SMART Submarine Cable Systems Resolution
at the
ITU-T World Telecommunication Standardization Assembly–20 (WTSA-20)
Geneva
1 – 9 March 2022

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Summary

"Taking into consideration that the Assembly acknowledged the importance of SMART (Science Monitoring and Reliable Telecommunications) Cables for climate change and seismic monitoring, and the wide support of the Assembly for the roll-out of activities around this concept within ITU-T Sector;"

Considering that standardization of the submarine SMART cables is needed in order to ensure harmonized development, implementation and operation of these systems globally, making it possible to use submarine SMART cables for climate and ocean observation, sea level monitoring, observations of Earth structure, and tsunami and earthquake early warning and disaster risk reduction."

Several actions directed to the relevant ITU Entities were then provided.

from WTSA-20 proceeding (to be published soon)

Detail

Portugal initiated the SMART Submarine Cable Systems Resolution and gave notice of this activity to ITU TSB. It was accepted by European countries in preparatory meetings (COM-ITU, CEPT; CEPT includes 46 Administrations from Europe) as a formal European Common Proposal (ECP).

In the initial COM4 plenary (around 1.000 delegates from all Member States), it was presented as an ECP by Portugal representing Europe with support from a number of other countries, but there were objections raised by US, Russia, China, and Japan, that the Resolution was 1) unnecessary because there were already SMART ITU activities in progress (e. g., Study Group 15/Q8, G.smart); 2) it was too technology specific for a full Resolution (typically technology agnostic), and 3) one could add a few phrases to existing resolutions on climate and Disaster Risk Reduction (DRR).

The suggestion was made and the Chair of COM4 agreed, to send it to an "informal working group" (convened by Portugal) to resolve and return to COM4. In four meetings these basic objections could not be resolved, but rather the time was spent improving the basic Resolution (benefiting from amendments from all Members, including those opposing a new Resolution) as there was significant support from Europe and others (and the objecting countries did not object to the words in the Resolution, but the higher-level process).

The slightly revised Draft new Resolution - Smart Submarine Cable Systems was presented by the convener of the informal group to the COM4 Plenary and again with the same supporting and opposing views voiced as before. The same countries objected. Portugal (representing itself as well as the 46 countries of Europe), France, Mozambique, Germany, Egypt, UK, Italy, Australia, Czech Republic, Iran, Mexico, South Africa, Romania, Brazil, and Italy expressed their support. Italy proposed a compromise, to include the "action" part of the Resolution in the WTSA meeting report. This was accepted by consensus. (NB, ITU meeting rules call for complete consensus for a proposal/action to be accepted to proceed.). The text in the Plenary report and the Draft new Resolution, which was updated during WTSA-20 but not adopted, are given below.

Europe will be presenting amendments to existing ITU climate and DRR resolutions, to explicitly mention SMART (phrases, a few sentences to complement, for example, mentions of satellite sensing), for the upcoming WTDC (World Telecommunications Development Conference) and the ITU Plenipotentiary.

from WTSA-20 proceeding (to be published soon)

4.4.3 The Plenary agreed to include the text on "SMART Submarine Cable Systems", found below, in the meeting report of WTSA-20:

Taking into consideration that the Assembly acknowledged the importance of SMART (Science Monitoring and Reliable Telecommunications) Cables for climate change and seismic monitoring, and the wide support of the Assembly for the roll-out of activities around this concept within ITU-T Sector;

Considering that standardization of the submarine SMART cables is needed in order to ensure harmonized development, implementation and operation of these systems globally, making it possible to use submarine SMART cables for climate and ocean observation, sea level monitoring, observations of Earth structure, and tsunami and earthquake early warning and disaster risk reduction.

4.4.4 **WTSA-20 Action 3:** To forward the text above to TSAG for coordination and to the relevant study groups for action, as appropriate.

4.4.5 **WTSA-20 Action 4** instructs ITU-T study groups to study the concept of SMART cables and encourage further consideration of related issues that impact the feasibility of related projects and the deployment of SMART cables, invites the study groups to report on their activities to TSAG as part of their regular reporting.

4.4.6 **WTSA-20 Action 5** instructs the Director of the Telecommunication Standardization Bureau to liaise with the Joint Task Force (JTF) SMART Cables, other standards-development organizations (SDOs), research institutes and other organizations and stakeholders to exploit synergies and avoid duplication of efforts among such organizations.

4.4.7 **WTSA-20 Action 6** invites the Secretary-General to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts related to SMART cables as they contribute to the achievement of the goals of the 2030 Agenda for Sustainable Development.

4.4.8 **WTSA-20 Action 7** invites Member States, Sector Members and Associates to contribute actively to the work of the JTF SMART Cables;

ADD ADHOC/76/1

[DRAFT NEW RESOLUTION [ECP-2]

SMART submarine cable systems

(Geneva, 2022)

The World Telecommunication Standardization Assembly (Geneva, 2022),

recalling

a) the concept of SMART (Scientific Monitoring And Reliable Telecommunication) cable systems, integrating scientific sensors to measure ocean bottom temperature, pressure and seismic acceleration in the repeaters of submarine cables, was proposed during an ITU-T Study Group 15 meeting in February 2011;

b) the International Telecommunication Union (ITU), the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (UNESCO/IOC), and the World Meteorological Organization (WMO) established the Joint Task Force on SMART subsea cable systems (JTF SMART Cables) in late 2012;

c) JTF SMART Cables is actively studying this issue with more than 150 experts representing more than 90 organizations since its creation,

d) the general framework of environmental agenda promoted within the work of the ITU-T set in resolution 73,

considering

a) that environmental issues, including climate change, are acknowledged now as leading global challenges facing humanity, requiring global collaboration and careful monitoring;

b) tsunami and earthquake early warning is important to save lives by giving time to evacuate and seek protection to affected people, in particular with economies in transition, developing

countries, and especially the least developed countries;

c) the sustainable development of built infrastructure depends on understanding sea level rise, ocean processes and the disaster risk due to natural hazards;

d) the global network of submarine telecommunications cables is critical, predominately privately owned, infrastructure enabling today's society, susceptible to natural hazards such as earthquakes and submarine landslides and external aggression;

e) the information obtained from the SMART cables can be used for:

i) climate change monitoring (ocean circulation, heat content and sea level rise);

ii) seismic monitoring (earth structure and related hazards);

iii) near-to-far field tsunami and earthquake early warning, contributing to disaster risk reduction;

iv) warning of hazards to cables, and improved routing of cable systems;

v) quantifying risk to inform sustainable development of coastal and offshore infrastructure,

f) these issues are integral to the United Nations 2030 Agenda for Sustainable Development, including Sustainable Development Goal 13 Climate, SDG-14 Oceans, SDG-9 Infrastructure and SDG-11 Cities;

g) the regulatory, legal, economic and commercial issues related to the proposed dual use of privately owned submarine cables first need to be fully understood.

h) the UN Decade of Ocean Science for Sustainable Development 2021-2029 will facilitate the study and implementation of needed, new innovative technology to achieve the SDGs;

noting

a) JTF SMART Cables has held annual workshops since its creation and published many papers and reports;

b) the international decadal conference Ocean Observations 2019 (OceanObs19) recommended the exploratory study and development of a range of ocean observation technologies, including transition telecommunications + sensing SMART subsea cable systems from present pilots to trans-ocean implementation, to address climate, ocean circulation, sea level, and tsunami and earthquake early warning, ultimately with global coverage,

c) that SMART cable projects are on proposal stage or in progress ,

d) that standardisation of the submarine SMART cables is needed in order to ensure harmonized development, implementation and operation of these systems globally, making it possible to use all the data available from the whole submarine SMART cable network,

resolves

1 to encourage the SMART Cable community, including the JTF SMART Cables to continue its activities to promote current and future projects, and to conduct studies and reports on issues impacting the feasibility of operational SMART cable systems;

2 to study the concept of SMART cables and encourage further consideration of related issues that impact the feasibility of related projects and the deployment of SMART cables

instructs the Telecommunication Standardization Advisory Group

to coordinate and report on activities of the ITU-T Study Groups related to SMART Cables

instructs all study groups of the ITU Telecommunication Standardization Sector

to cooperate with the JTF SMART Cables to develop appropriate Recommendations,

instructs the Director of the Telecommunication Standardization Bureau, in collaboration with the Directors of the other Bureaux

to report on progress of the JTF SMART Cables;

to liaise with JTF SMART Cables, other standards development organizations (SDOs), research institutes and other organizations and stakeholders to facilitate collaboration between ITU-T, the JTF SMART Cables and those organizations to exploit synergies and avoid duplication of efforts,

invites the Secretary-General

to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts related to SMART cables and to contribute to the achievement of the goals of the 2030 Agenda for Sustainable Development,

invites Member States, Sector Members and Associates

to contribute actively to the work of the JTF SMART Cables.]