

# CONNECT University online session: Digital Decade Policy Programme (DDPP) 2023 - The way forward

## Questions and Answers

*Disclaimer: These responses are for information only and do not necessarily reflect the position of the European Commission.*

### General

#### **1. What does the DDPP add to the objectives that are not currently addressed by Regulations or Directives and how does this inflation of objectives help?**

The objectives of the DDPP precisely aims to provide a clear and comprehensive framework to inform the implementation of existing initiatives and the design of future initiatives in digital on EU and national level, and by private and public actors.

They can be grouped into three broad dimensions:

- Objectives to promote digital citizenship, including empowering people and the society
- Objectives to foster leadership and sovereignty,
- Objectives contributing to the green transition.

As such, the DDPP does not seek to replace existing objectives but rather integrate them into one strategic framework for the digital transformation of the Union by 2030.

#### **2. What are the initiatives to align & achieve the same targets in the Member States when the situations of Finland (for ex) is different to Bulgaria (for ex)?**

The DDPP sets EU-level targets and takes different national starting points into account. While some of the targets set at 100% have to be achieved by all Member States, other targets allow for different contributions from Member States taking national capacities and specifics into account.

The DDPP introduces a new mechanism, European Digital Infrastructure Consortia (EDIC), to set up Multi-Country Projects (MCPs) more quickly and flexibly, enabling to support concrete cooperation i.e., Member States to join forces and benefit from each other's strengths. A first call for expression of interest in EDICs is ongoing to scope out the interests of Member States. The Commission intends to take stock in the first report of the State of the Digital Decade.

Member States will submit National Digital Decade Strategic Roadmaps by October 2023. In the roadmap, each Member State outlines national trajectories towards the EU level targets, considering national starting points as well as existing and planned measures.

The first report on the State of the Digital Decade, expected to be published in June 2023, will present the state of play at the outset of the programme, and include recommended actions for each Member State to leverage its strengths and address its weaknesses for contributing to the Digital Decade targets so we can advance and reach them together.

### **3. Having our own chips will take 15 years - similar for having own hyper-scalers: how does the digital decade foresee the non-EU dependencies in the meantime?**

Given the global nature of the semiconductor industry, the complexity of its supply chain and the non-EU dependencies, the Chips Act acknowledges that no region can become self-sufficient in semiconductors. At the same time the Chips Act:

a) includes under its pillar 3 “Monitoring and Crisis Response” instruments and measures that will enable the Union to anticipate future chips crises, address them through close coordination with Member States (through the European Semiconductor Board) and mitigate supply chain disruptions;

b) stresses the importance for the EU to cooperate with other countries in relevant initiatives of mutual interest. International cooperation is already being implemented via digital partnerships with Japan and South Korea (Singapore is in preparation), via the EU-US Trade and Technology Council and dialogues with Taiwan. Topics for international cooperation include supply chain monitoring and mechanisms for early warning, joint research and standardisation.

### **4. Does the DDPP/DG CNECT also envisage increased cooperation within the European Commission?**

Yes. In order to prepare for the implementation of the Digital Decade Policy Programme (DDPP), DG CNECT has set up a network of country experts and thematic experts to monitor and help facilitate progress across policy areas and Member States. This network spans most Directorates and many different units in DG CNECT.

Moreover, DG CNECT has set up an Inter-Service Steering Group to coordinate the implementation of the DDPP with other Directorate Generals.

The Digital Decade Board, which gathers experts from Member States chaired by DG CNECT, will closely collaborate with other existing expert groups.

## **5. Who to contact on the subject of digitization in public health from the position of a university lecturer?**

We invite you to consult the following page:

[https://health.ec.europa.eu/ehealth-digital-health-and-care\\_en](https://health.ec.europa.eu/ehealth-digital-health-and-care_en)

## **6. How is the programme planning to ensure that the online world is more used while ensuring the safety of children online?**

The [Declaration on Digital rights and principles](#) which is part of the Digital Decade strategy includes specific elements on the protection of children: *Protection and empowerment of children and young people in the digital environment. Children and young people should be empowered to make safe and informed choices and express their creativity in the digital environment. Age-appropriate materials and services should improve experiences, well-being and participation of children and young people in the digital environment. Specific attention should be paid to the right of children and young people to be protected from all crimes, committed via or facilitated through digital technologies.*

Please also consult our strategy for protecting kids:

<https://digital-strategy.ec.europa.eu/en/policies/strategy-better-internet-kids>

## **Data & Big Data**

### **7. The topic of data seems to miss from the agenda, but lots of effort is being spent by the EC on the Data Strategy. How does the Digital Decade relate to it?**

Data, and related actions stemming from the data strategy, are supporting most of the topics addressed by the Digital Decade.

The recently adopted Data Governance Act is an example of this. Its measures to facilitate data sharing, in particular to make it possible for data to be used across sectors and borders and to enable the right data to be found for the right purpose, support the Digital Decade objective of having small businesses and industry accessing data. The Data Act, with its proposed measures to rebalance negotiation power for Small and Medium-Size Enterprises (SMEs) by preventing abuse of contractual imbalances in data sharing contracts, supports the Digital Decade objective of making SMEs compete in the digital world on fair terms.

### **8. Transfer learning is an auspicious direction in Artificial Intelligence (AI). This requires a concerted effort to create big data sets for public use. Are we going to take the initiative?**

Several initiatives have been taken in order to promote access to data also for the creation of AI tools. One of the aims of the language data space is to create large corpora of text to be used for training AI. At the same time, the European Commission is funding projects to create a data set of cancer images that could be used for developing AI tools for diagnostics. The implementing act of High Value Dataset asks Member States to make available datasets in specific categories that can be useful to create innovative services.

Finally, the European Commission is fostering the creation of data spaces in several sectors. The data spaces will give the possibility to public and private organisations to make available their data for re-use.

## **Digital Education and Skills**

### **9. Why don't we add coding as a course in high school? Why don't we have giants producing chips? Because of the competition rules implemented?**

Coding and computational thinking are part of the digital skills agenda as set out in the Digital Decade Policy Programme (DDPP). Nonetheless, the specific implementation of actions towards developing coding skills in schools falls within the Member States' remit. Some Member States have already taken steps towards integrating coding and computational thinking into their school curricula. For instance, Slovakia is implementing a reform in this direction under the Resilience and Recovery Facility. Moreover, the European Commission is supporting [EU Code Week](#), an initiative that encourages and facilitates teaching of coding and computational thinking in schools. EU Code Week is a grassroots initiative bringing coding and digital literacy to everyone in a fun and engaging way through activities organised around the world by teachers and coding enthusiasts. EU Code Week contributes to the target of the [Digital Education Action Plan 2021-2027](#), which aims at reducing the share of 13-14-year-olds with insufficient computing and digital skills from 30% to 15% at the EU level by 2030. EU Code Week also contributes to the targets of the [Digital Decade](#): increasing the number of Europeans with basic digital skills and the number of digital experts. EU Code Week provides teachers with free resources, ready-made lesson plans, free online introductory courses and other materials to help bring coding and technology to all subjects and classrooms.

As per principles set out in the [European Declaration on Digital Rights and Principles for the Digital Decade](#), digital sovereignty is central to the digital transformation of the EU. The EU's digital sovereignty will require a high-capacity infrastructure and the adoption of innovative technologies, which will enable the development of energy-saving, climate-neutral, high-efficiency and interconnected services. Additionally, the EU's digital sovereignty should be restored through more resilient supply chains and less dependence on imports, notably of semiconductors. The work programme 2023-2024 of the Digital Europe Programme, which is still under discussion, foresees additional major digital investments to address the latest initiatives to support the deployment of key digital capacities, such as the Chips Act with education and training programmes in microelectronics, cybersecurity to improve the EU's

resilience to cyberattacks, as well as AI, Quantum, Internet of Things and other multi-disciplinary areas.

**10. We want 20 million people in ICT, support certain companies, we want more women in specific sectors. Is free will and market contemplated?**

Digital transformation is on the rise and affecting every aspect of life, including employment and economic development. There is a general shortage of ICT specialists in the EU labour market, and the number of vacancies keeps growing as new jobs emerge. According to the latest [DESI report](#) (2022), all EU Member States face a critical shortage of digital experts. That hinders the development, uptake, and use of emerging digital technologies. In key areas such as cybersecurity or data analysis, there are hundreds of thousands of hard-to-fill vacancies. In the face of a growing number of jobs for people with advanced digital skills, educational policies encouraging undergraduates to opt for tech studies as well as up and reskilling initiatives for workers can improve their employment prospects linked to higher earning potential. Many of these jobs go unfilled, making advanced digital skills part of a solution to unemployment. Hence, the objective to have 20 million ICT specialists by 2030 is aligned to a real need for employees with advanced digital skills within the current and future economic contexts.

There is a persistent gender gap in the digital technology sector, as only one in five ICT specialists and ICT graduates are women (DESI, 2022), which may affect the way digital solutions are devised and deployed. Therefore, attracting more women in ICT would help tap into more talent to contribute to a more inclusive and equal digital transition, in line with the principles set out in the [European Declaration on Digital Rights and Principles for the Digital Decade](#). Commission initiatives contributing to this aim to enable equal opportunities as well as to address the gender norms and stereotypes that steer women and girls away from technology.

**11. One problem in digitalisation are language barriers. How/what would help to address this. "Learn English" might not always be a priority for small businesses.**

Language Technologies (LTs) can and already are helping European SMEs deal with language barriers. Thanks to the DIGITAL programme, we are already offering SMEs free, easy and secure access to basic language technologies such as machine translation, pseudo-anonymisation, speech transcription and more, through the [eTranslation/eLangTech platform](#). It should be stressed that LTs are not just limited to machine translation, but include search engines, sentiment analysis, text generation, information extraction or smart assistants. We also currently offer free automatic website translation to SMEs, so helping them reach customers who would not otherwise browse their sites due to language barriers.

## Green ICT/ICT for Green

**11. Shall we perform asap any necessary research to debunk the myth of digital being bad for the environment? Surely some practices are, but is balance positive? How about the carbon footprint of all these plans? Do we “really” need all of these plans (e.g., digital public services)? How do we agree on EU-level priorities? How will we deal with the negative impact of the digital transformation on the climate?**

**Politically it is important to showcase how ICT provides an overall positive green contribution.**

The **widespread use of digital technologies** will increase **energy and material consumption**. The reason for this is, among other things, that the use and production of consumer devices increases. There is also increasing demand from networks, data centres, and crypto assets. The increased use of online platforms, search engines, virtual reality concepts (such as the metaverse), and music or video streaming platforms also leads to higher energy consumption.

But to ensure that the **ICT sector is a solution for climate change** and not perceived as a polluter, this positive, enabling impact, **savings in energy and materials have to be measured and monitored** systematically.

Here the work of the **European Green Digital Coalition** plays a major role. Its main objective is to provide metrics and evidence that investments in digital solutions can lead to environmental, social and economic benefits under certain conditions and thus can be subject to sustainable financing. One of the six sectors under consideration for digital solutions is energy.

The digital green transition needs to be accompanied by **greening efforts of the sector itself**. That is why the European Commission committed to make **data centres climate neutral by 2030** or **pushes for eco-design principles** and common charger for smartphones.

To address the environmental footprint of data centres, the European Commission has embarked on an ambitious journey to make **data centres climate-neutral**, highly energy-efficient and sustainable by 2030.

The European Commission will work on energy and material efficiency measures to ensure that the **environmental footprint of ICT is reduced**. Measures include improving the durability, maintenance, reparability, and recycling of electronic devices. As announced in the **Circular Economy Action Plan** (May 2020), the European Commission will put forward measures to ensure that devices, such as phones, tablets or laptops, are designed for durability and reparability (**Eco-design**) and that users have the necessary information and rights to make sustainable choices, such as having their devices repaired.

More specific questions:

- **The electricity consumption of digital infrastructures will continue to grow, but the carbon footprint will only modestly increase:**

[Since 2010, emissions have grown only modestly](#) despite rapidly growing demand for digital services, thanks to energy efficiency improvements, renewable energy purchases by information and communications technology (ICT) companies and [broader decarbonisation of electricity grids](#) in many regions. However, to get on track with the Net Zero Scenario, emissions must halve by 2030. More information in [this study](#).

- **The footprint of ICT is expected to stabilise under the 5% of the total GHG emissions despite the growing deployment of digitalisation but will be challenging to bring it to zero:**

For more information, see section 6 table 7 and the conclusions of [this study](#).

- **The potential of ICT is to reduce emissions and accelerate the transition to circular economy but that potential is not yet realised:**

The [GeSI](#) and [GSMA](#) reports estimate a huge potential of a positive impact, but there are no standardised measurements of the 'positive impact of digital on the environment'. That is why Commissioner Breton launched the [European Green Digital Coalition](#).

More specifically, the [GSMA](#) reports that the total annual emissions of the mobile sector correspond approximately to 0.4% of total global emissions. Compared to the global carbon footprint of mobile networks themselves, the level of avoided emissions enabled by mobile communications technologies is 10 times greater – a tenfold positive impact. The majority of these avoided emissions result from a decrease in electricity, gas, and fuel consumption. In 2018, mobile communications technologies enabled a decrease in 1.44 billion MWh of electricity and gas, and 521 billion liters of fuel, globally. These totals would be enough electricity and gas to power more than 70 million houses for an entire year in the US and enough fuel for all 32.5 million registered UK passenger cars to drive for 19 years.

## **MCPs**

### **13. Can Member States request an MCP at any time after the presentation of the roadmaps?**

Yes. The procedure is described in the [Decision](#) establishing the Digital Decade Policy Programme (DDPP) 2030.

### **14. Can you elaborate on how Member States can request an MCP? At any time after the presentation of the roadmaps? Or only within a national roadmap?**

Using national roadmaps is not a prerequisite, but advisable, as there should be consistency of Multi-Country Projects (MCPs) proposed with national roadmaps. Once a new MCP is proposed, the Commission shall, at the request of the participating Member States or on its own initiative and in agreement with the participating Member States, coordinate the implementation of a Multi-Country Project. As a first coordination step, the Commission shall address to all Member States a call for expressions of interest. As a second coordination step, if at least three Member States express interest in a multi-country project and propose financial or non-financial commitments to that project, the Commission, after consulting all Member States, shall provide guidance on the choice of the appropriate implementation mechanism, on the sources of funding and on their combination within the project, as well as on other strategic aspects related to the implementation of that project.

## **Smart Cities/Communities**

### **15. How to make the Digital Decade happen in all EU cities? There are so many municipalities. How to ensure inclusiveness and avoid that only big cities can make it?**

This is at the heart of the [Living-in.EU movement](#) that implements the Digital Decade at regional and local level. It promotes the European way of digital transformation in cities and communities. The movement promotes EU digital sovereignty, especially on local data management and an inclusive approach so that the digital transformation will also benefit to citizens living in small and medium size cities and rural areas.

The Living-in.EU movement, established by cities in 2019 with nearly 140 signatories and 130 supporters today, encourages cities to invest in local data platforms that are based on open standards and common technical specifications. This will allow cities to use data for better service delivery, while also retaining control over data.

## **Finnish Ministry**

### **16. Have you considered rural areas in your digital compass. If so, what are the priorities for them?**

Absolutely, the aspect of rural areas is very important in Finland. The Digital Compass and its objectives apply to all of Finland. We do foresee some regions to draft their own compasses, which reflect the specific features of the region, including the rural areas. We are currently drafting the action plan to implement the compass. For example, digital infrastructure is a priority in rural areas. There is a noticeable divide regarding fixed network coverage as availability of very high capacity networks (VHCN) is uneven across the country due to the lack of economic incentives to roll out in sparsely populated areas. Many sparsely populated areas still do not have any VHCN availability or are served by only one VHCN.

### **17. Can you please send Finland digital strategy link in English?**

Finland's Digital Compass can be found here:

[Government report: Digital Compass - Valto \(valtioneuvosto.fi\)](https://valtioneuvosto.fi/en/valtionneuvosto/valtionneuvoston-tyo-ohjelma-2021-2025)

### **18. Who to contact on the Fi digital strategy?**

You can contact the interministerial [Digital Office](#) via email at [digitoimisto@gov.fi](mailto:digitoimisto@gov.fi)

### **19. Did your investment fund already invest in Semiconductor fabless companies?**

No. At Revaia, we focus on European growth-stage companies with global ambitions and sustainable leadership, with the objective of bridging the gap between private and public markets. We are a high-conviction investor, supporting fundamental long-term trends. We have built a diversified portfolio of companies from series B, such as Epsor to series D+ (Aircall, Algolia, etc.). We pride ourselves on our virtuous business models and governance that is sensitive to issues of gender, diversity, and impact. We have also prioritised certain topics such as education with Goheny and climate change with Deepki. You can have a look at our portfolio on our [website](#).

## **EDIC**

### **20. Could more be said about the European Digital Infrastructure Consortia? And consideration for private stakeholders input in the implementation of the programme?**

In accordance with Article 15.4 of the Digital Decade Policy Programme [Decision](#), a European Digital Infrastructure Consortium (EDIC) may involve private entities as members if it is allowed in its Statutes. The participation of these may be particularly advantageous for EDICs that are designed to operate close to the market, as private entities may help commercialise and adopt EDICs' results by European industry. If specific private entities are intended to be members of an EDIC, this should be agreed in advance between the applicant Member States and such entities, and indicated in the Statutes. Alternatively, the Statutes may include the provisions on future participation of private entities. The participation of private entities raise nevertheless important issues which should be appropriately addressed.

- **Tax exemptions**: The participation of private entities will have to be taken into consideration by the host Member State when declaring whether it recognises a given EDIC as an international organisation and an international body, with important implications to its tax treatment.

- Voting: Member States must collectively hold the majority of voting rights regardless of the amount of the financial and non-financial contribution provided by private entities
- Economic activities: it is likely that an EDIC which involves private entities as members would be involved in at least some economic activities.
- State aid: the participation of private entities in an EDIC may raise State aid issues related e.g., to the ownership of EDICs' result (where economic advantage conferred to participating private entities may be considered as State aid).

## **21. Is it possible to join an EDIC for SMEs and countries that are not EU members?**

Article 15.4 of the [Decision](#) establishing the Digital Decade Policy Programme 2030 (DDPP) does not restrict the possibility of the participation in an EDIC by any category of private entity. The issue is open to be decided in the Statutes, which may limit the participation to Member States, or may open it to specific entities or categories of entities, which may include companies of any sizes. From the pragmatic perspective, it should be considered on a case by case basis, whether SMEs would be organisationally and financially capable of joining a specific EDIC and whether they would be capable of contributing to its operations.

In accordance with Article 11.3 of the DDPP Decision, a third country may participate in a Multi-Country Project if that country is associated to a directly managed Union programme, which supports the digital transformation of the Union, and if its participation is necessary to facilitate the achievement of the general objectives and digital targets with regard to the Union and the Member States. Subject to this limitation, the participation of a specific third country or a category of third countries in a specific EDIC may be authorised by the Statutes.

## **Microelectronics**

### **22. You said we are late on microprocessors. Why don't we double down on existing EU engineering resources rather than trying to build a new open source ecosystem?**

RISC-V is the most well-known open-source instruction set architecture (ISA) available. In 2020 already 23% of projects in both the application specific integrated circuits (ASICs) and field-programmable gate array (FPGA) spaces incorporated at least one RISC-V processor. Apart from market penetration, the RISC-V community is growing rapidly, with European industry and academia also contributing to its development. This has resulted in a rich and easily accessible ecosystem of tools, software, and hardware that support the architecture. A lack of investment in this trend would undeniably put Europe at a disadvantage when compared to the rest of the world.

Furthermore, an open-source ISA enables a radical shift in approach to digital design when compared to proprietary ISAs since its open nature implies that it is more accessible and

customisable, allowing for flexibility and modifications that are usually either prohibitively expensive or very difficult to realise in patented solutions. This will encourage further innovation in industry for a multitude of vertical applications from automotive to biomedical.

Of course, investment in open-source hardware is not mutually exclusive with continued support to Research, Development and Innovation topics in which Europe is already strong, as attested by the work-programmes of the [Key Digital Technologies Joint Undertaking](#) and Horizon Europe cluster 4.

For more information, you may consult the *Recommendations and roadmap for European sovereignty on open source hardware, software and RISC-V Technologies* report found [here](#).