



The Standards People



Progresses and Future Plans of ETSI ISG-F5G

Presented by:

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ECOC
2021
BORDEAUX
13-16 SEPTEMBER



Agenda



**ISG
F5G**

ETSI ISG F5G: who we are

Snapshot of the Activity

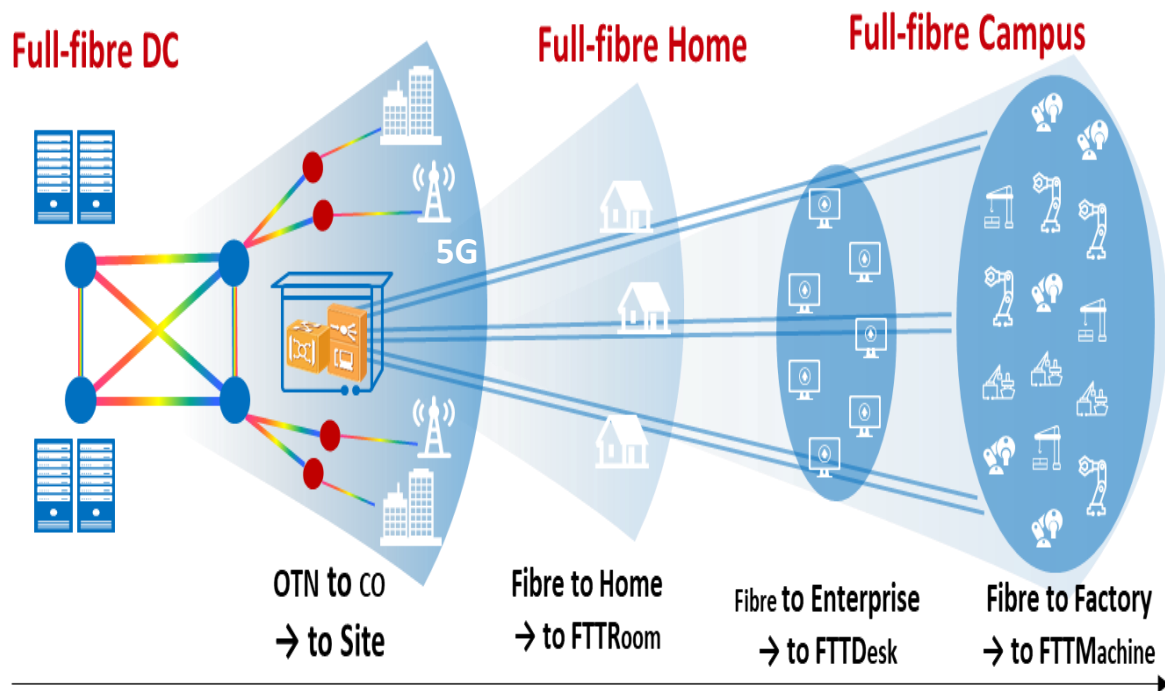
Details on the Most Relevant Aspects

Planned evolution

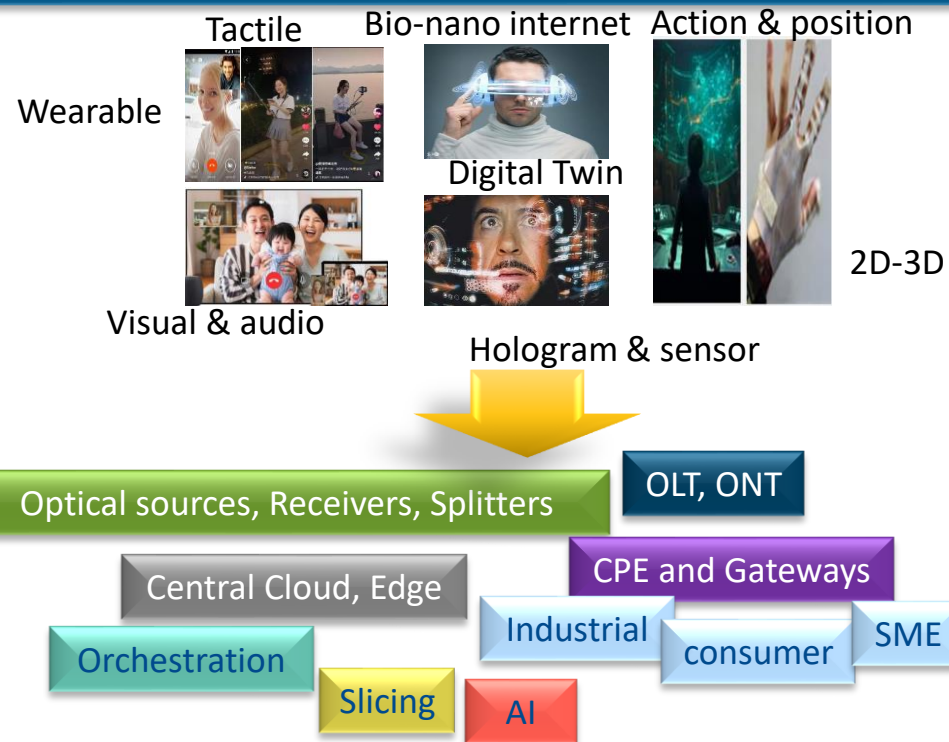
Conclusions

The F5G Vision: Fibre to Everywhere & Everything

Fibre connectivity becomes ubiquitous extending from last “mile” to last “meter”



F5G enables many new use cases & scenarios, expanding the application space of 5G

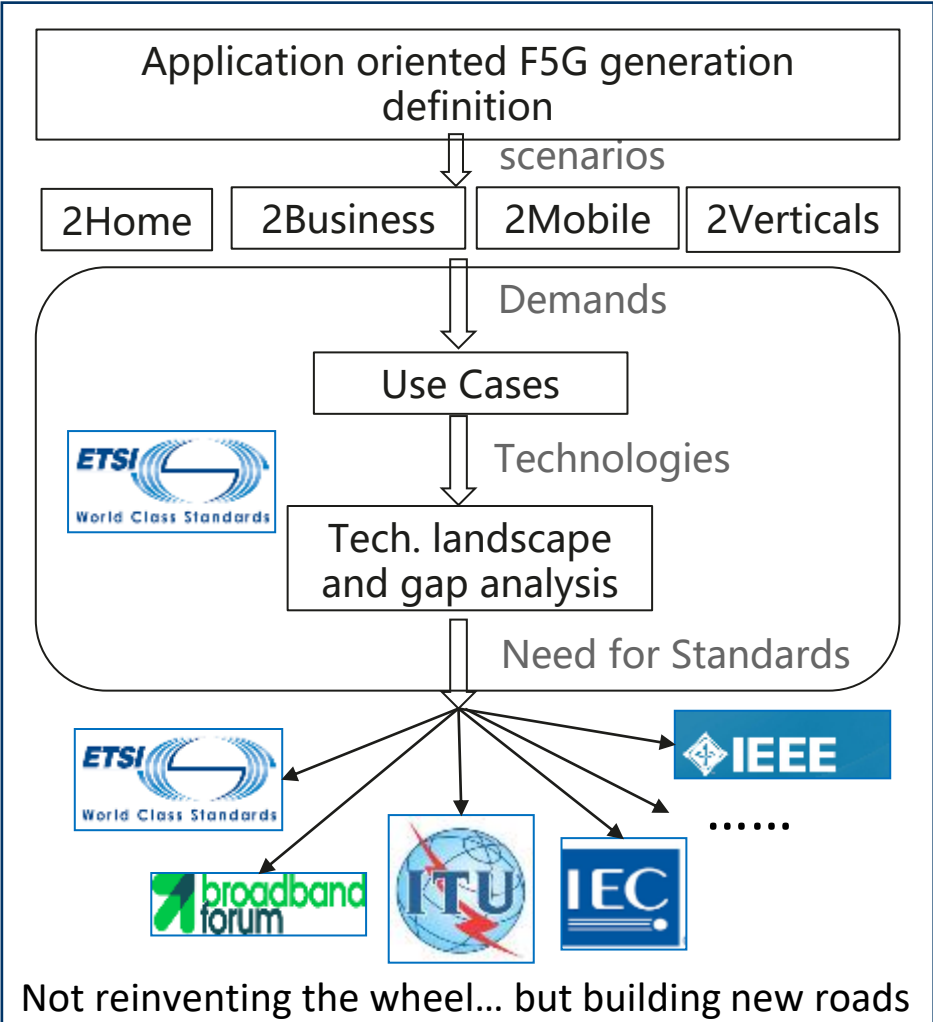


F5G enables 5G by supporting Front- and Back haul

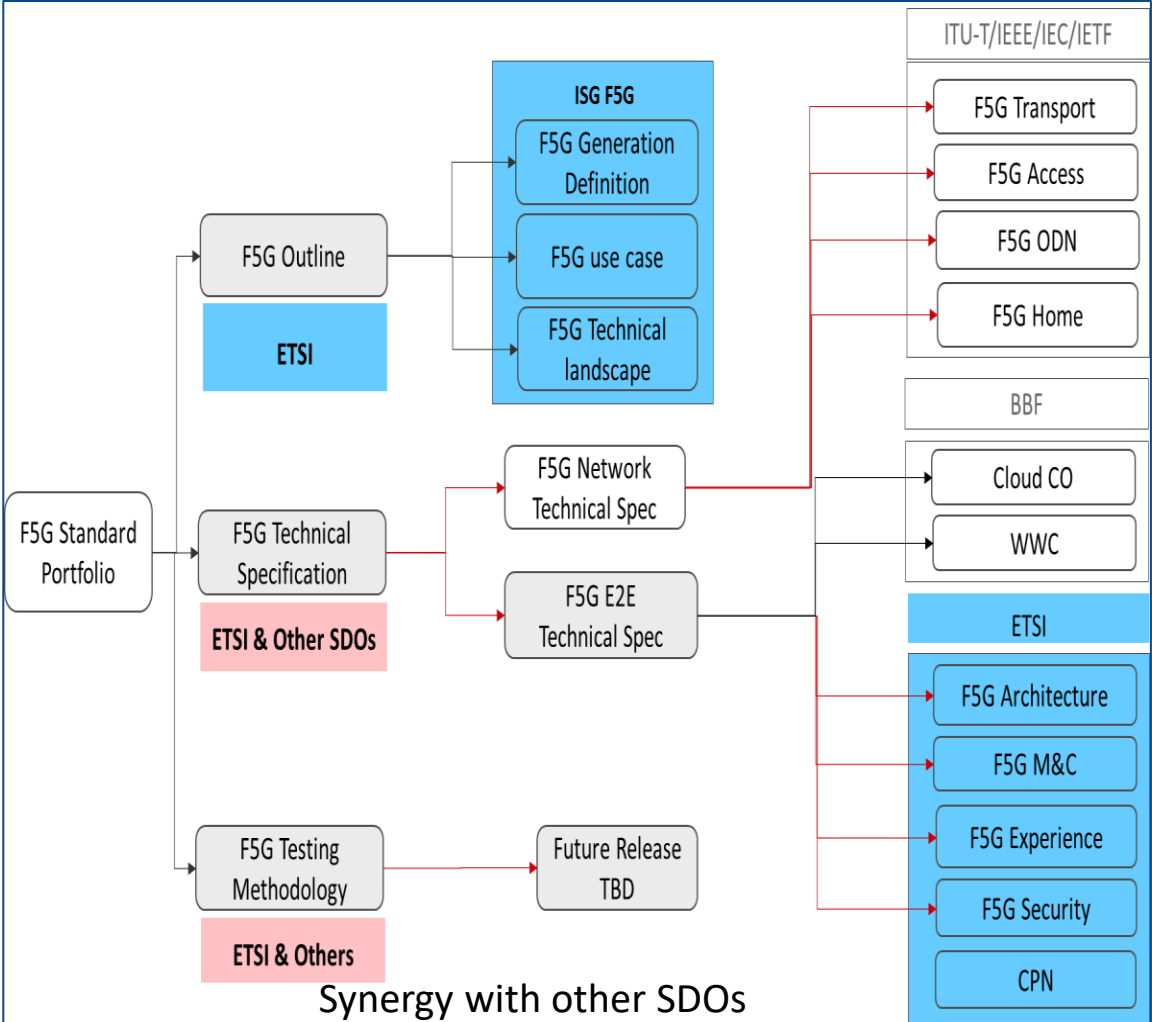
Value Proposition of ISG F5G and its Approach to Standardization



ISG F5G as Hub



F5G Approach to Standards



Progress of ISG F5G (1) -Members/Participants Update

When Created in Dec.2019
10 founding members

Increased significantly



Now (till September 2021)
83 Members + Participants

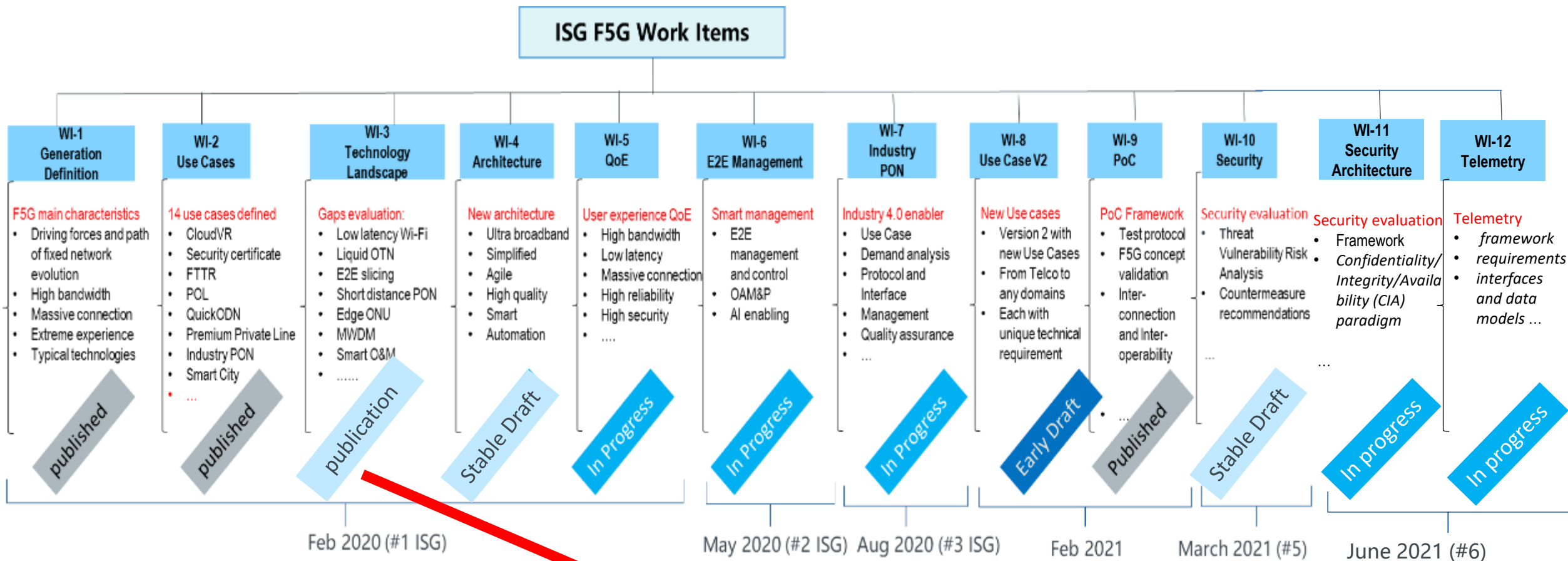
Founding Members: China Telecom, TIM, PT, Türk Telekom, POST Group, CAICT, Fraunhofer HHI, HUAWEI, FiberHome.

Members: bouygues, ECO european communications office, FUTUREWEI Technologies, C3L, ANDREW, NICT, ALLION, TNO innovation for life, orange, Siklu, COMMSCOPE, Ruckus, bsi., Small Business Standards, CTTC, ETRI, ZTE, КРИПТОНИТ.

Participants: China unicom, oi, VIVACOM, Rostelecom, netMAGIC LLC, PICadvanced, Hisense Broadband, GERMAN ACCESS, BROADEX, SAMPOL, analysys mason, HGTECH, Uxfastic, Tekton, Lancaster University, FAYEAR, 北京邮电大学, 亨通光电, Roland Berger Strategy Consultants, SP SOURCE PHOTONICS, yj, 电子科技大学, SAMPOL, analysys mason, GSM, MTN.

Counsellors: alea soluciones, Magyar Telekom, PTT TELECOM, JMAGS, YOPC, HAITIAN PRECISION, DETECON, informa, Skyworth, LIGHTCOUNTING, airtel, UPC, MTN, European Commission.

Progress of ISG F5G (3) -Work Items and Contribution Update



New WI 13 Opened for R2 of T.L.

2 White Papers published

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- 2.2.1 The evolution of fixed Access Network 6-
- 2.2.2 The evolution of Aggregation Network 7-
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F5G Vision: The Fifth Generation Fixed Network (F5G): Bringing Fibre to Everywhere and Everything

F5G Impact & Benefits: Fibre Development Index: Driving Towards an F5G Gigabit Society

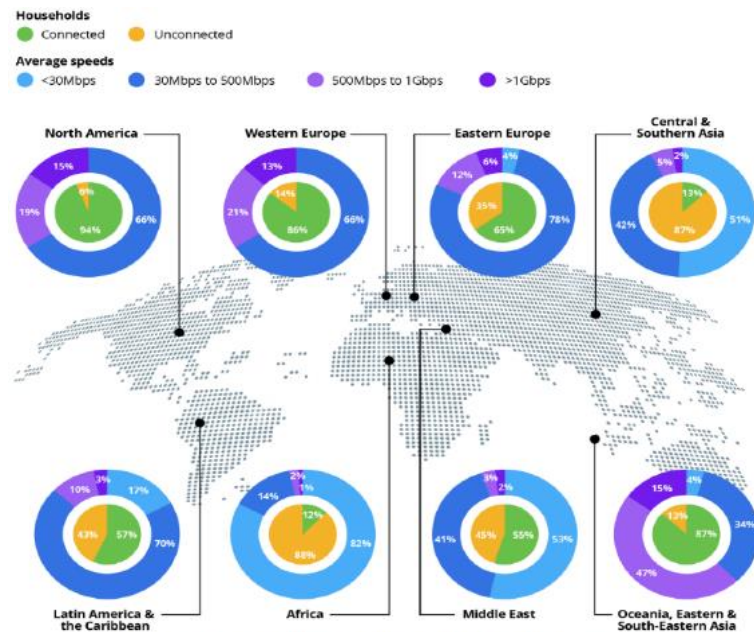
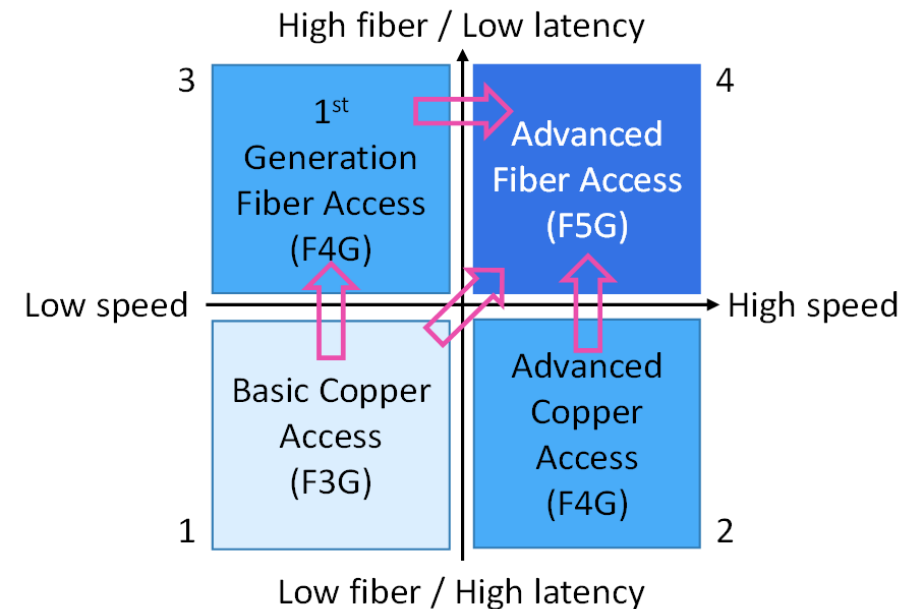
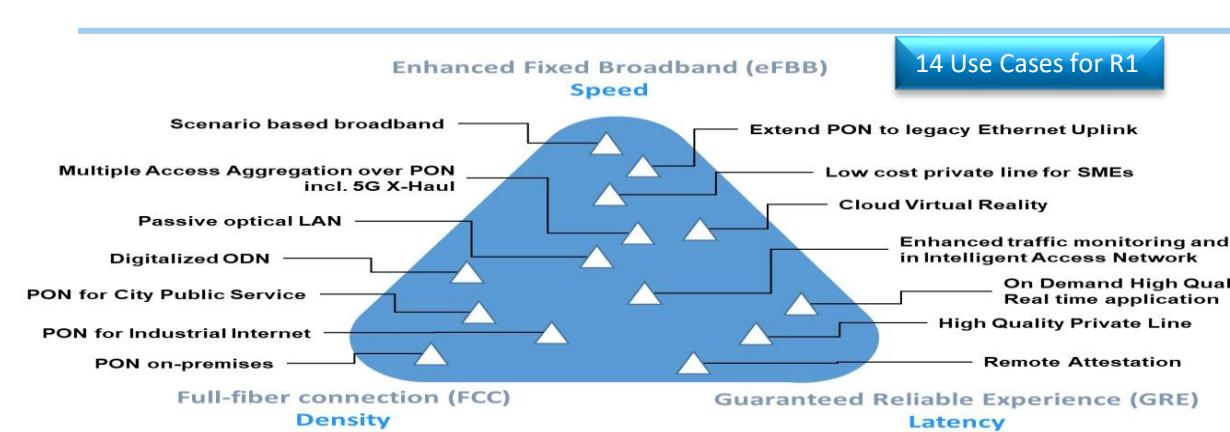


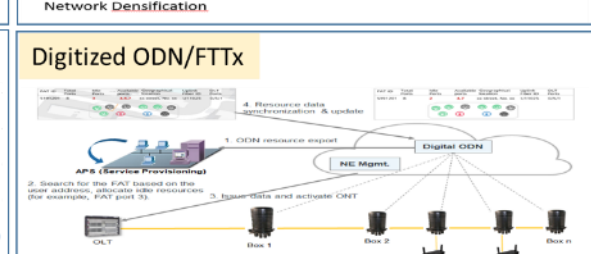
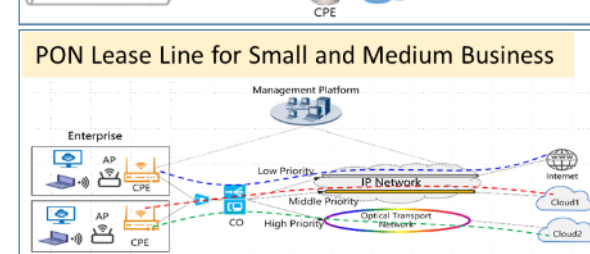
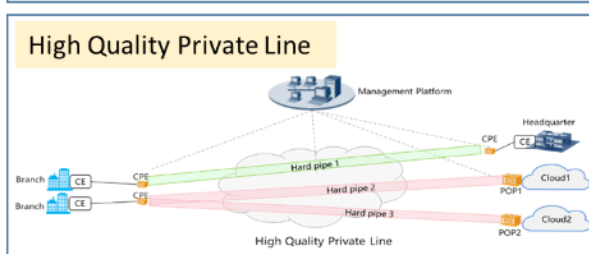
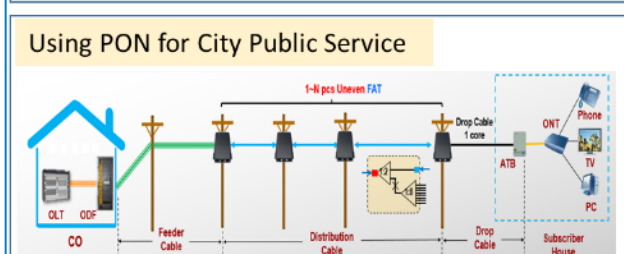
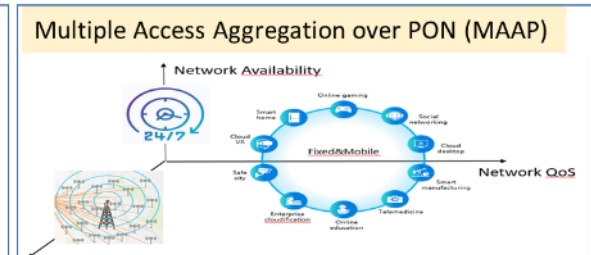
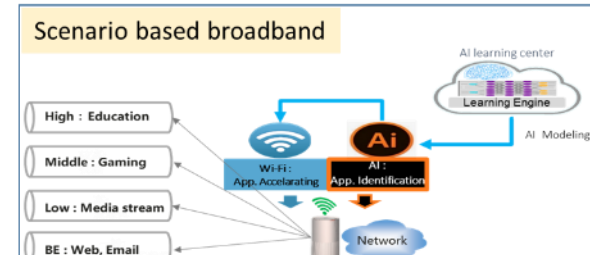
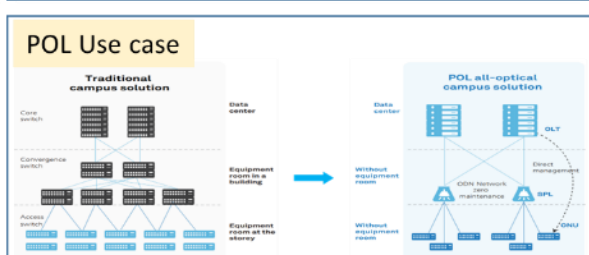
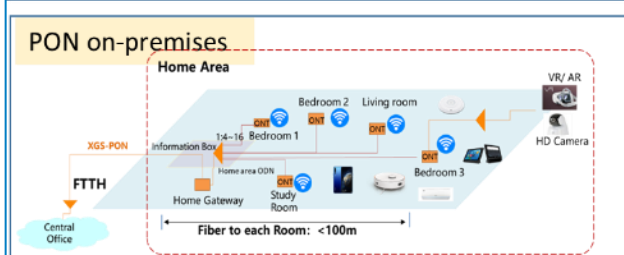
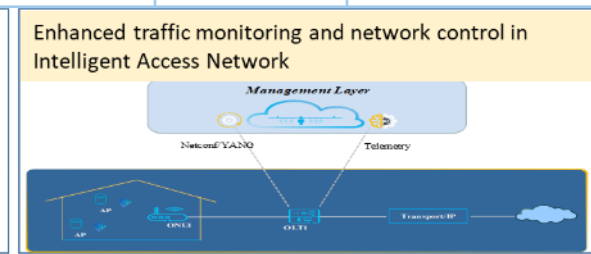
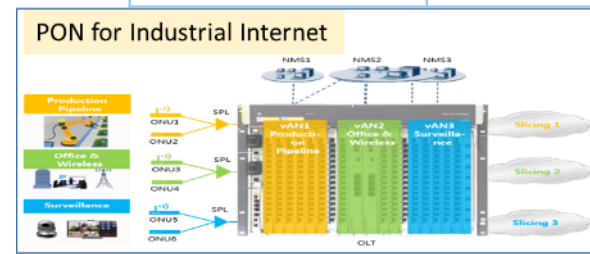
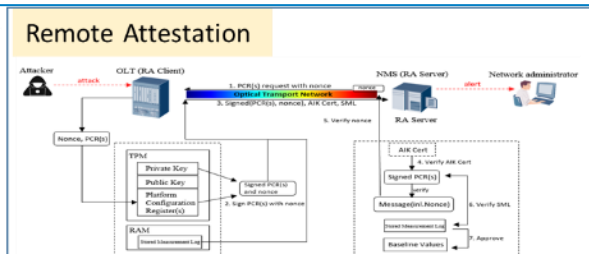
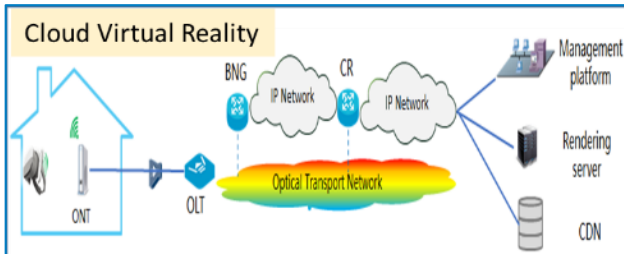
Figure 2: Percentage of connected households by speed, by region, 2025



Use Cases Snapshot in ISG F5G (Release 1)



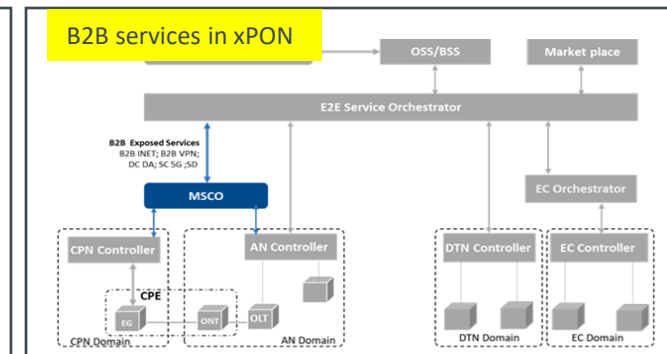
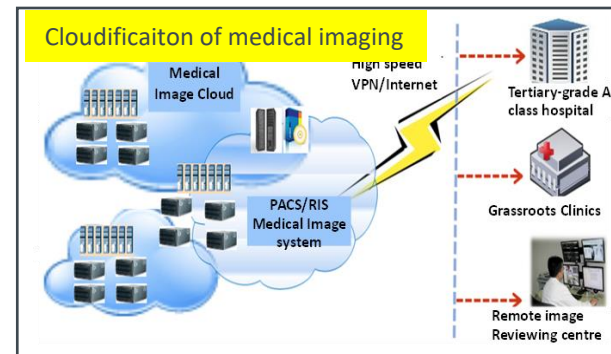
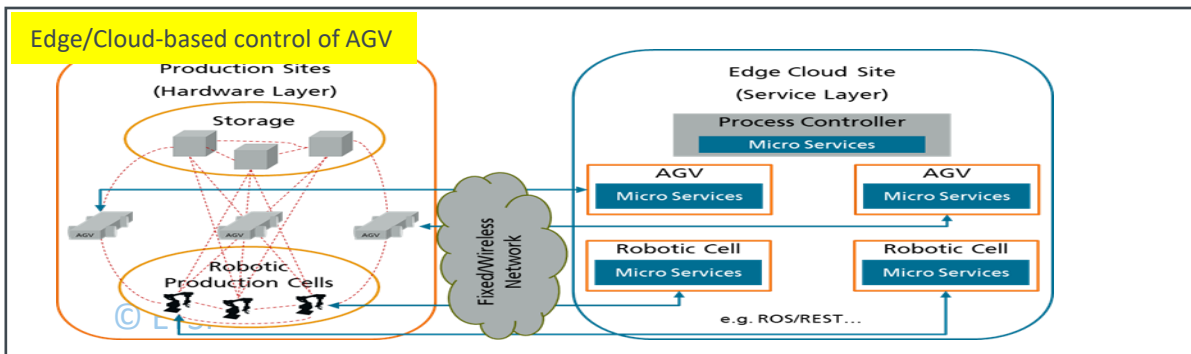
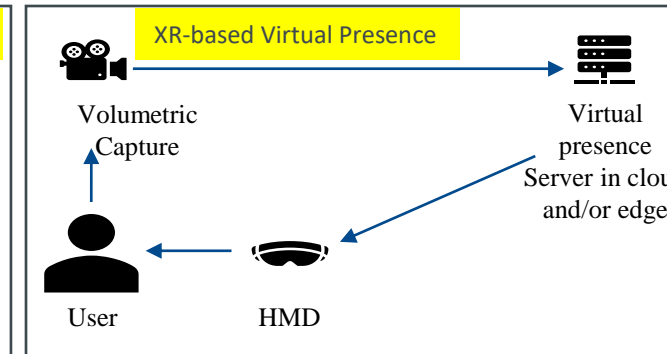
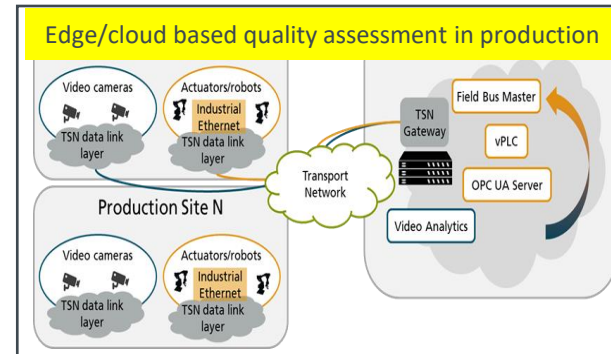
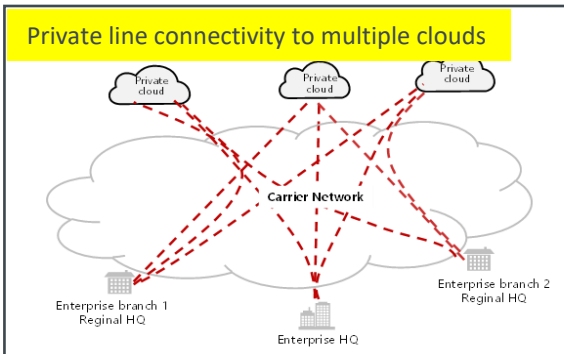
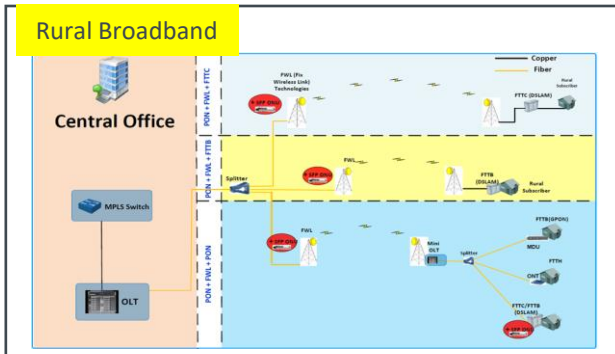
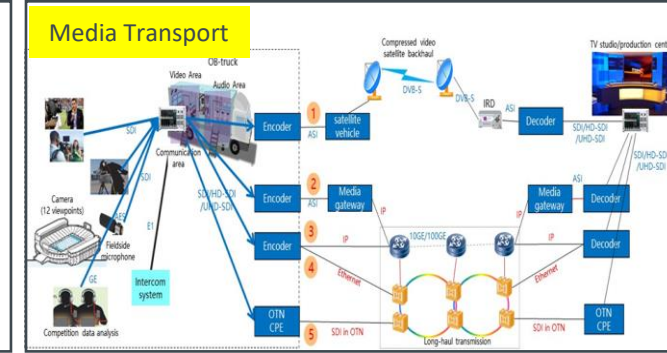
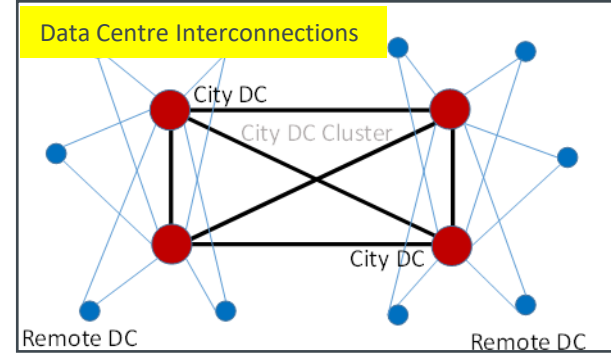
To Home	To Enterprise	To Mobile	Common
CloudVR	Leased line by OTN	5G X-haul	MAAP
Gigabit FTTR	Economic leased line solution		ODN for fast deployment
Scenario-based BB	POL		Remote Attestation
Om-demand broadband	Smart Cities		
	Industry PON		
	SFP ONU (Small Footprint Pluggable)		



GR F5G 008: Use Cases Release 2

18 new Use Cases; closing new contributions at the end of September Stable Draft

- 6.X Use case #x: Enhanced optical transport network for Data Centre Interconnections
- 6.X Use case #x: Media Transport
- 6.X Use case #x: Edge/Cloud-based visual inspection for automatic quality assessment in production
- 6.X Use case #x: XR-based Virtual Presence
- 6.X Use case #x: Cloudification of Medical Imaging
- 6.X Use case #x: Orchestration of B2B services in xPON networks
- 6.X Use case #x: Enhanced point to point optical access
- 6.X Use case #x: Bandwidth on Demand
- 6.X Use case #x: Rural Scenarios
- 6.X Use case #x: Private line connectivity to multiple clouds
- 6.X Use case #X: Edge/Cloud-based control of automated guided vehicles (AGV)



F5G GS 003: The Technology Landscape Deliverable

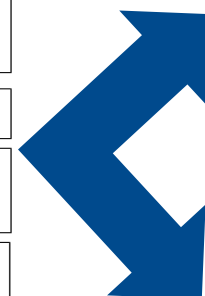
Aspects	Technical Requirement	Gap Analysis
Variety of data rate profile	<ul style="list-style-type: none"> • R1 • R2 • R3 	<ul style="list-style-type: none"> • Gap 1 • Gap 2 • Gap 3
Lower optical link budget	<ul style="list-style-type: none"> • R4 • R5 	<ul style="list-style-type: none"> • Gap 4 • Gap 5
Seamless handover support for Wi-Fi connection	<ul style="list-style-type: none"> • R6 • R7 • R8 	<ul style="list-style-type: none"> • Gap 6 • Gap 7 • Gap 8
Support of diversified transceiver	<ul style="list-style-type: none"> • R9 	<ul style="list-style-type: none"> • Gap 9
Network security	<ul style="list-style-type: none"> • R10 • R11 	<ul style="list-style-type: none"> • Gap 10 • Gap 11
Fibre infrastructure	<ul style="list-style-type: none"> • R12 • R13 • R14 • R15 	<ul style="list-style-type: none"> • Gap 12 • Gap 13 • Gap 14 • Gap 15
Power saving and management	<ul style="list-style-type: none"> • R16 • R17 	<ul style="list-style-type: none"> • Gap 16 • Gap 17
Support of network QoS	<ul style="list-style-type: none"> • R18 	<ul style="list-style-type: none"> • Gap 18
Support of East-to-West data streaming	<ul style="list-style-type: none"> • R19 	<ul style="list-style-type: none"> • Gap 19

- IEEE
- ITU-T
- BBF
- TMForum
-

Contribution to relevant SDOs

ETSI Internal development

- ISG F5G
- TC ATTM
- TC Cyber
- TC BRAN
- ISG ZSM/ENI.....



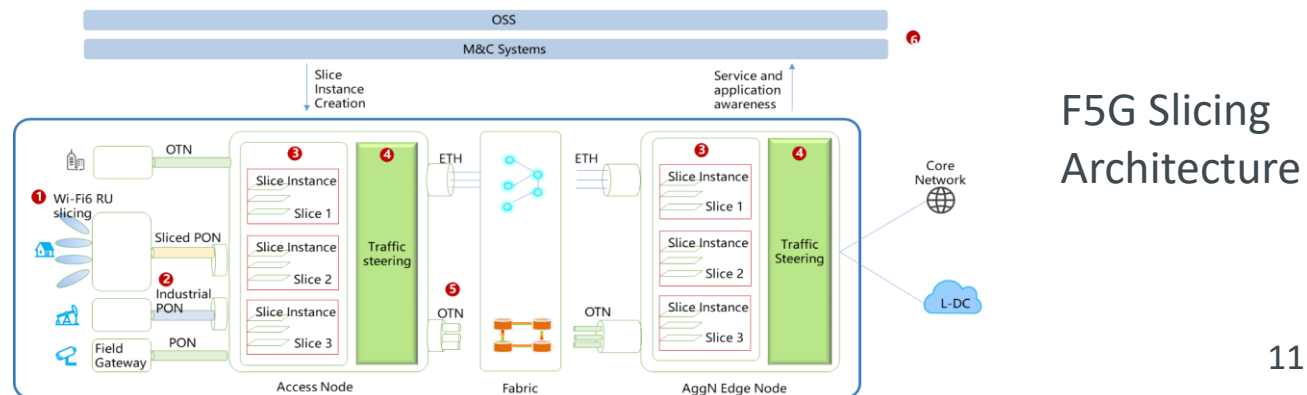
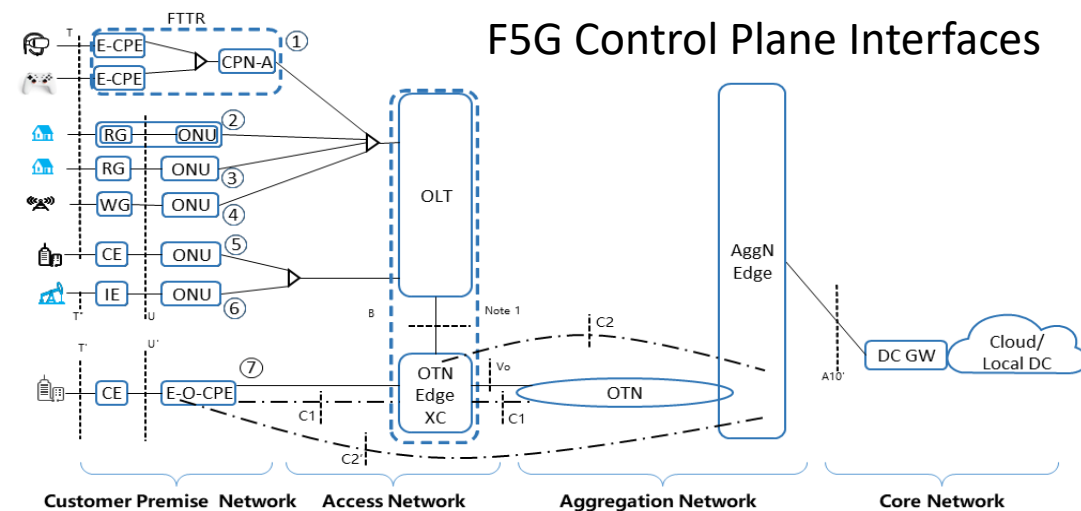
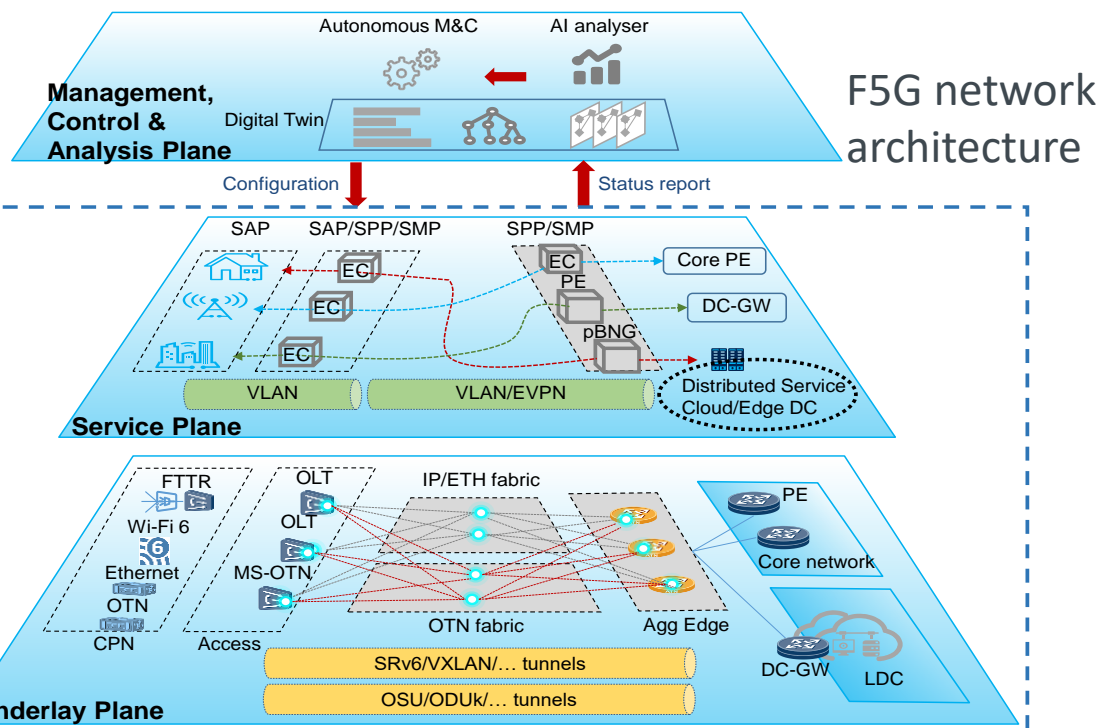
Full Technology Landscape

- 55 actions requiring liaison with other SDOs
- 105 requirements identified

Taking Use Case #4 "PON on-premises" (FTTR) as example

F5G Architecture (GS F5G 004) and E2E M&C (GS F5G 006)

- Architecture and E2E M&C are two of the main focus, and planned for publication in 3Q2021 and 1Q2022 respectively
- FTTR is one of the drivers to make the architecture and E2E M&C future-proof, by SLA based deployment, AI-enabling and dual IP and OTN fabrics...



Benefits

- ETSI ISG F5G purpose is to
 - deliver new and better services to the end users, with new service scenarios
 - enable 5G mobile services, with enhanced fibre back- and front hauling
- It aims at a collaborative model within the reference SDO's: don't reinvent the wheel
- It proposes and defines enhancements of the fixed network
 - in different segments (LAN, access, aggregation, transport)
 - at multiple layers (from optical components to OLT and ONT, slicing and orchestration, control and management) up to service and cloud support
- It addresses both public networks and private/verticals enabling various business models

Challenges

- Assure flexibility supporting disparate solutions with a single framework
- Simplify Provisioning and OAM, e.g. by self-installation for consumer use cases and B2B
- Develop the best suited collaboration model with each reference SDO and assure all needed enhancements are timely available for implementation

Together, we make it happen.

