BSA Submission to Consultation on White Paper "How to Master Europe's Digital Infrastructure Needs?"

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BSA | The Software Alliance is the leading advocate for the global software industry before governments and in the international marketplace. Our members[1] are at the forefront of software-enabled innovation that is fueling global economic growth, including cloud computing and AI products and services. BSA's membership includes many of the world's leading enterprise software providers to organizations of all sizes and across all industries and sectors. Throughout the years, our members have heavily invested in creating cutting-edge solutions that support digital transformation across all sectors in Europe.

BSA and its members greatly value the efforts of the European Union to stimulate the roll-out of connectivity, as outlined in the Digital Decade 2030 targets. We acknowledge the significant efforts made by many European regions to achieve these goals. However, the targets in the Digital Decade 2030 go beyond the topic of connectivity; they include a whole range of digital goals, including skills, quantum, digitization of the public sector as well as the adoption of cloud, AI and big data.

A holistic approach to these targets is crucial to fully leverage the benefits of digital transformation in Europe. As BSA members serve a wide array of large and small and medium-sized EU businesses, we firmly believe that meeting these targets is vital for the sustained growth of our customers.

In response to the White Paper on "How to Master Europe's Digital Infrastructure Needs," BSA recommends the following:

- Strengthen Europe's digital infrastructure: promote growth in connectivity, digital transformation, and cloud adoption.
- Simplify electronic communications regulations: implement a holistic single market approach to streamline electronic communications rules.
- Maintain a balanced regulatory approach tailored to specific services supporting digital transformation and cloud uptake.
- Advance digital transformation and sustainability: highlight the critical role of digital transformation and digitalization in achieving the EU's sustainability goals.
- Enhance submarine cable infrastructure resilience: enhance the resiliency and security of submarine cable infrastructure by increasing redundancy.
- Establish a strategy on post-quantum cryptography: formulate a comprehensive EU strategy to address Post-Quantum Cryptography.

[1] BSA's members include: Adobe, Akamai, Alteryx, Asana, Atlassian, Autodesk, Bentley Systems, Box, Cisco, Cloudflare, CNC/Mastercam, Cohere, Databricks, DocuSign, Dropbox, Elastic, ESTECO SpA, Graphisoft, Hubspot, IBM, Informatica, Kyndryl, MathWorks, Microsoft, Okta, OpenAI, Oracle, PagerDuty, Palo Alto Networks, Prokon, PTC, Rubrik, Salesforce, SAP, ServiceNow, Shopify Inc., Siemens Industry Software Inc., Splunk, Trend Micro, Trimble Solutions Corporation, TriNet, Twilio, Workday, Zendesk, and Zoom Video Communications, Inc.

STRENGTHEN EUROPE'S DIGITAL INFRASTRUCTURE

Promote growth in connectivity, digital transformation, and cloud adoption

BSA strongly supports strengthening Europe's digital infrastructure. Connectivity and digitalization are two fundamental objectives for improving competitiveness and driving growth. BSA members have an important role in the European digital ecosystem, empowering companies, governments, and citizens to leverage digital tools and embrace digital transformation. The White Paper recognizes the need for Europe to accelerate connectivity and digital transformation efforts. In this context, BSA recommends that the European Commission, in its next term, ensure that the various instruments - both legislative and non-legislative – established in the current term are effective in fostering a successful Digital Single Market.

Furthermore, BSA urges the European Commission to adopt an open innovation approach and prioritize collaboration within the European telecommunications sector alongside trusted international partners in emerging technologies, particularly edge computing. This collaboration will guarantee that European businesses have access to cutting-edge technologies, thereby enhancing competitiveness and innovation in the region.

SIMPLIFY ELECTRONIC COMMUNICATIONS REGULATIONS

Implement a holistic single market approach to streamline electronic communications rules

BSA supports the European Commission's ambition to harmonize and streamline reporting obligations under the Electronic Communications Code (EECC), which would benefit all entities within its scope. We welcome the White Paper's recognition of the need for further action towards achieving a single market for electronic communications networks and services, particularly by eliminating fragmented sectoral regulation. For example, the national implementation of the EECC across the 27 Member States has resulted in a patchwork of requirements regarding the reporting obligations for communications services. Each Member State mandates service providers to report the usage and revenue data (e.g.; annual revenue by country, revenue by product, number of calls) at varying frequencies (e.g.; monthly, quarterly, bi-annual, annual).

This fragmented approach strains the resources of service providers and disproportionately impacts small and mid-sized companies, creating unnecessary regulatory barriers to offering their services across the EU. The upcoming revision of the EECC presents an opportunity to adapt the regulatory framework and address this issue by allowing compliance with the legislation of the Member State of establishment, thus introducing the country-of-origin principle.

MAINTAIN A BALANCED REGULATORY APPROACH

Tailored to specific services supporting digital transformation and cloud uptake

The White Paper suggests possible revisions to the EECC, aiming to establish a so-called "level-playing field" in telecommunications services. BSA strongly advises the European Commission against expanding the scope of the EECC to include services fundamentally different from those currently covered.

The White Paper's reference to "cloud services" as a possible sector to be included in the scope poses significant concerns. Firstly, the Paper lacks a clear definition of which cloud services might be considered similar enough to those included in the Code to justify their inclusion under a "level-playing field." Additionally, cloud services are diverse and entail different technological, commercial and legal considerations. Conflating telecommunications and cloud services could severely hamper cloud adoption in Europe.

Specifically, B2B cloud services are integrated into complex ecosystems across Europe's industrial landscape. Radically changing rules for cloud services would also impact both the technological development and uptake at a horizontal level, and each vertical at a sectoral level. Contrary to the White Paper's implications, cloud services already face significant regulatory burdens under current EU legislation, including the Data Act, AI Act, Cyber Resilience Act, etc.

Given the novelty of many of these laws, many of which haven't been implemented, assessing their impact on the cloud services market before hastily introducing further regulatory intervention would be a sensible approach. Sectoral regulators will likely have to find effective means and methods (within existing regulatory frameworks or through amendments, wherever necessary) to deal with the challenge of regulating new and emerging technologies. BSA would like to emphasize the need for meticulous consideration to ensure effective implementation and legal clarity of the above-mentioned relevant legislation, while also preventing the imposition of unnecessary bureaucracy on users and providers.

In this respect, we believe that introducing additional layers of sectoral regulation, e.g., through the EECC, on top of the already applicable horizontal regulation that encapsulates cloud services could inevitably lead to overlaps and regulatory inconsistencies. We would have similar concerns with any potential extension of the EECC to content delivery networks (CDNs). CDNs help ISPs to efficiently manage traffic and avoid congestion but are not replacing the role of the ISPs. Lastly, BSA cautions the Commission against equating Number-based interpersonal communications services (NBICS) with Number-independent interpersonal communications services (NIICS) and, more broadly, traditional telecommunications services with cloud-based services, as the underlying technological realities are vastly different between the two services. Therefore, we believe that convergence is a misleading justification for regulating cloud services similarly to the very different telecom networks. There has not been a convergence between telecommunications service providers and IT companies providing cloud-based services in terms of the relevant underlying technologies, which remain distinct and should be regulated distinctly. Cloud providers are to be seen as suppliers to telecommunications providers in the same way as network equipment vendors or tower companies are suppliers to them. Therefore, aiming to regulate cloud via the EECC would be as inappropriate as applying the EECC to regulate traditional network equipment vendors serving the telecommunications sector. Similarly, even if some cloud or edge-based computing services are engineered to provide some functions traditionally provided by telecommunications providers, the fact remains that such services are not and should not be viewed as equal "replacement options" for the underlying core telecommunications network infrastructure, particularly the last-mile, that will always be necessary for complementary innovations such as cloud or edge-based computing services to function. Therefore, the existing regulatory regime should remain intact for the purposes of regulating the core telecommunications services, which are its focus, and should not be extended to regulating distinct underlying technologies just because they help extend network functionality or services.

Similar concerns arise with any potential extension of the EECC to content delivery networks (CDNs), which assist ISPs in traffic management but do not replace their role. Furthermore, equating Number-based Interpersonal Communications Services (NBICS) with Number-independent Interpersonal Communications Services (NIICS) or traditional telecommunications with cloud-based services is misguided. The technological realities between these services differ significantly and should be regulated accordingly. Much like network equipment vendors, cloud providers should be viewed as suppliers to telecommunications providers.

We firmly believe that the concept of convergence and its application, as described in the White Paper, result in unintended consequences, such as increased legislative complexity, reduced competitiveness, and market fragmentation. Application layer services should not be regulated as "converged" with an infrastructure service, especially from a regulatory lens. Information technology has been regulated from different angles in the last few years, and adding another layer of legislation that overlaps with telecommunications could cause an overregulated business ecosystem, increase the cost of application layer services, and ultimately impact consumers.

Furthermore, discussing the cloudification of networks under the assumption of convergence between the cloud sector and the telecommunications sector is inappropriate. These are distinct dimensions, with cloud providers acting as suppliers to telecommunications providers. We should recognize the digitalization process affecting various industries and acknowledge that companies leverage digital tools to achieve specific goals.

The infrastructure and delivery methods of these services are fundamentally different and innovators in the application layer could be burdened with unnecessary regulations if network digitalization is approached from a 'same service, same rules' perspective. Excessive regulation on the application layer would not facilitate reaching the Digital Decade's targets; it would stifle innovation and be counterproductive. Digitalization of networks should be seen as complementary, not as increased substitutability.

BSA welcomes the assessment by the Commission that the IP interconnection market is characterized by direct and cooperative interactions between content and application providers (CAPs) and internet service providers (ISPs). We concur with the White Paper's observation that there are "very few known cases of intervention (by a regulatory authority or by a court) into the contractual relationships between market actors, that generally functions well and so do the markets for transit and peering."

This has also been BEREC's assessment in the past and most recently in their draft report on the IP Interconnection market[2] which was published in June of this year, where it noted that "a few IP-IC disputes have occurred since 2017", "the IP-IC bargaining situation between market players seems balanced", and that the IP-IC ecosystem is still driven by functioning market dynamics and by the cooperative behavior of market players."

Given this context, where the Commission suggests there is no obvious market failure, BSA strongly cautions against introducing any regulation that could impose a "network fee" or payment mechanism from CAPs to large incumbent telecommunications providers. Scenario 4 in the White Paper, along with section 3.2.2, seems to imply that if cloud services were brought within the scope of the EECC, dispute resolution mechanisms could start applying to these services. BSA is concerned that incumbent telecom providers could exploit such mechanisms to force large CAPs to pay for their interconnection with the last-mile to the end user, effectively introducing a "network fee" system similar to what was overwhelmingly dismissed by stakeholders (including BSA and its members) in last year's exploratory consultation.

ADVANCE DIGITAL TRANSFORMATION AND SUSTAINABILITY

Highlight the critical role of digital transformation and digitalization in achieving the EU's sustainability goals

BSA welcomes the White Paper's emphasis on sustainability and Europe's aspiration to become a global leader in green technology. We particularly support the recognition of digitalization and cloud services as key drivers in achieving sustainability goals. BSA recommends that the Commission continue to promote digital transformation and digitalization throughout the EU as a vehicle for sustainable growth.

The White Paper correctly notes that the efforts in this space should focus on internal support for telecommunication providers and other stakeholders in fostering "green ICT" and on enhancing the role of "ICT for green." In this context, BSA recommends that the European Commission continue to amplify these efforts by encouraging and strengthening cooperation among sectors.

ENHANCE SUBMARINE CABLE INFRASTRUCTURE RESILIENCE

Enhance the resiliency and security of submarine cable infrastructure by increasing redundancy

Ensuring robust and secure connectivity through investment in submarine cable infrastructure is crucial. It is equally important to reinforce maintenance and repair capacity at the EU level to mitigate the impact of any sabotage attempts on submarine cable infrastructure.

The European Commission's considerations on international submarine connectivity provide a holistic and timely approach. This initiative is welcome, especially given the increased attention from policymakers, regulators, governments, and the defense sector to the importance of submarine connectivity and its security in Europe and globally.

[2] https://www.berec.europa.eu/en/document-categories/berec/reports/draft-berec-report-on-the-ip-interconnection-ecosystem

The Ministerial Declaration on European Data Gateways[3] highlights that Europe's digital sovereignty and global competitiveness depend on strong and secure internal and external connectivity as a precondition for the EU to become "the most attractive, most secure and most dynamic data-agile economy in the world". In the area of submarine cables, we believe strong and secure connectivity is best achieved through a regime that maximally promotes investment in submarine cable infrastructure and flexible deployment of landing zones.

Redundancy in subsea cable infrastructure is one of the most effective measures to ensure the resilience of communications and protect against cable damage incidents. Moreover, repair ships responsible for the maintenance and repair of submarine cable infrastructure are scarce resources, necessitating the reinforcement of such capacities at the EU level to ensure the security of existing infrastructure.

National approaches to subsea cable landing have been successful in facilitating redundancy. Imposing an EU layer of regulation on top of these successful models is unnecessary and could harm achieving the foundations of cable security: redundancy and resiliency.

The EU could play a uniquely effective role in protecting the physical security of the wet portion of subsea cables by encouraging cooperation and coordination with NATO protective forces. Marine protection is ideally suited to military naval efforts, and coordination with NATO forces would deter potential adversaries from physically damaging and jeopardizing this critical infrastructure.

In this era of intelligent connectivity, driven by massive technological shifts and emerging technologies, the next phase of innovation requires increased capacity in geographically diverse networks. While there are no significant regulatory barriers to subsea cable landing in Europe, the constantly evolving threat and security landscape necessitates pan-European measures to encourage and facilitate subsea cable landings and ensure the overall physical security of subsea cable infrastructure.

ESTABLISH A STRATEGY ON POST-QUANTUM CRYPTOGRAPHY

Formulate a comprehensive EU strategy to address Post-Quantum Cryptography

BSA fully supports and acknowledges the critical importance of strengthening Europe's digital infrastructure and securing communication through quantum-safe cryptography. This is essential for ensuring the resilience and security of Europe's communications and data. We recognize the collaborative efforts of national authorities, such as France's ANSSI, the Dutch NCSC, Germany's BSI, and the Swedish Armed Forces, in releasing a comprehensive report on preparing for the implementation and deployment of Post-Quantum Cryptography.

We welcome the European Commission's focus on quantum and post-quantum technologies for secure communication. It is recommended to define a phased migration towards quantum-safe networking, including timelines for network infrastructure carrying sensitive data.

While quantum cryptography is in the early stages of development, we encourage the European Commission to accelerate the transition to post-quantum cryptography (PQC) because of the enormity of the task. In that regard, we welcome the Commission's Recommendation for member states on this topic and hope this momentum continues. To achieve this, the European Union must work with allied governments to (1) attract and retain the world's best talent today and (2) build the talent base and technical expertise required for the future.

Support from the Commission to quantum cryptography should promote the broadest possible range of research.

With regards to research and investment activities, the European Commission is already actively working on several areas related to quantum cryptography, led by various European agencies, funded by European funds, and involving national governments. The White Paper highlights the important work of ENISA and the EuroQCI initiative. Additionally, the EU-funded Quantum Technologies Flagship and the Horizon 2020 OPENQKD project are significant initiatives in this area.

[3] https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=74941

Existing policy solutions to boost this research should be fully exploited. Further funding or work in this area should be well-coordinated with existing projects and agencies, encouraging the participation of a broad range of stakeholders, particularly from industry, including those outside the European Union.

Any technical standardization work should occur in open, multi-stakeholder venues and institutions, focusing on high-quality outputs supported by industry and the technical community. This approach maximizes the opportunity for these standards to be widely implemented for the greatest user benefit. Importantly, achieving this will require a shared vision for the future among like-minded nations, especially partners on both sides of the Atlantic.

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