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European Union

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**NOTE**

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From:	General Secretariat of the Council
To:	Delegations
No. prev. doc.:	9931/23
Subject:	Proposal for a Council Recommendation on the key enabling factors for successful digital education and training - <i>Revised Presidency text</i>

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Delegations will find attached the compromise text of the draft Recommendation, as prepared by the Presidency, for discussion during the Education Committee's next meeting on 19-20 July 2023.

**Bold** (for additions) and [...] (for deletions) are used to indicate changes to the text set out in document 9931/23.

Delegations are kindly invited to send their written comments to the Presidency (Educacion.Reper@reper.maec.es) and the Council Secretariat ([eycs@consilium.europa.eu](mailto:eycs@consilium.europa.eu)) by **20 July 2023 cob**.

Proposal for a  
Council Recommendation

on the key enabling factors for successful digital education and training

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 165 and Article 166 thereof,

Having regard to the proposal from the European Commission,

WHEREAS:

1. The European Council conclusions of 9 February 2023<sup>1</sup> stressed the need for bolder, more ambitious action to further develop the skills that are required for the green and digital transitions through education, training, upskilling and reskilling to meet the challenges of labour shortages and the transformation of jobs, including in the context of demographic challenges.

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<sup>1</sup> EUCO 1/23.

2. Education and training are key for [...] **a more cohesive, inclusive, digital, sustainable, competitive, innovative, green and resilient Europe, and for citizens to achieve personal development [...] and well-being, to be prepared to adapt and perform on a changing labour market and to engage in active and responsible citizenship.** In this context, the Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)<sup>2</sup> promotes European cooperation to support further the development of education and training systems in Member States. These are aimed at ensuring the personal, social and professional fulfilment of all citizens, while promoting democratic values, equality, social cohesion, active citizenship and intercultural dialogue, as well as sustainable economic prosperity, the green and digital transitions, and employability.

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<sup>2</sup> OJ C 66, 26.2.2021, p. 1.

3. The COVID-19 pandemic highlighted the need to improve the digital readiness of education and training systems in terms of resilience, high-quality, inclusiveness, accessibility, and security. The rapidly advancing technological change calls for a people-centred digital transformation and education and training systems which are fit for the digital age. To tackle these challenges, the Commission adopted the Digital Education Action Plan 2021-2027<sup>3</sup>. The action plan seeks to address the digital divide and inequities in education and training, and highlights the potential of technology to facilitate more accessible, flexible, personalised and learner-centred teaching and learning.
4. The first strategic priority of the action plan – fostering the development of a high performing digital education ecosystem – stresses the need for strengthening digital capacity and resilience in education and training systems in a coherent and sustainable way. To this purpose, enabling factors such as relevant infrastructure, connectivity and digital capacity have been identified in the action plan and further complemented in the Council conclusions on digital education in Europe’s knowledge societies<sup>4</sup>.

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<sup>3</sup> COM(2020) 624 final.

<sup>4</sup> OJ C 415, 1.12.2020, p. 22.

5. The effective implementation of these enabling factors requires action going beyond education and training ministries alone. In this respect, in 2022 the Commission conducted a structured dialogue with Member States on digital education and skills. Reflecting the need for a whole-of-government approach, Member States nominated their representatives for the high [...] level group of National Coordinators with the mandate to represent the relevant departments in their countries responsible for different aspects of digital education, training and skills (including education, labour, digital, culture, industry and finance). This approach proved useful and necessary in bringing effectively together expertise from the different sectors and should be continued. The outcomes of the structured dialogue highlighted a number of common challenges faced by Member States in the digital transformation of their education and training systems, demonstrating the need to share best practices at Union level.
6. Through Decision (EU) 2023/936 of the European Parliament and of the Council<sup>5</sup>, 2023 was declared the European Year of Skills. This also entails increasing ongoing efforts to improve the skills needed for the digital transition, which now depend more than ever on the involvement of and coordinated contribution from stakeholders from all sectors of society, the economy and education and training.

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<sup>5</sup> Decision (EU) 2023/936 of the European Parliament and of the Council of 10 May 2023 on a European Year of Skills (OJ L 125, 11.5.2023, p. 1).

7. The first principle of the European Pillar of Social Rights<sup>6</sup> states that ‘everyone has the right to quality and inclusive education, training and lifelong learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.’ The right to education, as set out and protected by the Charter of Fundamental Rights of the European Union, should be guaranteed at all times.
8. The Union of Equality strategies<sup>7</sup> adopted by the Commission emphasise the important role of quality and inclusive education and training as an enabler for making progress towards a Union of Equality for all, regardless of gender, racial or ethnic origin, religion or belief, disability, age or sexual orientation. **Furthermore, within this context, special attention should be paid to vulnerable and socio-economically disadvantaged groups, persons with disabilities and people living in rural and remote areas and the outermost regions.**
9. The COVID-19 crisis has further exacerbated socio-economic inequalities in education and training, deepening the digital divide. The Council Recommendation establishing a European Child Guarantee<sup>8</sup> invites Member States to guarantee effective and free access to education and school-based activities for children in need, namely those at risk of poverty or social exclusion. Furthermore, the EU strategy on the rights of the child<sup>9</sup> and the Strategy for the Rights of Persons with Disabilities 2021-2030 call for building inclusive and accessible, quality education.

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<sup>6</sup> OJ C 428, 13.12.2017, p. 10.

<sup>7</sup> Five equality strategies were adopted in 2020 and 2021 to make progress towards a Union of Equality: Gender Equality Strategy 2020-2025 (COM(2020) 152 final); LGBTIQ Equality Strategy 2020-2025 (COM(2020) 698 final); EU anti-racism action plan 2020-2025 (COM(2020) 565 final); EU Roma strategic framework for equality, inclusion and participation 2020-2030 (COM(2020) 620 final); Strategy for the Rights of Persons with Disabilities 2021-2030 (COM(2021) 101 final).

<sup>8</sup> Council Recommendation (EU) 2021/1004 of 14 June 2021 establishing a European Child Guarantee (OJ L 223, 22.6.2021, p. 14).

<sup>9</sup> COM(2021) 142 final.

10. The European Skills Agenda<sup>10</sup> sets out actions to help individuals and businesses develop more and better skills and put them to use by strengthening sustainable competitiveness and by building resilience to react to crises, based on the lessons learnt during the COVID-19 pandemic. **The Council Resolution on a new European agenda for adult learning 2021-2030<sup>11</sup> focuses, among others, on formal, non-formal and informal learning opportunities for adults, in a lifelong learning perspective.**
11. Every European citizen should have access to digital education, which enables them to develop the knowledge, skills and competences needed for active participation in today's increasingly digital societies. The Digital Decade Policy Programme 2030<sup>12</sup> puts forward a plan to achieve inclusive human-centred digital transformation of the EU's society and economy by 2030. This includes a governance and reporting framework with Member States as part of the Digital Decade Policy Programme to reach the relevant Union-level targets for the Digital Decade, including achieving universal connectivity (gigabit broadband for everyone and 5G everywhere, also in rural **and remote** areas). These initiatives seek to address existing digital divides in terms of connectivity and skills by promoting action and putting in place necessary mitigating measures. In this respect, the 2022 European Declaration on Digital Rights and Principles for the Digital Decade<sup>13</sup> emphasises the need to promote and support the equipment of all education and training institutions with digital connectivity, infrastructure and tools.

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<sup>10</sup> COM(2020) 274 final.

<sup>11</sup> **OJ C 504, 14.12.2021, p. 9.**

<sup>12</sup> Decision (EU) 2022/2481 of the European Parliament and of the Council of 14 December 2022 establishing the Digital Decade Policy Programme 2030 (OJ L 323, 19.12.2022, p. 4).

<sup>13</sup> OJ C 23, 23.1.2023, p. 1.

12. Those initiatives highlight that successful digital education and training is about creating more and better opportunities for learning and teaching for everyone in the digital age. Digital solutions have made education and training systems in the Union more accessible over the last few years. However, in a fast-developing world, it is vital to improve continuously the effectiveness and efficiency of education **and training** and support new teaching and learning approaches, including through existing and emerging digital solutions.
13. The Council conclusions on digital education in Europe's knowledge societies<sup>14</sup> highlight that the widespread distribution of digital technologies and access to the internet create new possibilities for high-quality and inclusive education and training in Europe. Digital education, as an integral part of high-quality and inclusive education and training, can complement face-to-face teaching and contribute to enhancing accessibility of educational content and pedagogies, greater social inclusion as well as to more effective acquisition of competences, promoting educational success for all.

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<sup>14</sup> OJ C 415, 1.12.2020, p. 22.

14. At the same time, new and emerging technologies such as artificial intelligence quickly enter learner environments which brings potential opportunities as well as risks, such as cybersecurity threats. It is therefore crucial to support education and training institutions, informal learning institutions as well as teachers, **trainers** and other education staff in developing better understanding about such tools and how they could use them in a confident and safe manner to the benefit of teaching and learning. This includes awareness of the implications that relevant Union legislation in the digital domain, such as the upcoming Artificial Intelligence Act<sup>15</sup> and the Digital Services Act<sup>16</sup>, and initiatives such as the European strategy for data<sup>17</sup>, may have on teaching and learning practice. Concurrently, the **Commission's** Digital Education Action Plan is raising cybersecurity awareness among individuals, especially children and young people, and organisations, especially SMEs. Education and **training** awareness raising will not only protect against cyber threats but will also contribute to developing and diversifying the cybersecurity workforce, complementing the efforts of the Cybersecurity Skills Academy.
15. In a lifelong perspective, using digital technologies to improve the accessibility and quality of teaching and learning is of essence for all [...] levels **and types** of education and training, [...] **from [...]** early **childhood education and care, through primary and secondary education, vocational education and training** to [...] **higher education and** adult learning [...].

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<sup>15</sup> COM(2021) 206 final.

<sup>16</sup> Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) (OJ L 277, 27.10.2022, p. 1).

<sup>17</sup> COM(2020) 66 final.

16. The Council Recommendation on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience<sup>18</sup> proposes a modernised Union policy vision of VET, including its digitalisation and the use of blended learning. The Osnabrück Declaration on vocational education and training as an enabler of recovery and just transitions to digital and green economies<sup>19</sup> states that digital learning can play an important and complementary role.
17. [...] **The Council Recommendation on building bridges for effective European higher education cooperation<sup>20</sup> recognises that strong, inter-connected higher education institutions are one important instrument for tackling the challenges related to the green and digital transitions. The Recommendation calls for Member States to support institutionalised cooperation models, including ‘European Universities’ [...], in their efforts to pool expertise and resources to develop and implement joint digital strategies and shared interoperable IT infrastructure.**
18. The Council Recommendation on Upskilling Pathways: New Opportunities for Adults<sup>21</sup> aims to provide low-qualified adults with flexible opportunities to improve their basic and further skills, including digital competences relevant for the labour market and active participation in society. This is being put into practice by delivering **education and** training in appropriate learning settings in which qualified teachers and trainers apply adult-specific teaching methods and exploit the potential of digital learning.

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<sup>18</sup> Council Recommendation of 24 November 2020 on vocational education and training (VET) for sustainable competitiveness, social fairness and resilience (OJ C 417, 2.12.2020, p. 1).

<sup>19</sup> Endorsed on 30 November 2020.

<sup>20</sup> **Council Recommendation of 5 April 2022 on building bridges for effective European higher education cooperation (OJ C 160, 13.4.2022, p. 1).**

<sup>21</sup> Council Recommendation of 19 December 2016 on Upskilling Pathways: New Opportunities for Adults (OJ C 484, 24.12.2016, p. 1).

19. **The** Council conclusions on European teachers and trainers for the future<sup>22</sup> recognise that teachers, trainers and school leaders are an indispensable driving force behind education and training. They are to be involved in creating education and training policies, with autonomy in applying these policies in practice. However, they also need the support of a comprehensive approach to initial education, induction and continuous professional development.
20. The Council Recommendation on blended learning approaches for high-quality and inclusive primary and secondary education<sup>23</sup> recommends embedding blended learning approaches in initial teacher education and continuous professional development programmes. It also recommends supporting educational staff in using digital tools and materials, including knowledge on how to operate safely and ethically in digital environments.
21. The Council Recommendation on learning for the green transition and sustainable development<sup>24</sup> highlights the importance of educators' digital competences and digital infrastructure, tools and resources to strengthen teaching and learning for sustainability.
22. It is therefore essential that teachers are treated as key partners in the successful digital transformation in education and training. As such, they need to be closely involved and consulted in the adoption of digital technologies, as well as equipped with the necessary skills and competences for their effective use.
23. Responding to the need to achieve accessible, high-quality and inclusive digital education and training, this Recommendation should address the following key enabling factors: (i) a strategic approach on digital education and skills; (ii) a whole-of-government coordination and multi-stakeholder engagement; (iii) capacity-building for education and training institutions and [...] **leaders, teaching and support staff**; and (iv) impact-focused investment.

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<sup>22</sup> OJ C 193, 9.6.2020, p. 11.

<sup>23</sup> Council Recommendation of 29 November 2021 on blended learning approaches for high-quality and inclusive primary and secondary education (OJ C 504, 14.12.2021, p. 21).

<sup>24</sup> Council Recommendation of 16 June 2022 on learning for the green transition and sustainable development (OJ C 243, 27.6.2022, p. 1).

24. This Recommendation fully respects the principles of subsidiarity and proportionality. Member States will decide, according to national circumstances, how to implement the Recommendation,

RECOMMENDS THAT MEMBER STATES:

1. Agree, through a whole-of-government approach, **and** involving key stakeholders, on a national, **and where appropriate regional**, strategy for digital education and skills, developed, **further strengthened** or updated [...] **in line with** the principles of this Recommendation, and monitor its effectiveness and impact **in a meaningful way**. In pursuit of their national strateg[...]**ies**, Member States [...] **are recommended to**:
  1. Set or review, in an integrated manner, national objectives and targets for the key enabling factors to contribute to the digital transformation of education and training systems and digital skills development, and ensure they are monitored, reviewed and updated regularly.
  2. Align, **where relevant**, those national objectives [...] with the strategic priorities of the **Commission's** Digital Education Action Plan 2021–2027 and **reflect them, where possible**, in the national roadmaps to be adopted by Member States in accordance with the Digital Decade Policy Programme.
  3. Conduct regular evaluations of the impact of digital education policies and practices, including school participation, learning outcomes, accessibility and inclusion, equality and well-being, with a life-long learning approach, and develop research on those subjects, **avoiding additional administrative burdens**.

2. Increase the efficiency, effectiveness and resilience of digital education and training policy by promoting synergies and coordination at all levels of **public** administration and ensuring a whole-of-government and multi-stakeholder approach. In particular, Member States [...] **are recommended to:**

1. Promote regular dialogues between the different parts of government involved in delivering digital education and training at appropriate levels in accordance with the structure of national education and training systems.
2. Ensure the structural involvement of stakeholders and social partners in digital education and training policy design, in developing effective solutions to digital education and standards based on the Commission guidelines and in development, implementation and evaluation processes. This involvement should include active participation of those without formal representative bodies, such as parents and learners and should cover different socio-economic, age, sectoral and territorial contexts.
3. Establish sustainable cooperation and exchange with the private sector and technology providers, including education technology providers, small and medium-sized enterprises and start-ups in developing solutions that reflect Union values and principles, including digital sovereignty, interoperability, **standardisation**, security, data privacy [...], transparency **and intellectual property rights**, as well as sustainable use of rare resources and energy for digital purposes, **for example** by:
  - a) supporting research, development and testing of digital educational tools and technologies, including those based on emerging technologies [...] **such as artificial intelligence, immersive technologies such as virtual reality, augmented reality as well as adaptative and eXtended Reality**, [...], robotics and metaverse;

- b) [...] **providing incentives for research on the quality, inclusion, accessibility and impact of digital education solutions, including those based on emerging technologies.**
  - c) promoting public-private partnerships for the development and deployment of digital education solutions, where appropriate; [...]
4. Engage in peer-learning, the exchange of practices and coordination, including across different policy sectors, at European and international level, **on both the opportunities and the risks of the use of digital devices in education**, to find common solutions to cross-national challenges.
3. [...] **Encourage** digital training for all leaders, teaching and support staff and promote capacity building of education and training institutions. In particular, Member States [...] **are recommended to:**
- 1. [...] **Take adequate measures so** that all teachers and teaching staff are supported in integrating digital technologies into their pedagogy, namely to use digital technologies for teaching, learning and assessment. That support should in particular take the following forms:
    - a) empowering teachers by involving them in the decision-making on the integration of digital equipment into teaching and learning and on the selection and development of digital education content;
    - b) encouraging the introduction of digital pedagogy in all initial teacher education programmes for pre-service teachers, and supporting providers of those programmes with necessary resources and facilities for that purpose; cooperate at EU level by exchanging good practices on curriculum development, delivery and assessment on digital pedagogy for teachers;

- c) incentivising all in-service teachers and teaching staff to develop and upgrade their digital skills in continuous professional development;
  - d) providing and recognising flexible, accessible and innovative formats of digital upskilling such as online training, short courses that may lead to micro-credentials, national and international staff exchanges and peer learning; promoting collaborative projects, networks, and communities of practice and research;
  - e) making use of opportunities to develop digital pedagogy through **programmes and initiatives at national and EU level, such as the Erasmus+ Teacher Academies;**
  - f) reflecting the need for digital well-being in the teaching and learning process and the design of supportive digital teaching and learning approaches and environments **for all levels and types of education and training, taking into account the risk of an overuse and misuse of digital technologies.**
2. Encourage education and training institutions to foster the digital transformation of education and training, **for example** by:
- a) promoting capacity building and the use of **national as well as European** frameworks and self-assessment tools such as SELFIE (self-reflection tool designed to help schools embed digital technologies into teaching, learning and assessment, based on the DigCompOrg framework for school leaders), SELFIEforTEACHERS (based on the DigCompEdu framework), **SELFIE for work-based learning**, and HEInnovate (self-assessment tool for higher education institutions), to identify institutional needs and objectives for digital transformation and upskilling;

- b) taking into account criteria on the enabling factors for digital education and training in internal and external quality assurance processes for education and training institutions;
- c) helping education and training institution leaders implement the digital transformation, including by offering continuous guidance, support and professional development;
- d) promoting evidence-based scaling up of good practice by giving recognition to early adopter institutions that have improved teaching and learning through innovation and digital technologies, and supporting peer-to-peer exchanges;
- e) encouraging a continuous dialogue between education and training institutions and industry on development and training needs and opportunities, exchanging experience and providing feedback on products and technologies used in teaching and learning;
- f) ensuring that every school has access to [...] **technical** [...] and **pedagogical** digital [...] **support services** to help teachers and learners select, effectively deploy, manage and maintain digital devices and tools for teaching, learning and assessment **with an emphasis on their pedagogical use**;
- g) taking comprehensive measures to address cybersecurity in all education and training institutions, encouraging all staff to take cybersecurity training, raising cybersecurity awareness among students and their families, and ensuring robust security policies and access control while making full use of modern technology solutions such as cryptography and authentication.

4. Promote equitable and impact-focused investment in high-quality, resilient and inclusive digital education and training. In particular, Member States [...] **are recommended to:**
1. Increase the efficiency and impact of spending on connectivity, equipment, infrastructure, digital tools and content, **for example** by:
    - a) coordinating procurement processes to benefit from economies of scale where possible, while allowing for flexibility to the specific needs of education and training institutions, taking into account also the need for sustainability and accessibility for persons with disabilities; cooperating at EU level on standards and specifications that can be used for issues such as procurement organised in the field of digital education;
    - b) considering alternative approaches to investment, including public-private partnerships, donation schemes, the refurbishment of second-hand equipment, **taking into account the dynamics and compatibilities with the software requirements**, as well as translating and reusing, where relevant, digital education content from other Member States;
    - c) facilitating tailored support, expertise and know-how, for example in the form of public-private partnerships, advisory bodies or steering/clearing houses, to allow education and training institutions to choose appropriate digital education solutions that are tailored to their teaching and learning needs and address digital security, accessibility, data privacy and digital well-being in a strategic manner;
    - d) ensuring that investments in new digital equipment, infrastructure, tools and content are accompanied by corresponding training.

2. To provide equal access for all learners, ensure adequate investment in:
- a) high-speed internet connectivity to achieve 100% gigabit or higher internet connectivity in all education and training institutions and close territorial and socio-economic gaps by using a variety of different technologies and alternatives, fibre, 5G and satellite, in line with the Union-level targets for the Digital Decade Policy Programme;
  - b) upgrading digital classroom equipment and ensuring that all teachers and teaching staff have access to a personalised device (desktop, laptop or tablet) to enrich their pedagogical practice, and that all devices are serviced and maintained regularly **ensuring data protection**;
  - c) **building STEAM learning environments that can foster digital pedagogy through an interdisciplinary approach**;
  - d) ensuring that all learners, **in particular, the most vulnerable and disadvantaged ones**<sup>25</sup>, have access to a personalised device at school that meets their specific needs and that all devices are serviced and maintained regularly in line with data [...] **protection**;
  - e) digitising teaching and learning materials, **when of added value**, and developing modern, accessible and high-quality digital education content, aligned with curricula and good pedagogical practices;
  - f) the deployment and integration of relevant centralised services, including through cloud solutions, such as virtual learning and administration management systems (including secure communication and collaboration tools, education content repositories, classroom management and digital assessments) in all education and training institutions, while ensuring their **standardisation and** interoperability, privacy and data security;

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<sup>25</sup> **For instance, those living in rural and remote areas, outermost regions, socio-economically disadvantaged or marginalised groups, and persons with disabilities.**

- g) ensuring inclusive education by safeguarding the accessibility of digital education content and technologies for learners and teachers with disabilities and providing specialised equipment and solutions for learners with special educational needs, taking into account the existing Union accessibility legislation, in particular Directives (EU) 2016/2102<sup>26</sup> and (EU) 2019/882 of the European Parliament and of the Council<sup>27</sup>.

WELCOMES THE COMMISSION'S INTENTION TO:

1. Support the implementation of this Recommendation through: the High Level Group on Digital Education and Skills to be set up by Commission Decision.
  1. Support effective continuation and functioning of the **high** [...] level group set up for the structured **dialogue** with Member States with a view to provide steering on key strategic topics addressed in this Recommendation. The group may establish technical subgroups, notably on assessment and certification of digital skills, curriculum development, and quality requirements for digital education tools and content. This work should ensure consistency and complementarity with the work carried out by the High Level Group on Education and Training<sup>28</sup> and the Digital Decade Board<sup>29</sup>.

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<sup>26</sup> Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies (OJ L 327, 2.12.2016, p. 1).

<sup>27</sup> Directive (EU) 2019/882 of the European Parliament and of the Council of 17 April 2019 on the accessibility requirements for products and services (OJ L 151, 7.6.2019, p. 70).

<sup>28</sup> Council Resolution on the governance structure of the strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030) (OJ C 497, 10.12.2021, p. 1).

<sup>29</sup> Commission Decision of 11 October 2022 setting up the group of experts 'the Digital Decade Board' - C(2022) 7141.

2. Promote the exchange of best practice, peer learning and cooperation with stakeholders on digital education and training. In particular, the Commission intends to:
  1. Enable the exchange of best practice, networks and peer learning among Member States, policy-makers, practitioners and stakeholders from the private and public sector through existing tools, platforms and communities (Working Group on Digital Education: Learning, Teaching and Assessment (DELTA), European SALTO Digital Resource Centre, European School Education Platform, including eTwinning, Electronic Platform for Adult Learning in Europe (EPALE), Better Internet for Kids platform, Technical Support Instrument projects), including by promoting the European Digital Education Hub as a main entry point for digital education and training in the Union.
  2. Promote cooperation with stakeholders, including software and hardware providers, on digital infrastructure and tools and their sustainable use in education and training, while promoting Union values and principles on privacy, data protection [...], interoperability **and intellectual property rights**.
  3. Strengthen international cooperation on the enabling factors for digital education and skills.
3. Support the digital training of [...] **leaders**, teaching and support staff of education and training institutions. In particular, the Commission intends to:
  1. Support, through Erasmus+, mobility with the aim of upskilling [...] **leaders**, teaching and support staff of education and training institutions in the use of digital technologies in teaching, learning and administration, including with regard to the rapidly changing capabilities of emerging technologies.

2. Promote tools [...] **such as** DigCompEdu and SELFIEforTEACHERS, **update them when appropriate**, and support cooperation on the development and delivery of courses on digital pedagogy for initial teacher education and continuous professional development.
3. Promote the roll-out of the Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators to help primary and secondary teachers integrate artificial intelligence and data into school education effectively, and build on them to take into account the implications of misuse of emerging technologies such as generative artificial intelligence and counter the risks.
4. Support impact-focused investment in digital education and training infrastructure and services through national and Union funding and strengthen evidence on the effectiveness and efficiency of digital education policies and tools. In particular, the Commission intends to:
  1. Support Member States' investment in essential digital education infrastructure (including connectivity, equipment, tools and digital content) through Union funding and strengthen the links between existing Union policies and funding instruments and programmes and national and regional strategies for digital education and the digitalisation of schools.
  2. In light of the rapid technological developments, support the development, in cooperation with Member States and stakeholders, of guidelines and quality requirements for **open**, accessible, well-designed and high-quality digital education content and virtual learning environments and tools (such as stand-alone learning management systems and applications, **including open source solutions**), to help education and training systems systematically evaluate their quality, safety, trustworthiness, reliability, utility and inclusiveness.

3. Support Member States and technology providers in addressing **standardisation and interoperability** challenges linked to digital education platforms and services in different **levels and types of** education and training [...].
4. Increase research coordination, promote evidence-based scaling up of best practices and support, via Horizon Europe, Digital Europe and Erasmus+ programmes, the research, development and deployment of digital solutions for teaching, learning and assessment, and the testing of their impact on improving learning outcomes and equity.
5. Support Member States in developing effective and efficient digital education policies by improving evidence, evaluation and analysis of those policies, for example, through the Learning Lab on Investing in Quality Education and Training, as well as provide targeted guidance and technical support through the Technical Support Instrument.
6. Facilitate exchanges on national approaches and best practice on the effective procurement of digital equipment and infrastructure for education and training institutions through, inter alia, the Network of National Advisory Services on digital education.
7. Support the digital transformation of Member State education and training credentials, in particular with the further roll-out of the European Digital Credentials for Learning infrastructure.

5. Improve transparency and evaluate progress in implementing digital education and training.

In particular, the Commission intends to:

1. Contribute to building comparative data on the key enabling factors of digital education and training across the Union by conducting a *Digital Education in Europe* survey every 3 years in the Member States, building on and further developing the ‘European Survey of Schools: ICT in Education’, with the aim of collecting a first comprehensive set of data by 2025.
2. Monitor and report on progress on the enabling factors for digital education and training, taking into account Member States’ national strategies, within the **strategic framework for European [...] cooperation in education and training**, such as the Education and Training Monitor, **avoiding additional administrative burdens**.
3. Support Member State participation in international surveys that provide comparative data on the state of play of teachers’ readiness for digital education, most notably the OECD Teaching and Learning International Survey.
4. Review the progress made in implementing this Recommendation and report to the Council no later than 5 years after its adoption.

Done at Brussels,

*For the Council*

*The President*

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