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From:	Trio Presidency
To:	High Level Working Group on Competitiveness and Growth
Subject:	Paths towards European Digital Sovereignty in the perspective of Industry and Internal Market Policy

I. INTRODUCTION

The COVID-19 pandemic has highlighted the central economic and societal importance of digital technologies and the increasingly urgent need for Europe to take responsibility and shape its own digital transformation assertively in an open economy and to demonstrate greater global leadership in line with European values. It has also brought to the fore the need to address Europe's vulnerabilities in the supply chains in our digital space - notably by reviewing and appropriately reducing dependencies on third countries for some specific products and technologies of strategic importance.

In her State of the Union Address of September 2020, President von der Leyen announced that Europe should secure its digital sovereignty until 2030 through a common European vision, based on clear goals and principles. The European Council requested a comprehensive Digital Compass setting out digital ambitions for 2030, establishing a monitoring system and outlining key milestones and the means of achieving these ambitions.

As a response to this political steer, the Commission issued its Communication "2030 Digital Compass: the European Way for the Digital Decade". The Communication sets out a vision for 2030 and targets based on four cardinal points − strongly integrating their internal and external dimension − as well as a framework for digital principles and digital rights. It also proposes setting up a Policy Programme in the form of a "Digital Compass" to ensure effective monitoring of the delivery on the 2030 objectives. Its core features would include a robust governance structure and a framework to facilitate the implementation of multi-country projects that are necessary for building Europe's digital transition in critical areas. In March 2021, the European Council endorsed this approach, including the idea of a Policy Programme.

Following the Berlin Declaration "Digital Society and Value-Based Digital Government", the Portuguese Presidency is working on the Lisbon Declaration as a political statement aiming to highlight the role of the EU as an actor and global reference in the digital sector, by reinforcing the human dimension of the digital ecosystem, promoting digital literacy, democratic values, citizens' rights and freedoms and the integrity of the digital ecosystem.

II. DIGITAL DECADE CARDINAL POINTS: ABILITY TO SUPPLY AND TO USE SUSTAINABLE TECHNOLOGIES

In view of the challenges concerning the generation and uptake of certain key digital technologies and services mentioned above, both the supply of digital infrastructures and capacities and their take-up by businesses and people require a focused effort to achieve the European digital future.

The four cardinal points presented in the Communication – Skills, Infrastructures, Business and Government – aim at a digitally inclusive and technologically performant society and are accompanied by specific targets for 2030.

For instance, on digital infrastructures, the aim is gigabit speeds for everyone and 5G in all populated areas – a natural ambition in a society that is constantly calling for better and ubiquitous connectivity and relying on a growing wave of applications dependent on excellent internal and external connectivity.

In turn, microprocessors underpin most of the key, strategic value chains such as connected cars, phones, Internet of Things, to name just a few. Therefore, achieving a share of 20 % in the global production of cutting-edge and sustainable semiconductors is thus another 2030 target for the EU.

Likewise, the growing data economy calls for enhanced ability to process the information as close as possible to where it is generated: autonomous driving, smart farming and smart cities are some of the applications that would benefit from the deployment of 10,000 climate-neutral, highly secure edge nodes by 2030. To complement these cloud/edge ecosystems, state-of-the art computing with quantum characteristics should also be achieved in this decade.

While the above targets will ensure the availability of key technological enablers, the value of the digital transformation will only materialise if there is a sufficient level of adoption. This is why another cardinal point is digital transformation of businesses. They should be encouraged to adopt digital technologies and products that lower the overall environmental footprint. SMEs have a particular role in this transition, not only because they form the bulk of the EU companies, but also because they are a critical source of innovation. As a result, this cardinal point calls for 75 % of European enterprises to take up cloud computing, big data and Artificial Intelligence services by 2030. Targets also includes 90 % or more of European SMEs with at least a basic level of digital intensity and doubling the number of EU Unicorns.

The path to digital sovereignty must be mapped out by a clear framework, that fosters a vibrant, fair and secure Digital Single Market, while at the same time ensuring secure data flows, and guarantees the privacy and the rights of businesses and citizens.

III. THE BUSINESS CASE FOR DIGITAL AND GREEN ACTIONS

Digital technologies hold massive potential to boost resource efficiency and minimise our carbon footprint, and therefore go hand in hand with relaunching and modernising our economies following the crisis. More should be done to promote and accelerate the integration and uptake of green and digital technologies across all sectors, catalysing investment and growth. To offer a better understanding of the scale, cost and conditions of the required actions to accompany this twin digital and green transition of our industries, the Commission will explore the possibility to co-create transition pathways for certain industrial ecosystems in cooperation with industry, Member States and other stakeholders. The digital transformation of businesses, including the take-up of cloud computing services, big data and AI, will promote new business models resulting in far-reaching benefits for both the economy and the environment. Solutions created by these newly transformed businesses not only unlock direct value for the end-user, but can profoundly change the resource productivity in sectors like manufacturing, transport, agriculture and construction. The movement of goods and services could be improved, for example, by the roll-out of digital product passports aligned with EU (and desirable international digital partnerships') future-proof regulatory norms and standards, which track and trace materials and products. The digital transformation would also allow better retention of value of natural capital, while addressing the needs of users and providing new business opportunities (e.g. products as a service).

Cutting-edge and disruptive innovation plays a key role in this vision. Over the past five years, Europe has seen over EUR 9.2 billion invested in climate-focused start-ups. However, Europe could do more both to increase the number of innovative start-ups and scale-ups, and to increase and accelerate the adoption of green, digital technologies across all industry sectors. Business actors should do more to develop and deploy greener digital technologies and services, meeting ambitions such as those set by the signatories of the European Green Digital Coalition. Smart investment of funds in areas with both digital and green components under the Recovery and Resilience Facility and multi-country projects are part of this proposed policy mix.

IV. RELEVANT MULTI-COUNTRY PROJECTS AND BENEFITS FOR MEMBER STATES

The European Council has called for a further strengthening of synergies between the use of EU and national funds for key technological projects. Multi-country projects (recognised under the Recovery and Resilience Facility and the Technical Support Instrument) are, in essence, scaled-up and targeted investments in digital and other ecosystems to bring about a more competitive and resilient European economy. They should allow for the channeling of coordinated investments between the EU, Member States and private stakeholders with a common goal to develop and deploy pan-European leading-edge capacities in strategic technological areas. Multi-country projects enable large-scale projects that one single Member State could not develop on its own, help to reduce the digital divide between Member States and support an interconnected, interoperable and open but secure Digital Single Market. Possible directions for Multi-Country Projects have already been discussed with Member States as part of the preparation of the national Recovery and Resilience Plans and include, for example: building a common pan-European federated and secure data infrastructure (GAIA-X), capabilities in electronics design and deployment of the next generation of low-power trusted processors, pan-European deployment of 5G corridors, acquiring and connecting supercomputers and quantum computers, developing and deploying an ultra-secure quantum communication infrastructure, deploying a network of Security Operations Centres and Coordination Centres (CCCN), development of European certification schemes in the field of cybersecurity, connected public administrations, the European Blockchain Services Infrastructure, European Digital Innovation Hubs, and high tech partnerships for digital skills through the Pact for Skills.

Question for discussion

Our ambitions for an inclusive, green, competitive and digitally sovereign Europe can only be achieved with sustained joint efforts from all stakeholders, both public and private. In this context, industry and SMEs are critical partners for success.

How can we build long-lasting and trustworthy collaboration with these crucial private players to jointly deliver on the 2030 targets and vision?

ANNEX

List of multi-country projects

- Building a common and multi-purpose pan-European federated and secure data infrastructure, to be used in full compliance with fundamental rights developing real-time (very low latency) edge capacities to serve end-users' needs close to where data are generated (i.e. at the edge of telecom networks), designing secure, low power and interoperable middleware platforms for sectoral uses, and enabling easy exchange and sharing of data, notably for Common European Data Spaces (GAIA-X);

- Endow the Member States with capabilities in electronics design and deployment of the next generation of low power trusted processors and other electronic components needed to power its critical digital infrastructure, AI systems and communication networks;

- Pan-European deployment of 5G corridors for advanced digital rail operations and Connected and Automated Mobility contributing to road safety and green deal objectives;

- Acquiring supercomputers and quantum computers, connected with the EuroHPC extreme-bandwidth communication network, investing and cooperating in large-scale application platforms requiring supercomputing (e.g. in health, disaster prediction), as well as in HPC national competence centres and HPC & Quantum skills;

- Developing and deploying an ultra-secure quantum communication infrastructure spanning the whole EU, to significantly increase the security of communication and storage of sensitive data assets in the Member States, including of critical infrastructures;

- Deploying a network of Security Operations Centres, powered by artificial intelligence, to enable early cyberattack sign detection and proactive action, to enhance joint risk preparedness and response at national and EU level;

- Cybersecurity Industrial, Technology and Research Competence Centre and Network of Coordination Centres (CCCN): the Centre, together with industry and academia, will be key to strengthening technological / digital sovereignty in the field of cyber security

- Internet of Things within Cybersecurity Act: Certification or development of European certification schemes in the field of cyber security; expected EC proposal for new horizontal rules to improve the cyber security of all connected devices and services in the internal market.

- Connected Public Administration: to build in complementarity and synergy with the eIDAS framework and offer on a voluntary basis European Digital Identity, to access and use digital services online from the public and private sectors in a privacy-enhancing way and in full compliance with existing data protection laws;; Build a Once-Only system allowing public administrations at the local, regional and national levels to exchange data and evidence across borders, in full compliance with legal requirements and fundamental rights;

- European Blockchain Services Infrastructure: to develop, deploy and operate a pan-European blockchain-based infrastructure that is green, secure, in full compliance with EU values and the EU legal framework, making cross-border and national/local public service provision more efficient and reliable and promoting new business models;

- European Digital Innovation Hubs: to support the digitisation of European Industry through completing an EU-wide network of "European Digital Innovation Hubs" (EDIHs), "one-stop-shops" providing SMEs technical expertise, opportunities to "test before invest", financing advice, training and more;

- High tech partnerships for digital skills through Pact for Skills: to fill the growing gaps of ICT specialists in all industrial ecosystems, regions and Member States, to foster greater private and public investment and to increase the quantity and the quality of the offer of specialised education and training.