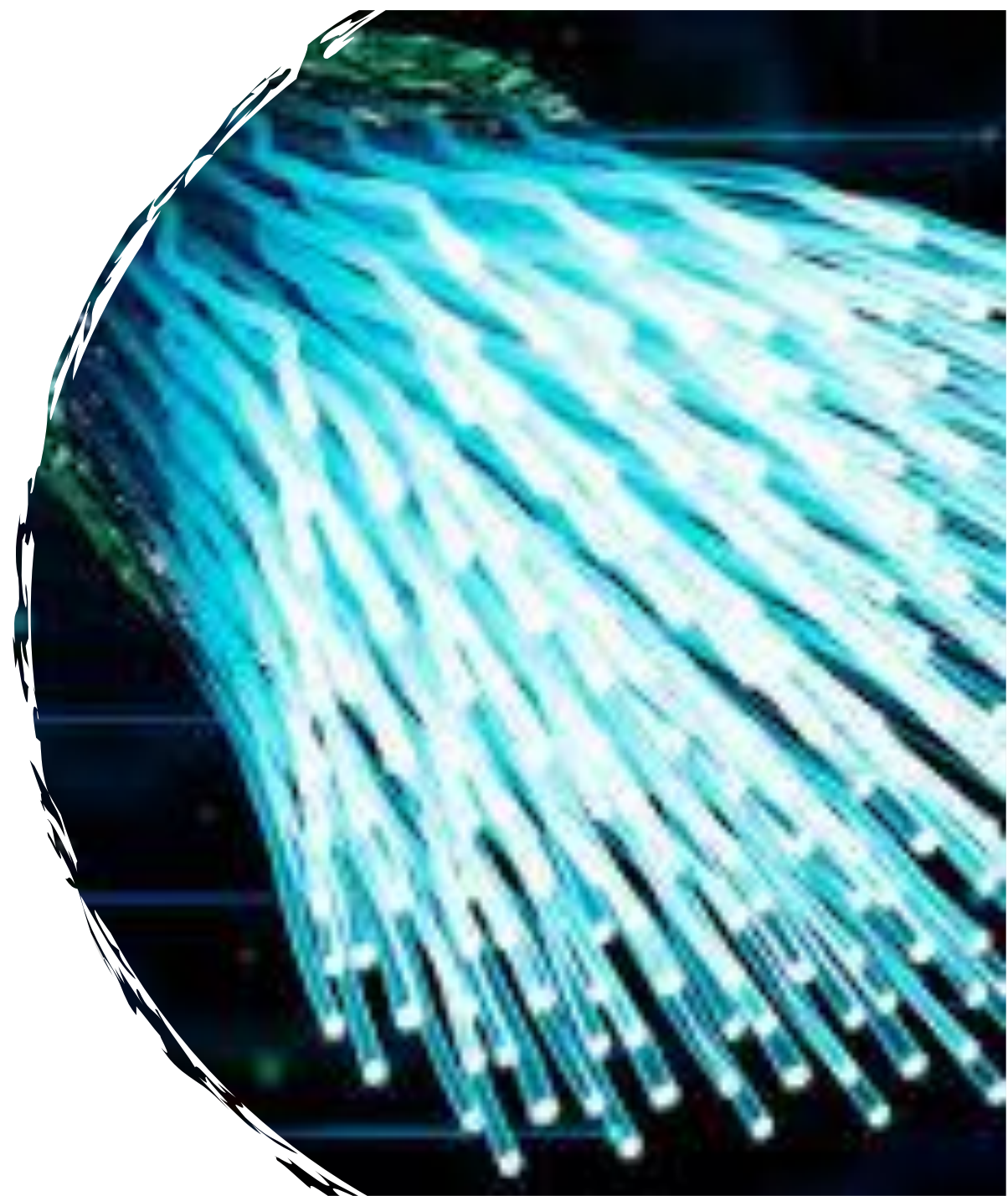




ETSI ISG F5G : R2 Use Cases

Luca Pesando -TIM
ETSI ISG F5G Chair

18/09/2022



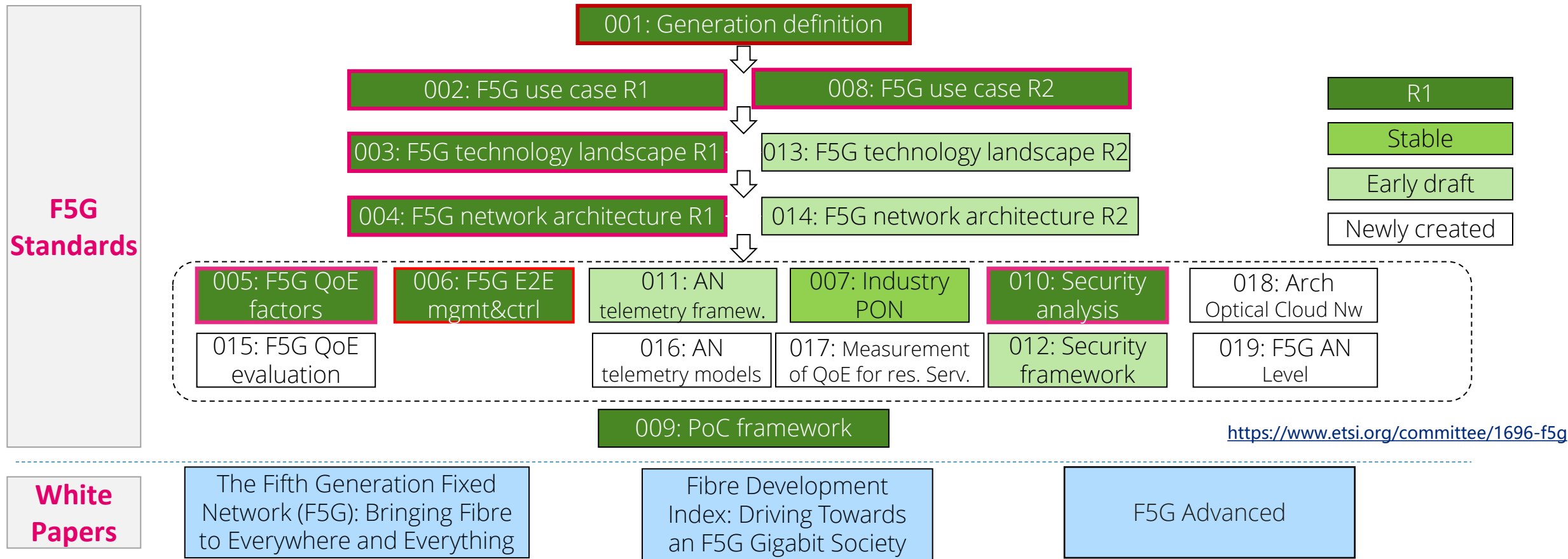


Agenda



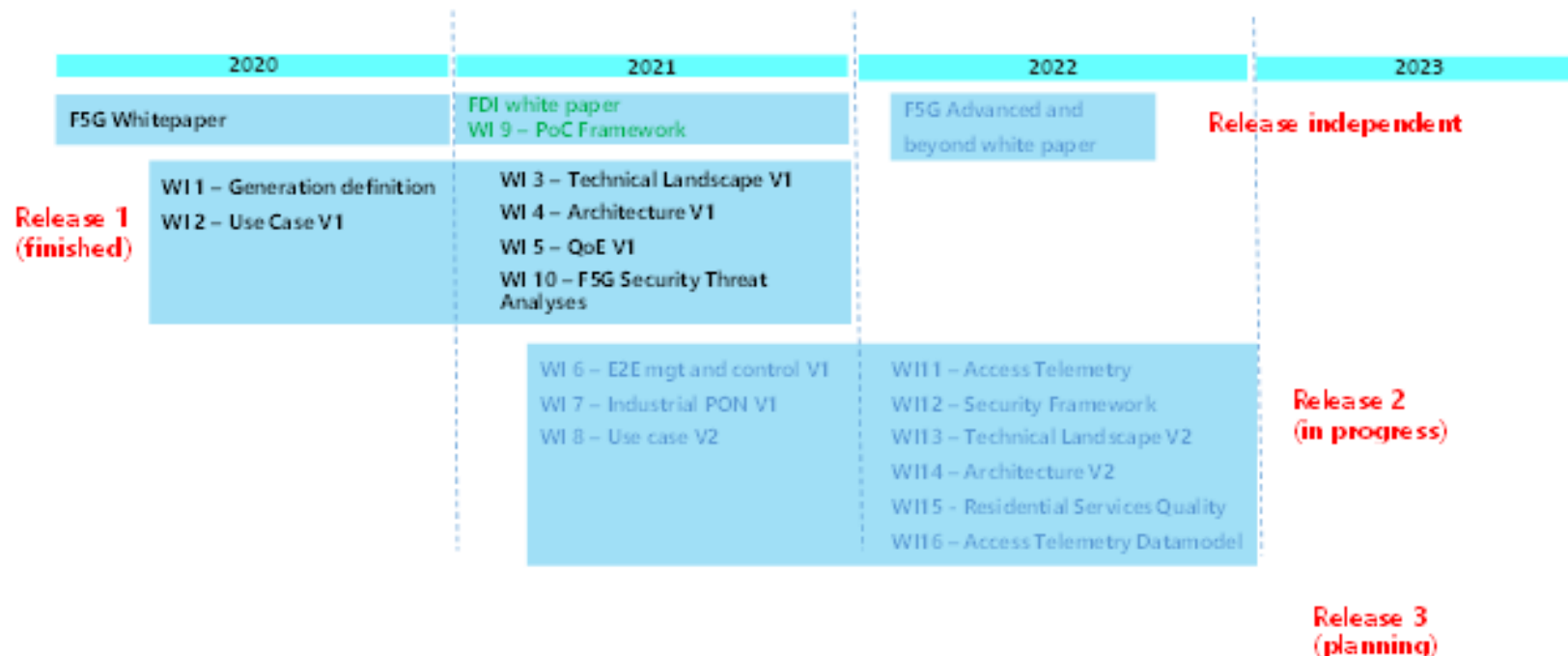
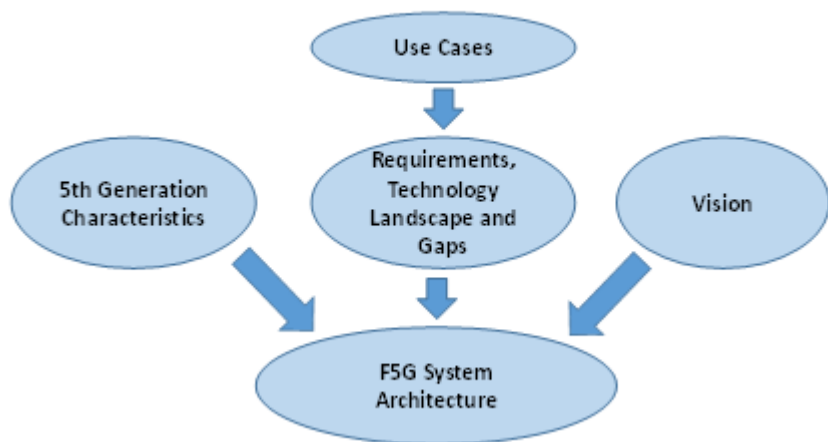
- ETSI ISG F5G: who we are what we do
- F5G R2: the use cases
- F5G White Paper #3: a way to future fiber communications

ISG F5G Standards overview



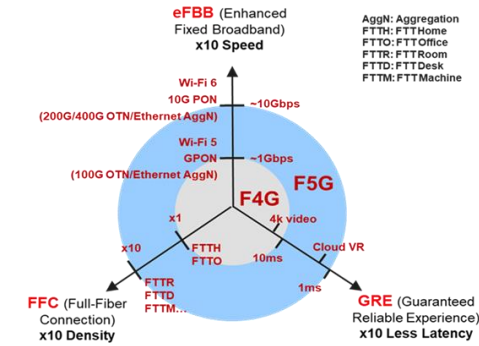
First release of specifications completed by the end of 2021; R2 in progress, based on the set of 18 Use Cases (added to the previous 13, that are the input for requirements and the evolution of the architecture ...)

ISG F5G R1: a first release of specifications

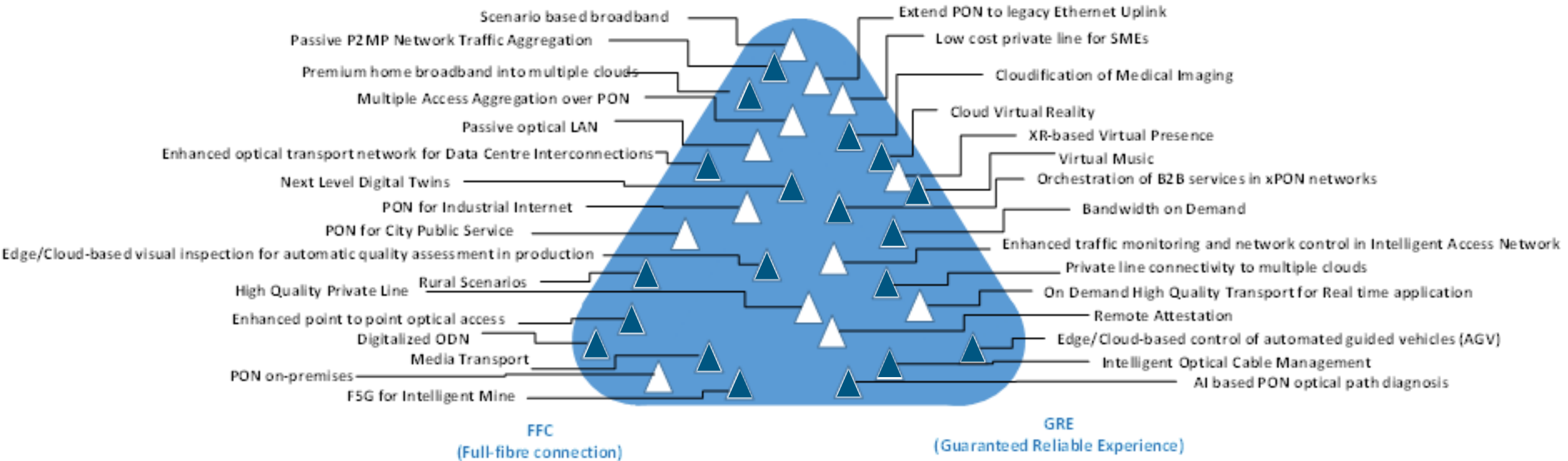


- [ETSI GR F5G 001 V1.1.1 Fifth Generation Fixed Network \(F5G\); F5G Generation Definition Release #1](#)
- [ETSI GR F5G 002 V1.1.1 Fifth Generation Fixed Network \(F5G\); F5G Use Cases Release #1](#)
- [ETSI GS F5G 003 V1.1.1 Fifth Generation Fixed Network \(F5G\); Technology Landscape and Gap Analyses](#)
- [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 UC R1+R2

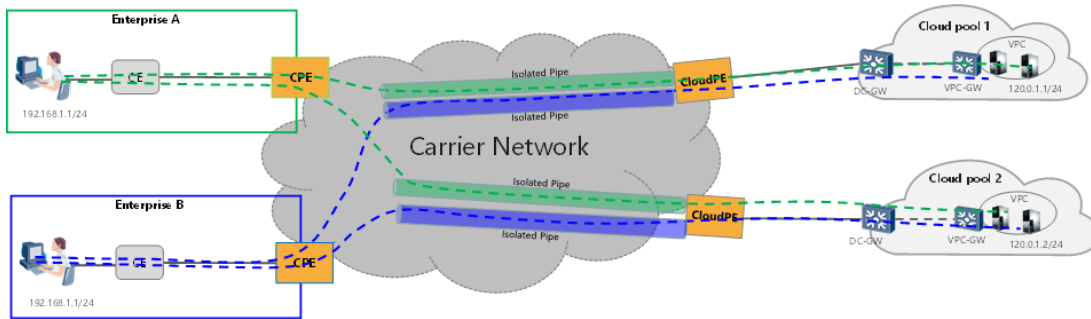


eFBB (Enhanced Fixed Broadband)

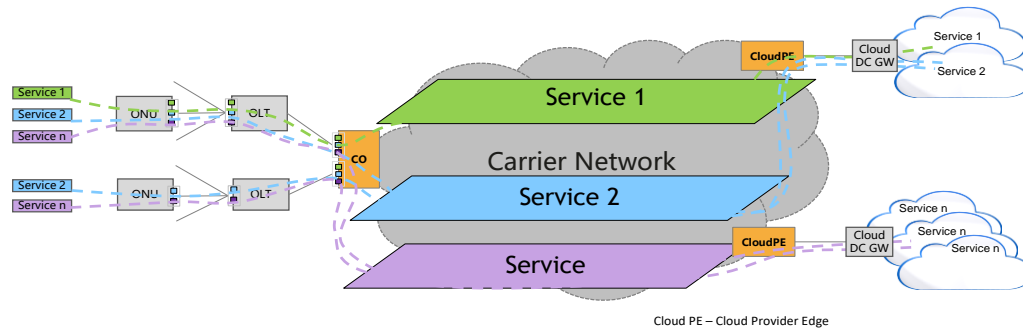


F5G Use Cases for Cloud Enhanced Services

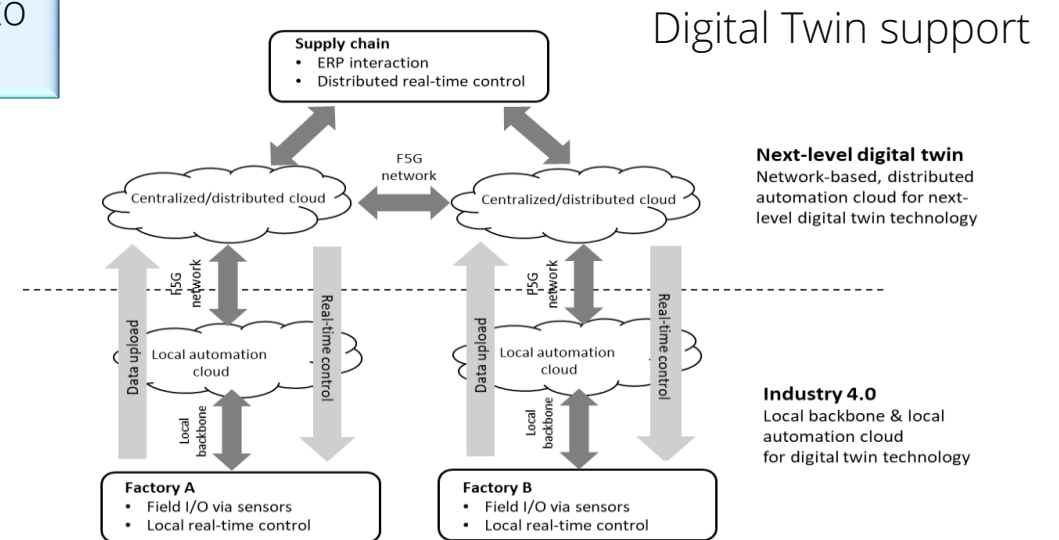
Fibre deployment is an enabler for many applications requiring cloud to support high storage capabilities, high computing power...



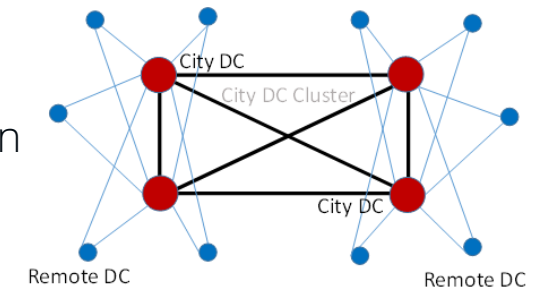
Slicing-supported multipoint access to multiple Clouds



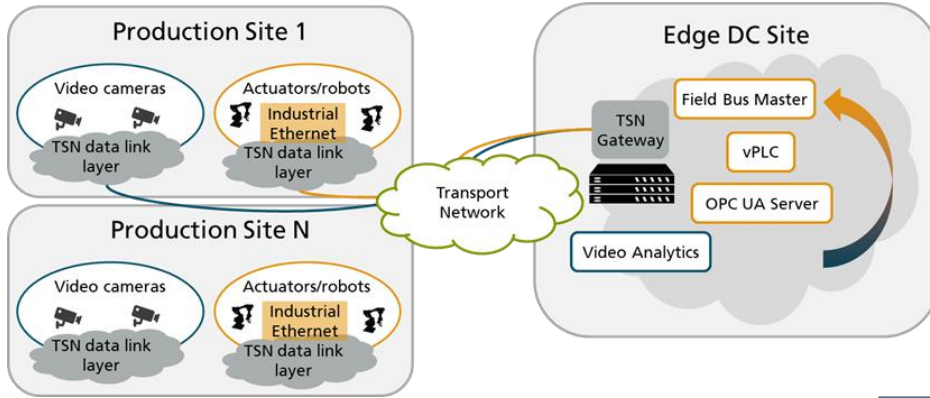
Network slicing mechanism for Premium home broadband connectivity



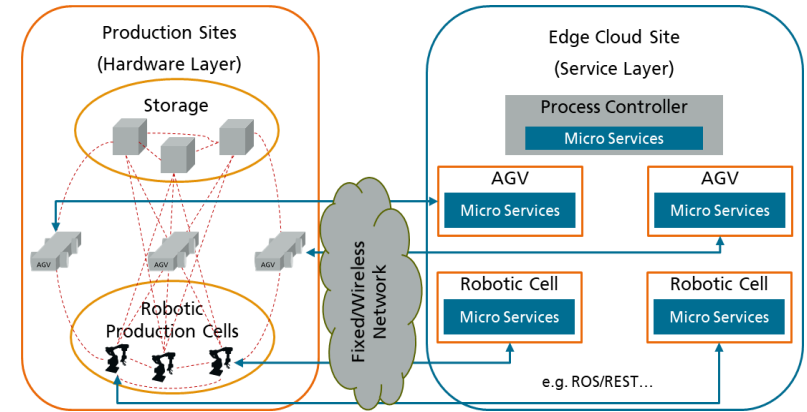
Data Centre Interconnection



F5G Use Cases for Industry and Verticals

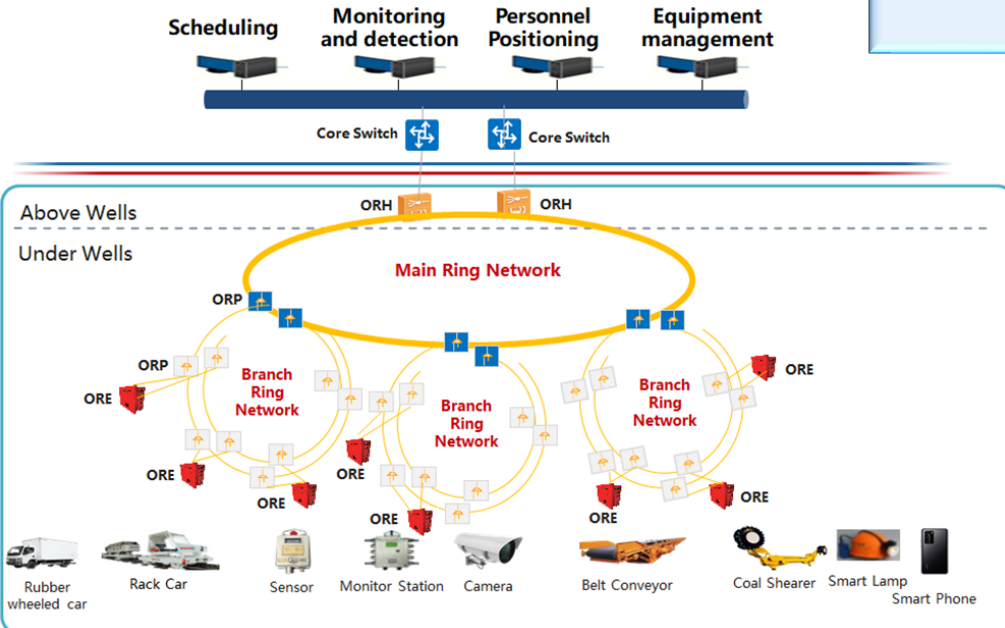


Edge/Cloud-based visual inspection for automatic quality assessment in production, using AI assisted video analytics

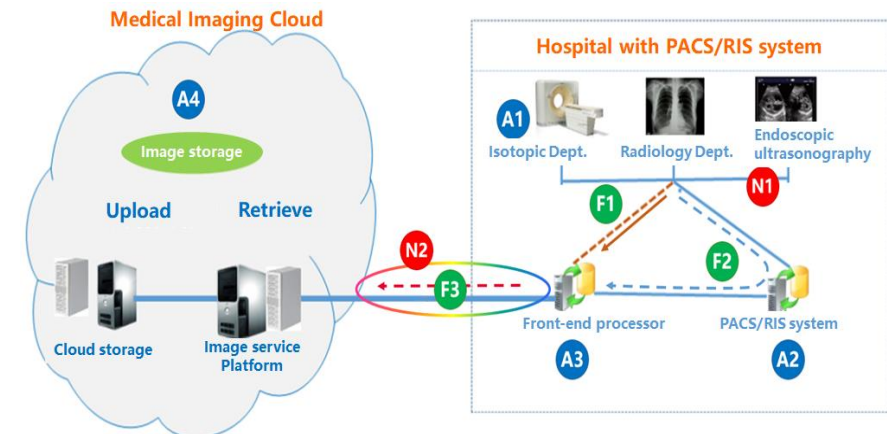


Edge/Cloud-based control of automated guided vehicles (AGV)

F5G for Intelligent Mining: Industrial Optical Ring architecture

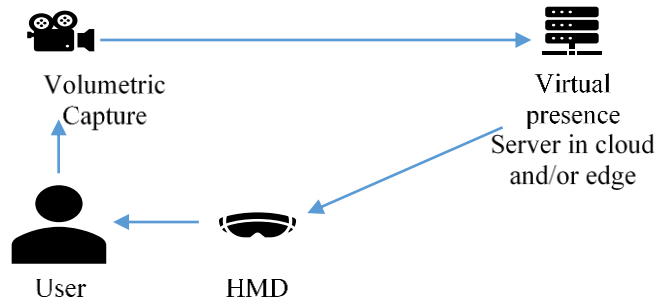


Increasing the number of Industrial applications addressed



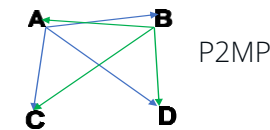
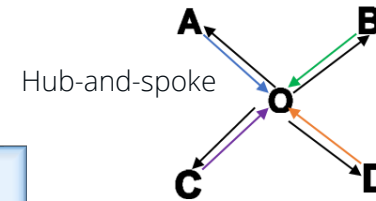
Cloudification of Medical Imaging

F5G R2 Use Cases for Residential, SMEs and more



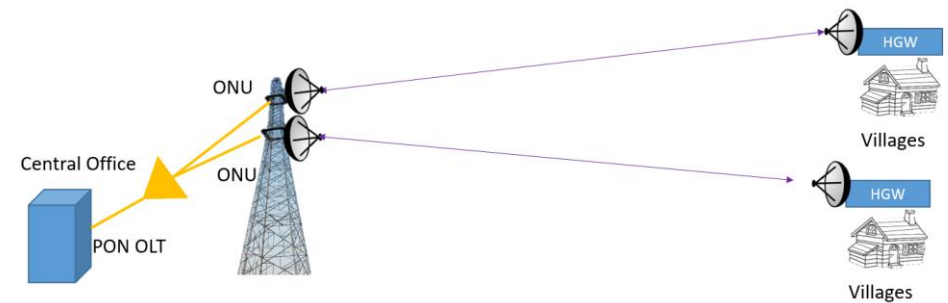
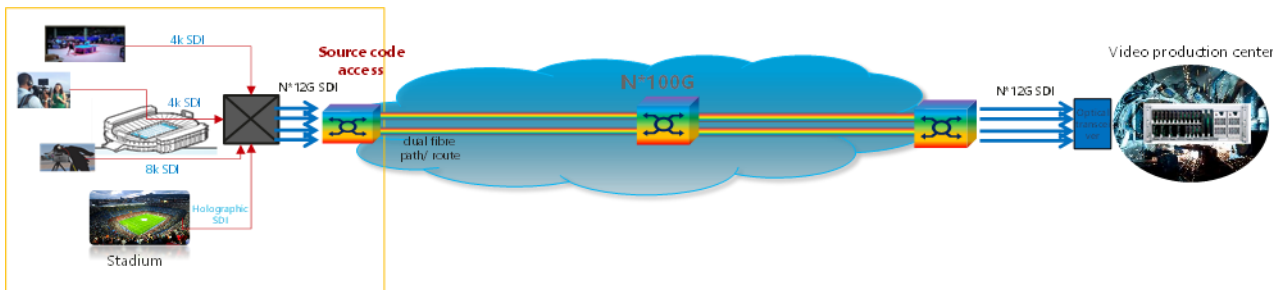
Scheme of Virtual Presence service

Fibre can deliver the speed and quality required by new services and favor their penetration offering the users new opportunities



Virtual Music: analysis of latency and possible approaches to connection

HQ Media collection and transport via OTN/DWDM



Rural Scenarios with P2P solutions

F5G R2 Use Cases: more for new services, network OAM, ...



Further UC are addressing the enhancement of optical networks with more flexibility, better performance, and easier deployment, faster management of customers

Besides the Use Cases defining new services to the end users, some other are addressing important aspects of network management and maintenance, identifying solutions for faster and more efficient fault identification and recovery, and allowing faster and efficient configuration and provisioning of services

With the new set developed in R2, F5G now covers 31 Use Cases that are guiding the identification of the gaps to be filled, translated into technical requirements, and the definition of the architectural evolution

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](https://www.etsi.org/media-library/white-papers)

- UHD immersive experience services
- Digitization of production networks
- Optical fibre infrastructure becoming ubiquitous
- Enterprise digitization and cloudification
- Smart infrastructures for a Sustainable Society
- ...

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

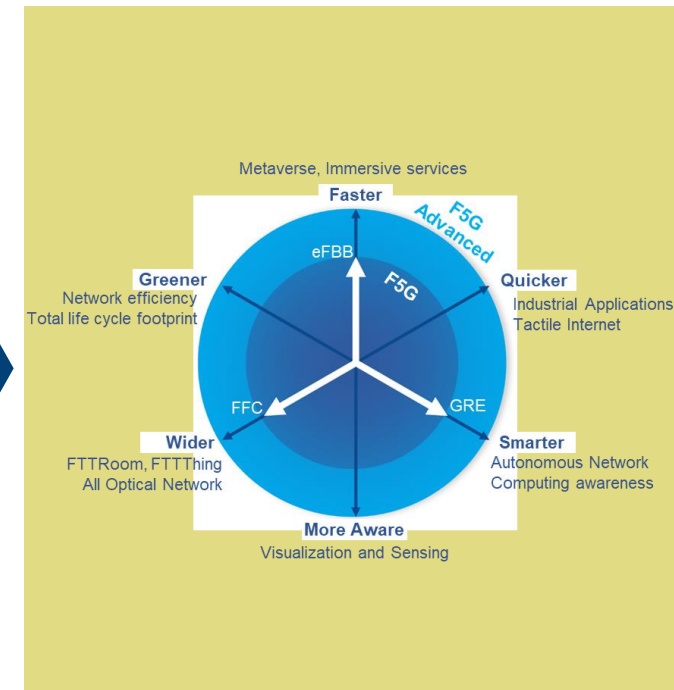
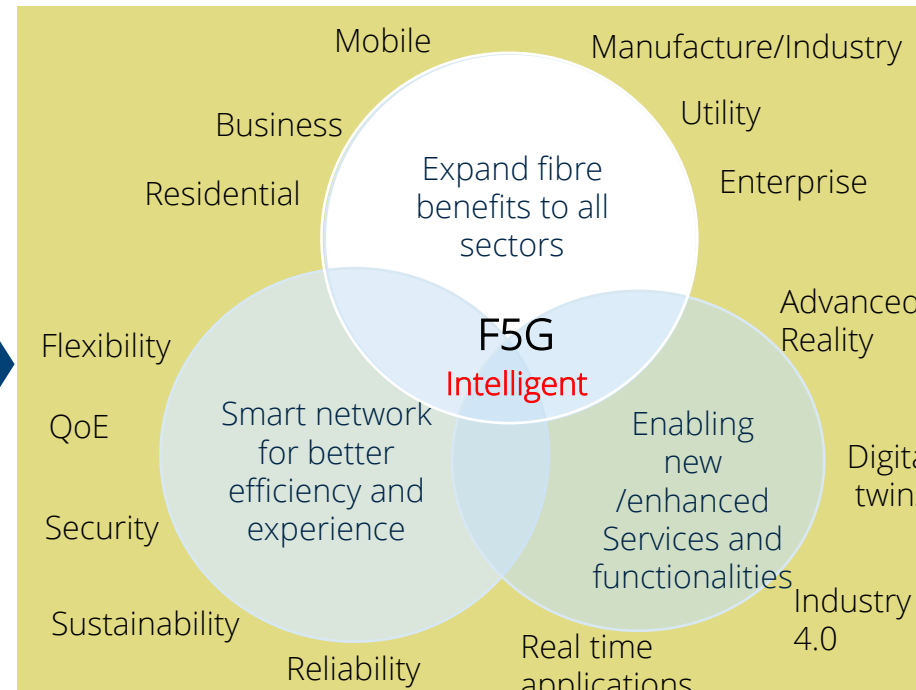
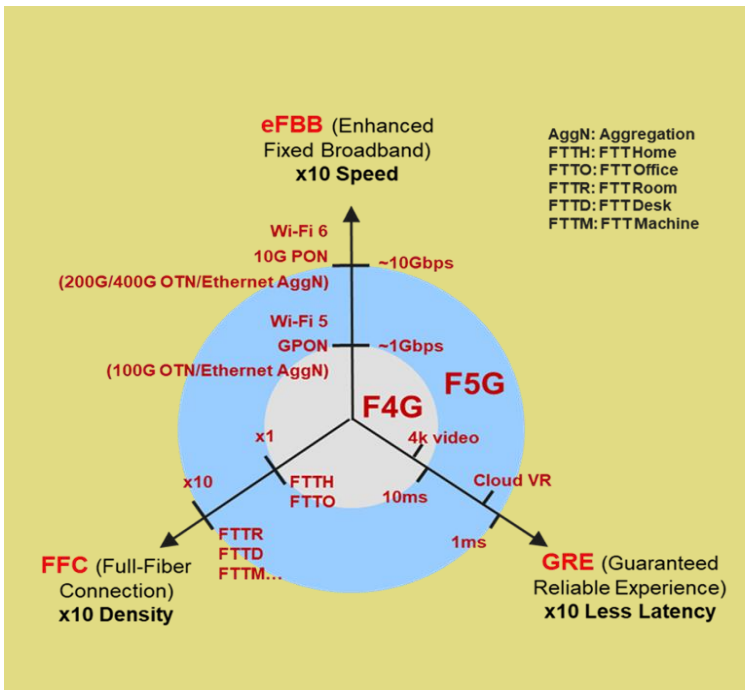


Defining the next level of F5G: F5G Advanced

F5G : tri-dimensional evolution features

New scenarios and services drive F5G development

New F5G evolution directions



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

F5G Advanced and Beyond White Paper was created in February during #9 plenary meeting of ISG F5G and just published in September 2022

Conclusions

- ISG F5G completed at the beginning of 2022 its second Use Cases release
- The 18 new Use Cases are the input for the gap definition and new set of requirements, which will guide the enhancement of the architecture
- QoE, Security, automation and specific deployment 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, which is available from ETSI site since a few days



Thank you for your attention

Any further questions?

luca.pesando@telecomitalia.it

