ICT Solutions for Brilliant Minds

CSC

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Europe's 2030 Digital Compass
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As the Digital Decade process is moving to its next stages, CSC wants to reiterate the importance of the **green and human-centric approach** that is quite prominent in the roadmap for the Digital Compass communication[1] published in February. It is essential not to lose sight of these underlying principles that stem directly from the Commission's most fundamental political and strategic priorities, outlined in the Green Deal[2] and plans for making Europe fit for the digital age[3]. Furthermore, the digital and green transition must interplay as a **twin challenge and opportunity** in the proposed targets and tools.

Considering the presence of the green dimension in the 2030 targets suggested in the Digital Compass Communication[4] published in March, a much clearer and broader commitment to reducing the carbon footprint of the ICT sector is needed. ICT plays a significant role, and CSC finds it worrying, that this is not sufficiently taken into account in the Commission's plans. If the EU wants to reach its ambitious climate targets for 2030, **climate-neutrality must be a target for all digital infrastructures** with vast energy consumption (e.g. data centres), not just the upcoming edge nodes included in the suggested targets. This would also be in line with the Communication on Shaping Europe's Digital Future[5], where the climate-neutrality of data centres and telecommunication networks is explicitly mentioned.

Only strong and systematic measures, such as overall energy efficiency and long-term environmental sustainability, will make a difference. The whole lifecycle of the digital infrastructures must be in scope: brownfield construction, modularity and scalability, recycling, and re-using the materials are all important means that support also circular economy. There must be tangible criteria and metrics such as carbon footprint, usage of renewable energy, free cooling, and re-use of waste heat.

In addition to setting impactful climate-neutrality targets for digital infrastructures, we recommend that the EU develops a comprehensive **Green ICT Strategy** aiming at minimising the carbon footprint and maximising the carbon handprint (i.e. reduction of

[1] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12900-Europe%E2%80%99s-digital-decade-2030-digital-targets_en
[2] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en
[3] https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age_en
[4] https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52021DC0118
[5] https://ec.europa.eu/info/sites/default/files/communication-shaping-europes-digital-future-feb2020_en_4.pdf

carbon footprint in other sectors by digital means) of digitalisation. Inspiration for such strategy can be drawn from the climate and environment strategy for the ICT sector[6] that the Finnish government published in March.

As to the human-centricity of the suggested 2030 targets, CSC commends the inclusion of targets on digital skills as well as citizens' access to electronic medical records and a digital identity. However, the end-user must play a key role in the design of the services, to ensure development of services that are responsive to users' needs. **Co-design** and engagement of a broad range of user communities is important. In addition, an **interoperability target** must be added to ensure that consumers can easily change digital service providers if they so wish.

Increased interoperability is also crucial for the development of data economy and must be addressed in the 2030 targets from that perspective as well. In general, the Digital Compass policies must be **more closely linked with the EU's data policies** (such as the upcoming Data Governance Act[7]), which in turn must be firmly rooted in MyData principles[8], FAIR principles[9] and the European Interoperability Framework[10], where interoperability at all levels (legal, organisational, semantic and technical) is systematically addressed.

When it comes to the **infrastructure targets** for 2030, the rather narrow target of 10000 new edge nodes must be complemented with or even replaced by a more comprehensive target for developing an **interoperable ecosystem** of edge computing capacities and more consolidated cloud and HPC infrastructures, allowing for data to be analysed and further utilised in the most appropriate environment, taking into account the needs of different beneficiaries. Such ecosystems would allow for shared usage of not only infrastructures, but also skills, competences, tools and methods, across borders and sectors. This would also serve sustainability and cost-efficiency, as the infrastructures could be accessed from everywhere in Europe but placed wherever the conditions, such as availability of affordable renewable energy and free cooling, are the most favourable. This would provide significant added value also for the European taxpayers.

As to the target regarding quantum computing, this must be made more ambitious, aiming not only at getting started with quantum but reaching **technological leadership in emerging technologies**. Different types of infrastructures (HPC, quantum, data, AI, connectivity networks etc.) must be developed in convergence and by using world-class technologies in order to allow European RDI to reach its full potential. The work must build on already existing e-infrastructures and ongoing initiatives, to ensure **continuity, consistency and efficiency**. The evolving European e-infrastructure landscape requires

[6] https://www.lvm.fi/en/-/finland-announces-climate-strategy-for-ict-sector-harnessing-data-bits-to-combat-climate-change-1260885
[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0767
[8] https://mydata.org/declaration/
[9] https://www.go-fair.org/fair-principles/
[10] https://ec.europa.eu/isa2/eif_en

also sustainable funding and long-term business models, as e-infrastructures are becoming increasingly strategic for Europe's technological autonomy.

Concerning the implementation framework to be laid down in the Digital Compass Policy Programme, CSC warmly welcomes the plans to incentivise **Multi-Country Projects** for developing Europe's digital capacities in critical areas. Such projects must pool not only funding, but also human resources, and build on lessons learnt from previous and ongoing cross-border collaboration activities. One such activity to benchmark is the EuropHPC JU[11] that has managed to pool European resources to acquire supercomputers that no European country alone could afford. Shared ownership between the JU and the hosting entity as well as inclusive consortium arrangements create clear European added value, and reduce the digital divide by guaranteeing continent-wide access to these infrastructures.

CSC also welcomes the idea to establish a **stakeholder forum** and/or an expert group to support the implementation of the Digital Compass policies. When inviting members to these bodies, due attention must be paid to openness, transparency and ensuring a diverse and balanced representation of public and private interests as well as civil society and various fields of academia, in order to ensure comprehensive analysis and advice. The mandate and responsibility of such bodies must be clearly communicated.

Stakeholders must be consulted not only on the implementation but also the design of the Digital Compass policies. Therefore, the final approval of the vision and concrete targets for 2030 must not take place until the feedback on the various roadmaps is properly analysed. It must also be made sure that all stakeholders have had the opportunity to contribute as the process has been very fast and somewhat hard to follow. Further communication efforts may be needed to ensure transparency of the process and to reach all concerned and interested parties.

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[11] https://eurohpc-ju.europa.eu/