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It appears clear today that not all Europeans are fully confident when performing activities online and with digital devices. The latest edition of the Digital Economy and Society¹ index shows that only **54% of the European adult population has basic digital skills**. There are also **significant discrepancies** between the different Member States as well as between different segments of the population. Thus, as to ensure that the whole society can embark on the digital transformation train, it is absolutely crucial to make sure that **we are not leaving anyone behind without the right digital skills**.

¹ <https://digital-strategy.ec.europa.eu/en/policies/desi>

In its **October 2021 Conclusions**, the European Council underlines the need to focus on digital skills and education. The recently adopted **Path to the Digital Decade Policy Programme** establishes ambitious targets, including the aim that at least 80% of all adults will have **basic digital skills by 2030**² and that 20 million **ICT experts** will be employed in the EU with a **trend towards gender balance**. The **Structured Dialogue** on Digital Education and Skills with Member States, also launched in 2022, aims to map ongoing efforts in the Member States, identify gaps - if any - and join forces at EU level. This work will feed into two proposals for a **Council Recommendation** (one on the enabling factors for successful digital education and one on the provision of digital skills in education and training) as well as into the strategic **Digital Decade roadmaps** prepared by Member States to contribute to the 2030's digital targets, including those on digital skills. On 14 September 2022, President Ursula von der Leyen proposed in her **State of the Union Address** to make 2023 the **European Year of Skills**. The Commission is also working on a Cybersecurity Skills Academy under its 2023 Work Programme and strengthening skills needed for the semiconductors ecosystem.

An **inclusive digital transformation** cannot happen without properly supporting young people and addressing the need to support digital skills development from an **early age**. In fact, the level of digital skills of young people is higher compared to that of the overall population. However, when directly tested, more than 1/3 of pupils does not possess the most basic proficiency level in digital skills. Furthermore, socioeconomic background, migrant status, and language spoken at home significantly impact students' digital skills achievement.³ For all these reasons, the Council Resolution on a Strategic Framework for European Cooperation in Education and Training set out a **target on the level of digital skills of young people** and calls for action to reduce the share of low-achieving eight-graders in computer and information literacy in the EU to less than 15% by 2030.

² This target is also included in the European pillar of Social Rights Action Plan.

³ <https://www.iea.nl/news-events/news/icils-2018-results> & <https://op.europa.eu/webpub/eac/education-and-training-monitor-2021/en/chapters/leaflet.html>

We will need step changes to reach the Digital Decade targets on **ICT experts**⁴ and fulfil the needs in industrial ecosystems relying heavily on cutting edge-technologies such as automotive, aerospace, electronics as well as in critical technologies for all sectors such as data, cybersecurity and semiconductors. Around 200,000 cybersecurity experts are currently missing in Europe whereas the EU needs a bigger pool of such specialists to protect businesses and public services in Europe and design the cybersecurity solutions of the future.⁵ In addition to this structural shortage of skilled staff, there is a still persistent gender gap: **only one in five ICT specialists and ICT graduates are women**, which may affect the way digital solutions are devised and deployed. There is thus a crucial **need to encourage more girls and women to embark on tech careers**, provide **up- and reskilling** opportunities to the working population as well as to achieve **gender convergence** in the ICT population. Especially for **advanced IT specialists**, there are differences within Member States and between Member States with regards to the quality and content of training or **recognition** of existing skills, thus impacting the **certification** and **mutual recognition** of such skills within and between Member States.

There is also a high need to equip **sector specialists with advanced digital skills**, such as for instance *medical doctors* who are increasingly relying on advanced digital technologies (e.g. AI) for providing more accurate diagnoses or process data of their patients in electronic health records, or *farmers* who are using advanced data analysis to optimise their production processes. In fact, recent research demonstrated a rising demand for **digital skills in non-tech industries**⁶ as well as the fact that the demand of sector specialists with advanced digital skills (i.e. so-called digital integrators) actually exceed the demand of digital specialists where digital is at the core of the job.⁷

⁴ https://ec.europa.eu/eurostat/statistics-explained/index.php?title=ICT_specialists_-_statistics_on_hard-to-fill_vacancies_in_enterprises

⁵ A Resilient Cybersecurity Profession Charts the Path Forward : (ISC)2 CYBERSECURITY WORKFORCE STUDY, 2021 (<https://www.isc2.org/-/media/ISC2/Research/2021/ISC2-Cybersecurity-Workforce-Study-2021.ashx>), page 25.

⁶ https://www.burning-glass.com/wp-content/uploads/2021/02/after_the_storm_recovery_jobs_executive_summary.pdf; https://www.bertelsmann-stiftung.de/fileadmin/files/user_upload/STUDIE_Burning_Glass_EN_FINAL.pdf;

⁷ <https://download.digitaldogme.dk/hubfs/Det%20digitale%20Kompetencebarometer%202020.pdf>

Moreover, new **emerging digital technologies** (e.g. virtual/augmented/extended reality or artificial intelligence and data) play a key role in enabling skills development and training of professionals. In this respect, the level of digital skills of teachers and trainers to properly apply those technologies in learning and training contexts is one of the key success factors so that learning and training outcomes are positively impacted.

Many instruments can be pooled to progress towards the Digital Decade targets. As part of the **Recovery and Resilience Facility**, for instance, more than EUR 28 billion of investments have been devoted by Member States to digital education and skills, providing, amongst others, curriculum reforms, up- and reskilling opportunities for teachers and trainers, educators and to the workforce. Furthermore, several EU funding instruments, including the **European Social Fund Plus**, the **Digital Europe Programme**, **Horizon Europe** and **Erasmus+**, aims to strengthen digital capacities and the skills needed for their deployment through experimenting, evaluating and scaling up innovative education and training programmes and specialised digital technology training and education programmes.

Several key Commission-supported initiatives contribute to the European effort such as **the New Pact for Skills** partnership in the digital ecosystem which aims at enabling the upskilling and reskilling of workers and attract more people to the digital industry. The **Digital Skills & Jobs Platform** acts as a central hub for information around digital skills in Europe. It is also the home of the **National Digital Skills & Jobs Coalitions**, which are multi-stakeholder partnerships that are taking actions in national context. The **EU Code Week** and the **Digital Education Hackathon** are grass roots initiatives aiming to engage stakeholders and spread, amongst others, computational thinking, coding and related digital skills.

The Commission has also launched a series of initiatives to support Ukraine in times of war, such as the New Ukrainian School (NUS) hub⁸, supporting the EUTech4Ukraine Futurium Community⁹, and signing an agreement to associate Ukraine to the Digital Europe Programme in September 2022¹⁰. These initiatives complement other ongoing important efforts in the area of digital skills such as the recently launched national IT Generation pilot project aiming to provide 60.000 Ukrainians with a high-quality and free-of-charge IT education.¹¹

Member States themselves are leading successful initiatives and policies to develop digital skills and educate citizens to thrive in the digital era. The exchange of experience, best practices and cooperation between Member States is highly valued and encouraged. The private sector and NGOs also play an important role in upskilling and reskilling individuals and businesses. The continuation of their projects, together with public-private cooperation, is essential for the uptake of digital skills and the achievement of the Digital Decade objectives.

Given the need to step up our efforts to ensure necessary skills are available to enable a smooth digital transformation, ministers are invited to discuss the following questions:

1. Given the crucial importance of basic skills within the working population, what additional upskilling actions could be envisaged? What upskilling measures can be especially useful for SMEs?
2. How can we join forces to build on best practices/good experiences identified in Member States and boost the number of **ICT specialists** and the number of **sector specialists** possessing advanced digital skills? What actions could be envisaged to help key industrial ecosystems and in particular, SMEs to attract digital talent?

⁸ <https://nushub.org/en/>; The NUS hub is an initiative co-funded by the Ministry of Foreign Affairs in Finland and the European Commission with the aim to facilitate access to educational resources (including on digital skills) to support Ukrainian refugees and displaced learners still in Ukraine.

⁹ <https://futurium.ec.europa.eu/en/digital-compass/eutech4ukraine>; This community, launched at the Digital Assembly 2022, aims to bring together stakeholders, encourage discussions, and share information about new measures to support Ukraine refugees, companies and government in the digital field.

¹⁰ <https://digital-strategy.ec.europa.eu/en/news/solidarity-ukraine-digital-europe-programme-open-ukraine-access-calls-funding>

¹¹ <https://www.undp.org/ukraine/press-releases/ministry-digital-transformation-launches-large-scale-project-teach-it-specialities>; the project is being implemented with support from the USAID Competitive Economy Programme and the Digital, Inclusive, Accessible: Support to Digitalisation of Public Services in Ukraine Project, which is being implemented by UNDP in Ukraine with financial support from Sweden.