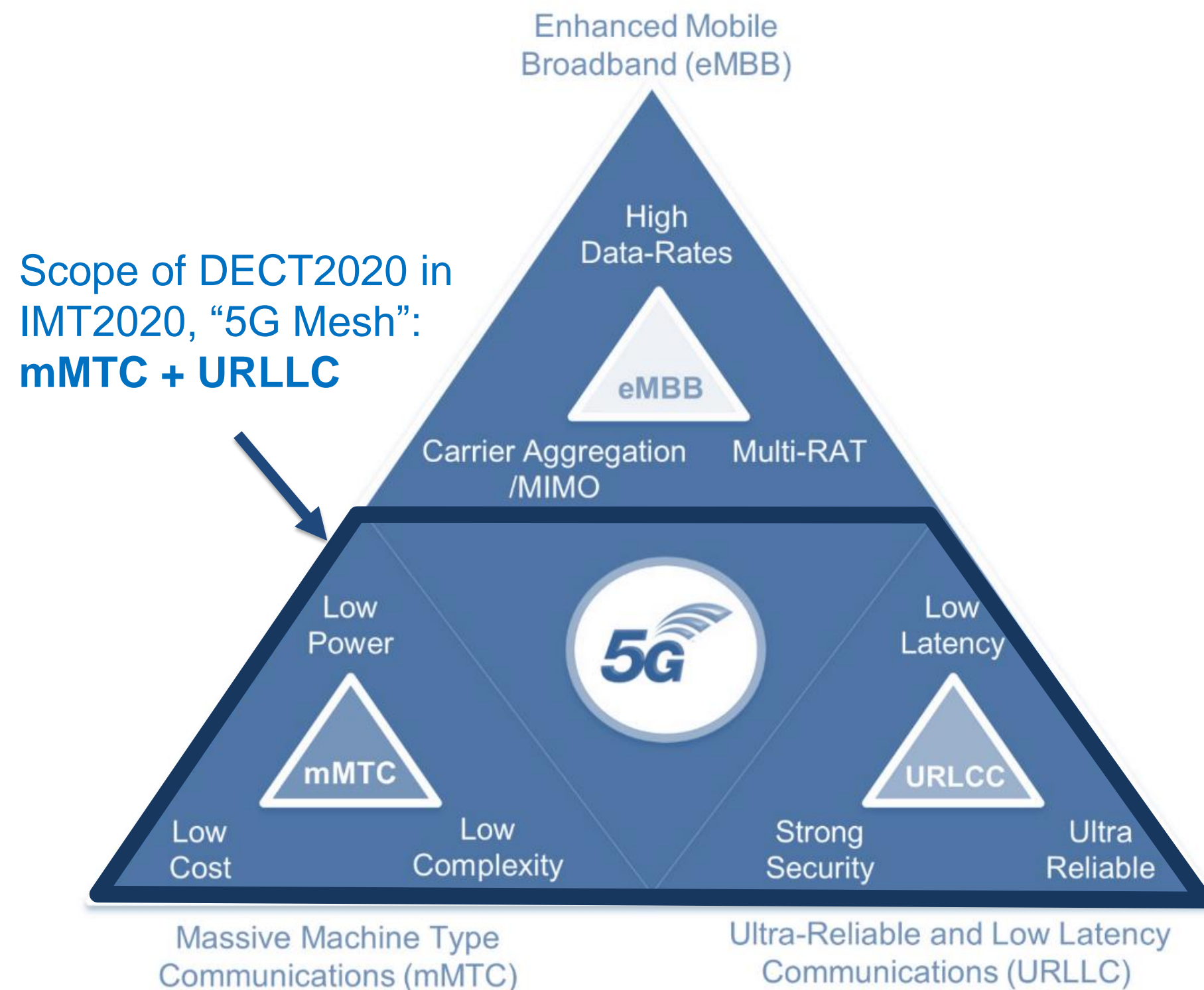
LARGE SCALE

Optimized for large scale deployments by providing lowest cost of ownership.

ECOSYSTEM

Ecosystem partners build hardware and turn-key solutions for end customers.

New Playground!



Established standardization process:

First DECT-2020 Radio Interface Standards released June 2020 by ETSI.

Designed to support distributed wireless systems

Support for Mesh, local deployments, spectrum sharing

Wider global adoption underway:

To be approved by ITU-R as part of IMT-2020 technology family during 2021 complementing 3GPP solutions.

Opportunity to revitalize European technology:

Strong support from various industry sectors and European Administrations*

New innovation opportunities:

New Radio Interface Technology for chipset vendors, protocol developers, product developers and universities.

Differentiate with business case, make impact and nurture digitalization business in Europe

**Logistics, Industry4.0, Energy, Lightning, Professional Audio*

Technology Basics



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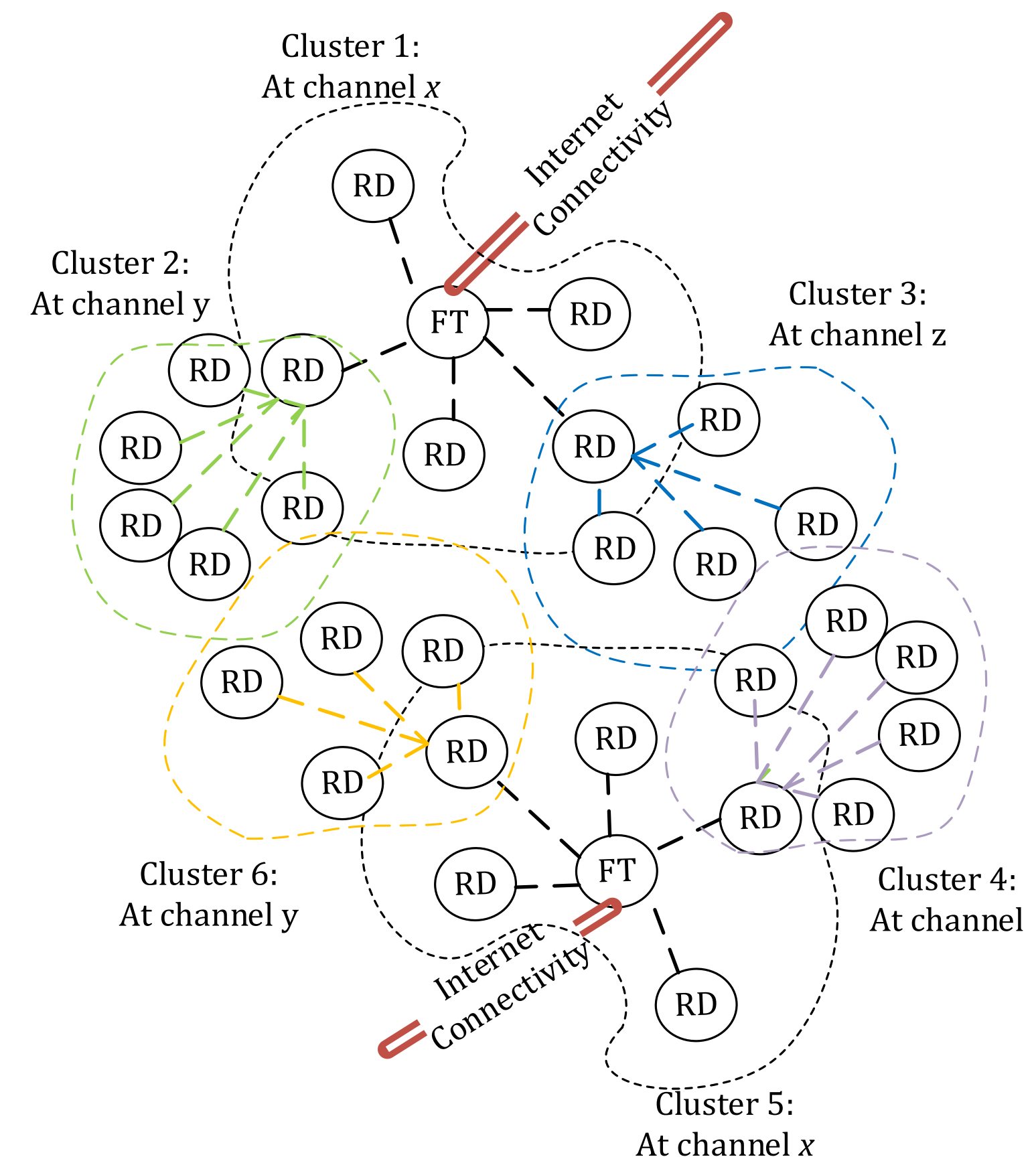
eurogia²⁰²⁰

Supported system architectures:

- Mesh network topology
- Point-to-Point and Point-to-Multipoint Links
- Local Area Wireless Access Networks in Cellular Network Topology

Radio Interface Design

- Symmetric OFDM radio with scalable numerology
- TDD with operating BW between 1.728 MHz and 221.184 MHz
- Data rates from ~1 Mbps to 1.3 Gbps with single stream depending on BW
- MIMO up to 8 streams and beamforming
- HARQ with adaptive modulation and coding.
- Technology specific band on 1.9 GHz, support for IMT-2020 and ISM bands below 6 GHz.
- Scheduled and contention-based (with LBT) access.
- Network Co-existing and interference avoidance features inbuild.
- Massive scale with up to 4.2 billion devices in single network
- AES128 for ciphering and integrity protection



Collaboration



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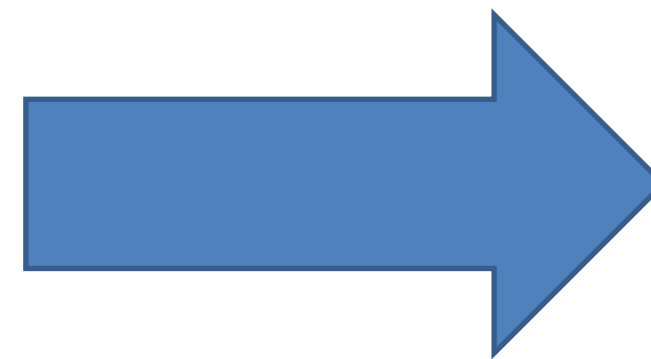
Proposal brings many new opportunities for:

New chipset designs

Radio algorithm research development

Wireless protocol implementations

System analysis of different networks topologies



Results will be:

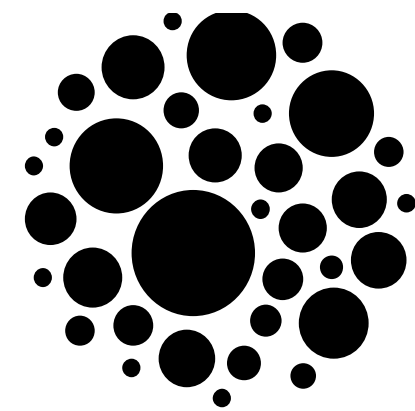
Publications & Thesis & Collaboration

Proof of Concept implementation(s)

Set of totally new innovative products driven by market and end user needs.

Standardization collaboration for Release 2 and 3.

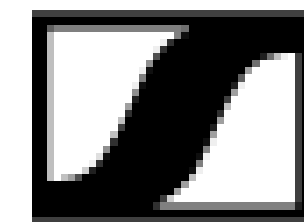
Partners



WIREPAS
Finland & France



Tampere University
Tampere University of Applied Sciences
Finland



SENNHEISER
Germany

Call for interested new partners to join!

Contact Info



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18 Sept. 10.00 CET

Join the follow-up Telco

[Join Webex meeting](#)

Meeting number (access code): **163 907 7802**

Meeting password: **PfW6HZ4ckZ5**

Join by phone

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