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NOTE

From: General Secretariat of the Council
To: Council

Subject: European Data Gateways as a key element of the EU's Digital Decade
Ministerial Declaration - progress report and timetable of upcoming
milestones
- Information from the Commission

Delegations will find in the annex an information note prepared by the Commission on the above mentioned subject for consideration under "Any other business" at the meeting of the Council (Transport, Telecommunications and Energy) on 5 December 2023.

European Data Gateways as a key element of the EU's Digital Decade Ministerial Declaration – progress report and timetable of upcoming milestones

Over 99% of intercontinental data traffic is carried through submarine cables. In the current context of rising geopolitical tensions, governments in all regions are paying particular attention to their potential reliance on critical cables that may cause significant communications disruptions in case of coordinated attacks. Recent initiatives such as the Undersea Cable Control Act proposed by the US House of Representatives or the Chinese Europe-Middle East-Asia cable project show the importance but also the sensitivity of these international links when it comes to ensuring the resilience of global submarine connectivity.

This note outlines a number of actions conducted in the follow-up of the “*European Data Gateways as a key element of the EU's Digital Decade Ministerial Declaration*”, which was signed by the 27 Member States in 2021 during the Portuguese Presidency of the Council. It is structured along the 8 actions proposed by the Ministerial Declaration, with timing indications of upcoming milestones and possible actions to accelerate the deployment and ensure the security of EU telecommunications infrastructure.

Action 1: “*Conduct a study to map digital public and private connectivity infrastructures (terrestrial, submarine and space) outside of the EU; analyse the main stakeholders in digital connectivity; forecast infrastructure growth in the next ten years and make a gap analysis of digital connectivity infrastructure needs.*”

In line with the Ministerial Declaration's call, the Commission commissioned a study conducted by an external contractor to monitor international connectivity, completed in May 2021. The study contains a regional breakdown meant to support the analysis of the four distinct platforms of connectivity networks around the EU established by the Ministerial Declaration (EU-Atlantic, EU-Mediterranean, EU-North Sea and Arctic and EU-Baltic to Black Sea). The full study is available at the Publications Office of the European Union ([link](#)).

Moreover, and in accordance with the Council Recommendation on Critical Infrastructure Resilience (2023/C 20/01), two studies were launched on submarine cable resilience in May and July 2023 to conclude in November 2023. Their results will be shared with Member States with the appropriate sensitivity handling.

Action 2: “*Estimate the incoming/outgoing data flow volumes to/from the different parts of the World, capitalizing on the ongoing European Commission's work related to the mapping of cloud-based data flows, and benchmark those against the EU's current and future international connectivity availability and capacity.*”

One of the seven actions of the European Strategy for Data is the creation of an Analytical Framework and a Methodology that estimate both the volume and economic value of data flows across the EU and with key third countries.

Aligned with the European Digital Gateways Ministerial Declaration and in order to deliver on this key action, the Commission conducted two studies. In 2021, the [“Mapping Data Flows”](#) study developed a novel Framework that quantifies volume of cloud data flows within the European Union (EU), the UK and EFTA countries. Data are available per Member State, economic sector and company size from 2016 with forecasts up to 2030. In 2022, the [“Economic Values of Data Flows”](#) study developed a Methodology to estimate economic value of cloud data flows across the EU. It moreover provided key highlights on destination and volume of EU cloud data flows to third countries (i.e. extra-EU data flows) and their associated energy requirements through backhaul networks.

Based on the results of these two studies, the Commission built an [Interactive European Strategic Data Flow Visualisation Mapping](#), which enables any external user to access online up to 1,100 data points on volume, economic value and forecasts of cloud data flows per Member State, economic sector and company size from 2016 to 2030.

In 2023, the Commission conducts a final study *“Modelling Update”*, aiming at improving the Data Flow Analytical Framework, the Methodology to assess economic value of cloud data flows; and at providing up-to-date data on cloud data flows until 2032. A key area under review is the destination and volume of EU cloud data flows (i.e. extra-EU data flows) to America, the Middle-East and Africa, taking into consideration the geography of submarine cables.

The study results as well as the final update of the Interactive European Strategic Data Flow Visualisation Mapping are expected to be available at the latest in Q1 2024.

Action 3: *“Continue to develop the global **Géant network**, which is a key element of the EU’s overall digital connectivity strategy. This includes R&D funding for submarine cables technologies and support for Africa Connect, EUMEDConnect, EaPConnect, the Trans-Eurasia Information Network, RedClara and CAE-100, as well as the access tools such as EduRoam. New possible Géant partners include Nordunet, which is planning a development in the Arctic region.”*

GÉANT is a member of the CAE-1 collaboration, which consists of six parties: GÉANT, TEIN*CC, AARNet (Australia), SingAREN (Singapore), NORDUnet and SURFnet. Together, the CAE-1 partners have procured and deployed a long-term 100Gbps link between Singapore and London, whereby each has a share of the capacity available.

At the Global Gateway Forum 2023, GÉANT signed a EUR 40 million agreement with the European Commission, the European Investment Bank and AFR-IX Telecom on the MEDUSA submarine cable project to boost trans-Mediterranean R&E connectivity.

Today, EduRoam provides simple, easy, and secure connectivity from more than 33.000 hotspots across more than 100 countries. There were a new record of 6.4 billion authentications in 2022 alone.

EllaLink landings in Cabo Verde, Morocco and potentially Mauritania expand the opportunities to expand on the benefits of BELLA connectivity with new links connecting Africa to support research and education collaboration across the EU, Latin America and Africa.

NORDUnet and GÉANT are investigating various options in the North/Arctic region including alternative routes to Canada, US and Japan.

Connectivity with the eastern Mediterranean region is also planned to be upgraded via the new MEDUSA submarine cable system.

Part of the recently renewed and ongoing GN5 Framework Partnership Agreement in Horizon Europe (GN5-FPA), and sister project to the GN5-1 project, GN5-IC1 is currently extending and securing the global reach of the GÉANT network by replacing and updating existing intercontinental connectivity infrastructure.

Action 4: *“Explore the need for targeted **support from the external cooperation instruments (NDICI and IPA)**¹ to investments in submarine cable systems and satellite communication networks, complementing and extending existing infrastructure, with a focus on expanding high-quality digital connectivity to underserved populations and areas, while promoting and ensuring network and data security as well as ecological sustainability, resource and energy efficiency and seismic detection, in line with the UN Sustainable Development Goals (SDG).”*

Following up on the commitments set out in the [Global Gateway Communication](#), the EU is working with partner countries to deploy digital and data networks and infrastructures, linking investments to standards and protocols that support network security and resilience, interoperability, and an open, plural and secure Internet. To implement the Global Gateway strategy, the EU draws on the new financial tools in the EU multi-annual financial framework 2021-2027, including approximately 10% of the NDICI-Global Europe funding that will be dedicated to digital actions.

As of November 2023, [13 digital flagship programmes](#) have already been launched under Global Gateway. These actions are in line with the EU’s agenda and objectives including on trusted vendors and a strong orientation on climate change targets, particularly as regards data infrastructures and entrepreneurship as well as innovation actions with the private sector.

The expected financial leverage is aligned with Global Gateway objectives but requires a stronger involvement of European Development Financing Institutions (DFIs), and together with EU Member States, the Commission is exploring solutions (including the Digital Leap Fund - see point 6).

The European Union is further expanding its technological offer with a new space component. The new Infrastructure for Resilience, Interconnection & Security by Satellites (IRIS²) will consist of a multi-orbit satellite constellation and a ground-based system set to provide state-of-the-art communication services that will cover the whole of Europe and Africa. The EU aims to provide first services as soon as 2025.

Action 5: *“Explore the feasibility of a **Digital Connectivity Fund**, as proposed in the Digital Decade, together with our partners and in a Team Europe approach. Such a Fund could bring together all the relevant funding instruments in a strategic way for maximum impact of connectivity investments.”*

¹ Neighbourhood, Development and International Cooperation Instrument (NDICI) and Instrument for Pre-Accession Assistance (IPA)

In the context of the CEF Digital work programme 2024-27, the Commission is exploring different options to support the deployment of Cable Projects of European Interest, including through grants and financial instruments. The possible launch of financial instruments would depend however on the interest and financial contribution of the Member States and private sector, including through national promotional and commercial banks and other financial institutions and could be done in coordination with other initiatives such as the “Digital Leap Fund” that is currently being explored. Such use of financial instruments, possibly in combination with grants could enable leveraging private investments in low risk, guaranteed returns projects, while operating under market conditions, provided that at least 30% of the fund’s resources in each share class come from private investors. In line with our policy objectives, a potential financial instrument could respect the same enhanced requirements as regards secure connectivity and trusted vendors and could focus on specific categories of projects of common interest, such as those more relevant to the Global Gateway strategy and of strategic importance for the EU.

Action 6: *“Ensure that connectivity investments in third countries should not be taken forward in isolation, but should be part of **digital economy packages** that comprehensively address all aspects of digitalisation – including data protection and cybersecurity frameworks – guaranteeing the promotion of a human-centric model of digital development.”*

Digital economy packages comprehensively address all aspects of digitalisation, approaching digital cooperation in a holistic way while combining the development of soft and hard infrastructure in the countries where they are launched. Between 2022 and now, Digital Economy Packages were already launched in 4 countries: Nigeria, Colombia, Democratic Republic of Congo, and most recently in Kenya. The latter reflects the EU’s strong commitment to Kenya’s technological transition by expanding the connectivity of schools, providing skills training for students and establishing a green digital innovation hub. One of the key deliverables of the Digital Package features the ‘Last Mile Digital Connections to Underserved Areas’ programme. In Kenya, this programme will reduce the digital gap by providing Internet for up to 1,300 schools in underserved areas, such as arid and semi-arid lands (ASALS).

Action 7: *“Designate submarine cables as part of the EU’s **critical infrastructure**. This would subsequently require supporting actions such as improving cybersecurity, licensing, authorisation and registration of submarine cables; guidelines for licensing satellite communication systems and for sharing and colocation of terrestrial network connectivity to submarine landing stations.”*

EU legislation provides also for the security of submarine cables, where these are used for the provision of public electronic communications networks or services. Currently, the European Electronic Communications Code requires providers of such services to take appropriate and proportionate technical and organisational measures to appropriately manage the risks posed to the security of networks and services. Owing to the so-called all-hazards approach, this includes the protection from physical and environmental threats. From October 2024, these provisions of the EECC will be replaced by the more ambitious provisions of the NIS2 Directive. In addition, NIS2 applies the same principles to other types of entities that might also operate submarine cables, such as providers of cloud or data centre services, content delivery networks, etc.

Under the NIS2 Directive, Member States also have to adopt policies related to sustaining the general availability, integrity and confidentiality of the public core of the open Internet, including, where relevant, the cybersecurity of submarine communications cables. This is further elaborated in Recital (97), according to which, Member States should ensure that the security of the public electronic communication networks is maintained and that their vital security interests are protected from sabotage and espionage. Given that international connectivity supports and accelerates the competitive digitalisation of the EU and its economy, any incidents affecting submarine communications cables should be reported to the relevant Cyber Security Incident Response Team (CSIRT) or competent authority. The national cybersecurity strategy of Member States should, when relevant, take into account the cybersecurity of submarine communications cables and include a mapping of potential cybersecurity risks and mitigation measures to secure the highest level of their protection.

Additionally, two ongoing risk assessments requested by the Council, the ‘Cyber Posture’ assessment on telecoms and energy and the ‘Nevers’ assessment on telecoms, also cover submarine cable infrastructure.

The Commission is planning to reinforce the security and resilience of submarine cables, using existing and possibly new instruments including CEF Digital and Global Gateway.

Action 8: *“Where appropriate, seek opportunities for cooperation on international connectivity with like-minded partners that share the EU’s vision of a human-centric digital transformation.”*

The EU is cooperating with key partner countries such as the United States, India, Japan, Canada, South-Korea and Singapore under respective Trade and Technology Councils and Digital Partnerships. All these cooperation mechanisms include a digital connectivity angle, allowing cooperation in the field of physical data infrastructure ranging from deployment of data centres to space and submarine telecommunications cables.

In the context of the EU-Japan Digital Partnership, both sides signed in July 2023 a Memorandum of Cooperation on Arctic Connectivity in order to cooperate in building a submarine cable connecting Europe to North America and Far East Asia. This route can be extended towards Southeast Asia and the Pacific, connecting and safeguarding data exchanges across the democratic world. The CEF Digital programme is already supporting this endeavour with concrete study and works projects, focusing on the European part of the trans-Arctic infrastructure.

As regards the Global South, the EU launched on 14 March 2023 the EU-Latin America and Caribbean Digital Alliance as a strategic framework to foster substantial bi-regional cooperation across the full spectrum of digital and space issues. Supported by an initial Team Europe contribution of EUR 145 million, the Alliance includes a key pillar on digital connectivity that has enabled the expansion of the BELLA network (including the EllaLink submarine cable that connects Portugal directly with Brazil) to more countries in the Central America and Caribbean region.