ETSI ISG F5G: looking for a coherent evolution of fixed network

Luca Pesando

TIM

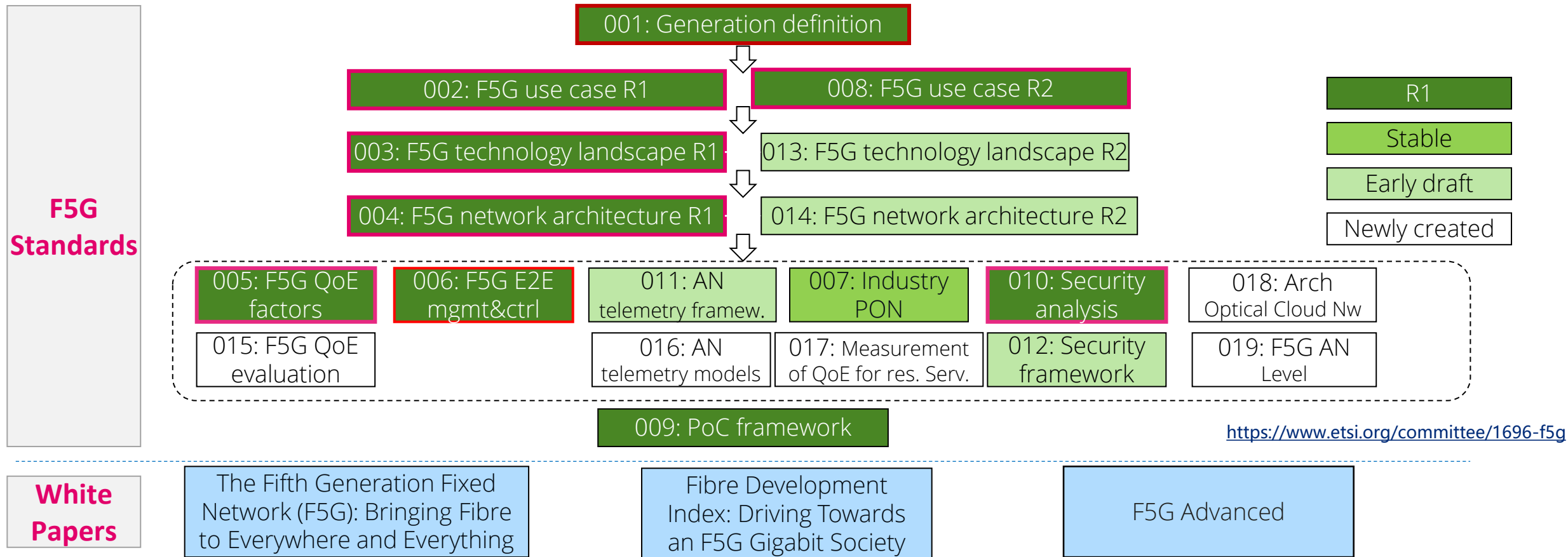ETSI ISG F5G Chair

ETSI Board member

October 19 2022

Agenda
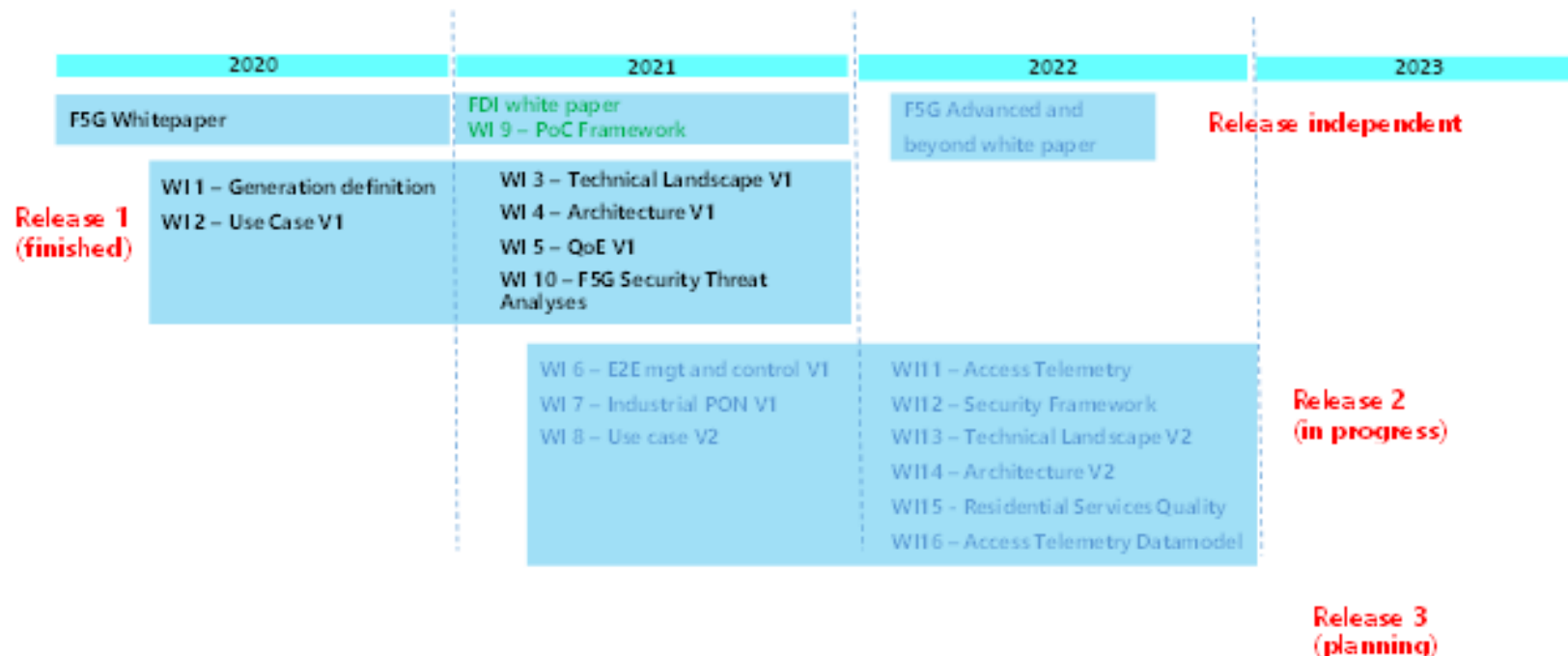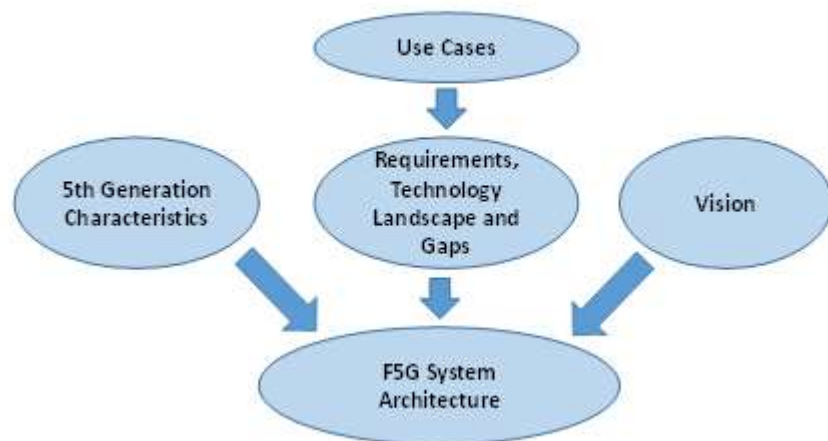
- ETSI ISG F5G: a first successful mandate
- A snapshot through the use cases
- What to do next

ISG F5G Standards overview

F5G Standards

001: Generation definition

002: F5G use case R1 → 008: F5G use case R2

003: F5G technology landscape R1 → 013: F5G technology landscape R2

004: F5G network architecture R1 → 014: F5G network architecture R2

005: F5G QoE factors
006: F5G E2E mgmt&ctrl
011: AN telemetry framew.
007: Industry PON
010: Security analysis
018: Arch Optical Cloud Nw

015: F5G QoE evaluation
016: AN telemetry models
017: Measurement of QoE for res. Serv.
012: Security framework
019: F5G AN Level

009: PoC framework

Legend:
- R1
- Stable
- Early draft
- Newly created

https://www.etsi.org/committee/1696-f5g

White Papers

The Fifth Generation Fixed Network (F5G): Bringing Fibre to Everywhere and Everything

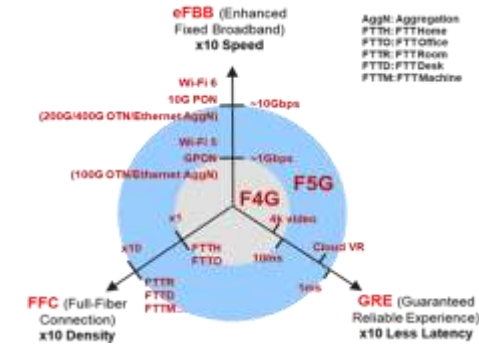Fibre Development Index: Driving Towards an F5G Gigabit Society

F5G Advanced

First release of specifications completed by the end of 2021;
R2 in progress, based on the set of 18 Use Cases (added to the previous 13, that are the input for requirements and the evolution of the architecture …

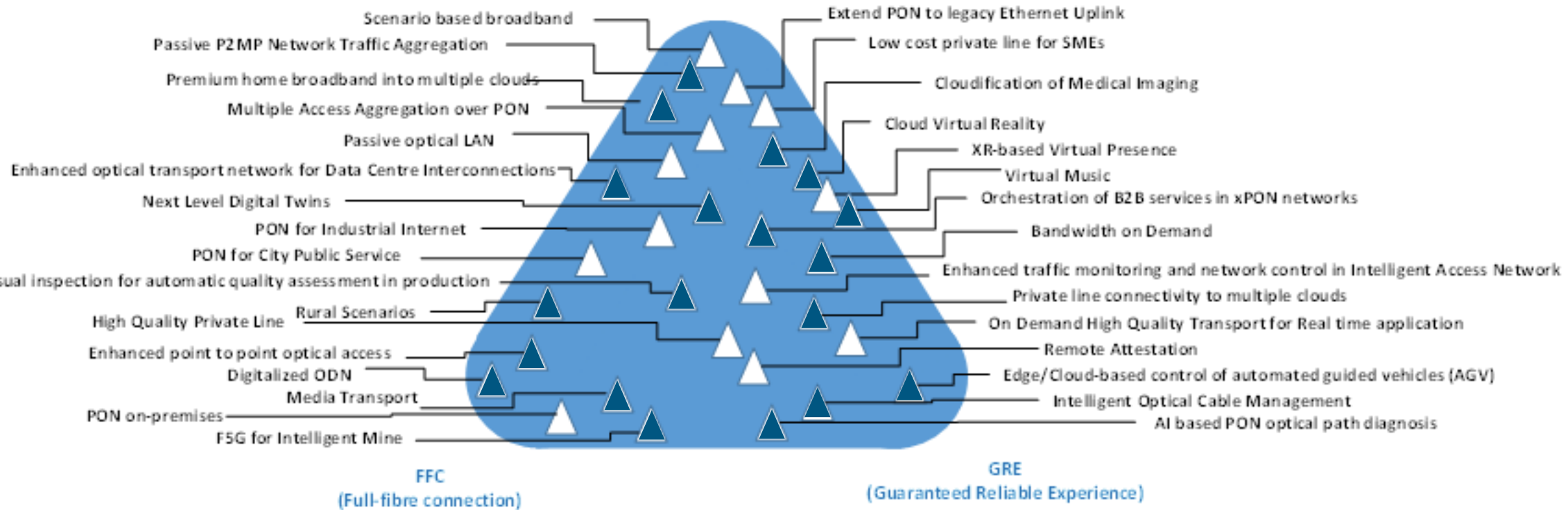# ISG F5G: a first release of specifications and the planned work

- ETSI GR F5G 001 V1.1.1 Fifth Generation Fixed Network (F5G); F5G Generation Definition Release #1
- ETSI GR F5G 002 V1.1.1 Fifth Generation Fixed Network (F5G); F5G Use Cases Release #1
- ETSI GS F5G 003 V1.1.1 Fifth Generation Fixed Network (F5G); Technology Landscape and Gap Analyses
- ETSI GS F5G 004 V1.1.1 Fifth Generation Fixed Network (F5G); F5G Network Architecture
- ETSI GS F5G 005 V1.1.1 Fifth Generation Fixed Network (F5G); F5G High-Quality Service Experience Factors Release #1
- ETSI GR F5G 010 V1.1.1 Fifth Generation Fixed Network (F5G); Security; Threat Vulnerability Risk Analysis and countermeasure recommendations
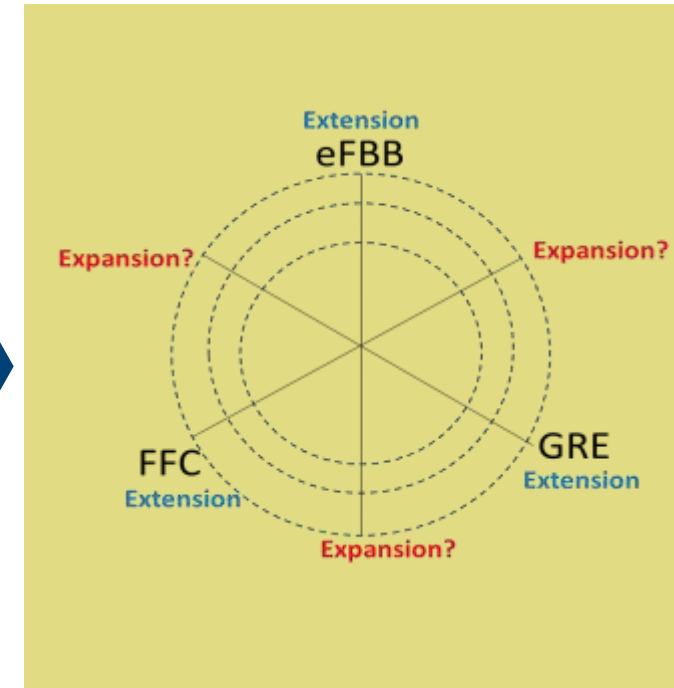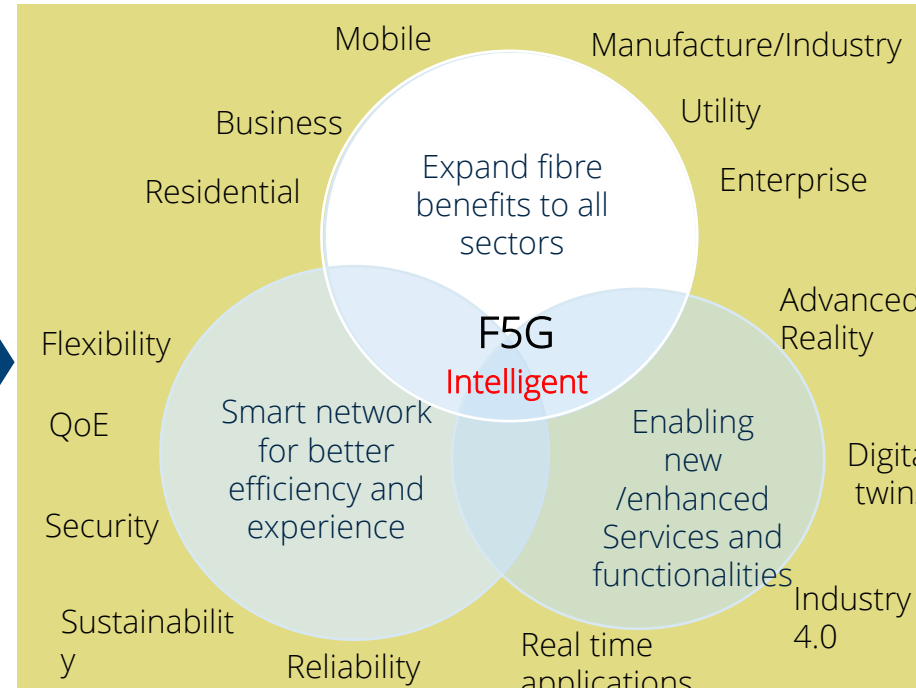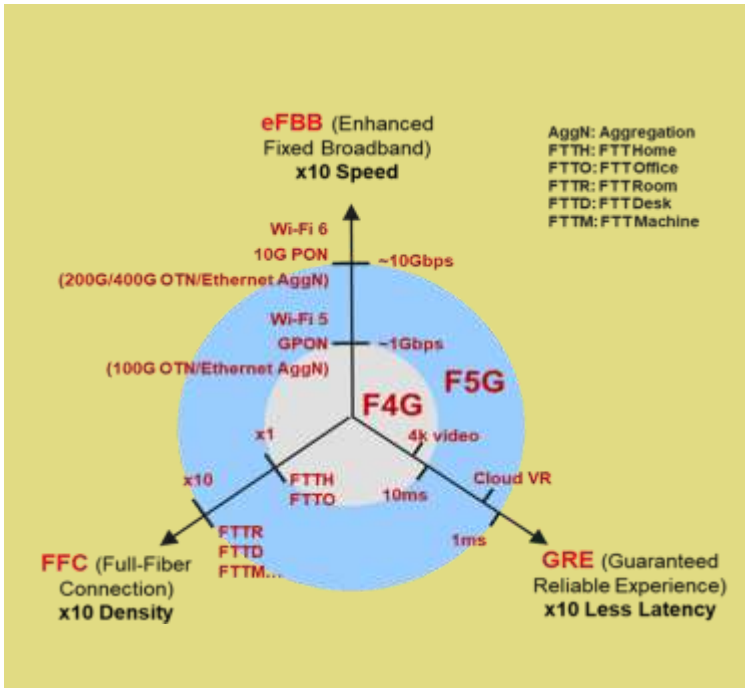
F5G a snapshot by UC R1+R2

...and the future

Directions of future evolution: F5G Advanced

F5G : tri-dimensional evolution features

New scenarios and services drive F5G development

Fibre to everything everywhere
Higher speed
Greener
Smarter to guarantee experience of both operator and end user(digital twins, ADN L4)
Lower latency and zero jitter for machine

Adding New F5G evolution directions

F5G Advanced and Beyond White Paper was created in February during #9 plenary meeting of ISG F5G and plan to publish in September 2022

ISG f5G Way Forward

New roads to explore:
the future for F5G in its
3rd White Paper, finalized and
available on ETSI web site at
https://www.etsi.org/media-library/white-papers

Fixed 5th Generation Advanced and Beyond

- Increasing performance
- UHD immersive experience services
- Digitization of production networks
- Enterprise digitization and cloudification
- Smart optical infrastructures for a Sustainable Society
- Optical access networks simplification to make them more viable
- Moving from TDM to dense WDM…

All these will drive the future releases of requirements, guiding fixed networks technology towards next generation

Conclusions

- ISG F5G completed its R1 and, at the beginning of 2022, its second Use Cases release

- 18 new Use Cases for R2 are driving the gap definition and new set of requirements, for enhancing the architecture

- QoE, Security, automation and specific deployments for Industry and Residential customers are in focus for the rest of the active Work Items in ISG F5G

- Leveraging on virtualization and cloudification to exploit the full power of fibre technology

- Besides defining the evolution from the first release of specifications with R2, ISG F5G is now looking ahead to the future with the new white paper, wich is available from https://www.etsi.org/images/files/ETSIWhitePapers/ETSI-WP-50-F5G-Advanced-and-Beyond.pdf

Thank you !
Any further questions?

luca.pesando@telecomitalia.it