



Ministero dello Sviluppo Economico

Under the aegis of G20 Italian Presidency 2021

“Submarine networks: the infrastructure of a global connection”

Webinar organized by the Ministry of Economic Development

4 August 2021, 14.00-16.30 CEST

Our society is largely dependent on subsea infrastructures. Over 1.3 million kilometres of submarine cables cross the world and make global connections happen: about 97% of international data traffic is carried over a constantly evolving network of more than 400 undersea fiber-cables.

This physical infrastructure underpins Internet and online services and activities, and we all rely on its security and resilience. Therefore, we will discuss the main opportunities and challenges linked to the growth and transformation of the submarine cable networks. Experts from both the academic environment and industry will explore different perspectives: economic and social value of projects, emerging technologies, international research and cooperation, protection and security of cables, in the light of the present international law framework.

The webinar is organized by the Italian Ministry of Economic Development, under the aegis of G20 Italian Presidency 2021, and back-to-back with the G20 Digital Ministers' Meeting that will take place in Trieste, 5 August.

Registrations will be possible until **Tuesday, 3 August EoB**: please send an e-mail to submarine-cables-workshop@mise.gov.it (specifying name, e-mail address and organization).

Agenda

14.00-14.10: Welcome remarks

Anna Ascani, Undersecretary of State of Economic Development (Italy)

Manlio Di Stefano, Undersecretary of State for Foreign Affairs (Italy)

14.10-15.15: Session 1

Global development of submarine data connectivity

- History, trends and economics
Prof. Fernando Liello, GARR Consortium
- Google's submarine cables: stepping up to society's future
Jayne Stowell, Google Global Submarine Networks
- Ellalink, a direct connection between Europe and South America
Maximiliano Salvadori Martinhão, President of the Board of Directors at the Brazilian National Education and Research Network (RNP), Secretary of Radiodiffusion at the Brazilian Ministry of Communications
- A wider cooperation for an enlarged Med Region
Elisabetta Romano, CEO at Sparkle
- Reaching Antarctica
Horacio Martinez, President of Grupo Datco

Panel discussion

The value of the partnership between Business and Research in building a global and inclusive submarine network

Moderator: Luca De Biase, Editor at Il Sole 24 Ore

15.15-16.20: Session 2

Law, security and environment

- Maritime law and evolution of the international legal regime
Kent Bressie, partner with Harris, Wiltshire & Grannis LLP, Law Adviser to the International Cable Protection Committee
- Submarine communications cables environmental issues
Mike Clare, Marine Environmental Advisor to the International Cable Protection Committee and Principal Researcher at National Oceanography Centre, UK

- Innovations in submarine networks technology for enhanced protection and environment monitoring
Alain Biston, CEO at Alcatel Submarine Networks
- Maintenance activities on submarine cables
Hirimitsu Todokoro, Senior Advisor at KDDI Corporation
- Submarine connections beyond data: environmental sensing and quantum technologies
Davide Calonico, Head of Division at the Italian Metrology Institute (INRIM)
Prof. Paolo Villoresi, University of Padua

Panel discussion:

Strengthening the security and resilience of submarine cables: policies and pathways

Moderator: Tara Davenport, Assistant Professor, National University of Singapore

Closing remarks

Anna Ascani, Undersecretary of State of Economic Development

Speakers' bio

Prof. Fernando Liello, GARR Consortium

Fernando Liello is a member of the Technical and Scientific Committee and one of the original designers of the Italian research network (GARR). As director of GEANT and chair of the European Consortium of the National Research Networks, he has been a protagonist in the creation of the European research network backbone. Fernando has led many initiatives, both in Europe and Latin America, for the creation of fibre networks and has been the proposer and coordinator of the technical, commercial and economic feasibility study (ELLA) for the direct submarine cable between Europe and Latin America. Currently he is chair of the BELLA (Build Europe Link with Latin America) programme steering Committee, that coordinates the not-for-profit participation in the EllaLink cable and the projects to upgrade the fibre backbone to distribute the transatlantic services to the National Research Networks in Latin America via a system of terrestrial and submarine cables.

Jayne Stowell, Google Global Submarine Networks

Jayne is a Senior Strategic Negotiator in Google's Global Network Acquisition Group. Her focus is development, deployment and management of new submarine cable systems. Jayne has led various submarine cable initiatives in most parts of the world and has served as chairman of many consortium owned submarine cables. Her submarine cable origins began with MFS

Communications (later MCI WorldCom) and Level 3 Communications. Jayne is a member of the board of both International Cable Protection Committee and SubOptic Ltd. She also holds a MBA from Northwestern University's Kellogg Graduate School of Management.

Elisabetta Romano, CEO at Sparkle

Elisabetta Romano has thirty years of experience in the Telecommunications, IT and Media sector, where she has held roles with increasing amounts of responsibility. She has dealt with corporate strategies using an approach focused on sector development and transformation, in particularly challenging environments and contexts in Italy and abroad. She began working in Alcatel and then in Ericsson, where she was also VP Head of Core Network, a department focused on the development of connectivity services. Before Sparkle, Elisabetta joined the Italian group TIM as Chief Technology Officer in 2018. Sparkle is a global service company providing ICT solutions, global connectivity and services. Sparkle Global IP Backbone "Seabone" ranks 5th worldwide.

Luca De Biase, editor at "Il Sole 24 Ore"

Innovation editor at Il Sole 24 Ore and Nòva24. Knowledge Management visiting professor at Pisa University. Co-founder of the association ItaliaStartup. Co-curator of the Technology Biennale in Torino. Director at Media Ecology Research, Bruxelles, and Imminent, Translated's Research Center, Rome. Latest books: "Il lavoro del futuro" (Work in the future) 2018. The Media Ecology Association awarded Luca with The James W. Carey Award for Outstanding Media Ecology Journalism 2016. Luca has also been: member of the Commission for rights on the internet, Chamber of Deputies at the Italian Parliament 2014-2016; member of the Big Data task force at the Ministry of Research; advisor to the Prime Minister for the Digital Agenda and has been working with the Italian Ministry for Economic Development in a task force aimed at improving the innovative-startup ecosystem.

Kent Bressie, partner with Harris, Wiltshire & Grannis LLP, Law Adviser to the International Cable Protection Committee

Kent is ICPC's Legal Adviser and a partner and head of international practice at Harris, Wiltshire & Grannis LLP in Washington, D.C., USA. Kent advises ICPC and its members on a wide variety of law of the sea, public international law, cable protection, and security matters and represents ICPC before various governments, regional bodies, and international institutions and organizations, including the International Seabed Authority, the Intergovernmental Conference negotiating a treaty on marine biodiversity beyond national jurisdiction, and various U.N. agencies. In his law practice, he focuses on the development, regulation, and protection of cross-border telecommunications networks, critical infrastructure, and digital trade. He represents submarine cable operators, suppliers, and investors across the full range of commercial, regulatory, and policy issues affecting submarine cables. He is a graduate of Stanford University and the University of Chicago Law School.

Mike Clare, Marine Environmental Advisor to the International Cable Protection Committee and Principal Researcher at National Oceanography Centre, UK

Dr Mike Clare is a Principal Researcher in Ocean BioGeoscience at the National Oceanography Centre, UK, where his research focuses on natural and human disturbances on the seafloor, impacts to and of offshore infrastructure, and novel monitoring of natural hazards in the ocean. He was appointed as the International Cable Protection Committee's Marine Environmental Advisor in 2019 and regularly presents evidence on ocean science to organisations such as the UK Cabinet Office, OSPAR Commission, and EU Council Working Party on the Law of the Sea. Prior to joining NOC in 2015, he worked for ten years as a consultant to a range of offshore engineering industries.

Alain Biston, CEO at Alcatel Submarine Networks

Alain has been working for more than 25 years in telecoms, with Nortel, then Alcatel-Lucent/Nokia, holding management and leadership positions in R&D, Product Line, Industrial Operations, Sales & Marketing, Business Unit P&L accountability. He brings to ASN his thorough knowledge of the telecoms industry, his extensive international management background with several postings overseas, and his field-proven customer-facing acumen. Since 2016, as a Nokia executive, Alain has been Senior VP Customer Operations End2End, then Senior Vice President in charge of Mobile Network business management, and until now President & CEO of Alcatel Submarine Networks ('ASN'). Alain holds a degree in Information Technology from INSA, Rennes, France. He was also honored with National Order of Merit in 2006 from the French Minister of Industry.

Hiromitsu Todokoro, KDDI Corporation

Hiromitsu Todokoro is a Senior Advisor to the Submarine Cable Planning and Engineering Section of KDDI, Japan's Telecommunication Carrier. As the leader of submarine cable planning, he has been involved in organizing various new submarine cable consortia and has served as the Management Committee chairman of cable systems including Unity, FASTER and APCN2. Hiromitsu has been elected as an Executive Committee member of the International Cable Protection Committee since 2018. He holds an MSc from London University (Imperial College) and a Bachelor of Liberal Arts (International Relations) from the University of Tokyo.

Davide Calonico, Italian Metrological Institute (INRIM)

Davide Calonico is the Head of the Division "Quantum Metrology and Nanotechnology" at the Italian Metrological Institute INRIM, His focus is on quantum technologies, metrology, and certification. DC contributed to atomic clocks science and technology, he coordinates the laboratory Piquet (Piemonte Quantum Enabling Technology), with a 500 m² clean room for nanostructured quantum devices research. He developed the Italian Quantum Backbone, a fibre research infrastructure, 1850 km long, connecting all the main towns, large public laboratories (CNR, INAF, ASI) and private companies (Leonardo, Thales Alenia Space, Telespazio). He

applied the expertise from the Italian Backbone to submarine cables, demonstrating effective entanglement distribution, QKD feasibility, sensing for seismological applications, and accurate synchronization.

Paolo Villoresi, University of Padua

Paolo Villoresi is a Full Professor of Physics at the University of Padova and Director and Founding member of the Padua Quantum Technologies Research Center. He studied Physics and Applied Mathematics at University of Padova, where he is permanent faculty since 1994. He proposed in 2002 and then realized the first single photon exchange with a satellite using the ASI-MLRO telescope in Matera and since then demonstrated the first quantum communications (QC) in Space, exploiting polarization and temporal modes. Moreover, the first use of OAM modes in QC, the generation of random numbers using quantum processes at tens of Gbps were accomplished, beside the implementation of novel quantum-key-distribution (QKD) protocols and of fundamental tests of Quantum Mechanics both in Space and in the Lab, including the recent daylight free-space quantum QKD using integrated photonics circuits. He has promoted two spin-off companies and 12 industrial patents and patent applications.

Tara Davenport, Assistant Professor, National University of Singapore

She is currently an Assistant Professor at National University of Singapore (NUS) where she teaches Principles of Property Law, Law of the Sea and International Regulation of Shipping. She is co-rapporteur for the International Law Association's Committee on Submarine Cables and Pipelines and was a member of the Legal Working Group on Deep Seabed Mining Liability. Her research interests are in public international law, law of the sea, marine environmental law and international dispute settlement. Dr. Tara Davenport holds a Bachelor of Laws from the London School of Economics, a Master of Laws (Maritime Law) from the National University of Singapore (NUS), a Master of Laws and Doctor of Juridical Science from Yale Law School.