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| ITU logo | INTERNATIONAL TELECOMMUNICATION UNION**TELECOMMUNICATION STANDARDIZATION SECTOR**STUDY PERIOD 2017-2020 | TSAG-TD1280 |
| **TSAG** |
| **Original: English** |
| **Question(s):** | N/A | E-Meeting, 10-17 January 2022 |
| **TD(Ref.:** [SG15-LS356](http://handle.itu.int/11.1002/ls/sp16-sg15-oLS-00356.docx)) |
| **Source:** | ITU-T Study Group15 |
| **Title:** | LS/r to TSAG on requesting all ITU-T study groups to provide an update on Recommendations related to WTSA-16 Resolution 73 (Rev. Hammamet, 2016) (reply to TSAG-LS45) [from ITU-T SG15] |
| **Purpose:** | Information |
| **LIAISON STATEMENT** |
| **For action to:** | - |
| **For comment to:** | - |
| **For information to:** | TSAG |
| **Approval:** | ITU-T SG15 meeting (E-meeting, 17 December 021) |
| **Deadline:** | N/A |
| **Contact:** | Jean-Marie FromenteauCorning IncorporatedUSA | Tel: + 49 9561 42 74 20Email: fromentejm@corning.com  |

This liaison statement answers [TSAG-LS45](https://www.itu.int/ifa/t/2017/ls/tsag/sp16-tsag-oLS-00045.docx).

A new liaison statement has been received from SG15.

This liaison statement follows and the original file can be downloaded from the ITU ftp server at <http://handle.itu.int/11.1002/ls/sp16-sg15-oLS-00356.docx>.

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| **STUDY GROUP 15** |
| **Original: English** |
| **Question(s):** | All/15 | E-meeting, 6-17 December 2021 |
| **LS(Ref.: SG15-TD782/PLEN-Annex 1)** |
| **Source:** | ITU-T Study Group15 |
| **Title:** | LS/r to TSAG on requesting all ITU-T study groups to provide an update on Recommendations related to WTSA-16 Resolution 73 (Rev. Hammamet, 2016) (reply to TSAG-LS45) |
| **LIAISON STATEMENT** |
| **For action to:**  | - |
| **For comment to:** | - |
| **For information to:** | TSAG |
| **Approval:** | ITU-T SG15 meeting (E-meeting, 17 December 021) |
| **Deadline:** | N/A |
| **Contact:** | Jean-Marie FromenteauCorning IncorporatedUSA  | Tel: + 49 9561 42 74 20Email: fromentejm@corning.com |
|  |
| **Keywords:** | WTSA-16 Resolution 73; Recommendations |
| **Abstract:** | This LS contains the reply of ITU-T SG15 to TSAG request to provide an update on existing ITU-T Recommendations related to Resolution 73 (Rev. Hammamet, 2016) - Information and communication technologies, environment and climate change.  |

ITU-T Study Group 15 took note of the liaison statement from TSAG - [TSAG-LS45](http://handle.itu.int/11.1002/ls/sp16-tsag-oLS-00045.docx) - from virtual meeting, 29 October 2021 requesting all ITU-T Study Groups to provide an update on any existing ITU-T Recommendations which could allow to assess their implications and the application of best practices in the light of the protection of environment and climate change.

Working Party 1 of ITU-T SG15 develops Recommendations for energy-efficient (through power saving features) and high speed (multi‑Mbit/s and Gbit/s) broadband technologies deployed in the fibre- and copper-based access and home networks as well as for systems supporting smart-grid applications.
- See below Table 1 “Existing ITU-T SG15 Recommendations for broadband technologies in access and home networks related to WTS-16 Resolution 73 as well as smart grid applications”

ITU-T SG15 has referenced specifications from the Broadband Forum (TR-069) providing network functions which enable management of customer premises equipment without technicians visiting the customer location, thereby reducing the need to dispatch trucks.

Further ITU-T SG15 would like to point out that Question 8 of Working Party 2 started two new work items related to scientific monitoring submarine cable system to enable both telecommunication and sensing functionalities for ocean and climate monitoring as well as disaster warning.
- G.dsssc “Dedicated Scientific Sensing Submarine cable system”

- G.smart “Scientific Monitoring and Reliable Telecommunication Submarine Systems”

ITU-T SG15 looks forward to further cooperation with TSAG.

**Table 1
Existing ITU-T SG15 Recommendations for broadband technologies in access and home networks related to WTS-16 Resolution 73 as well as smart grid applications**

1. **Fibre Optic Broadband Access**
	1. **Point-to-Point (PtP) Ethernet (Bidirectional single fibre systems)**
* G.985: 100 Mbit/s point-to-point Ethernet based optical access system
* G.986: 1 Gbit/s point-to-point Ethernet-based optical access system
* G.9806: Higher-speed bidirectional, single fibre, point-to-point optical access system (HS-PtP)
	1. **Passive Optical Network (PON)**
* G.984.x series: Gigabit-capable passive optical network (G-PON)
* G.987.x series: 10-Gigabit-capable passive optical network (XG-PON)
* G.9807.1: 10-Gigabit-capable symmetric passive optical network (XGS-PON)
* G.9807.2: 10 Gigabit-capable passive optical networks (XG(S)-PON): Reach extension
* G.989.x series: 40-Gigabit-capable passive optical network (NG-PON2)
* G.9804.x series: Higher Speed Passive Optical Networks
* G.9802.x series: Multiple-wavelength passive optical networks (MW-PONs)
* G.988: ONU management and control interface (OMCI) specification
* G Suppl. 45: GPON power conservation
	1. **Radio over Fibre (RoF)**
* G.9803: Radio over fibre systems
1. **Metallic Conductor Broadband Access**
	1. **Digital Subscriber Line (DSL) technology**
* G.992.x series: Asymmetric digital subscriber line (ADSL) transceivers
* G.993.x series: Very high speed digital subscriber line transceivers (VDSL)
* G.9701: Fast access to subscriber terminals (G.fast) - Physical layer specification
* G.9711: Multi-gigabit fast access to subscriber terminals (MGfast) – Physical layer specification
1. **Technologies for in-premises networking and related access applications**
	1. **Wireline home networking**
* G.995x series: Phoneline networking transceivers
* G.996x series: Unified high-speed wireline-based home networking transceivers
* Technical Paper TPLS.G-HN (07/2015): Operation of G.hn technology over access and in-premises phone line medium
	1. **Optical Wireless Communication / Visible Light Communication**
* G.9991: High-speed indoor visible light communication transceiver – System architecture, physical layer and data link layer specification
* G.9992: Indoor optical camera communication transceivers - System architecture, physical layer and data link layer specification
	1. **Smart grid applications**
* G.990x series: Narrowband orthogonal frequency division multiplexing power line communication transceivers
* G.9958: Generic architecture of home networks for energy management
* G.9959: Short range narrowband digital radiocommunication transceivers – PHY & MAC layer specifications
* G.996x series: Unified high-speed wireline-based home networking transceivers
* Technical Paper GSTP-HNSG: Technical paper on the use of G.hn technology for smart grid

	1. **Remote management of CPE**
* G.9980: Remote management of customer premises equipment over broadband networks – Customer premises equipment WAN management protocol

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