Access Network Transport

Standards Work Plan

September 2022 Q1/15 meeting

Contact persons for the project updating:

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Access Network Transport is an ITU-T Project dealing with studies and Recommendations on the Access Network. The present Access Network Transport (ANT) Standards Work Plan is part of   
ITU-T SG15 Lead Study Group activities on coordination of Access Network Transport standards.

Access Network Transport Standards Work Plan

**Issue 35, September2022**

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| **Revision Status Report: Major Updates of Version 35, September 2022** |
| In this version 35, following changes, additions and updates have been made.  1) Sections “Introduction” has been reviewed.  2) Section 1- Scope has been reviewed  3) Section 3 from previous version 34 has been changed to Section 4.  4) Section 4 from previous version 34 - Overview of existing holes/overlaps/conflicts has been deleted. Its content is provided in the new Section 5.  5) Section 3.1 - Recommendations “Under Study” within ITU-T SG15 – WP1/15  The List of ongoing standardization activities in the area of Access Network Transport within ITU-T SG15 - WP1/15 has been updated.   * The list of items “Under Study” has been updated with the latest Q2/15 and Q4/15 activities resulting from September 2022 SG15 WP1 plenary meeting.   6) Section 3.2 - List of ongoing standardization activities in the area of Access Network  Transport in other groups within ITU and other Standards Development Organizations   * CENELEC TC86A has been updated. * IEC TC 86 SC86A and IEC TC 86 SC86C have been updated. * ETSI ISG F5G has been updated. * FSAN has been added * IEEE 802.3 has been updated. * IEEE 1901 has been updated. * ITU-R SG5 and SG6 have been updated. * ITU-D Sector has been updated. * MoCA Link™ 2.5 has been added.   7) New Section 4 – List of Contacts has been updated  8) A new Section 5 – Lead Study Group activities related to the ANT Standards Overview and Work Plan has been created |

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ACCESS NETWORK TRANSPORT STANDARDS WORK PLAN

ISSUE 35, SEPTEMBER 2022

# General

ANT Standards Work Plan is a living document. The actual version is available at [http://www.itu.int/en/ITU-T/studygroups/com15/Pages/ant.aspx](http://www.ieee802.org/) .

# Introduction

Today's global communications world has obscured traditional boundaries in network access between Telecommunication Network Operators, Communication Services Providers, Satellite and Cable TV Networks, Mobile Networks and Information Technologies. This has resulted in a number of different Study Groups within the ITU-T, e.g. SG 9, 13, 15 developing Recommendations related to transport in the access. Moreover, ITU-R and other standards bodies, fora and consortia are also active in this area.

Recognizing that without a strong coordination effort there is the danger of duplication of work as well as the development of incompatible and non-interoperable standards, the WTSC 96 designated Study Group 15 as **Lead Study Group** on **Access Network Transport (ANT) - reaffirmed at the WTSA-20 -** with the mandate to:

1. study the appropriate core Questions (Question 1, 2 and 4/15),
2. define and maintain an overall (standards) framework, in collaboration with other SGs and standards bodies
3. coordinate, assign and prioritize the studies done by the Study Groups (recognizing their mandates) to ensure the development of consistent, complete and timely Recommendations.

Study Group 15 entrusted Working Party 1/15 (Transport aspects of access, home and smart grid networks), under Question 1/15, with the task to manage and carry out the Lead Study Group activities on coordination of Access Network Transport standards.

# 1. Scope

As the mandate of this Lead Study Group role implies, the standards area covered relates to transport, i.e. Circuit Layer (CL), Path Layer (PL) and Transmission Media Layer (TM) in terms of the general protocol reference model for the Access Network ITU-T Recommendation G.902, Fig. 2/G.902.  
The corresponding transport functions include:

1. multiplexing function
2. cross connect function, including grooming and configuration
3. management functions
4. physical media functions.

The outcome of the Lead Study Group activities is twofold, consisting of an:

* Access Network Transport (ANT) Standards Overview
* Access Network Transport (ANT) Standards Work Plan

The main purpose of **the Standards Overview** is to identify the existing standards related to the Access Network Transport technologies.

The main purpose of **the Standards Work Plan** is to:

* define a corresponding matrix table, including the various standards organizations,
* provide an overview of ongoing ANT activities,
* monitor progress of ANT standards work,

1. facilitate the coordination/negotiation for additional standards work on ANT to be undertaken,
2. identify lack of standards,
3. identify duplication and/or overlap,
4. discover priorities and market needs.

The **Work Plan** reflects the agreement reached between the parties concerned on the necessary actions to remedy the deficiencies identified.

Apart from taking the Lead Study Group role within the ITU-T, Study Group 15 also endeavor to cooperate with ITU-R and other relevant organizations, such as Broadband Forum, ETSI, IEEE , ISO/IEC, etc..

# 2. General Access Network architecture

**Access Network Transport (ANT):**

Based on definitions specified in ITU-T Rec. G.902 the Access Network (AN) provides transport bearer capabilities for the provision of telecommunications services inside of the AN between a service node interface (SNI) providing customer access to a service node and each of the associated interfaces towards the Customer Premises Network(s) which are being grouped as user network interfaces (UNIs) . An Access Network implementation comprises transmission media and access network element (NE) entities.  
An Access Network is delimited by its interfaces. Users are connected via a User Network Interface (UNI) to the network. The AN is connected to the Service Node (SN) via the Service Node Interface (SNI) and to the Telecommunication Management Network (TMN) via a Q3 interface.  
Figure 1 “ General Access Network architecture and boundaries” shows the AN with the UNI, SNI and Q3 interface as the boundaries to other network entities.



Figure 1 “ General Access Network architecture and boundaries” ( from ITU-T G.902)

An Access Network element can be configured and managed through a Q3 interface which may be implemented at the Q reference point. This Q reference point is the access point for management information, configuration control, performance monitoring and maintenance as defined in ITU-T Rec. M.3010.

In principle there are no restrictions on the types and number of SNIs and UNIs which an Access Network may implement. The Access Network does not include Customer Premises Networks and/or terminal equipment respectively.

**Functions of Access Network Transport (ANT):**

The Transport Function (TF) provides the paths for the transport of common bearers between different locations in the Access Network (AN) and the media adaptation for the relevant transmission media used.

Examples of transport functions are:

1. multiplexing function,
2. cross connect function including grooming, on demand connection and configuration,
3. management functions,
4. physical media function.

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## 3. Ongoing Standardization activities in the area of Access Network Transport

**3.1 List of ongoing standardization activities in the area of Access Network Transport within ITU-T SG15 - WP1/15**

**Status: September 2022   
  
Table updated with the latest Q2 and Q4 activities resulting from September 2022 ITU-T SG15 - WP1 plenary meeting**

| **Work item** | **Question** | **Status** | **Timing** | **Approval process** | **Subject / Title** | **Base text(s)** | **Editor(s)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| [G.987.2](http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx?isn=18277) | Q2/15 | Consented | 2022-09 | AAP | 10-Gigabit-capable passive optical networks (XG-PON): Physical media dependent (PMD) layer specification - Amendment 1 | SG15-TD76/PLEN | [Dekun Liu](https://staging.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx) |
| [G.988](http://www.itu.int/en/ITU-R/study-groups/rsg4/rwp4b/Pages/default.aspx?isn=18278) | Q2/15 | Consented | 2022-09 | AAP | ONU management and control interface (OMCI) specification | SG15-TD78/PLEN | [Yuanqiu Luo](mailto:dominique.roche@eg4u.org),[Marta Seda](mailto:marta.seda(AT)calix.com) |
| G.989.3 Am 1 | Q2/15 | Under study | 2023-04 | AAP | 40-Gigabit-capable passive optical networks (NG-PON2): Transmission convergence layer specification – Amendment 1 | SG15-C69 | Denis Khotimsky, [Dezhi (James) Zhang](mailto:zhangdzh(AT)chinatelecom.cn) |
| [G.9802](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18254) | Q2/15 | Under study | 2023-04 | AAP | Multiple-wavelength passive optical networks (MW-PONs) | SG15-TD50/WP1 | [Yuanqiu Luo](mailto:yuanqiu.luo(AT)futurewei.com),[Dechao Zhang](mailto:zhangdechao(AT)chinamobile.com) |
| [G.9802.1 Amd.1](mailto:sa-miyaji@kddi.com?isn=18253) | Q2/15 | Consented | 2022-09 | AAP | Wavelength Division Multiplexed Passive Optical Network: general requirement (G.WDMPON.req): Amendment 1 | SG15-TD22/PLEN | [Fabrice Bourgart](https://staging.itu.int/net4/ITU-D/CDS/sg/index.asp),[Dezhi (James) Zhang](https://www.scte.org/) |
| [G.9802.2 (ex G.WDMPON.pmd&tc)](http://www.itu.int/net4/ITU-T/landscape?isn=18233) | Q2/15 | Under study | 2023-04 | AAP | Wavelength Division Multiplexed Passive Optical Network: Physical media dependent (PMD) and Transmission Convergence (TC) (G.WDMPON.pmd&tc) (Continuation of the G.9802 series) | SG15-TD55/WP1 | [Peter Dawes](mailto:rebhi.sarra@telediffusion.net.tn),[Derek Nesset](https://standards.ieee.org/ieee/802.11be/7516/) |
| [G.9804.1 Amd.2](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18279) | Q2/15 | Under study | 2023-04 | AAP | Higher Speed Passive Optical Networks: Requirements - Amendment 2 | - | [Dezhi (James) Zhang](mailto:zhangdzh(AT)chinatelecom.cn) |
| [G.9804.2 Amd.1](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18252) | Q2/15 | Consented | 2022-09 | AAP | Higher Speed Passive Optical Networks: Common Transmission Convergence layer Specification - Amendment 1 | SG15-73/PLEN | [Dan Geng](mailto:dan.geng(AT)nokia-sbell.com),[Yuanqiu Luo](mailto:yuanqiu.luo(AT)futurewei.com) |
| [G.9804.3 Amd.1](http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx?isn=18251) | Q2/15 | Consented | 2022-09 | AAP | 50-Gigabit-capable passive optical networks (50G-PON): Physical media dependent (PMD) layer specification Amendment 1 | [SG15-TD86/PLEN](https://www.itu.int/itu-t/workprog/wp_item.aspx?lang=en&parent=T22-SG15-220919-TD-PLEN-0086) | [Rene Bonk](mailto:liudekun(AT)huawei.com),[Dekun Liu](https://staging.itu.int/itu-t/workprog/wp_item.aspx),[Dechao Zhang](mailto:yuanqiu.luo(AT)futurewei.com) |
| [G.9806 Amd.3](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18250) | Q2/15 | Under study | 2023-04 | AAP | Higher speed bidirectional, single fibre, point-to-point optical access system - Amendment 3 | SG15-TD14/WP1 | [Fabrice Bourgart](mailto:fabrice.bourgart(AT)orange.com),[Shan Wey](mailto:jun.shan.wey(AT)verizon.com) |
| [G.9807.1 (2022)](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18280) | Q2/15 | Consented | 2022-09 | AAP | 10-Gigabit-capable symmetric passive optical network (XGS-PON): physical media dependent (PMD) layer specification | SG15-TD77/PLEN | [Ronald Heron](mailto:ronald.heron(AT)nokia.com),[Dekun Liu](https://staging.itu.int/net4/ITU-D/CDS/sg/index.asp) |
|  |  |  |  |  |  |  |  |
| [G.hsp.TWDMpmd](mailto:fabrice.bourgart(AT)orange.com?isn=18206) | Q2/15 | Under study | 2023-11 | AAP | Higher Speed Passive Optical Networks: TWDM PMD | SG15-TD58/WP1 | [Christopher Bernard](mailto:zhangdzh(AT)chinatelecom.cn),[Richard Goodson](mailto:rene.bonk(AT)nokia-bell-labs.com) |
| [G.sup.eOLT](http://portal.etsi.org/home.aspx?isn=18282) | Q2/15 | Under study | 2023-04 | Agreement | Enhanced optical line termination with IT functions | [SG15-C2817 (2021-11)](mailto:derek.nesset(AT)huawei.com) | [Wu Jia](mailto:jiawu9(AT)chinaunicom.cn),[Yi Jiang](mailto:jiang.yi7(AT)zte.com.cn) |
| [G.sup.PONlatency](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18281) | Q2/15 | Under study | 2023-04 | Agreement | Latency control and deterministic capability over a PON system | [SG15-C2760 (2021-11)](http://www.itu.int/md/T17-SG15-C-2760) | [Xuming Wu](mailto:wuxuming(AT)huawei.com),[Dezhi (James) Zhang](https://staging.itu.int/itu-t/workprog/wp_item.aspx) |
| [G.suppl.45](http://www.itu.int/md/meetingdoc.asp?isn=18255) | Q2/15 | Agreed | 2022-09 | Agreement | Optical access systems power conservation | [SG15-TD673/WP1 (2021-12)](https://standards.ieee.org/project/1904_4.html) | [Fabrice Bourgart](http://www.iec.ch) |
| G.suppl.VHSP | Q2/15 | Under study | 2023-11 | Agreement | PON transmission technologies above 50 Gb/s per wavelength |  | Dekun Liu  Bhushan Padhiar  Jun [Shan Wey](mailto:zhangdechao(AT)chinamobile.com) |
| G.supp.55 | Q2/15 | Under study | 2023-11 | Agreement | Radio over Fiber Systems | C-62 | Toshiaki Kuri |
| [G.9702 (2022) Amd.1](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18287) | Q4/15 | Under study | 2023-04 | AAP | Transceiver and system specifications for backhaul applications based on G.fast (G.fastback) Amendment 1 |  | [Les Brown](mailto:lesbrown(AT)sympatico.ca) |
| [G.9711 Amd.2](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18288) | Q4/15 | Under study | 2023-04 | AAP | Multi-gigabit fast access to subscriber terminals (MGfast) - Physical layer specification - Amendment 2 |  | Frank Van der Putten |
| [G.9701 (2019) Cor.4](http://www.itu.int/itu-t/workprog/wp_item.aspx?isn=18286) | Q4/15 | Under study | 2023-04 | AAP | Fast access to subscriber terminals (G.fast) - Physical layer specification: Corrigendum 4 |  | [Les Brown](mailto:lesbrown(AT)sympatico.ca) |

**Work item**: Short name identifying a (draft or approved) Recommendation or other text. It may be a provisional name or the final publication designation (e.g. H.264)  
**Question**: Number of the Question responsible for the development of a work item  
**Status**: Current Approval state of a work item  
**Timing**: Best current estimate of the expected year and month of Determination (TAP), Consent (AAP), or Agreement (non-normative materials) of a work item  
**Approval process**: One of: Traditional Approval Process (TAP); Alternative Approval Process (AAP); or Agreement  
**Subject / Title**: Best current expectation of the full name of a work item  
**Base text(s)**: Previous published version of a work item and/or its latest draft. It may also include reference to A.5 justification documentation.  
**Editor(s)**: Person(s) responsible for coordinating development of a work item

**3.2 List of ongoing standardization activities in the area of Access Network Transport in other groups within ITU and other Standards Development Organizations**

The following list provides information on the Work Plans and ongoing ANT activities of various standardization groups outside ITU-T SG15 WP1/15. This list is intended to improve understanding of the on-going work in the different standardization groups and may help identify possible gaps or overlaps.

**Status: September 2022**

|  |  |  |  |
| --- | --- | --- | --- |
| Item No. | Source | Subject / Title | Comment |
| 1. | **Broadband Forum** | **Broadband Forum** [https://www.broadband-forum.org](mailto:liudekun(AT)huawei.com)  Information about Broadband Forum Projects “Access-Next” can be found at following URL [https://www.broadband-forum.org/projects/access-next](https://staging.itu.int/itu-t/workprog/wp_item.aspx)  Published Broadband Forum Technical Reports related to ANT can be found following URL [https://www.broadband-forum.org/technical-reports](https://staging.itu.int/en/ITU-R/study-groups/rsg5/rwp5a/Pages/default.aspx)  Broadband Forum Test Plans related to ANT can be found at following URL [https://www.broadband-forum.org/test-plans](http://www.ieee802.org/3/) | Broadband Forum Work in Progress related to ANT can be found at following URL [https://www.broadband-forum.org/broadband-forum-resources/work-in-progress](https://staging.itu.int/itu-t/workprog/wp_item.aspx) |
|  | **CENELEC TC86A and  TC86BXA**  *SG15 TD 55 GEN SG15 TD 56 GEN September 2022* | **CENELEC TC 86A - Optical fibres and optical fibre cables**  Business Plan of TC 86A: see [https://standards.cencenelec.eu/BPCLC/BP\_TC\_86A.pdf](https://staging.itu.int/md/T17-SG15-C-2817)  CENELEC TC86A adopts IEC SC86A standards to avoid duplication of work. As a result many IEC documents listed as EN IEC 60794-x-yy can be found in the CENELEC program of work. Following EN standards that are relevant to the ANT were published since December 2021:  - EN IEC 60793-1-1:2022 “Optical fibres - Part 1-1: Measurement methods and test procedures - General and guidance”  - EN IEC 60793-2-10:2019/A1:2022 “Optical fibres - Part 2-10: Product specifications - Sectional specification for category A1 multimode fibres”  Update on work program Decision made to cancel the new work item for revision of CLC/TS 50621:2016 “Guideline for the repair of damaged optical fibre cables and microducts” and to extend the validity date till 2025. An update TC/SC Business Plan is required as some parts are outdated. A project team will be set-up to prepare a new draft of a revised business plan.  **CENELEC TC86BXA - Fibre optic interconnect, passive and connectorised components**  Business Plan of TC86BXA: see  <https://standards.cencenelec.eu/BPCLC/BP_TC_86BXA.pdf> | More information about CLC/TC 86A can be found at following URL <https://standards.cencenelec.eu/dyn/www/f?p=305:7:0:25:::FSP_ORG_ID,FSP_LANG_ID:1258369>  More information about CLC/TC 86BXA can be found at following URL  <https://standards.cencenelec.eu/dyn/www/f?p=305:7:0:25:::FSP_ORG_ID,FSP_LANG_ID:1258371> |
|  | **IEC TC 86**  *SG15 TD 54 GEN September 2022*  *SG15 TD 69 GEN September 2022*  continuation of  **IEC TC 86**  *SG15 TD 70 GEN September 2022* | **IEC TC 86 - Fibre optics**  **IEC TC 86 SC 86A - Fibres and cables** Following standards from IEC SC86A WG1 (Fibres) that are relevant to the ANT have been published since the last ITU-T SG15 December 2021meeting: **-** IEC 60793-2-10/AMD1 Ed.7: Amendment 1 - Optical fibres - Part 2-10: Product specifications - Sectional specification for category A1 multimode fibres - IEC 60793-1-1 Ed.5: Optical fibres - Part 1-1: Measurement methods and test procedures - General and guidance  Update on work program Following documents are in ballot process (or in preparation for ballot):  - IEC TR 63309 Ed.1: Active fibres - Characteristics and Measurement Methods – Guidance  **-** Revision of IEC 60793-2-50, Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres  (Incorporated 200-micron coating OD into B-654-A,B,C fibres. A note is added to clarify impact on microbend loss sensitivity for higher MFD B-654.B fibre.)  Following standards from IEC SC86A WG3 (Cables) that are relevant to the ANT are in ballot (or in preparation for ballot) since the last ITU-T SG15 December 2021meeting: - IEC 60794-1-1 Ed.5: Optical fibre cables - Part 1-1: Generic specification – General - IEC TR 63431 Ed.1: Optical fibre cables - Microduct technology – Guidance  **IEC TC 86 SC 86B - Fibre optic interconnecting devices and passive components**  New edition (Ed.3) of 61300-3-35 - Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-35: Examinations and measurements - Visual inspection of fibre optic connectors and fibre-stub transceivers - has been published.  **IEC TC 86 SC 86C Fibre optic systems and active devices**  IEC SC86C WG1 (Fibre optic communications systems and subsystems) informs about the progress of following ANT relevant projects since the last ITU-T SG15 December 2021 meeting:  - Revision of 61280-4-2 Ed.2 - Installed cable plant - Single-mode attenuation and optical return loss measurement - is progressing.  - New standard IEC 61280-4-3 Ed.1 - Passive optical networks – Attenuation and optical return loss measurements - has been published | More information about IEC TC 86 can be found at following URL <https://www.iec.ch/dyn/www/f?p=103:7:::::FSP_ORG_ID:1279>  More information about IEC TC 86 SC 86A and work programme can be found at following URL [https://www.iec.ch/dyn/www/f?p=103:7:::::FSP\_ORG\_ID:1398](https://standards.cencenelec.eu/BPCLC/BP_TC_86A.pdf?p=103:7:::::FSP_ORG_ID:1398)    More information about IEC TC 86 SC 86B and work programme can be found at following URL [https://www.iec.ch/dyn/www/f?p=103:7:::::FSP\_ORG\_ID:1401](mailto:zhangdzh(AT)chinatelecom.cn?p=103:7:::::FSP_ORG_ID:1401)  More information about IEC TC 86 SC 86C and work programme can be found at following URL [https://www.iec.ch/dyn/www/f?p=103:7:::::FSP\_ORG\_ID:1403](https://staging.itu.int/ITU-T/workprog/wp_search.aspx?p=103:7:::::FSP_ORG_ID:1403) |
|  | **ETSI TC ATTM** | **ETSI TC ATTM - Access, Terminals, Transmission and Multiplexing** [https://www.etsi.org/committee/1390-attm](https://staging.itu.int/md/T17-SG15-211206-TD-WP1-0673)Work Programme of ETSI ATTM can be found at following URL [https://portal.etsi.org/tb.aspx?tbid=689&SubTB=689,693,851,706,694,695#/](mailto:fabrice.bourgart(AT)orange.com?tbid=689&SubTB=689,693,851,706,694,695#/) | See Terms of Reference (ToR) at [https://portal.etsi.org/TB-SiteMap/ATTM/ATTM-ToR](mailto:jun.shan.wey(AT)verizon.com) |
|  | **ETSI TC BRAN** | **ETSI TC BRAN - Broadband Access Radio Networks** <https://www.etsi.org/committee/1389-bran>  Work Programme of ETSI BRAN can be found at following URL <https://portal.etsi.org/tb.aspx?tbid=287&SubTB=287#/> | See Terms of Reference (ToR) at <https://portal.etsi.org/TB-SiteMap/bran/bran-tor> |
|  | **ETSI TC Cable** | **ETSI TC Cable – Integrated Broadband Cable Telecommunications Networks** <https://www.etsi.org/committee/1392-cable>  Work Programme of ETSI Cable can be found at following URL https://portal.etsi.org/tb.aspx?tbid=786&SubTB=786,791,792,793,794#/ | See Terms of Reference (ToR) at <https://portal.etsi.org/TB-SiteMap/CABLE/CABLE-ToR> |
|  | **ETSI TC EE** | **ETSI TC EE – Environmental Engineering** [https://www.etsi.org/committee/1395-ee](https://www.broadband-forum.org)  Work Programme of ETSI EE can be found at following URL [https://portal.etsi.org/tb.aspx?tbid=28&SubTB=28,29,30,635,853#/](https://staging.itu.int/net4/ITU-D/CDS/sg/mandate.asp?tbid=28&SubTB=28,29,30,635,853#/) | See Terms of Reference (ToR) at [https://portal.etsi.org/TB-SiteMap/ee/ee-tor](https://www.broadband-forum.org/technical-reports) |
|  | **ETSI ISG F5G**  *SG15 TD 59 GEN September 2022* | **ETSI ISG - Fifth Generation Fixed Network (F5G)** [https://www.etsi.org/committee/1696-f5g](https://www.broadband-forum.org/test-plans)  Projects in ETSI ISG F5G  - In 2021, ETSI ISG F5G has published F5G Release 1 (GR-001 Generation Definition and GR-002 Use Cases). The technology landscape (WI-3) summarizes the network requirements and gaps. Specifically, the analysis of network requirements of FTTR is sent to ITU-T Q3 SG15. Multiple projects intend to specify the E2E characteristics, such as WI-4 architecture, WI-5 QoE, WI-6 E2E management, etc. Security (WI-10 and WI-11) is also one of the important aspects in the F5G group.  - In 2022, ETSI ISG F5G is going to publish its Release 2, including the updated version of WI-8 F5G use case version 2, WI-13 F5G technology landscape version 2, WI-14 F5G architecture version 2, WI-5 F5G QoE definition, WI-7 Industrial PON, WI-6 F5G E2E management & control, WI-12 Security framework, WI-11 AN telemetry architecture.  Besides Work Items, the F5G group also published two white papers: - F5G Vision: Fibre to everywhere and everything https://[www.etsi.org/images/files/ETSIWhitePapers/etsi\_wp\_41\_FSG\_ed1.pdf](https://www.broadband-forum.org/broadband-forum-resources/work-in-progress) - Global Fibre Deployment Index [https://www.etsi.org/images/files/ETSIWhitePapers/WP\_47\_GFDI.pdf](https://www.iec.ch/dyn/www/f)  A new white paper “F5G advanced and beyond” is currently under development. There are major motivation: The first are those that involve the digitization or cloudification of various service or application domains. The second are those that involve improvements in the network infrastructure itself for various purposes.  Work Programme of ETSI F5G can be found at following URL <https://portal.etsi.org/tb.aspx?tbid=885&SubTB=885#/> | See Terms of Reference (ToR) at <https://portal.etsi.org/Portals/0/TBpages/F5G/ISG_F5G_ToR_D-G_APPROVED_20191210.pdf> |
|  | **FSAN**  *SG15 TD 74 WP1 September 2022* | **FSAN - Full Service Access Network**  [https://www.fsan.org**/**](https://www.fsan.org/)  FSAN Management Committee informs ITU-T SG15 that FSAN has been re-chartered as a voluntary consensus standards body.  FSAN is a world-wide industry association of operator companies  who are interested in and committed to the advancement of optical access networks, technologies and services. FSAN sees its mission in coordinating the development of voluntary consensus standards in the  field of optical access networks with the purpose to improve the technology and distribution of broadband optical access services and products for the benefit of the industry as a whole, its customers and consumers. | See FSAN Association 2022 Charter published on 8 August 2022 at <https://www.fsan.org/the-2022-fsan-charter-is-published/> |
|  | **IEEE 802.3**  *SG15 TD 83 WP1 September 2022*  *SG15 TD52 GEN September 2022*    continuation of  **IEEE 802.3** | **IEEE 802.3 Ethernet Working Group** [http://www.ieee802.org/3/](https://www.etsi.org/images/files/ETSIWhitePapers/WP_47_GFDI.pdf)  Since last IEEE 802.3 Working Group liaison communication, there were several changes in the status of access-related projects within the IEEE 802.3 Working Group:  **Update on IEEE P802.3dc Task Force Revision to IEEE Std 802.3-2018 Maintenance #16 Task Force**  The IEEE 802.3dc Task Force has completed its work on the revision of IEEE Std 802.3-2018 as modified by approved amendments IEEE Std 802.3cb-2018, IEEE Std 802.3bt-2018, IEEE Std 802.3cd-2018, IEEE Std 802.3cn-2019, IEEE Std 802.3cg-2019, IEEE Std 802.3cq-2020, IEEE Std 802.3cm-2020, IEEE Std 802.3ch-2020, IEEE Std 802.3ca-2020, IEEE Std 802.3cr-2021, IEEE Std 802.3cu-2021, IEEE Std 802.3cv-2021, IEEE Std 802.3ct-2021, and IEEE Std 802.3cp-2021.  The completed new baseline IEEE Std 802.3 standard was approved on the 13th of May 2022 and published on the 29th of July 2022.  The new version is IEEE Std 802.3-2022, *Standard for Ethernet* <https://standards.ieee.org/ieee/802.3/10422/>  **Update on IEEE P802.3cs Task Force**  The IEEE P802.3cs Task Force has completed its technical work on the  development of increased-reach Ethernet optical subscriber access (so-called  Super-PON), supporting a passive point-to-multipoint ODN with a reach of at  least 50 km with at least 1:64 split ratio per wavelength pair, with at least 16  wavelength pairs for point-to-multipoint PON operation. Operation of 10 Gb/s  downstream and 2.5 Gb/s and 10 Gb/s is also supported. The amendment to IEEE Std 802.3-2022 is currently on track to be published in 2022.      **Update on IEEE P802.3cx Task Force**  The IEEE P802.3cx Task Force is continuing its technical work on the  development of optional enhancements to Ethernet support for time  synchronization protocols to provide improved timestamp accuracy in support of ITU-T Recommendation G.8273.2 'Class C' and 'Class D' system time error performance requirements.The draft standard for this Task Force is currently in the IEEE SA Ballot.  I**EEE 802.3 Greater than 50 Gb/s Bidirectional Optical Access PHYs Study Group** A new IEEE 802.3 Greater than 50 Gb/s Bidirectional Optical Access PHYs Study Group was formed out of July 2022 meeting, targeting the development of higher speed bidirectional fiber access links exceeding the capacity supported by the IEEE Std 802.3cp. | More information about the IEEE P802.3dc Task Force can be found at the following URL [http://www.ieee802.org/3/dc/index.html](http://www.ieee802.org/3/)    More information about the IEEE P802.3cs Task Force, including the PAR, CSD, and Objectives, can be found at following URL [http://www.ieee802.org/3/cs/index.html](https://www.iec.ch/dyn/www/f)      More information about the IEEE P802.3cx Task Force, including the PAR, CSD, and Objectives, can be found at following URL [http://www.ieee802.org/3/cx/index.html](https://staging.itu.int/itu-t/workprog/wp_item.aspx)  More information about the GT50Bidi Study Group can be found at the following URL  [https://www.ieee802.org/3/GT50GBIDI/index.html](mailto:richard.goodson(AT)adtran.com) |

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|  | **IEEE 802.11** | **IEEE 802.11 Working Group for Wireless Local Area Networks** [http://www.ieee802.org/11/](mailto:peter.dawes(AT)vodafone.com)  **Wireless LAN / Wi-Fi Hotspot IEEE P802.11be** is a new task group to work on a major amendment for next generation wireless LAN to Enable Extremely High Throughput (EHT) and Low Latency for Wi-Fi. The new amendment will define Extreme High Throughput (EHT) physical (PHY) and medium access control (MAC) layers capable of supporting a maximum throughput of at least 30 Gbps. IEEE P802.11be - Standard for Information technology--Telecommunications and information exchange between systems Local and metropolitan area networks--Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications Amendment: Enhancements for Extremely High Throughput (EHT) Branded as future Wi-Fi 7 by the Wi-Fi Alliance | More information about IEEE P802.11be can be found at following URLs [https://standards.ieee.org/ieee/802.11be/7516/](https://staging.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx)  <https://beyondstandards.ieee.org/ieee-p802-11be-to-enable-extremely-high-throughput-eht-and-low-latency-for-wi-fi/>  <https://www.ieee802.org/11/Reports/tgbe_update.htm> |
|  | **IEEE 802.16** | **IEEE 802.16 Working Group on Broadband Wireless Access Standards** <http://www.ieee802.org/16/>Note: The IEEE 802.16 Working Group on Broadband Wireless Access Standards is currently in an inactive state of hibernation. |  |
|  | **IEEE 1904** | **IEEE 1904 Access Networks Working Group** <http://www.ieee1904.org>  IEEE 1904 WG is responsible for the maintenance of: - IEEE Std 1904.1-2017 - IEEE Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON) - IEEE Std 1904.1-Conformance01-2014 “Standard for Conformance Test Procedures for Service Interoperability in Ethernet Passive Optical Networks, IEEE Std 1904.1(TM) Package A”  - IEEE Std 1904.1-Conformance02-2014 - Standard for Conformance Test Procedures for Service Interoperability in Ethernet Passive Optical Networks, IEEE Std 1904.1(TM) Package B  - IEEE Std 1904.1-Conformance03-2014 - Standard for Conformance Test Procedures for Service Interoperability in Ethernet Passive Optical Networks, IEEE Std 1904.1(TM) Package C  - IEEE Std 1904.2-2021 - IEEE Standard for Control and Management of Virtual Links in Ethernet-based Subscriber Access Networks    The Working Group is currently developing: - [IEEE P1904.4 Standard for Service Interoperability in 25 Gb/s and 50 Gb/s Ethernet Passive Optical Networks (SIEPON.4)](https://www.ieee1904.org/4/index.shtml) | More information about IEEE 1904.1 can be found at following URL [https://standards.ieee.org/standard/1904\_1-2017.html](https://www.etsi.org/committee/1395-ee)  More information about IEEE 1904.2 can be found at following URL [https://standards.ieee.org/standard/1904\_2-2021.html](https://www.broadband-forum.org/projects/access-next)  More information about IEEE P1904.4 can be found at following URL [https://standards.ieee.org/project/1904\_4.html](mailto:chris.bernard(AT)calix.com) |
|  | **IEEE PLCSC IEEE 1901** | **IEEE Power Line Communications Standards Committee**  [https://sagroups.ieee.org/plcsc/](mailto:liudekun(AT)huawei.com)  **IEEE 1901 Working Group on Power Line Communications** [https://sagroups.ieee.org/1901/](https://staging.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx)  The scope of the IEEE 1901 Working Group is to maintain and advance the IEEE 1901 standard “IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications” originally approved in 2010. This has resulted in the publication of IEEE 1901-2020 - IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications.  Most recent activities of the Working Group include the work on the P1901b project “Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications Amendment 2: Enhancements for Authentication and Authorization”. The Draft Standard has been approved by SA ballot on 2 October 2021 and the Standard published on 18 February 2022.  1901b-2021 - IEEE Standard for Broadband over Power Line Networks: Medium Access Control and Physical Layer Specifications Amendment 2: Enhancements for Authentication and Authorization  In May 2022, IEEE 1901 Working Group started a new P1901c project: Amendment to IEEE Standard 1901-2020: Enhanced Flexible Channel Wavelet (FCW) physical and media access control layers for use on any media. | More information about IEEE 1901 can be found at following URL <https://standards.ieee.org/standard/1901-2020.html>    More information about the draft IEEE 1901.b can be found at following URL <https://standards.ieee.org/ieee/1901b/10362/>  More information about P1901c can be found at following URL <https://sagroups.ieee.org/1901/> |
|  | **ITU-R SG1**  *SG15 TD 554 WP1 April 2021* | **ITU-R SG1: Spectrum Management** ITU-R WP1A: Spectrum engineering techniques  In its liaison in TD 554 WP1 from April 2021, ITU-R WP1A informs that it has started work on studies directed towards the “Evaluation of radiated electromagnetic disturbances of household appliances and their interferences over an IoT network”. The liaison regards Home Networks and IoT. | More information about ITU-R SG1 can be found at following URL <https://www.itu.int/en/ITU-R/study-groups/rsg1/Pages/default.aspx>  More information about ITU-R WP1A can be found at following URL <https://www.itu.int/en/ITU-R/study-groups/rsg1/rwp1a/Pages/default.aspx> |
|  | **ITU-R SG5** | **ITU-R SG5: Terrestrial Services**  WP5A: Land mobile service above 30 MHz (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services  - ITU-R WP5A updated the “Guide to the use of ITU-R texts relating to the land mobile service, including wireless access in the fixe service” on 4 April 2022: see at [https://www.itu.int/oth/R0A06000001/en](http://www.ieee802.org/3/dc/index.html)  ITU-R WP5C - Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services  ITU-R WP5D – IMT Systems | More information about ITU-R SG5 can be found at following URL  [https://www.itu.int/en/ITU-R/study-groups/rsg5/Pages/default.aspx](http://www.ieee802.org/3/cs/index.html)  More information about ITU-R WP5A can be found at following URL [https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5a/Pages/default.aspx](http://www.ieee802.org/3/cx/index.html)  More information about ITU-R WP5C can be found at following URL [https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5c/Pages/default.aspx](https://www.ieee802.org/3/GT50GBIDI/index.html)  More information about ITU-R WP5D can be found at following URL [https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/Pages/default.aspx](http://www.ieee802.org/11/) |
|  | **ITU-R SG6**  *SG15 TD 12 GEN September 2022* *SG15 TD 547 WP1 April 2021* | **ITU-R SG6: Broadcasting Service**  In liaison ITU-RSG6-Doc6/233, ITU-R SG6 informs ITU-T SG15 that it has established a Rapporteur Group - Future of Broadcasting (RG-FOB) at its November 2021 meeting to develop draft new ITU-R texts giving a Vision for the Future of Broadcasting.  The RG-FOB members agreed to work on following topics: Section 1 – Introduction Section 2 – User Experience Section 3 – Production Experience Section 4 – Delivery Experience Section 5 – Accessible Experience Section 6 – Sustainable ExperiencePublication of the final text is targeted in Q2 2023.  ITU-R WP6A: Terrestrial broadcasting delivery  In its liaison in SG15 TD 547 WP1 from April 2021, ITU-R WP6A Rapporteur on “Power Line Telecommunications (PLT) and General EMC-Related Potential Interference Issues” reports that it has analysed the work plan of ITU-T SG15 Question 4 (Section 5.1 in the Access Network Transport Standards Work Plan - Issue 32, September 2020”) and provides a compilation of its work in the document “Update on recent EMC related issues” attached below.    ITU-R WP6A Rapporteur notes that no issues have been identified that would need an immediate response on possible concerns, but issues with G.fast/G.mgfast have been identified where further monitoring, supported by studies by the broadcasting community, is essential. | More information about ITU-R SG6 can be found at following URL <https://www.itu.int/en/ITU-R/study-groups/rsg6/Pages/default.aspx>  More information about ITU-R WP6A can be found at following URL <https://www.itu.int/en/ITU-R/study-groups/rsg6/rwp6a/Pages/default.aspx> |
|  | continuation of **ITU-R SG6** | ITU-R WP6B: Broadcast service assembly and access | More information about ITU-R WP6B can be found at following URL <https://www.itu.int/en/ITU-R/study-groups/rsg6/rwp6b/Pages/default.aspx> |
|  | **ITU-T SG9** | **ITU-T SG9: Audiovisual content transmission and integrated broadband cable networks** J.HiNoC3-REQ “Functional requirements for third-generation HiNoC” has been published with the number ITU-T J.198.1 (01/2022).  Work Programme of ITU-T SG9 can be found at following URL <https://www.itu.int/ITU-T/workprog/wp_search.aspx?sg=9> | More information about ITU-T SG9 can be found at following URL [https://www.itu.int/en/ITU-T/studygroups/2022-2024/09/Pages/default.aspx](https://standards.ieee.org/standard/1904_1-2017.html) |
|  | **ITU-T SG11**  *SG15 TD 34 GEN September 2022*  *SG15 TD 33 WP1 September 2022* | **ITU-T SG11: Signalling requirements, protocols, test specifications and combating counterfeit telecommunication/ICT devices**  ITU-T Study Group 11 informs ITU-T SG15 about the reference table and list of ongoing pilot projects on Conformance and Interoperability testing.  Refer to section 6 below “Basic field of activities related to the ANT Standards Overview” – item 5 - Update from ITU-T SG15 - Version 15 of living list of CIT activities related to technologies based on ITU-T Recommendations from WP1/15  Work Programme of ITU-T SG11 can be found at following URL [https://www.itu.int/ITU-T/workprog/wp\_search.aspx?sg=11](https://standards.ieee.org/standard/1904_2-2021.html?sg=11) | More information about ITU-T SG11 can be found at following URL [https://www.itu.int/en/ITU-T/studygroups/2022-2024/11/Pages/default.aspx](https://www.etsi.org/committee/1390-attm) |
|  | **ITU-T SG15 WP2/15** | **ITU-T SG15: Networks, Technologies and Infrastructures for Transport, Access and Home**  WP2/15 “Optical technologies and physical infrastructures”  Q5/15 ”Characteristics and test methods of optical fibres and cables, and installation guidance” Q7/15 “Connectivity, operation and maintenance of optical physical infrastructures”  Following new Recommendations relevant to ANT have been consented during the ITU-T SG15 September 2022 meeting: - L.109.1 (ex L.oehc); Type II optical/electrical hybrid cables for access points and other terminal equipment  - L.210 (ex L.ncip); Requirements for passive optical nodes: optical wall outlets and extender boxes  - Revision of the Guide on the use of ITU-T L-series Recommendations related to optical technologies for outside plant (LSTP-GLSR) has been approved.  Work Programme of Q5/15 and Q7/15 can be found at following URL [https://www.itu.int/ITU-T/workprog/wp\_search.aspx?sg=15](https://sagroups.ieee.org/plcsc/?sg=15) | More information about ITU-T SG15 can be found at following URL [https://www.itu.int/en/ITU-T/studygroups/2022-2024/15/Pages/default.aspx](https://sagroups.ieee.org/1901/) |
|  | **ITU-T SG16** | **ITU-T SG16: Multimedia and related digital technologies​**  Work Programme of ITU-T SG16 can be found at following URL <https://www.itu.int/ITU-T/workprog/wp_search.aspx?sg=16> | More information about ITU-T SG16 can be found at following URL <https://www.itu.int/en/ITU-T/studygroups/2022-2024/16/Pages/default.aspx> |
|  | **ITU-D SG1 and  ITU-D SG2** | **ITU Telecommunication Development Sector (ITU-D)** The ITU-D Sector published a new guide: “Guide for procuring last-mile connectivity data networks” in June 2022 (see at [https://www.itu.int/hub/publication/d-tnd-05-2022/](https://www.itu.int/hub/publication/d-tnd-05-2022)).  This guide complements “The Last-mile Internet Connectivity Solutions Guide: Sustainable Connectivity Options for Unconnected Sites” published in January 2020 (see at <https://www.itu.int/pub/D-TND-01-2020>)  **ITU-D SG1: Enabling environment for the development of telecommunications/ICTs** Question 1/1: Strategies and policies for the deployment of broadband in developing countries Question 5/1: Telecommunications/ICTs for rural and remote areas  **ITU-D SG2: ICT services and applications for the promotion of sustainable development** Question 1/2 : Creating smart cities and society: Employing information and communication technologies for sustainable social and economic development | More information on the ITU-D Sector can be found at following URL <https://www.itu.int/en/ITU-D/Pages/default.aspx>  More information about ITU-D SG1 can be found at following URL [https://www.itu.int/net4/ITU-D/CDS/sg/mandate.asp?lg=1&sp=2018&stg=1](https://www.itu.int/oth/R0A06000001/en?lg=1&sp=2018&stg=1)  More information about ITU-D SG2 can be found at following URL [https://www.itu.int/net4/ITU-D/CDS/sg/mandate.asp?lg=1&sp=2018&stg=2](https://www.itu.int/en/ITU-R/study-groups/rsg5/Pages/default.aspx?lg=1&sp=2018&stg=2) |
|  | **MoCA** *SG15 TD 82 WP1  September 2022* | **MoCA Link™ 2.5, 5G and Satellite Broadband** MoCA Link™ 2.5 MAC/PHY specification, provides a multi-gigabit solution especially designed for sub-millisecond low-latency point to point links over coaxial cabling for fiber extension, satellite, and 5 G connectivity. | More information about MoCA Link 2,5 can be found at following URL [https://mocalliance.org/mocalink/moca-link-5G-and-satellite-broadband.php](https://portal.etsi.org/TB-SiteMap/ee/ee-tor) |

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## 4. List of Contacts

| **Body** | **Contact person** | **Link to the Web-Site** | **Status of contact**  **Notes Liaison Tracking** |
| --- | --- | --- | --- |
| ATIS Committee STEP |  | [https://www.atis.org/committees-forums/](https://staging.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/Pages/default.aspx) |  |
| Broadband Forum | Lincoln Lavoie Broadband Forum Technical Committee Chair [lylavoie@iol.unh.edu](https://staging.itu.int/net4/ITU-D/CDS/sg/mandate.asp) | [www.broadband-forum.org/](http://www.broadband-forum.org/) | SG15 TD 334 GEN Jan-Feb 2020  Liaison Rapporteur Frank Van der Putten [frank.van\_der\_putten@nokia.com](mailto:frank.van_der_putten@nokia.com) |
| CENELEC  EUROPEAN COMMITTEE FOR ELECTROTECHNICAL STANDARDIZATION |  | [www.cenelec.eu/](http://www.cenelec.eu/) |  |
| CENELEC CLC/TC215,  "Electrotechnical aspects of telecommunication equipment” |  | <https://standards.cencenelec.eu/dyn/www/f?p=305:7:0:25:::FSP_ORG_ID,FSP_LANG_ID:1258297> |  |
| CENELEC TC 86A “Optical fibres and optical fibre cables”  CENELEC TC 86BXA “Fibre optic interconnect, passive and connectorised components” |  | <https://standards.cencenelec.eu/dyn/www/f?p=305:7:0:25:::FSP_ORG_ID,FSP_LANG_ID:1258369>  [https://standards.cencenelec.eu/dyn/www/f?p=305:7:0:25:::FSP\_ORG\_ID,FSP\_LANG\_ID:1258371](https://staging.itu.int/en/ITU-T/studygroups/2022-2024/09/Pages/default.aspx?p=305:7:0:25:::FSP_ORG_ID,FSP_LANG_ID:1258371) | SG15 TD 55 GEN  September 2022  Liaison Rapporteur Daniel Daems  [daniel.daems@commscope.com](https://www.iec.ch/dyn/www/f)  SG15 TD 56 GEN September 2022  Liaison Rapporteur Daniel Daems [daniel.daems@commscope.com](https://staging.itu.int/en/ITU-T/studygroups/2022-2024/11/Pages/default.aspx) |
| ETSI  ETSI= European Telecommunications Standards Institute |  | [www.etsi.org](https://staging.itu.int/ITU-T/workprog/wp_search.aspx) |  |
| ETSI TC ATTM (Access Terminals, Transmission and Multiplexing)  ATTM has the following Working Groups  **AT2**: (Infrastructure, Physical Networks & Communication Systems)  **TM4**: (Fixed Radio Systems)  **TM6** (Wireline Access Network Systems) TG IC CG: (Co-ordination Group Cenelec-ETSI Installations & Cabling) | Chairman: ATTM Dominique Roche eG4U [dominique.roche@eg4u.org](https://staging.itu.int/en/ITU-T/studygroups/2022-2024/15/Pages/default.aspx)  ATTM Technical Secretary  Pat O’Keeffe  eG4U  [Pat.okeeffe@eg4u.ie](mailto:Pat.okeeffe@eg4u.ie) | <https://www.etsi.org/committee/1390-attm>  [portal.etsi.org/home.aspx](http://portal.etsi.org/home.aspx) | SG15 TD 466 WP1 Jan – Feb 2020 |
| ATTM AT2 | Chairman :  Olivier Bouffant  Orange  2 avenue Pierre Marzin  Lannion  France [olivier.bouffant@orange.com](mailto:olivier.bouffant@orange.com) | [portal.etsi.org/home.aspx](http://portal.etsi.org/home.aspx) | SG15 TD 579 WP1 April 2021 |
| ATTM TM4 | Chairman  Dr. Roberto Macchi  SIAE Microelettronica SpA  Via Michelangelo Buonarroti 21  I-20093  Cologno Monzese  Italy  [Roberto.Macchi@SIAEMIC.it](mailto:lylavoie@iol.unh.edu)  Vice Chairman & Secretary  Dr. Nader Zein  NEC Europe Ltd. Athene, Odyssey Business Park West End Road  HA46QE South Ru–slip - UK  [nader.zein@emea.nec.com](https://portal.etsi.org/tb.aspx) | [portal.etsi.org/home.aspx](https://mocalliance.org/mocalink/moca-link-5G-and-satellite-broadband.php) |  |
| ATTM TM6 | Chairman  Pat O’Keeffe  eG4U  [Pat.okeeffe@eg4u.ie](https://staging.itu.int/en/ITU-R/study-groups/rsg5/rwp5c/Pages/default.aspx) | [portal.etsi.org/home.aspx](https://www.atis.org/committees-forums/) | SG15 TD 466 WP1 Jan – Feb 2020 |
| ETSI TC CABLE Integrated Broadband Cable Telecommunication Networks |  | [https://www.etsi.org/committee/1392-cable](mailto:Roberto.Macchi@SIAEMIC.it) |  |
| ETSI TC EE Environmental Engineering |  | <https://www.etsi.org/committee/1395-ee> |  |
| ETSI BRAN Broadband Radio Access Networks |  | <https://www.etsi.org/committee/1389-bran> |  |
| ETSI ISG F5G 5th Generation Fixed Network |  | <https://www.etsi.org/committee/1696-f5g> | SG15 TD 59 WP1 September 2022  Liaison Rapporteur Tony Zeng Huawei China [tony.zengyan@huawei.com](mailto:tony.zengyan@huawei.com) |
| IETF Internet Engineering Task Force |  | <https://www.ietf.org/> |  |
| FSAN=Full Service Access Network | Denis A. Khotimsky Chair, FSAN [denis.khotimsky@verizon.com](https://standards.cencenelec.eu/dyn/www/f) DeZhi (James) Zhang Vice Chair, FSAN [zhangdzh@chinatelecom.cn](mailto:daniel.daems@commscope.com) | [https://www.fsan.org/](mailto:daniel.daems@commscope.com) | SG15 TD74 WP1  Contact made through those attending SG15/Q2 meetings. |
| IEC  IEC = International Electro-technical Commission |  | [www.iec.ch](http://www.etsi.org) |  |
| IEC TC 86 SC 86A Fibres and cables |  | [https://www.iec.ch/dyn/www/f?p=103:7:0::::FSP\_ORG\_ID:1398](https://portal.etsi.org/TB-SiteMap/ATTM/ATTM-ToR?p=103:7:0::::FSP_ORG_ID:1398) | SG15 TD 54 GEN   September 2022  Liaison Rapporteur Sudipta Bhaumik Sterlite Technologies Ltd, India [sudipta.bhaumik@stl.tech](https://staging.itu.int/en/ITU-T/studygroups/com15/Pages/ant.aspx) |
| IEC TC 86 SC 86B Fibre optic interconnecting devices and passive components |  | <https://www.iec.ch/dyn/www/f?p=103:7:0::::FSP_ORG_ID:1401> | SG15 TD 69 GEN September 2022  Makoto Murakami Liaison Rapporteur NTT [murakami.makoto@lab.ntt.co.jp](mailto:murakami.makoto@lab.ntt.co.jp) |
| IEC TC 86 SC 86C Fibre optic systems and active devices |  | <https://www.iec.ch/dyn/www/f?p=103:7:0::::FSP_ORG_ID:1403> | SG15 TD 70 GEN September 2022  Peter Pondillo Liaison Rapporteur Corning Incorporated [pondillopl@corning.com](mailto:pondillopl@corning.com) |
| IEEE 802  IEEE=Institute of Electrical and Electronics Engineers  LAN/MAN Standards Committee |  | [www.ieee802.org/](https://www.etsi.org/committee/1392-cable) | [Joint IEEE 802 and ITU-T Study Group 15 Workshop](mailto:nader.zein@emea.nec.com) Geneva, 25 January 2020 |
| IEEE 802.3  Ethernet Working Group | David Law Chair IEEE 802.3 Ethernet Working Group [dlaw@hpe.com](http://portal.etsi.org/home.aspx) | [www.ieee802.org/3/](mailto:Pat.okeeffe@eg4u.ie) | SG15 TD 83WP1 September 2022   SG15 TD 52 GEN September 2022  Liaison Rapporteur Tom Huber Nokia USA [tom.huber@nokia.com](https://www.etsi.org/images/files/ETSIWhitePapers/etsi_wp_41_FSG_ed1.pdf) |
| IEEE 802.11  Working Group for WLAN Standards |  | [www.ieee802.org/11/](https://www.iec.ch/dyn/www/f) |  |
| IEEE 802.16  Working Group on Broadband Wireless Access |  | [www.ieee802.org/16/](http://www.ieee802.org/16/) |  |
| IEEE 1901 Working Group on Power Line Communications (COM/PLC) | Chair,  Jean-Philippe Faure  [jean-philippe.faure@progilon.com](mailto:jean-philippe.faure@progilon.com) | <https://sagroups.ieee.org/1901/> | SG15 TD 639 WP1 April 2021 |
| IEEE 1904 Access Networks Working Group  IEEE 1904.1 Working Group Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON) |  | <http://www.ieee1904.org/>  [www.ieee1904.org/1/](http://www.ieee1904.org/1/) |  |
| SCTE  Society of Cable Telecommunications Engineers |  | [https://www.scte.org/](mailto:denis.khotimsky@verizon.com) |  |
| ITU=International Telecommunication Union |  | [www.itu.int/en/Pages/default.aspx](mailto:zhangdzh@chinatelecom.cn) |  |
| ITU-R  ITU Radiocommunication Sector |  | [www.itu.int/en/ITU-R/Pages/default.aspx](https://www.fsan.org/) |  |
| ITU-R WP1A | Philippe Aubineau Counsellor, ITU-R SG1 [philippe.aubineau@itu.int](https://portal.etsi.org/tb.aspx)  John Shaw Chairman, Correspondence Group on EMC- Related Interference and Coexistence of wired telecommunication systems with radiocommunication systems [shawzone@gmail.com](https://staging.itu.int/en/Pages/default.aspx) | [www.itu.int/en/ITU-R/study-groups/Pages/default.aspx](http://www.itu.int/en/ITU-R/Pages/default.aspx) | SG15 TD 554 WP1 April 2021 |
| ITU-R WP4B |  | [https://www.itu.int/en/ITU-R/study-groups/rsg4/rwp4b/Pages/default.aspx](mailto:philippe.aubineau@itu.int) |  |
| ITU-R WP5A |  | [https://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5a/Pages/default.aspx](http://www.ieee802.org/11/) |  |
| ITU-R WP5C |  | [www.itu.int/en/ITU-R/study-groups/rsg5/rwp5c/Pages/default.aspx](http://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5c/Pages/default.aspx) |  |
| ITU-R WP5D |  | [www.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/Pages/default.aspx](http://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5d/Pages/default.aspx) |  |
| ITU-R SG6 | Yukihiro Nishida Chairman ITU-R Study Group 6 [nishida.y-fe@nhk.or.jp](mailto:nishida.y-fe@nhk.or.jp) | <https://www.itu.int/en/ITU-R/study-groups/rsg6/Pages/default.aspx> | SG15 TD 12 GEN  September 2022 |
| ITU-R WP6A | John Shaw Rapporteur on Power Line Telecommunication (PLT) and general EMC-related potential [shawzone@gmail.com](mailto:shawzone@gmail.com) | [https://www.itu.int/en/ITU-R/study-groups/rsg6/rwp6a/Pages/default.aspx](mailto:sudipta.bhaumik@stl.tech) | SG15 TD 547 WP1 April 2021 |
| ITU-R WP6B | Paul Gardiner Chairman, WP6B [paul.gardiner@eu.sony.com](https://staging.itu.int/en/ITU-T/Workshops-and-Seminars/202001/Pages/default.aspx) | [https://www.itu.int/en/ITU-R/study-groups/rsg6/rwp6b/Pages/default.aspx](mailto:dlaw@hpe.com) |  |
| ITU-T  ITU Telecommunication Standardization Sector |  | [https://www.itu.int/en/ITU-T/Pages/default.aspx](https://www.etsi.org/committee/1696-f5g) |  |
| ITU-T SG5 |  | [https://www.itu.int/en/ITU-T/studygroups/2017-2020/05/Pages/default.aspx](mailto:tom.huber@nokia.com) |  |
| ITU-T SG9 | Satoshi Miyaji Chairman SG9  KDDI Corporation, Japan [sa-miyaji@kddi.com](https://staging.itu.int/en/ITU-R/study-groups/rsg6/rwp6a/Pages/default.aspx)  Kei Kawamura  Rapporteur for Q1/9  KDDI Corporation ki-kawamura[@kddi.com](mailto:@kddi.com)  Jingyi Xue Rapporteur of Q10/9 ABP, NRTA China [xuejingyi@abp2003.cn](mailto:xuejingyi@abp2003.cn)  TaeKyoon Kim  Rapporteur for Q7/9  ETRI  Broadcasting and Telecommunications Convergence Research Lab. Broadcasting System Research Dept./Digital CATV System Research Team  138 Gajeongno, Yuseong-gu, Daejeon  305-700  Korea (Rep. of) [tkkim@etri.re.kr](mailto:tkkim@etri.re.kr) | <http://www.itu.int/en/ITU-T/studygroups/2017-2020/09/Pages/default.aspx> | SG15 TD 711 WP1 December 2021   SG15 TD 710 WP1 December 2021   SG15 TD 645 WP1 December 2021 (Superseded by TD 710 and TD 711)  SG15 TD 640 WP1 December 2021 |
| ITU-T SG11 | Andrey Kucheryavy Chairman SG11 Saint-Petersburg State University of Telecommunications, Russian Federation [akouch@mail.ru](mailto:akouch@mail.ru) | [http://www.itu.int/en/ITU-T/studygroups/2017-2020/11/Pages/default.aspx](mailto:) | SG15 TD 506 GEN December 2021 |
| ITU-T SG12 |  | [http://www.itu.int/en/ITU-T/studygroups/2017-2020/12/Pages/default.aspx](mailto:shawzone@gmail.com) |  |
| ITU-T SG13 |  | [http://www.itu.int/en/ITU-T/studygroups/2017-2020/13/Pages/default.aspx](http://www.itu.int/en/ITU-R/study-groups/Pages/default.aspx) |  |
| ITU-T SG16 | Sarra Rebhi Office National de la télédiffusion Tunisia [rebhi.sarra@telediffusion.net.tn](https://staging.itu.int/itu-t/workprog/wp_item.aspx) | [http://www.itu.int/en/ITU-T/studygroups/2017-2020/16/Pages/default.aspx](http://www.itu.int/en/ITU-R/study-groups/rsg5/rwp5a/Pages/default.aspx) | SG15 TD 641 WP1 |
| ITU-T SG17 |  | <http://www.itu.int/en/ITU-T/studygroups/2017-2020/17/Pages/default.aspx> |  |
| ITU-T SG20 |  | <http://www.itu.int/en/ITU-T/studygroups/2017-2020/20/Pages/default.aspx> |  |
| ITU-D  Telecommunication Development Sector |  | <https://www.itu.int/en/ITU-D/Pages/default.aspx> |  |
| ITU-D SG1 | Mr Vadym Kaptur Co-Rapporteur for Question 1/1  A.S. Popov Odessa National Academy of Telecommunications Ukraine [vadim.kaptur@onat.edu.ua](mailto:vadim.kaptur@onat.edu.ua)  Mr Fred Onchoka Ong'aro Co-Rapporteur for Question 1/1 Communications Authority of Kenya (CA) Kenya [ongaro@ca.go.ke](mailto:ongaro@ca.go.ke) | [https://www.itu.int/net4/ITU-D/CDS/sg/index.asp?lg=1&sp=2018&stg=1](https://www.itu.int/itu-t/workprog/wp_item.aspx?lg=1&sp=2018&stg=1) | SG15 TD 653 WP1 December 2021 |
| ITU-D SG2 |  | [https://www.itu.int/net4/ITU-D/CDS/sg/index.asp?lg=1&sp=2018&stg=2](mailto:paul.gardiner@eu.sony.com?lg=1&sp=2018&stg=2) |  |
| SCTE  SCTE=Society of Cable Telecommunications Engineers |  | [https://www.scte.org/](https://staging.itu.int/en/ITU-R/study-groups/rsg6/rwp6b/Pages/default.aspx) |  |

# 5. Lead Study Group activities related to the ANT Standards Overview and Work Plan

This list of Lead Study Group activities should be used to identify work items, to show the current status and should be taken as a permanent living document that will accompany the work through the Study Period.

**Status: September 2022**

| **Work Item** | **Title** | **Meeting results** | **Work during interim period** |
| --- | --- | --- | --- |
| 1 | Maintain and update the ANT Standards Overview and ANT Standards Work Plan together with other ITU-T Study Groups and in conjunction with ITU-R and other relevant standards organizations. | The ANT Standards Overview and ANT Standards Work Plan documents have been updated based on received liaison statements (LS) from other ITU-T and ITU-R Study Groups, and other cooperating standards bodies, new approved documents and work plan from ITU-T SG15 WP1 Q2 & Q4, WP2 Q5 & Q7, LS from ITU-T SG15 liaison Rapporteurs and new published documents observed on the web-sites of other relevant standards organizations. These changes have been incorporated in the new version 37 – September 2022 of the ANT Standards Overview and new version 35 -September 2022 of the ANT Standards Work Plan. | Maintain existing correspondence relationships with appropriate groups |
| 2 | Maintain and update the web-based ANT Standards Overview. | The web-based ANT Standards Overview has been updated: see at [https://www.itu.int/net4/ITU-T/landscape#?topic=0.105&workgroup=1&searchValue=&page=1&sort=Revelance](https://www.itu.int/en/ITU-T/Pages/default.aspx#?topic=0.105&workgroup=1&searchValue=&page=1&sort=Revelance) |  |
| 3 | Identify “gaps, overlaps and conflicts” by observing ongoing standardization activities. | ITU-T SG15 Q1/15 noted the activities of ETSI new group on 5th Generation Fixed Network (F5G) activities “*shifting the paradigm from Fibre to the Home to Fibre to Everything Everywhere*”. | To follow up ETSI F5G activities with Q2/15 and Q3/15. |
| 4 | Communicate with other groups, inside and outside ITU-T as needed for coordination purposes and serve as focal point to provide ITU inter-Sector coordination with other ITU-R and ITU-D Study Groups. | The new version of the ANT Standards Overview and ANT Work Plan have been provided via LS for action to  ITU-T TSAG, ITU-T SG9, SG12, SG13, SG16, SG17, ITU-R SG1, SG5, SG6,  ETSI TC ATTM, IEEE 802.3, Broadband Forum, and via LS for information ITU-T SG20 as well as ITU-D SG1 and SG2. | Maintain existing correspondence relationships with the appropriate groups. |
| 5 | Maintain and update a living list of the conformance and interoperability testing (CIT) activities in other organizations related to technologies based on ITU-T Recs. from WP1/15. | Updated list (SG15 TD 33 WP1: Version 15 of living list of CIT activities related to technologies based on ITU-T Recommendations from WP1/15) has been provided via LS for information to ITU-T SG11. | Maintain existing correspondence relationships with the appropriate groups |

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