Review
NO 02

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EU actions to address low digital skills

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ECA team

Executive summary

I As the world becomes more and more digitalised, a certain level of digital skills are needed to manage with both private life and at work. In 2019, a third of adults in the EU in employment or looking for work – i.e. more than 75 million people – did not have at least basic digital skills or had not used the internet at all during the previous three months. The proportion was higher for those with low levels of education, older people and the unemployed.

II The EU's role in terms of increasing digital skills is to support national actions through guidelines and recommendations, providing support to cooperation networks and funding actions addressing this topic. Primary responsibility for the educational systems and vocational training, however, is with EU Member States.

III This report is not the result of an audit but a review of mainly publicly available information. It does not include any assessment of action taken by the Commission in this area or recommendations. We set out the recent development of basic digital skills among the labour force between 25 and 64 in the context of EU action in this area since 2010, particularly in the last 5 years. The start of the new EU programme period, 2021-2027, is the ideal time to draw attention to the importance of this issue, and to set out potential high level challenges for those designing programmes and selecting projects in this period by the beginning of 2021.

IV The review shows that the EU has long recognised the importance of basic digital skills for all citizens, and included it as an issue in its Europe 2020 strategy. Since 2010, the EU has set in train a number of different initiatives addressing digital skills – often as part of wider measures. The subject is a broad one, involving many stakeholders at many levels. The result is a range of actions at EU level, running in parallel and partially inter-linked. Since 2016 there has been more of a focus on digital or basic skills, although actions continue often to address other skills, skill levels or target groups.

V Until 2015, EU actions did not specifically target basic digital skills for adults. Since then, actions to increase the percentage of the labour force with basic digital skills have become more prominent. The Commission defined an internationally recognised Digital Competence Framework, supported the development of national strategies on digital skills and assisted in creating national Digital Skills and Jobs Coalitions in almost all Member States. On the other side, the Commission concluded in 2019 that the number of EU funded projects for the upskilling of low skilled adults was not sufficient. And although the Digital Agenda for Europe proposed digital literacy and competence

as a priority for the European Social Fund (ESF) in 2014-2020, projects specifically addressing digital skills related training in Member States represented around 2 % of total ESF funding for the period.

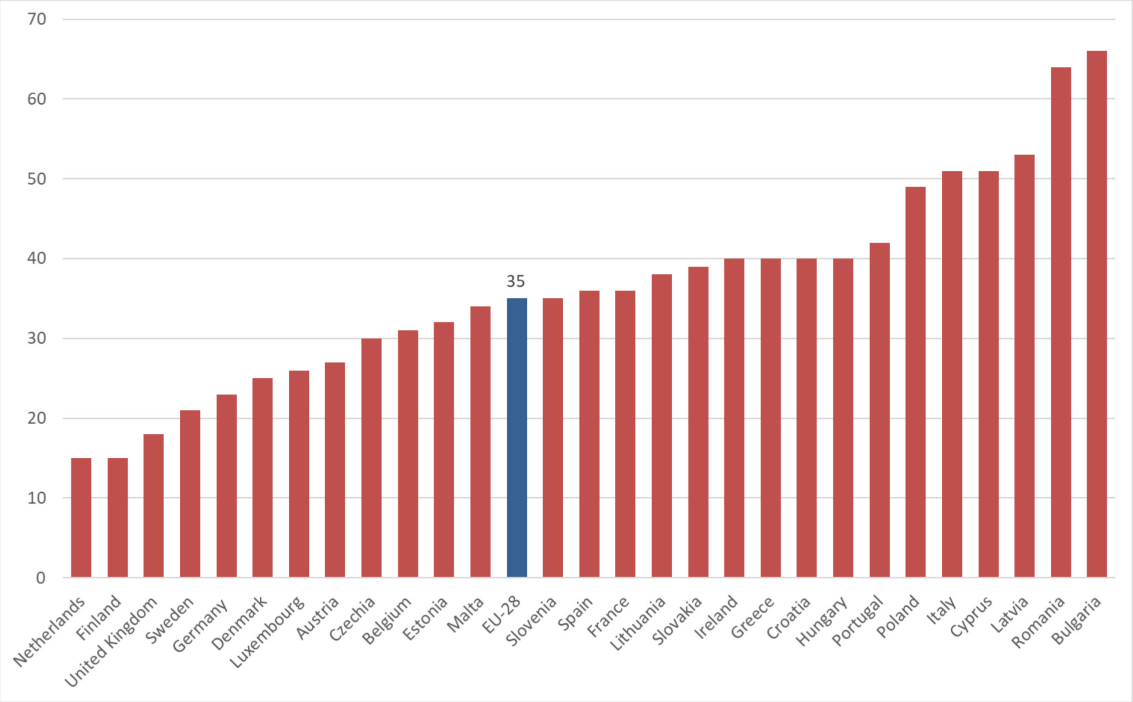
VI According to the indicators used by the Commission, there has been little progress among EU Member States as a whole with regard to basic digital skills in recent years. Although the best performing EU Member States are among the leading group of countries at worldwide level where comparable data exists, the worst-performing Member States are no better than those countries at the bottom of the non-EU scale. For this latter group of Member States, the situation gradually worsened during the period 2015 to 2018, which indicates that the digital divide is not only an issue among groups within a Member State, but also between high and low performing countries in this respect.

VII For the new period 2021-2027, for the first time the Commission has set a specific objective to increase the percentage of citizens with basic digital skills, from 56 % in 2019 to 70 % in 2025. In order to reach that objective, we identified some challenges, in particular the allocation of specific amounts of future EU programmes, the definition of sub-objectives and milestones to reach this objective, the identification of projects targeting basic digital skills of adults, and the consistent assessment of digital skills over a longer time period in a rapidly-changing digital environment.

Introduction

01 In 2019, 35 % of the EU labour force – i.e. those in work or looking for work – aged between 25 and 64 years old, representing more than 75 million people, did not have at least basic digital skills (or their skills could not be assessed, because they have not used the internet in the last 3 months). Within the EU there is considerable variation between Member States (***Figure 1***).

Figure 1 – Percentage of the active labour force without at least basic digital skills in 2019



Note: The data is based on EU-28 and includes also those citizens where their skills could not be assessed, because they have not used the internet in the last 3 months.

Source: Eurostat.

Box 1

What are "Basic digital skills"

There are various definitions for digital skills or competences, and several terms, such as 'digital literacy', 'digital competence', 'ICT-related skills' and 'e-skills', are often used synonymously. In May 2018, the European Council defined digital competence as "*involving the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking*".

Concerning the level of digital skills, we refer mainly to the European Digital Competence Framework for Citizens (see paragraph ***09***), which requires for the basic levels competences to perform simple tasks in all the areas mentioned by the Council.

02 The consequences of this 'digital divide' are that adults with lower levels of digital skills more often face problems in finding a job; and when they do enter employment, they earn less than adults with higher levels of digital skills[1]. OECD analysis shows that the demand for basic digital skills has increased in most countries. Many workers use ICT regularly without adequate ICT skills: on average, over 40 % of workers using office software every day do not have sufficient skills to use it effectively[2]. In February 2020, in its Communication "Shaping Europe's digital future"[3], the Commission highlighted that over 90 % of jobs already require at least basic digital skills, but the need for digital skills goes well beyond the job market.

03 The COVID-19 pandemic has further emphasised the importance of basic digital skills for citizens. In June 2020, the Commission stated: "*The coronavirus crisis has demonstrated how crucial it is for citizens and businesses to be connected and to be able to interact with each other online. We will continue to work with Member States*

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[1] Does having digital skills really pay off?, Adult skills in focus, OECD, 2015.

[2] Skills for a Digital Word, 2016 Ministerial Meeting on the Digital Economy, Background Paper, OECD, 2016, p. 6.

[3] COM(2020) 67 final.

to identify areas where more investment is needed so that all Europeans can benefit from digital services and innovations"[4].

04 The need to equip citizens with digital skills has been recognised by the EU for some time. The EU's long-term high-level strategy, Europe 2020, which ran from 2010 to 2020, included as one of its seven "flagship initiatives" the Digital Agenda for Europe. This asserted that the Commission would work 'to promote internet access and take-up by all European citizens, especially through actions in support of digital literacy and accessibility'; and digital skills specifically are referred to as something that Member States need to develop[5]. Since the launch of the strategy in 2010, the EU has developed a number of initiatives covering, to different extents, digital skills – as set out in the body of this report.

05 Member States have primary responsibility for education systems and vocational training. EU policy in these fields is designed to support action in the Member States[6]. The EU therefore also has a role in helping Member States to address common challenges, such as ageing societies, skills deficits, technological developments and competition at the global level.

06 Within this framework, as well as supporting structural reforms and targeted projects with EU funds, the EU can also adopt guidelines and recommendations, and provide support to cooperation networks. However, as the EU's initiatives in the field of basic digital skills for adults are normally part of wider initiatives, it is generally not possible to determine the total amount of EU funds spent in the specific area of basic digital skills for adults.

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[4] See press release of the Commission on 11 June 2020, Brussels.

[5] Europe 2020: A strategy for smart, sustainable and inclusive growth, COM(2010) 2020 final.

[6] Treaty on the Functioning of the EU, Articles 165 and 166.

Objective, scope and approach of the review

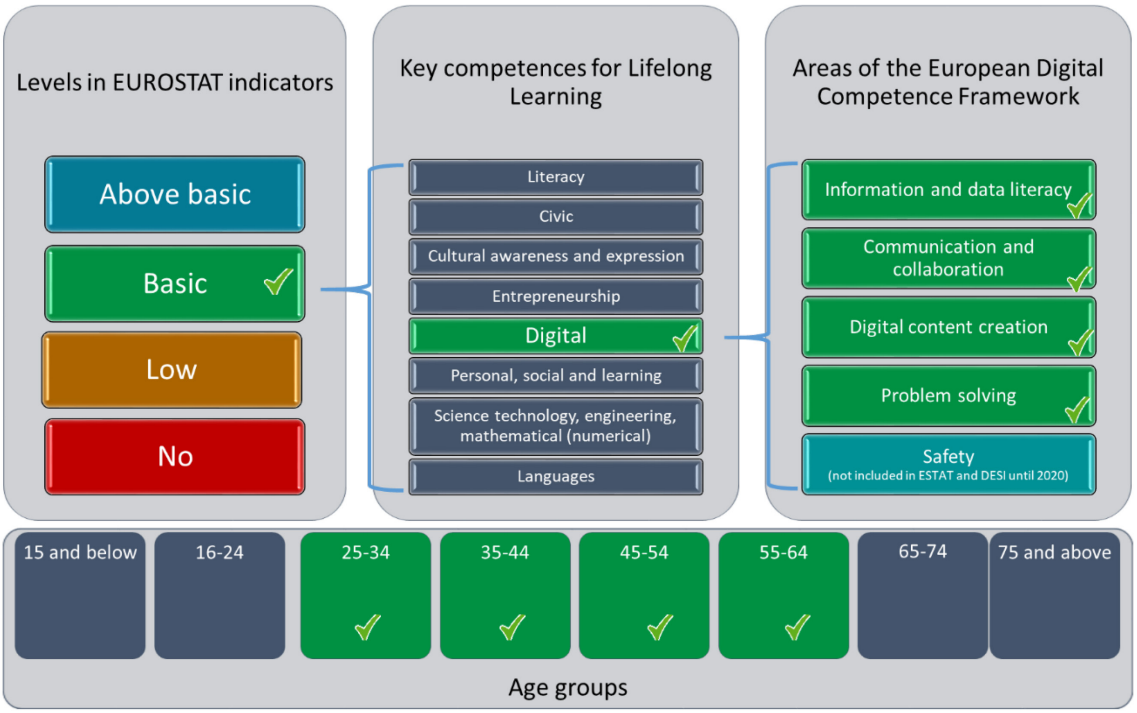
07 Given the importance of basic digital skills in many parts of the economy, and the high number of adults who do not have such skills, the objective of this review is to provide an overview and analysis of the different ways in which the EU supports Member States' efforts to improve this situation – see ***Figure 2***. This review builds on earlier ECA reports in this area[7]. We look at what has been done since 2010, and set out the Commission's intentions for the next programme period, 2021-2027. Our aim is to draw attention to the importance of this issue and to set out potential high level challenges for those designing programmes and selecting projects in this period by the beginning of 2021, at the start of the new EU programme period, 2021-2027.

08 The ECA is participating in the EUROSAI cooperative project group "Workforce 2030 – Challenges and opportunities"[8], which is looking at the global, technological and demographic changes facing the world in the future and their effects on the workforce. A number of parallel audits have been launched by SAIs and this review will be part of the final report of the working group.

[7] Special reports 19/2020, 22/2018, 05/2017 and 03/2015.

[8] The Supreme Audit Institutions of Bulgaria, Finland, Israel, Italy, Poland, Republic of Korea, Republic of North Macedonia and the ECA are participating in this project group.

Figure 2 – Scope of review



Note: the green shading with checkmarks indicates the scope of this review.

Source: ECA.

09 In 2013, the Commission published the European Digital Competence Framework for Citizens (DigComp)[9] as a reference framework to explain what it means to be "digitally competent". The latest version of DigComp[10] offers a comprehensive description of the knowledge, skills and attitudes that people need in five competence areas: information and data literacy; communication and collaboration; digital content and creation; problem-solving; and safety. DigComp also sets out eight different proficiency levels, building on the structure and vocabulary of the European Qualifications Framework (EQF), ranging from "foundation" to "highly specialised".

10 Each year since 2015 (with the exception of 2018), Eurostat has published a composite indicator measuring digital skills in four areas (known as the Digital Skills Indicator), corresponding to DigComp's five competence areas with the exception of safety (until 2020). The Eurostat data categorises people as having no, low, basic or above basic skills (or could not be assessed). The focus of this review is EU action

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[9] Ferrari, Anusca: DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe, JRC, 2013.

[10] Carretero, S.; Vuorikari, R. and Punie, Y. (2017). DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use, EUR 28558 EN, doi:10.2760/38842.

designed to improve the digital skills of adults from the no or low level to basic or above basic. Such action often forms part of wider initiatives addressing basic skills, digital skills or lifelong learning. Other measures of digital skills analysed in this report include the Digital Economy and Society Index (DESI), the International DESI, and the skills survey carried out under the OECD's Programme for the International Assessment of Adult Competencies. These different indicators do not provide the same results and are not always comparable, due the different methodological approaches. A detailed description of the indicators and their methodologies is in ***Annex I***.

11 As this is not an audit report but a review, the information in this report is mainly based on publicly available information or material specifically collected for this purpose in cooperation with the Commission, where a number of Directorates-General (DGs) are involved: EMPL, CNECT, EAC, ESTAT, and GROW (see the Glossary for the full names of these DGs). This information includes public documents related to basic digital skills, an analysis of EU budget allocation, and EU spending on upgrading the digital skills of adults to at least the basic level. For the ESF we analysed the use of the education and training thematic objective for basic digital skills to illustrate how operational programmes have rolled out the EU initiatives and target basic digital skills. We also examined the different ways of assessing and measuring digital skills by the EU Commission and the OECD.

Analysis

State of play

Digital skills needs in the EU

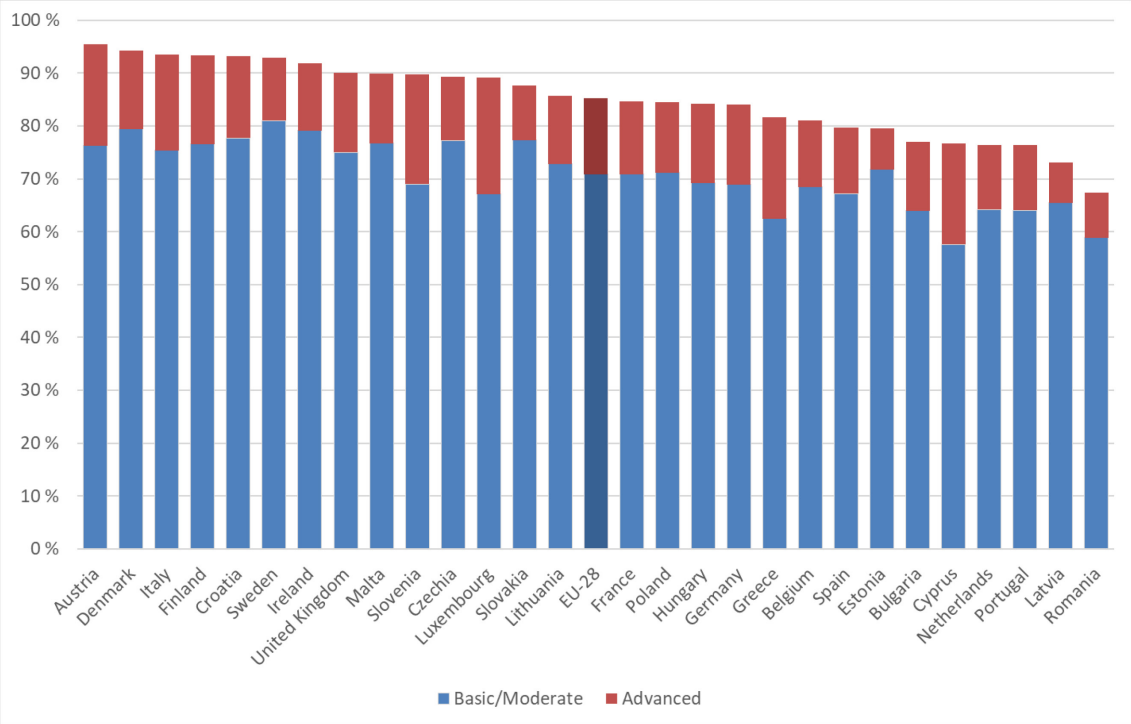
12 In the labour market the growth of digitalisation has resulted in an increased demand for digital skills in recent years, and this is expected to continue to grow in the future. The 2017 European Digital Skills Survey[11] reported that "*in some job categories more than 90 % of jobs require specific types of digital skills. Basic digital skills are the most commonly required in all the occupations*." This survey found that the need for digital skills extended far beyond traditional desk-based work to jobs such as technicians and skilled agricultural workers. Specialist digital skills were required to a much lesser extent, and were related to specific sectors. According to a 2014 European skills and jobs survey[12], over 70 % of employees in the EU reported that they needed basic (19 %) or a moderate level (52 %) of ICT skills to carry out their job tasks[13]. ***Figure 3*** shows the position in each of the EU's Member States.

[11] ICT for work: Digital skills in the workplace, Final report, 2017: ISBN 978-92-79-67761-8.

[12] European skills and jobs survey (ESJS), Cedefop.

[13] Cedefop (2016), "The great divide: Digitalisation and digital skill gaps in the EU workforce", #ESJsurvey Insights, No 9, Thessaloniki: Greece.

Figure 3 – Level of ICT skills needed to do the job



Note: Levels of digital skills were defined as follows: **basic** ICT level (using a PC, tablet or mobile device for emailing or internet browsing); **moderate** ICT (using word-processing or creating documents and/or spreadsheets) and **advanced** ICT skills (developing software, applications or programming, and using computer syntax or statistical analysis packages).

Source: Cedefop, European skills and jobs survey, 2014.

13 The European Digital Skills Survey also found that 15 % of workplaces in the EU had digital skill gaps in their workforce. The gaps related to basic skills were more concentrated among technicians (22 %), elementary occupations (21 %), sales workers (20 %) and clerical workers (17 %)[14], illustrating the importance of basic digital skills for a wide range of occupations.

Level of digital skills in the EU

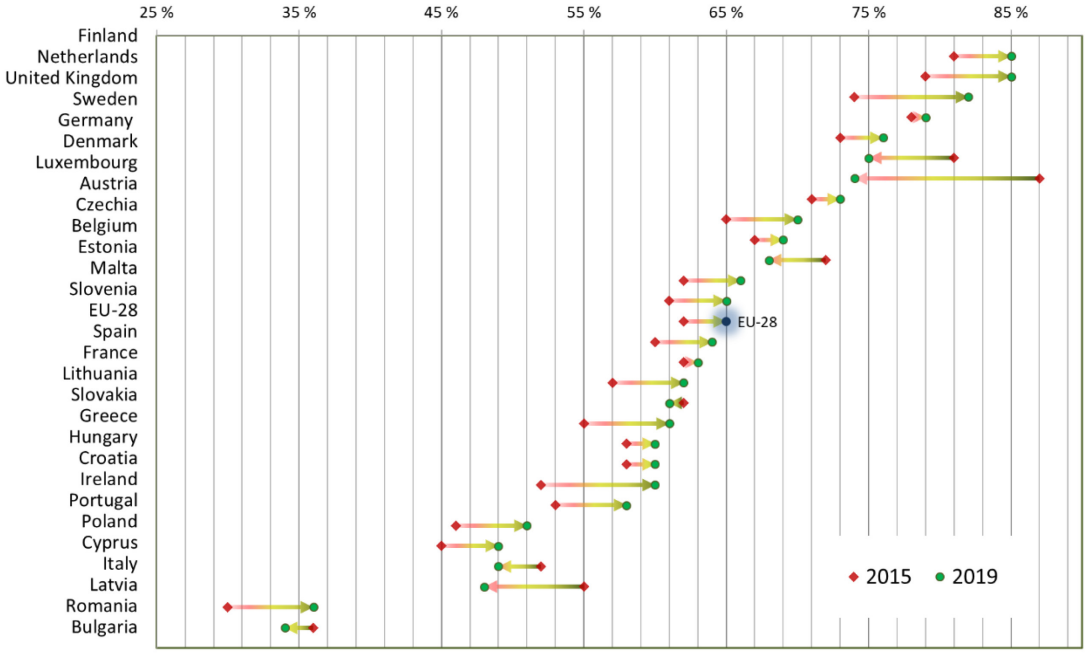
14 According to Eurostat's composite indicator, the level of basic digital skills has been gradually increasing at EU level and in most Member States in recent years. ***Figure 4*** illustrates the evolution of digital skills[15] for economically active adults from

[14] Curtarelli, Maurizio and Gualtieri, Valentina with Shater Jannati, Maryam and Donlevy, Vicki, ICT for work: Digital skills in the workplace, Final report, 2016, pp. 8 and 95.

[15] See ***Annex I***.

2015 to 2019 for all Member States. In seven Member States, the proportion of adults with at least basic digital skills reduced slightly between 2015 and 2019.

Figure 4 – Percentage of the labour force aged between 25 and 64 with at least basic digital skills

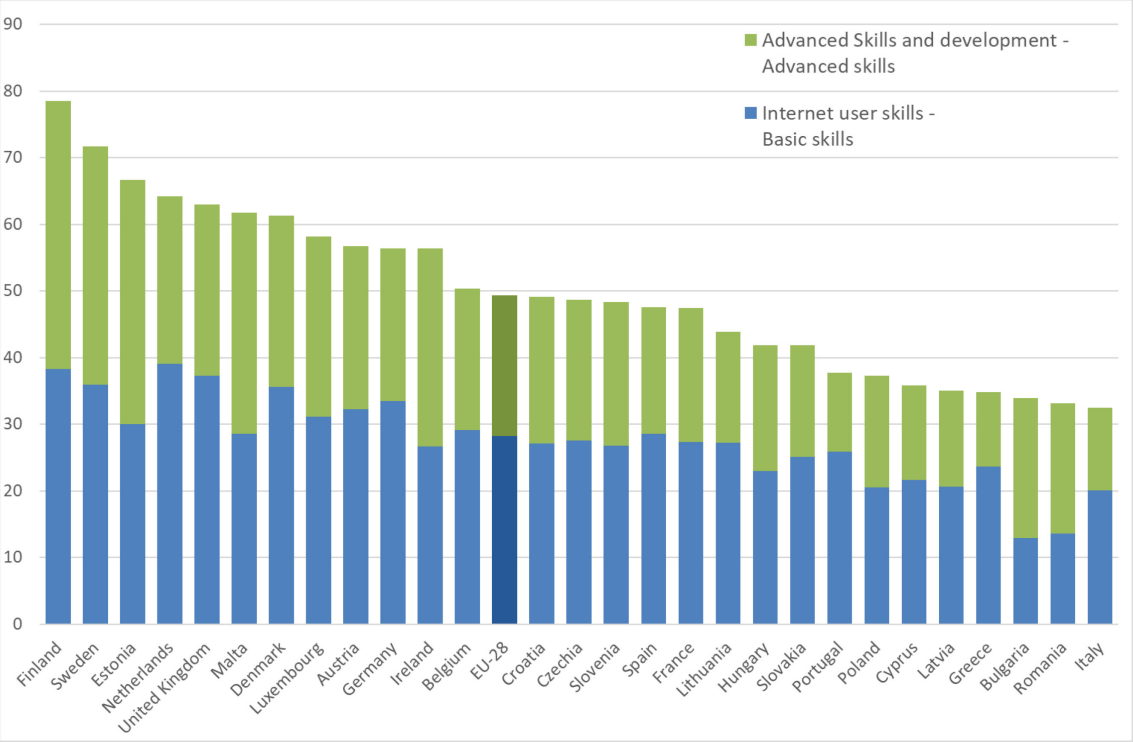


Note: According to Eurostat, for Czechia, Italy, Latvia and Luxembourg, the data collection method changed between 2015 and 2019. For Sweden the data for 2019 has low-reliability.

Source: Eurostat.

15 In 2014, the Commission introduced the Digital Economy and Society Index (DESI), a composite index that summarises relevant indicators on Europe's digital performance and tracks the progress of Member States in digital competitiveness. One of DESI's five "dimensions" is "Human Capital". This takes account of both basic and advanced digital skills as both are essential to the European economy. ***Figure 5*** shows how Member States rank in terms of the DESI human capital dimension. The levels of basic and advanced digital skills are not the same.

Figure 5 – DESI Human capital dimension 2019 –basic and advanced skills



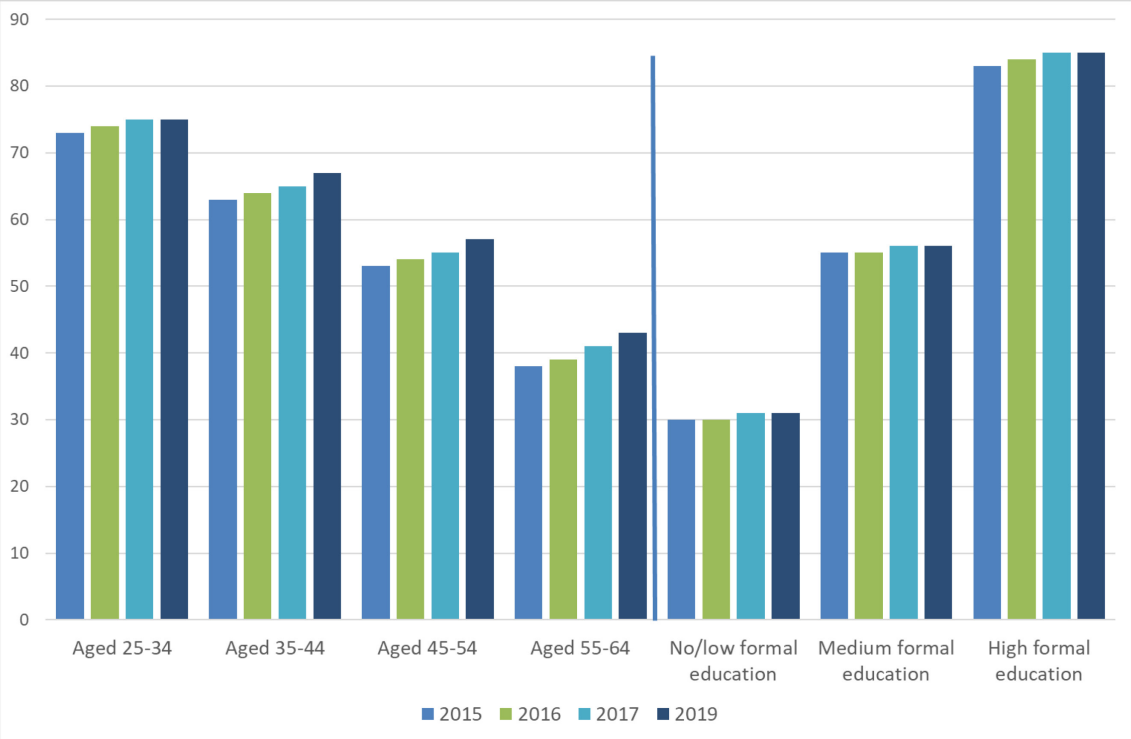
Note: For the purposes of our analysis, we have treated the DESI categories of internet user skills and advanced skills and development as equivalent to basic and advanced digital skills respectively.

Source: DG CNECT.

16 A number of factors contribute to the level of digital skills. These include physical infrastructure: the availability of computers and a good internet connection. OECD analysis[16] shows that, while gender differences are not particularly pronounced, educational attainment and age have an impact on digital skills. In most countries, many adults with low education lacked basic proficiency in the use of ICT, while these skills were nearly universal among adults with tertiary education. In terms of age, the ICT skills of people over 30 in the sample deteriorate progressively. Eurostat data confirms these trends (***Figure 6***).

[16] Results from the publication: OECD (2019), Skills Matter: *Additional Results from the Survey of Adult Skills*, OECD Skills Studies, OECD Publishing, Paris.

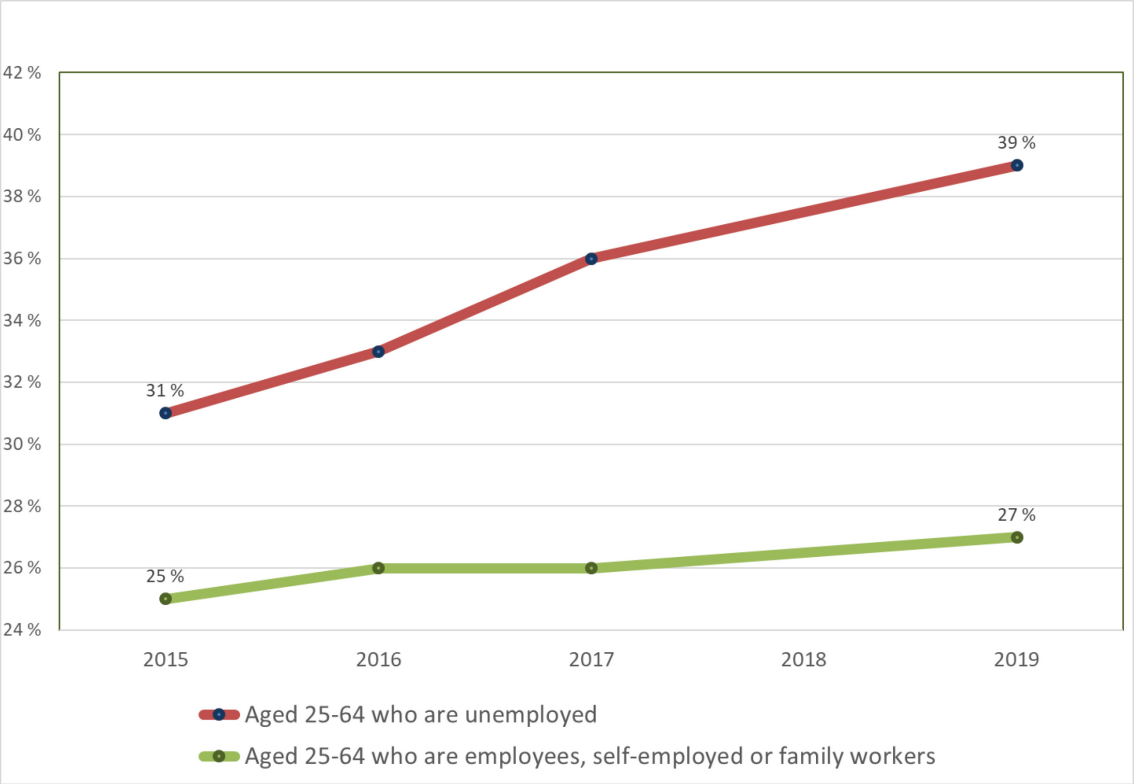
Figure 6 – Percentage of people in the EU with at least basic digital skills, by age and by education level



Source: Eurostat.

17 ***Figure 7*** illustrates the different skill levels within the labour force from a different perspective. It shows that there is a clear, and growing, gap in the digital skill levels of those in employment and the unemployed. It is therefore very important that the unemployed are not left out of efforts to increase levels of digital skills, to maximise their chances of successfully (re)entering the job market.

Figure 7 – Percentage of people with no or low digital skills according to their employment status in the EU



Note: This graph does not include those people whose digital skills could not be assessed.

Source: Eurostat.

World-wide comparison of digital skills levels

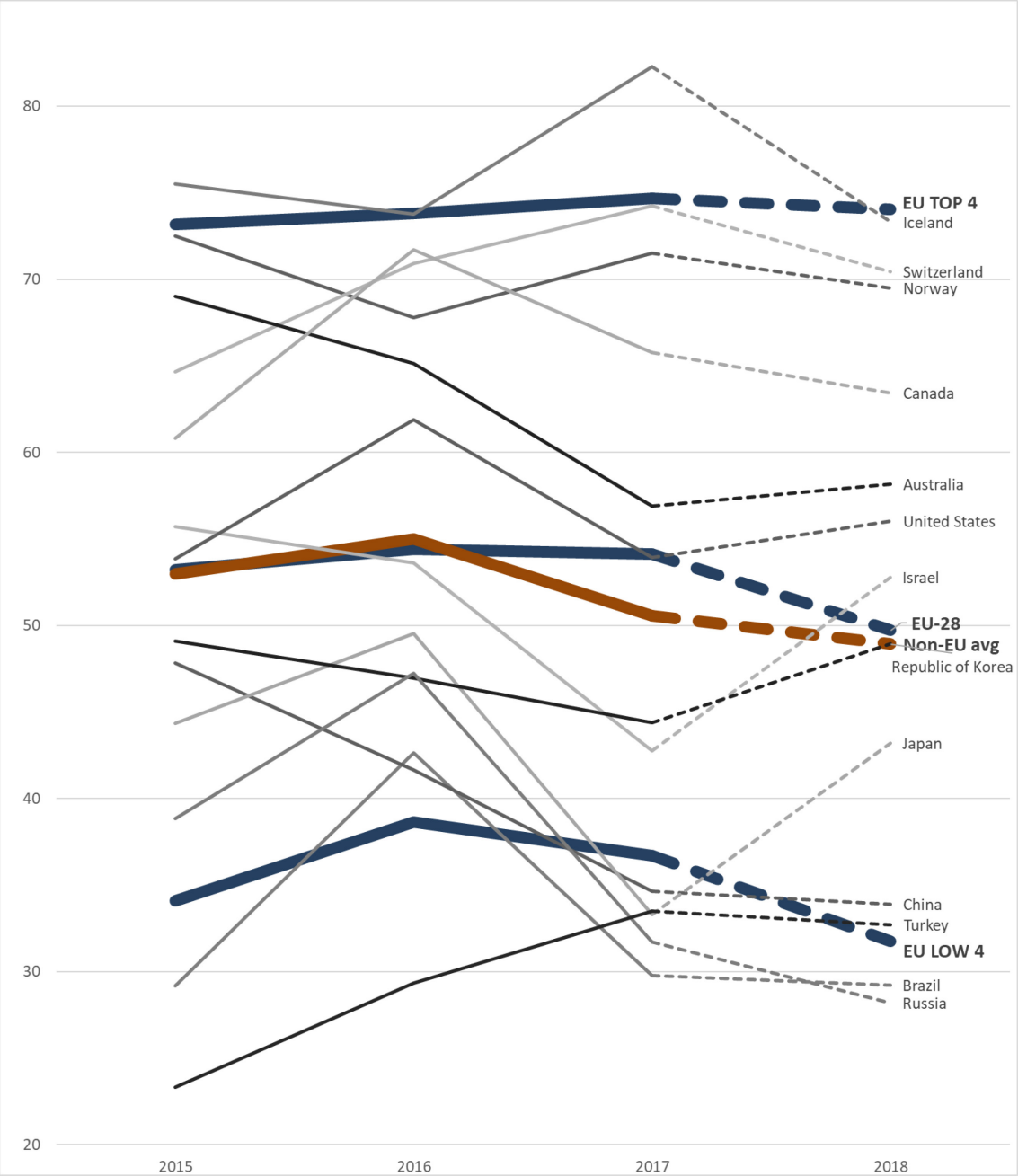
18 The international version of the DESI (I-DESI) provides an overall assessment of where the EU stands compared to some non-EU economies[17]. I-DESI extends the results of DESI to non-EU countries by using indicators that measure similar variables. In contrast to DESI, which uses primary sources, I-DESI relies on a range of secondary sources of evidence. I-DESI is a less sophisticated indicator than DESI, but enables a broad overview of how countries compare.

19 ***Figure 8*** provides an overview of how EU Member States as a whole, and the top and bottom four Member States, rank against non-EU comparators with regard to basic digital skills for the period 2015-2018. Overall, the assessments for EU Member

[17] See I-DESI 2020: How digital is Europe compared to other major world economies? (Included countries: EU28, Australia, Brazil, Canada, Chile, China, Iceland, Israel, Japan, Mexico, New Zealand, Norway, Republic of Korea, Russia, Serbia, Switzerland, Turkey, United States).

States are in line with the other countries: the averages of these two groups were very close in 2018, and over the period the rankings of the top and bottom four Member States have been in line with those of the best and worst performing non-EU comparator countries. According to I-DESI, a number of countries – nine out of the 28 EU Member States and five out of the 17 non-EU countries – scored lower in 2018 than in previous years.

Figure 8 – I-DESI: International comparison of populations with at least basic digital skills 2015-2018



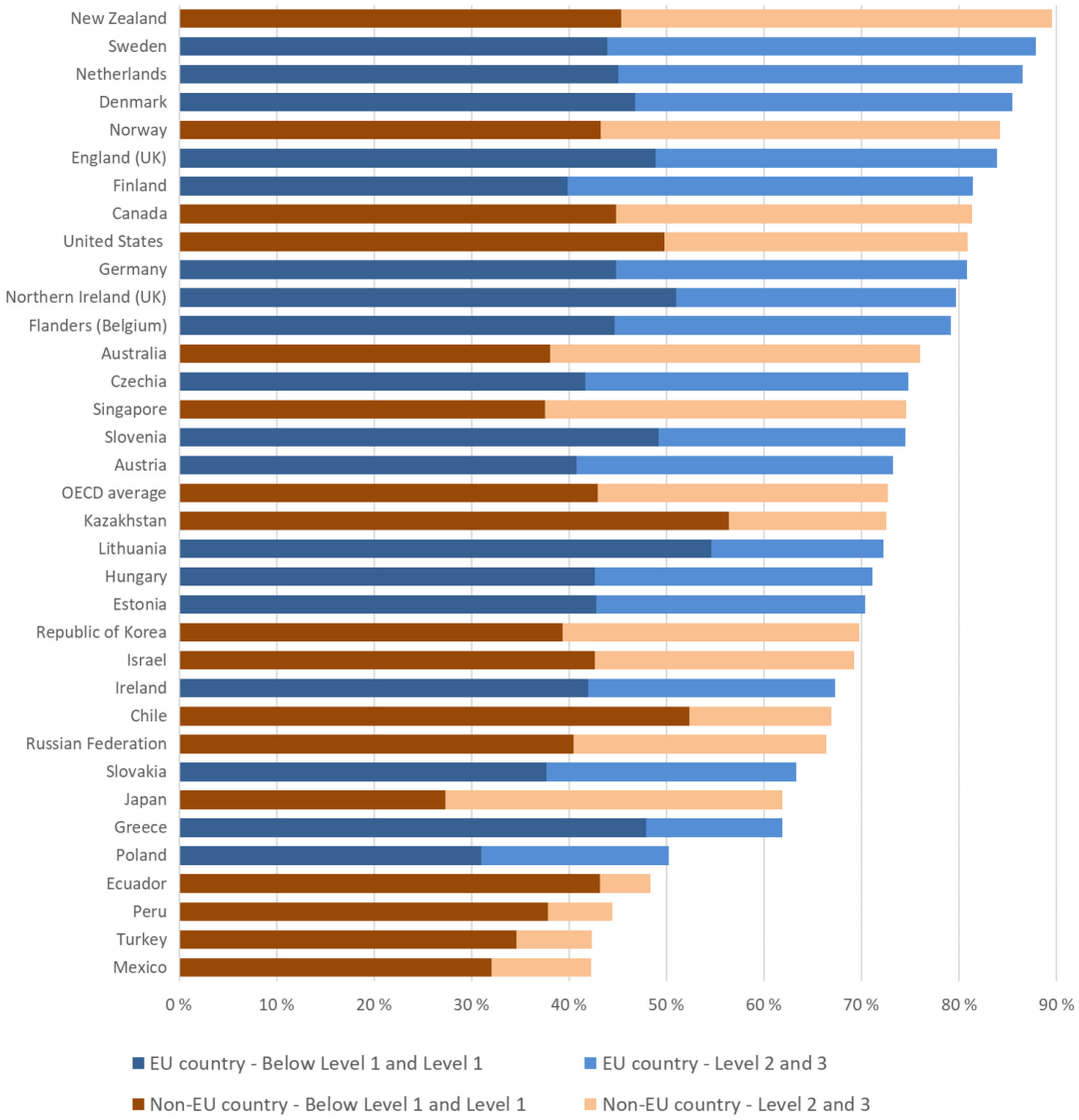
Note: The I-DESI indicator for basic digital skills is based on OECD indicators and computations. For more details see ***Annex I***. The TOP 4 and LOW 4 – i.e. those countries performing the best and worst respectively – vary each year. According to the contractor, data for 2018 is estimated based on the best available methods of imputing missing values.

Source: ECA based on the dataset of the I-DESI 2020 report.

20 Another source of data on countries' digital skill levels is the OECD's Programme for the International Assessment of Adult Competencies. This assessment is based on a survey measuring adults' proficiency in key information-processing skills – literacy, numeracy and problem solving (aka digital skills) – and how they use their skills at

home, at work and in the wider community to solve the types of problems they commonly face as ICT users in modern societies. The cognitive dimensions of problem solving are the central objective of the assessment, with the use of ICT as secondary. Unlike DESI, the assessment involves a test, not a self-assessment, and may therefore provide a more objective result. Of the 21 EU Member States (or regions of Member States) which participated, 17 conducted the part on digital skills (***Figure 9***).

Figure 9 – Adult proficiency in problem solving, percentage of the population



Notes: The survey was completed in three rounds: 2011-2012, 2013-2014 and 2017 (Annex I).

Cyprus, France, Italy and Spain participated in the numeracy and literacy tests but opted out of the problem-solving test element.

Level 1 and below level 1 correspond broadly to basic digital skills.

Source: ECA graph based on OECD data.

21 Results of the OECD survey are broadly in line with DESI, showing that the Nordic countries generally perform best in digital skills, and that the top five EU performers are among the best in the world. Similarly, those Member States that score lower in the DESI, also rank below the OECD average in that assessment.

EU actions to 2020

Strategic initiatives to support digital skills

22 The skills gap in ICT has been recognised by the EU for almost two decades[18]. In this context, the Council conclusions of 12 May 2009[19] established a strategic framework for European cooperation in education and training (ET 2020), and in 2010 the Europe 2020 strategy[20] included a digital skills element through the Digital Agenda for Europe (paragraph ***04***). The Europe 2020 strategy also included "An Agenda for New Skills and Jobs", designed to modernise labour markets and empower people by developing their skills throughout the lifecycle with a view to increasing labour participation and better matching labour supply and demand, including through labour mobility.

23 Since 2010, the EU has put in place a number of different initiatives addressing digital skills – often as part of wider measures. The subject is a broad one, involving many stakeholders at many levels: a large part of the population, different layers of government, education and industry, for example. The result is a range of actions at EU level, running in parallel and partially inter-linked. ***Table 1*** provides an overview of the actions set out in the following sections, together with the 2018 Council recommendation on key competences for lifelong learning (***Box 1***) and the latest version of DigComp (paragraph ***09***). The table also shows that, since 2016 there has been more of a focus on digital or basic skills, although actions continue often to address other skills, skill levels or target groups rather than specifically focusing on basic digital skills for adults.

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[18] See eEurope 2002: Impact and Priorities A communication to the Spring European Council in Stockholm, 23-24 March 2001 (COM(2001) 140 final) or the Ministerial Declaration on 11 June 2006, Riga, Latvia.

[19] Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training ("ET 2020").

[20] Communication from the Commission: Europe 2020 – A strategy for smart, sustainable and inclusive growth; COM(2010) 2020 final.

Table 1 – Ongoing EU actions and their skills areas, skills levels and age groups

EU Action	Skills area	Skill levels	Age group
Digital Agenda for Europe (2010)	Seven priority areas, including digital skills and inclusion.	All types of levels	Age groups 16-74
Digital Competence Framework for Citizens (2013)	Digital skills	All skills levels	All age groups
Digital Single Market Strategy (2015)	Digital skills and expertise specifically mentioned but covering also other areas	All types of levels, but basic skills specifically mentioned	All age groups
Digitising European Industry (2016)	Focus on Digitalisation	All types of levels	All age groups
Upskilling Pathways (2016)	All skill areas	Basic level[1]	Adults[2]
Digital Skills and Job Coalition (2016)	Digital skills	All skills levels	Young people and adults
Council Recommendation on key competences for lifelong learning (2018)	Eight competences including digital competence	Focus on basic skills	All age groups

[1] The aim is to give adults the opportunity to reach the equivalent of EQF level 3 or 4 (secondary school-leaving level)

[2] Not eligible for support under the Youth Guarantee.

Source: ECA.

2010 – 2015: No actions specifically targeting basic digital skills of adults

24 One of the objectives of the ET2020 framework was to enhance creativity and innovation at all levels of education and training. It referred to the acquisition by all citizens of general skills, such as digital competence. The 2015 Joint Report of the Council and the Commission on the implementation of the ET2020 framework[21] stated

[21] Official Journal C417 of 15.12.2015.

that the framework should better support the long-term challenges including the digital era.

25 The Digital Agenda for Europe[22] primarily aimed at speeding up the roll-out of high-speed internet and reaping the benefits of a digital single market for households and firms. Its overall objectives were: to increase regular internet use from 60 % to 75 % by 2015 and from 41 % to 60 % for disadvantaged people; and to halve the proportion of population that had never used the internet by 2015 (to 15 %). Both targets were fulfilled. The Digital Agenda for Europe also recognised the digital literacy deficit and proposed digital literacy and competence as a priority for the European Social Fund Regulation (2014-2020), and to develop by 2012 tools to identify and recognise the competences of ICT practitioners and users.

26 The Agenda for New Skills and Jobs[23] had four key policy priorities, including one focussing on comprehensive life-long learning. It aimed, by 2012, to propose an EU-wide approach and instruments to support Member States in the integration of ICT competences and digital literacy into core lifelong learning policies. A specific reference to basic digital skills was not made in the key actions of the Agenda.

The Commission recognized that labour market demands were increasing and increased the focus on basic digital skills

27 Following a stock-taking exercise of progress with the Europe 2020 strategy[24], in 2015 the Commission published the Digital Single Market Strategy[25]. This strategy emphasised that the responsibility for curricula lies primarily with the Member States

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[22] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Digital Agenda for Europe; COM(2010) 245 final.

[23] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – An Agenda for new skills and jobs: A European contribution towards full employment; COM(2010) 682 final.

[24] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Taking stock of the Europe 2020 strategy for smart, sustainable and inclusive growth – COM(2014) 130 final.

[25] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Digital Single Market Strategy for Europe, COM(2015) 192 final.

but that "The Commission will address digital skills and expertise as a key component of its future initiatives on skills and training". It also recognised that despite an improvement in the share of the population that have basic digital skills, there was still a long way to go to reach the necessary level of population with such skills (paragraphs ***01*** and ***14***).

28 In 2016, the Digitising European Industry initiative[26] stated that digital skills were of crucial importance for achieving the digital single market, but stressed that there was also an increasing demand for other complementary skills, such as entrepreneurial, leadership and engineering skills. One of the key actions of the Digitising European Industry initiative to further develop these skills was to build on the Grand Coalition for Digital Jobs, an earlier initiative launched in 2013.

29 Following the Digitising European Industry initiative, the New Skills Agenda of 2016[27] recognised the need for all citizens to have at least basic skills, including digital skills, and set out specific actions to increase digital skills in Europe. Key actions of the New Skills Agenda targeting basic digital skills were the Up-Skilling Pathways initiative, and the Digital Skills and Jobs Coalition. At the same time, the Commission continued to work with stakeholders to develop tools for assessing and validating competences, in order to help public and private bodies to improve the guidance, training and mentoring services they offered.

30 The Upskilling Pathways initiative targets adults with a low level of skills and aims to help them to acquire a minimum level of literacy, numeracy and digital skills. This programme can be supported with EU funds, including the ESF, the European Regional Development Fund (ERDF), and Erasmus+, although no funds have specifically been allocated to basic digital skills. A February 2019 implementation report[28] found that a

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[26] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Digitising European Industry - Reaping the full benefits of a Digital Single Market; COM(2016) 180 final.

[27] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A New Skills Agenda for Europe; COM(2016) 381 final and Council Resolution on A New Skills Agenda for an Inclusive and Competitive Europe.

[28] Commission Staff Working Document: Council Recommendation on Upskilling Pathways: New Opportunities for Adults Taking stock of implementation measures, SWD(2019) 89 final.

number of Member States had prioritised digital skills and were using ESF to support measures. However, the report also stated that the number of actions did not match the scale of the challenge as measures were addressing only a few thousand people, out of a target population of low-skilled adults of about 61 million. Moreover, despite a growing emphasis on digital skills, EU co-funded actions had tended to focus more on vocational skills and employment, rather than digital skills, although such skills may well be integrated in vocational skills training. Following this report, the Council[29] expressed its continued support for Upskilling Pathways, and invited the Commission to support implementation through dedicated calls for proposals.

31 The Digital Skills and Jobs Coalition (Coalition) brings together Member States, companies, social partners, non-profit organisations and education providers to tackle the lack of digital skills in four areas: digital skills for all, digital skills for the labour force, digital skills for ICT professionals, and digital skills in education. As well as the objective of supporting the development of Member States' comprehensive national digital skills strategies by mid-2017, the Coalition had the following goals to be achieved by 2020:

- train 1 million young unemployed people for vacant digital jobs;
- support the upskilling and retraining of the workforce and in particular take concrete measures to support small and medium enterprises (SMEs);
- modernise education and training to provide all students and teachers with the opportunity to use digital tools and materials in their teaching and learning;
- reorient and make use of available funding to support digital skills and carry out awareness-raising about the importance of digital skills.

32 According to the Commission, nearly all Member States had a national strategy covering digital skills by June 2019, and 25 Member States had created national coalitions by mid-2020. At the beginning of 2021, the Coalition had around 550 members, who between December 2016 and July 2018 offered nearly 11 million Europeans of all age groups (around half were primary and secondary school students) a chance to improve their digital skills[30]. An overview of progress with national

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[29] Council conclusions on the implementation of the Council Recommendation on Upskilling Pathways: New Opportunities for Adults (2019/C 189/04).

[30] See EU Website on DSJC.

strategies and the activities of national coalitions for the four target groups[31] is in ***Annex II***. However, there are no figures on the extent of such activities targeting basic digital skills of adults. The Commission monitors the pledges made by members of the Coalition through a dedicated tool[32], but does not have a system for monitoring the specific objectives of the Coalition.

Monitoring of digital skills within the European Semester

33 The Commission also monitors the level of digital skills in EU Member States within the European Semester. ***Table 2*** shows that, since 2017, references and recommendations related to digital skills have generally increased. In 2020, skills were mentioned for all Member States and nine of them received recommendations related to digital skills[33]; however, none of the recommendations was specifically related to basic digital skills. ***Box 2*** presents the response of one Member State to a recent European Semester recommendation.

Table 2 – Number of Member States receiving European Semester Country Specific Recommendations

Country-Specific Recommendations	2017	2018	2019	2020
Member States where skills were mentioned	27	27	28	28
Member States receiving recommendations for skills	5	9	18	10
Member States receiving recommendations for digital skills	0	3	6	9

Source: ECA based on EU publications of the European Semester.

[31] See factsheets on national DSJCs (situation as of 30 October 2020).

[32] Coalition's Pledgeviewer.

[33] Austria, Cyprus, Denmark, Estonia, Finland, Hungary, Luxembourg, Portugal and the United Kingdom.

Box 2

Finland's response to a European Semester recommendation

Finland scores highly in both the DESI and OECD indicators for basic digital skills. It does not have a strategy specifically targeting basic digital skills but has chosen to adopt a more holistic approach.

In 2018, it reformed its vocational education and training (VET) system, creating a common VET pathway, available to young people and adults, regardless of their age and prior learning history. Prompted by a 2019 European Semester[34] recommendation to "enhance skills and active inclusion, notably through well-integrated services for the unemployed and the inactive", the Finnish government is preparing a reform of the continuous learning framework with the objective of having more citizens with secondary and tertiary level education.

Erasmus+ and ESF were the main sources of funding for digital skills

34 The EU did not allocate specific funding to the initiatives outlined in the previous section, which were integrated into existing funding streams. The Commission does not specify ring-fenced financing specifically for basic digital skills, in line with its objective of supporting teaching and training systems, which focus on different target groups and competences, including digital skills alongside, for example, work-related training, creativity and critical thinking. According to the Commission, the multiplicity of programme objectives means that ring-fencing specific amounts would not be flexible enough to enable programmes to adapt to local needs.

35 We analysed the funding used for basic digital skills in the context of adult education and training. The main sources of funding are the Erasmus+ programme (managed at the EU level by the Commission and its Education, Audiovisual, and Culture Executive Agency); and the ESF under shared management. For the COSME programme, ***Box 3*** provides more details.

[34] Recommendation for a Council Recommendation on the 2019 National Reform Programme of Finland and delivering a Council opinion on the 2019 Stability Programme of Finland, COM(2019) 526 final.

Box 3

COSME – a programme for SMEs

COSME is the EU's directly-managed programme for SMEs with a budget of €2.3 billion for the period 2014-2020. SMEs are a key part of the EU's economies: nine out of every 10 enterprises is an SME, and SMEs generate two out of every three jobs in Europe. COSME has no projects focusing specifically on basic digital skills; its projects tend to target digital skills for professionals, specialised in ICT.

36 ***Erasmus+*** supports actions in the fields of education and training, youth and sport, with a total budget of €16.45 billion for the period 2014-2020. It provides learning mobility opportunities for students, trainers and teachers, and aims to improve the quality of education and foster innovation, through cooperation and policy reform support. Of its budget, 17 % was allocated to VET, and 3.9 % to adult learning[35]. Erasmus+ legislation does not specifically mention digital skills but sets out the need to improve the level of key competences and skills "*with particular regard to their relevance for the labour market and their contribution to a cohesive society, in particular through increased opportunities for learning mobility and through strengthened cooperation between the world of education and training and the world of work*"[36]. There has been a reference to digital skills in all annual work programmes of the last 7 years.

37 However, the annual implementation reports and the mid-term report do not specifically mention digital skills (either basic or advanced) as there is no specific output/result indicator for digital skills. The closest indicator for the evaluation of the programme on digital skills is "*The percentage of participants declaring that they have increased their key competences*"[37]; this is a subjective measure, as it is "*mostly based on the self-reported perceptions of participants*"[38] via interviews and surveys.

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[35] Regulation (EU) No 1288/2013 of the European Parliament and of the Council of 11 December 2013 establishing 'Erasmus+': the Union programme for education, training, youth and sport; Article 18.

[36] Regulation 1288/2013 Article 5(1)(a).

[37] Annex I of Regulation 1288/2013, "Indicators for the evaluation of the programme".

[38] Special report 22/2018 Mobility under Erasmus+: Millions of participants and multi-faceted European Added Value, however performance measurement needs to be further improved, paragraph 74.

According to the mid-term evaluation of Erasmus+, 89 % of all VET learners believed that they had improved their professional skills[39].

38 Within Erasmus+, as of end 2019 there are around 16 000 projects related to "ICT – new technologies – digital competences", including around 4 300 for adult learning and VET[40]. The majority of these projects contribute to acquiring many different skills including basic digital skills for all age groups. For instance, a project on new technologies in teaching foreign languages does not address the problem of low digital skills but introduces digital methods in teaching. Our analysis showed that 133 of these projects concerned digital skills solely; and only 18 projects were limited to the acquisition of basic digital skills for adults. Other projects involved, for example, the acquisition of specialized ICT skills or new methods of education such as online learning platforms. This means that for Erasmus+ projects supporting only digital competences, around 14 % address the acquisition of basic digital skills by the adult population. For all Erasmus+ supported projects, the proportion is less than 0.1 %. ***Box 4*** provides examples of two different ways of supporting basic digital skills.

[39] Commission Staff Working Document: Mid-term evaluation of the Erasmus+ programme (2014-2020), SWD(2018) 40 final, p. 138, "Overview of results".

[40] EU Commission website on Erasmus+ project results.

Box 4

Erasmus+ projects for improving basic digital skills

The TICTac+55[41]

The Combined Learning Techniques for People 55+ includes training for teachers wanting to encourage and empower their older students as much as possible so that they can address the challenges of ICT. It does this by fostering the use of ICT, but in a critical way and while taking into account the life-situations and needs of the students. In order to achieve these objectives, teacher exchange programmes to a number of countries within the EU (Finland, Netherlands, Slovakia, Hungary, the United Kingdom and Estonia) have been planned. Topics include: Devices for Everyday Life Skills, ICT supported innovation and creativity training, and Implementation of web-based applications to enhance language courses.

IDEAL - Integrating Digital Education in Adult Literacy[42]

IDEAL is a strategic partnership between Finland, Belgium, Ireland, Italy, Netherlands and Norway, involving five adult education providers and one Non-government organisation. The project focused on improving the digital skills of adult educators who work with disadvantaged groups with a view to improving the employability, vocational learning and community learning of low skilled adult learners.

The IDEAL project team explored what kind of skills are needed in different contexts and how teachers' competencies could be developed by sharing knowledge, experiences and good practices. As a result of the project, teachers and trainers have become more skilled and confident in integrating innovative digital methods in their everyday teaching, including multimedia application, the use of video, virtual learning environments, social media and gaming.

39 The ***ESF*** supports actions related to a range of objectives, including employment and better education and training. The legislation for 2014-2020 mentions digital skills[43] as an area where the ESF could contribute through its investment priorities, including those related to lifelong learning and VET. ***Figure 10*** shows that these priorities represent the 4th and 5th largest allocations within the ESF, amounting to €14.6 billion.

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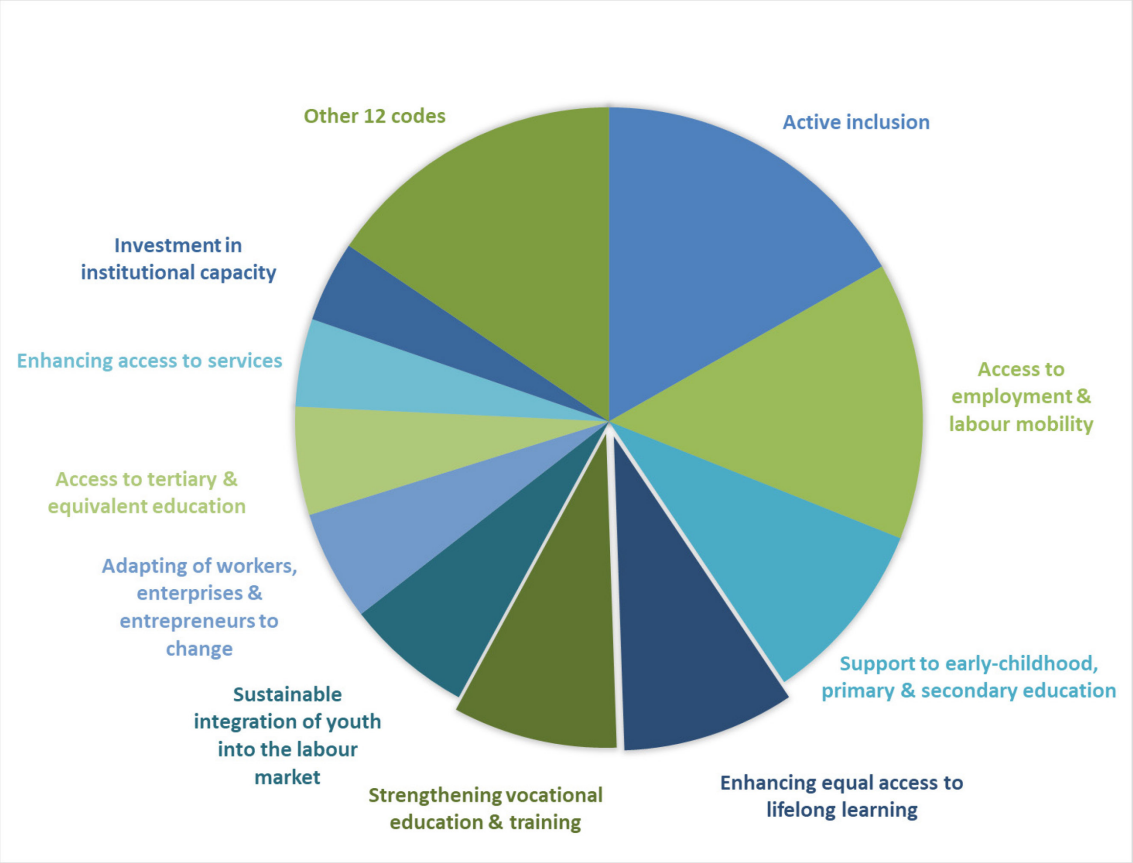
[41] Website of the Erasmus+ project TICTac+55: Combined Learning Techniques for People 55+.

[42] Website of the Erasmus+ project IDEAL - Integrating Digital Education in Adult Literacy.

[43] Article 3 (2)b of Regulation 1304/2013.

Figure 10 – ESF planned allocations to the different intervention fields



Source: ECA calculations based on the ESIF Open Data Platform.

40 In shared management funds, such as the ESF, Member States have discretion in how they allocate the funds within the framework of the Partnership Agreements and the operational programmes (programmes). For the preparation of these documents, the Commission signalled through its 2012 Position papers that a number of countries should consider prioritizing digital skills – ***Table 3***.

Table 3 – Digital skills priorities in the Commission's 2012 Position papers

Thematic objectives under which digital skills are mentioned	Member States
Enhancing access to and use and quality of ICT	BG, CZ, EE, ES, HR, IT, LV, PT
Promoting sustainable and quality employment and supporting labour mobility	AT, DE
Investing in education, training and vocational training for skills and lifelong learning	HU, RO, SE, SI
No mention of digital skills /competence	BE, CY, DK, EL, FR, FI, IE, LT; LU, MT, NL, PL, SK, UK

Source: ECA based on Commission Position Papers of 2012.

41 From our analysis of Member State allocations, we found that out of 187 ESF programmes in 28 Member States, 29 programmes in 10 Member States planned ICT-related training in adult learning or VET (***Table 4***). The total amount of planned allocation for the 28 Member States under the ESF education and training thematic objective is less than 0.6 % of the whole ESF allocation for the 2014-2020 period.

Table 4 – ESF programmes supporting adult digital skills training in Member States

Member State	Planned amount for ICT related adult training (€million)	Allocated EU support for operations selected by the Managing authority (€million)	Total expenditure declared by the beneficiaries to the Managing authority, reported to the Commission (€million)
Poland	154.7	201.3	148.4
Slovakia	132.5	5.8	3.7
Italy	58.7	26.5	31.5
Estonia	55.5	30.7	18.1
Hungary	51.6	134.8	41.6
Finland	16.9	5.9	7.5
Spain*	5.0	25.2	13.7
Luxembourg	0.3	1.2	0.8
France	not indicated in programmes	1.5	3.0
United Kingdom	not indicated in programmes	5.5	4.6
Total	**475.3***	**438.4**	**272.8**

Notes: All data as at 31 December 2019. The "Total" amount does not include information for France and the United Kingdom for the "Planned amount", but does include these two countries for the "Allocated amounts".

* For the Spanish programme, 2014ES05SFOP016 – Extremadura, there is no information available for 2019, therefore only aggregated data until 2018 are included in the total amount.

Source: ESIF Open Data Platform.

42 ***Table 4***, based on the Member States' annual reporting to the Commission, illustrates that by the end of 2019 the ten Member States which planned to use the ESF for digital skills under the education and training thematic objective together had committed 92 % of the funding to projects, and spent 57 % (see details in ***Annex III***). There are considerable differences between Member States: some programmes had not incurred any costs yet, while others had already selected projects to support at a cost significantly bigger than planned. In total, these Member States had allocated €439 million from ESF funds to support the acquisition of digital skills through lifelong

learning and VET, equivalent to 0.5 % of the total ESF allocation for the 2014-2020 period. The ESF might contribute to the acquisition of digital skills through other thematic objectives, such as those relating to employment, social inclusion or institutional capacity building, increasing total support to around 2 % of the total ESF allocation.

The impact of the Commission's COVID-19 relief measures on the 2014-2020 programming (Erasmus, ESF OPs) relating to digital skills

43 As a response to the COVID-19 crisis, the Coronavirus Response Investment Initiative (CRII) and CRII Plus regulations allow Member States flexibility to use existing, unspent resources and re-direct them to where they are most needed. At the end of November 2020, 22 Member States (and the United Kingdom) had requested 151 amendments to their ESF programmes using the flexibilities offered by CRII and CRII Plus. In some cases this involved transferring funds away from digital skills projects.

44 The proposed Recovery Assistance for Cohesion and the Territories of Europe (REACT-EU) package[44] includes €47.5 billion of additional funds that will be made available to the 2014-2020 programme period for Cohesion policy funds, including the ESF. For the ESF, actions financed by the REACT-EU could include digital skills.

45 Erasmus + also published extraordinary calls to support digital education readiness, allocating €100 million for supporting projects in school education, vocational education and training, and higher education. The deadline for applying to these calls was 29 October 2020 and results were not available when this review was finalised. However, as adult education was not targeted in the calls, according to the Commission it is unlikely that there will be any projects supporting adult basic digital skills.

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[44] Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) No 1303/2013 as regards exceptional additional resources and implementing arrangements under the Investment for growth and jobs goal to provide assistance for fostering crisis repair in the context of the COVID-19 pandemic and preparing a green, digital and resilient recovery of the economy (REACT-EU), COM(2020) 451 final.

The EU proposals for the future (2021-2027)

European Skills Agenda

46 The European Skills Agenda[45] sets quantifiable objectives for both upskilling (improving existing skills) and reskilling (training in new skills) to be achieved within the next 5 years. It is the first proposal to include a specific target to increase the share of citizens with at least basic digital skills: from 56 % in 2019 to 70 % in 2025. The Agenda does not include milestones for reaching this objective.

47 To meet the objectives of the Agenda, the Commission estimates that €48 billion is needed annually from the public and private sector together. The Agenda mentions nine EU funds as possible sources of financing for 2021-2027. The main funds are the Recovery and Resilience Facility with a total proposed budget of €673.3 billion, the ESF+ with a proposed budget of €87.9 billion, and Erasmus with a proposed budget of €23.4 billion.

Recovery and Resilience Facility

48 The Recovery and Resilience Facility will make €673.3 billion in loans and grants available to support reforms and investments undertaken by Member States. It requires that Member States prepare national recovery and resilience plans that set out a coherent package of reforms and public investment projects. These plans should address challenges identified in the European Semester, particularly the country-specific recommendations adopted by the Council, which include digital skills (paragraph ***33*** and ***Table 2***). In this context, the Commission encourages Member States to include in their recovery and resilience plans investments and reforms focusing on digital skills and educational and vocational training for all ages with a view to reaching its 70 % target by 2025 (paragraph ***46***)[46].

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[45] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: European Skills Agenda for sustainable competitiveness, social fairness and resilience, COM(2020) 274 final.

[46] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank: Annual Sustainable Growth Strategy 2021, COM(2020) 575 final.

49 The Council's position[47] is that at least 20 % (€144.8 billion) should be spent on the "digital transition", which includes digital skills at all levels. In this context, the Council conclusions of 2 October 2020[48] refers specifically to the upgrading of digital skills in education systems.

European Social Fund Plus (ESF+)

50 The objectives of the ESF+[49] include digital skills – although not necessarily basic digital skills. It also aims to contribute to relevant aspects of other key EU initiatives and activities, in particular the "Skills Agenda for Europe" and Upskilling Pathways. Its planned budget for the period 2021-2027 amounts to €87.9 billion, but there is no specific allocation for "digital skills".

51 In the 2019 European Semester Country Reports[50], the Commission presented preliminary views on priority investment areas and framework conditions for the effective delivery of the 2021-2027 Cohesion Policy. This provided the basis for a dialogue between Member States and the Commission on the programming of the cohesion policy funds (including ESF+). The Commission considered that 23 out of 27 Member States should address digital skills in their programmes.

New Erasmus programme for 2021-2027

52 The Commission proposed a new Erasmus programme for the period 2021-2027[51], which covers both basic and advanced digital skills and which essentially continues the programme from the previous period. The new programme will also support VET, digital literacy, and adult education, and digital skills are mentioned specifically – although with a special emphasis on advanced digital skills.

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[47] See Note 11538/20 of the General Secretariat of the Council of 7 October 2020.

[48] See Note EUCO 13/20 of 2 October 2020.

[49] Proposal for a Regulation of the European Parliament and of the Council on the European Social Fund Plus (ESF+), COM(2018) 382 final.

[50] 2019: European Semester: Country Reports, Annex D.

[51] Proposal for a Regulation of the European Parliament and of the Council establishing 'Erasmus': the Union programme for education, training, youth and sport and repealing Regulation (EU) No 1288/2013, COM(2018) 367 final.

Digital Education Action Plan

53 In September 2020, the Commission proposed a new Digital Education Action Plan 2021-2027[52]. The Action Plan states among its guiding principles that digital literacy is essential for life, and that basic digital skills should become part of the core transferable skills that everyone should have. In line with these guiding principles, it proposes a range of actions, such as using the Erasmus programme to support the digital transformation plans of education institutions, the development of a European Digital Skills Certificate recognised and accepted by governments, employers and other stakeholders across Europe, and proposing a Council recommendation on improving the provision of digital skills in education and training.

Council recommendation to reinforce the Youth Guarantee

54 The EU's Youth Guarantee is a commitment by all Member States to ensure that all young people under the age of 25 years receive a good quality offer of employment, continued education, apprenticeship or traineeship within a period of four months of becoming unemployed or leaving formal education. In November 2020, the Council reinforced its recommendation from 2013 by inter-alia raising the age group to encompass all young people under 30 years. The Council also recommended that Member States should use DigComp (paragraph ***09***) to assess the digital skills of all young people not in employment, education or training who register in the Youth Guarantee so that all young people who need it are offered dedicated training to enhance their digital skills[53].

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[52] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Digital Education Action Plan 2021-2027 – Resetting education and training for the digital age; COM(2020) 624 final.

[53] Council recommendation of 30 October 2020 on A Bridge to Jobs – Reinforcing the Youth Guarantee and replacing the Council Recommendation of 22 April 2013 on establishing a Youth Guarantee (2020/C 372/01).

Digital skills indicator update

55 The Commission will introduce a revised methodology for the digital skills indicator. The indicator will be adapted by adding a fifth competence area, “Safety”, to the four existing areas of the current ICT environment. With this revision, Eurostat’s composite digital skills indicator will be aligned with the 2018 update of the Council Recommendation on the “*key competence framework for lifelong learning*” and the indicator will also better reflect the Digital Competence Framework from 2021.

Closing remarks

Main points of the review

56 Basic digital skills for the labour force are becoming more and more important, and they are already often required in many occupations. Adults that do not have these basic skills will face problems at work as well as in their private lives. This is a particularly a problem facing older, less educated and unemployed adults (paragraphs ***12***-***17***, ***Figure 4***, ***Figure 7***).

57 Although Member States have primary responsibility for skills development, the EU has long recognised the challenge, and has taken a number of steps to support Member States in addressing the insufficient level of basic digital skills. It has done this through guidelines and recommendations, and by providing support to cooperation networks. In this context, the Commission defined an internationally recognised Digital Competence Framework, supported the development of national strategies on digital skills and assisted in creating national Digital Skills and Jobs Coalitions in almost all EU Member States. However, according to the indicators used by the Commission, despite a steady increase in the range and volume of EU action in the last 5 years, levels of basic digital skills within Member States have not significantly improved (paragraphs ***05***, ***06***, ***09***, ***14***, ***Figure 4*** and ***Figure 6***).

58 There is considerable variation in levels of skills within and among Member States. Member States' skill levels are in line with those of countries outside the EU for which comparable data exists: the best performing Members States are among the leading group of countries worldwide, but Member States at the other end of the scale are no better than the worst performing non-EU countries. For this group of Member States, the situation gradually worsened during the period 2015 to 2018, which indicates that the digital divide is not only an issue among societies within a Member State, but also between high and low performing countries in this respect (paragraphs ***18***-***21***, ***Figure 8*** and ***Figure 9***).

59 Since 2010, the EU has set in train a number of different initiatives addressing digital skills – often as part of wider measures. The subject is a broad one, involving many stakeholders at many levels, such as a large part of the population, different layers of government, education and industry. The result is a range of actions at EU level, running in parallel and partially inter-linked (paragraph ***23*** and ***Table 1***).

60 Although the Digital Agenda for Europe proposed digital literacy and competence as a priority for the ESF during 2014-2020, projects specifically focusing on ICT related training in Member States represented around 2 % of ESF funding. The Commission concluded that actions targeting specifically the upskilling of adults were insufficient. Similarly, the funding of projects within Erasmus+ addressing basic digital skills of adults reflected only a small percentage of the overall funding (paragraphs ***25***, ***30***, and ***34-41***).

61 For the period after 2020, the EU has now set a clear target, that the percentage of citizens with at least basic digital skills should reach 70 % by 2025 against a baseline of 56 % in 2019. According to the Commission, this will require an annual investment of €48 billion, which has to come from private sources, as well as national and international public ones. In view of this objective, the EU has set up a number of initiatives and allocated EU funds targeting basic digital skills for adults (paragraphs ***46-55***).

Challenges for the future

62 In order to reach the objectives set for the upcoming EU programme period, we identified some key challenges:

63 Adequate funding for increasing digital skills is an important part of the equation. Policy objectives are more likely to be achieved if sources and amounts of funding are identified, even if only indicatively. While the European Skills Agenda mentions the different EU funds that could support implementation, it does not specify the amounts involved.

64 The European Skills Agenda has not defined milestones to reach the overall objective, nor, for example, a minimum level to be reached by all countries. Such specific targets and milestones would help for example in monitoring the implementation of the policy with a view to reducing the digital divide between high and low performing countries.

65 In terms of monitoring, the Eurostat's composite indicator is a useful tool for assessing the level of digital skills of EU citizens and will also serve to monitor progress in reaching the 70 % target for people with at least basic digital skills by 2025. Updating the indicator and extending its scope to include a "safety" element from 2021 usefully aligns the indicator with the DigComp framework but will change its values. The

Commission is taking measures to reduce this impact, but altering the calculation of the indicator may still affect the achievability of the 2025 target.

66 In terms of monitoring, it was difficult for the Commission to identify EU-funded projects designed to contribute to the upskilling of the digital skills of adults to at least the basic level during the period 2014-2020, and to assess how far they might have contributed to this objective. For the period 2021-2027, the ability to monitor such projects would help the EU judge whether actions had been successful or not.

This Review was adopted by Chamber II, headed by Ms Iliana Ivanova, Member of the Court of Auditors, in Luxembourg on 20 January 2021.

For the Court of Auditors

Klaus-Heiner Lehne
President

Glossary, acronyms and abbreviations

Adult learning/adult education: Learning activities after the end of initial education, part of the EU's lifelong learning policy.

Cedefop: European Centre for the Development of Vocational Training

Coronavirus Response Investment Initiative (CRII): Package of measures to allow flexible use of the European Structural and Investment Funds in response to the COVID-19 outbreak.

COSME: EU programme for the competitiveness of small and medium-sized enterprises

COVID-19: Coronavirus disease

DESI: Digital Economy and Society Index

DG CNECT: Directorate-General for Communications Networks, Content and Technology

DG EAC: Directorate-General for Education, Youth, Sport and Culture

DG EMPL: Directorate General for Employment, Social Affairs & Inclusion

DG ESTAT: Directorate-General Eurostat (European Statistics)

DG GROW: Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

DigComp: European Digital Competence Framework for Citizens

DSI: Digital Skills Indicator

DSJC: Digital Skills and Jobs Coalition

Erasmus+: An EU programme to support education, training, youth and sport in Europe, chiefly by giving university students the opportunity to study and gain experience abroad.

European Regional Development Fund (ERDF): An EU fund that strengthens economic and social cohesion in the EU by financing investments that reduce imbalances between regions.

European Social Fund (ESF): An EU fund for creating educational and employment opportunities and improving the situation of people at risk of poverty.

European Social Fund + (ESF+): The successor to the European Social Fund for 2021-2027.

European Structural and Investment Funds (ESIF): The five main EU funds which together support economic development across the EU: the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development, and the European Maritime and Fisheries Fund.

EUROSAI: European Organisation of Supreme Audit Institutions – one of the regional groups of the International Organisation of Supreme Audit Institutions (INTOSAI), comprising the SAIs of 49 European states and the European Court of Auditors.

ICT: Information and communications technology

I-DESI: International Digital Economy and Society Index

Labour force: Everyone who works, or is actively seeking work, for the direct production of goods and services.

Lifelong learning: All learning activities undertaken throughout life with the aim of improving knowledge, skills and competences.

OECD: Organisation for Economic Co-operation and Development

Operational programme: The basic framework for implementing EU-funded cohesion projects in a set period, reflecting the priorities and objectives laid down in partnership agreements between the Commission and individual Member States.

PIAAC: Programme for the International Assessment of Adult Competencies

Position papers: Document setting out the framework for dialogue between the Commission and a Member State on the preparation of the partnership agreement and operational programmes.

Recovery Assistance for Cohesion and the Territories of Europe (REACT EU): Instrument providing additional funding for the continuation and extension of the coronavirus response investment initiatives (CRII and CRII+).

Recovery and Resilience Facility: EU fund to mitigate the economic and social impact of COVID-19, and make Member States' economies and societies more sustainable, resilient and better prepared for the green and digital transitions.

Small and medium enterprise (SME): A size definition applied to companies and other organisations, based on the number of staff employed and certain financial criteria. Small enterprises have fewer than 50 staff, and turnover or a balance sheet total not exceeding €10 million. Medium-sized enterprises employ fewer than 250 staff, and have turnover up to €50 million or a balance sheet total up to €43 million.

Strategic Framework for European cooperation in education and training (ET 2020): A forum for Member States to discuss education policy, exchange best practice and learn from each other.

Vocational Education and training: Education and training to equip people with the knowledge and skills required for the labour market.

Annexes

Annex I — Measurement of digital skills

We refer to four sources of information about digital skill levels:

(1) The **Eurostat digital skills indicator** (DSI) was developed in cooperation with the Joint Research Centre and DG CNECT, and was first published in 2015. This indicator is based on the Digital Competence Framework, a widely accepted and scientifically developed competence framework for digital skills. The indicator is based on selected activities related to internet or software use by individuals aged 16-74 in four specific areas (information, communication, problem solving and software skills). Four levels are published: no skills, low skill, basic and above basic skills. The digital skill levels of those people who had not used the internet in the last three months could not be assessed (a category rapidly declining).

The digital skills indicator is available for 2015, 2016, 2017 and 2019. It is based on the EU Community Survey on ICT usage in households and by individuals. Data are collected by the national statistical Institutes in each Member State, and sent to Eurostat for validation and aggregation. Eurostat makes the indicator available on its website, in several breakdowns (relating to age, gender, education, income quartile and economic activity).

(2) The **Digital Economy and Society Index** (DESI) is a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU Member States in digital competitiveness. DESI's Human Capital dimension measures digital skills by taking account of internet user skills (based on the Eurostat digital skills indicator, as above), and of advanced ICT skills (calculated from the number of employed ICT specialist and ICT graduates).

(3) The **International DESI** extends the DESI to 18 countries outside the EU, to enable wider comparison of digital performance. Since the DESI underlying data from Eurostat is not available for some countries, different indicators were used for the human capital dimension. For measuring at least basic skills, the indicator "Individuals who have used word processing software in the last 12 months" was used, based on the OECD statistics on information and communication technology 2019. The I-DESI methodology is therefore less complex and sophisticated than that of DESI.

(4) The **Programme for the International Assessment of Adult Competencies (PIAAC)** is the OECD's programme of assessment and analysis of adult skills. The major survey conducted as part of PIAAC is the Survey of Adult Skills. This Survey measures adults' proficiency in key information-processing skills - literacy, numeracy and problem solving - and gathers information and data on how adults use their skills at home, at work and in the wider community. Measuring an adult's proficiency in problem solving in technology rich environments, the survey tries to encompass more than the purely instrumental skills related to the knowledge and use of digital technologies. The cognitive dimensions of problem solving are the central object of the assessment, with the use of ICT as secondary. Also, this survey is a test, not a self-assessment as is the case with the Eurostat survey. PIAAC was completed in three rounds in the 32 OECD countries and three OECD sub-national entities, comprising Flanders (Belgium), England (United Kingdom), and Northern Ireland (United Kingdom).

Proficiency levels are assessed as follows:

- Below level 1 (OECD avg 14.6 %): Tasks are based on well-defined problems involving the use of only one function within a generic interface.
- Level 1 (OECD avg 28.3 %): At this level, tasks typically require the use of widely available and familiar technology applications, such as e-mail software or a web browser. The problem may be solved regardless of the respondent's awareness and use of specific tools and functions (e.g. a sort function). The tasks involve few steps and a minimal number of operators.
- Level 2 (OECD avg 24.7 %): At this level, tasks typically require the use of both generic and more specific technology applications. The task may involve multiple steps and operators. The task may require evaluating the relevance of a set of items to discard distractors. Some integration and inferential reasoning may be needed.
- Level 3 (OECD avg 5.1 %): At this level, tasks typically require the use of both generic and more specific technology applications. The use of tools (e.g. a sort function) is required to make progress towards the solution. The task may involve multiple steps and operators. There are typically high monitoring demands. Unexpected outcomes and impasses are likely to occur. The task may require evaluating the relevance and reliability of information in order to discard distractors.

The main differences between Eurostat's composite indicator, DESI and OECD PIAAC are shown below in ***Table 5***.

Table 5 – Comparison of digital skills measurement

Dimension	ESTAT (DESI)	OECD PIAAC
Definition of digital skills	Based on DigComp	Combination of the ICT skills and cognitive elements (problem-solving)
Proficiency levels	No skills/Basic skills/ above basic skills	Level 1-3 , below level 1
Survey method	Self assessment through ICT/HH survey	Computer-based test, start with background questionnaire and ICT core test
Comparability over time and geographical area	Yes	No, only 1 cycle
Objective	Comparison, EU policy support	Basis for national skill strategies, comparison
Timeliness	2015-2017, 2019	Once in 2011 or 2014 or 2017
Coverage	All Member States	In 2011-2012: Austria, Belgium (Flanders), Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Netherlands, Poland, Slovak Republic, Spain, Sweden, United Kingdom (England and Northern Ireland). In 2014-2015: Greece, Lithuania, Slovenia In 2017 Hungary. Many other OECD members
Age of population covered	16-74	16-65

Source: ECA, based on Eurostat, DG CNECT and OECD information.

Annex II — National Digital Skills and Job Coalitions (NDSJC)

Country	Strategy mid 2019	NDSJC	Main objectives	Share of activities by target groups (as %)			
				All citizens	Education	ICT pro-fessionals	Labour force
Austria	Yes	Yes	The Austrian Alliance for Digital Skills and Professions has been launched in June 2020. It is an essential part of the digital action plan that is currently being developed nationally. Both in the education chapter and in the cross-cutting issue of resilience to crises, the findings from the COVID-19 shutdown phase with regard to digitization are currently primarily included and taken into account in the alliance's work program planning for 2020/21. As the first part of the alliance, the DigComp Monitoring Board started its work in March as a quality assurance body for allocation to the digital competence model for Austria.	No information available			
Belgium	No	Yes	The Belgian National Coalition is an active community of organisations, Non-government organisations, education and employment institutions, social partners. It has one clear objective: to improve, in an inclusive way, Belgians' command of digital skills for current and future jobs.	35 %	25 %	30 %	10 %
Bulgaria	No	Yes	The main goal of the Digital National Alliance (DNA) is to attract more people to new technologies, to effectively harness the potential of digital for all citizens and to support the development of the ICT sector in Bulgaria. DNA collaborates and unites the work of businesses, universities and government in Bulgaria and helps to achieve the priorities set in the Digital Agenda of Europe.	10 %	60 %	10 %	20 %
Croatia	No	Yes	The Croatian National coalition for Digital Skills and jobs aims to harvest the growing potential of the ICT sector in Croatia to lead jobs growth in Croatia and substantially contribute to the Croatian economy. The Coalition aims to address this purpose by getting more skilled ICT professionals trained in Croatia and moving to Croatia to address the skills gap needs	10 %	25 %	55 %	10 %
Cyprus	Yes	Yes	Grow Digital CY, the Cypriot National Coalition aims to promote the diffusion and the improvement of digital skills in order to address the mismatch between a low number of ICT professionals and higher number of vacancies. Stakeholders have proposed actions aiming to ensure the adequate and continuous supply of high-quality graduates according to the labour market needs.	10 %	70 %	10 %	10 %
Czech Republic	Yes	Yes	DigiKoalice contributes to raising the digital literacy of all Czech citizens through the promotion of digital skills in education, and digital skills in the labour market. This in turn helps the Czech economy increase its competitiveness. DigiKoalice reaches this multipurpose goal by symbiotically connecting cooperating organizations, stakeholders and their activities.	20 %	40 %	20 %	20 %

Country	Strategy mid 2019	NDSJC	Main objectives	Share of activities by target groups (as %)			
				All citizens	Education	ICT pro-fessionals	Labour force
Denmark	Yes	Yes	The Danish National coalition defines common objectives, invites relevant parties to join and to co-create an action plan to bridge the skill gap. Even though Denmark is among the most digitized nations, research shows that more than 1 million Danish citizens aged 16 to 65 years of age are lacking in digital skills. In the ICT sector, Denmark also has a critical skills gap, which seems to be growing looking into the future.	60 %	10 %	5 %	25 %
Estonia	Yes	Yes	The Estonian National Coalition pursues to bridge the digital skills gap by focusing on programmes that can train large portions of the population in digital skills. The coalition includes policy makers, e-service providers and IT-training companies. It has developed self-funded and large-scale training initiatives that aim to lessen the digital skills gap. The purpose of these activities is to lower the number of people in Estonia that do not use computers or the Internet to 5 %.	80 %	10 %		10 %
Finland	Yes	No					
France	Yes	Yes	The French National Coalition brings together local and national actors active in digital matters. It is a strong partnership, where stakeholders work together to reduce the digital skills gap in France, according to pragmatic plan. They also contribute to identifying, developing and disseminating good practices.	10 %	10 %	30 %	50 %
Germany	Yes	No					
Greece	Yes	Yes	The priorities of the Greek National Coalition are to promote the digital transformation of public agencies, to promote digital skills in education through coding, and to promote internet safety. Additionally, there is a horizontal priority to promote digital skills and IT career for women and girls.	30 %	34 %	2 %	34 %
Hungary	Yes	Yes	Cooperation between various members of the Hungarian National Coalition started several years before it's official launch in December 2016. The coalition was established to facilitate stakeholders' discussions to find solutions for tackling the shortage of digitally skilled people in the Hungarian labour market and support the government in developing and implementing adequate strategies.	5 %	35 %	30 %	30 %
Ireland	Yes	Yes	The Irish Digital Skills and Jobs Coalition is a multi-stakeholder partnership focussed on tackling the digital skills gap. Representatives of academia, all education sectors, industry, the public service and the not for-profit sector have come together to ensure that Ireland joins in the European effort to promote inclusion for continuous integral improvement of digitalisation.	25 %	25 %	30 %	20 %

Country	Strategy mid 2019	NDSJC	Main objectives	Share of activities by target groups (as %)			
				All citizens	Education	ICT pro-fessionals	Labour force
Italy	Yes	Yes	The objective of the Italian coalition is to bridge the different forms of social and cultural digital divide among the Italian population, foster digital inclusion and promote the development of skills for the works of the future. In particular, the Coalition will roll-out actions to boost digital skills among all citizens, by providing them with learning and self-development tools (self-assessment kits, e-books, online courses), and help people use the new services and tools of digital citizenship actively and responsibly.	53 %		22 %	25 %
Latvia	Yes	Yes	The Latvian National Coalition, established in March 2013, affords a variety of stakeholders a place to discuss and execute digital skills development goals for Latvia and cooperate on joint initiatives. Since the beginning partners have been implementing large scale digital skills training projects for SMEs, the workforce, ICT professionals, young people and all citizens. It has been also actively promoting digital services.	32 %	27 %	23 %	18 %
Lithuania	Yes	Yes	The Lithuanian National Digital Coalition promotes digital skills for life and work, encourages lifelong learning for all, especially young people, to enhance overall digital potential.	50 %	10 %	20 %	20 %
Luxembourg	Yes	Yes	Digital Luxembourg, Chambre de Commerce and Chambre des Métiers have relaunched the National Coalition in September 2019. The Coalition brings together private and public stakeholders to establish a national agenda and coordinate concrete actions for accelerating the region's digital skills. With the COVID-19 crisis, the Coalition focused on the new perspectives of digital skills to face the COVID-19 pandemic especially linked to remote working; needs for training and reskilling and impact on the job market. Through their website they want to be a central point for initiatives on digital skills / jobs.	No information available			
Malta	Yes	Yes	The eSkills Malta Foundation is a coalition formed of representatives from government, industry and education that aims to advise on the current and future digital skills policies, to contribute to the expansion of ICT educational programmes, to lead an ICT professionalism development programme, to champion campaigns, and to promote the Maltese eSkills potential.	20 %	30 %	30 %	20 %
Netherlands	Yes	Yes	The Dutch coalition aims to develop a movement in the Netherlands targeting and leading digital skills for inclusion, innovation and economic benefits. The premise behind this purpose lies in the rapid tempo of digital developments, which necessitate complementary digital skills. The Dutch coalition is focused on ensuring citizens at all levels are ready for the digital transformation and ensuring coding and digital skills become a cornerstone of the education curricula.	15 %	50 %	20 %	15 %

Country	Strategy mid 2019	NDSJC	Main objectives	Share of activities by target groups (as %)			
				All citizens	Education	ICT pro-fessionals	Labour force
Poland	Yes	Yes	The aim of the Broad Alliance of Digital Skills is to promote the development of Poland by using the full potential of available modern information technologies significantly transforming all aspects of the society and economy. The Coalition pursues this by disseminating digital education and sustainable development of digital skills adapted to the dynamically changing labour market.	15 %	50 %	20 %	15 %
Portugal	Yes	Yes	INCoDe.2030 focuses on raising the digital competences of all Portuguese citizens to better respond to challenges of the digital society. It involves a broad range of stakeholders with the aim to have a digitally advanced Portugal by 2030. INCoDe.2030 expects that by 2030, every Portuguese household will have internet access, and the number of frequent internet users will grow to 90 %.	25 %	25 %	25 %	25 %
Romania	Yes	Yes	The Romanian National Coalition (Skills4IT) is an open platform that includes a variety of stakeholders: policy makers, ICT companies, associations, training providers and Non-government organisations involved in the digital transformation. Activities are focusing on rolling out coding and IT classes in schools, organising cybersecurity courses and educational events. The coalition also provides training to upgrade digital skills of the labour force.	15 %	40 %	30 %	15 %
Slovakia	Yes	Yes	The Slovak National Coalition (Digitálna Koalícia) brings together partners from the government, private, non-profit, and academic sectors to prepare Slovaks of all ages for work and life in the emerging digital economy. The coalition's activities have reached more than 30 000 people so far	10 %	30 %	30 %	30 %
Slovenia	Yes	Yes	Slovenia's national digital coalition was formed in 2016 by stakeholders across sectors. The Digital Coalition is an open national forum that brings together all interested parties. They can become involved in the Coalition's work regardless of whether they are supporters or critics of the new opportunities and changes being brought by the digital transformation.	25 %	30 %	20 %	25 %
Spain	Yes	Yes	The Spanish National Coalition gathers around 200 stakeholders such as IT companies, education and training institutions, trade unions, foundations, associations and governmental organisations. The coalition is actively shaping the debate on developing a digital talent pool in Spain, promoting employability thanks to digital skills.	10 %	35 %	35 %	20 %
Sweden	Yes	Yes	The overall purpose of the coalition is twofold: Firstly, to make visible the activities related to digital skills that the individual coalition members already perform, or plan to do, and mutually reinforce the effects of these activities. And secondly, to arrange a common event with focus on gender equality. The most important driving force behind the coalition's objectives is the Swedish Government's digital policy strategy, presented in May 2017.	20 %	30 %	30 %	20 %

Source: ECA, based on factsheets on national DSJCs.

Annex III — Financial information on ESF programme roll-out for the individual Member States as of end-2019

The financial data reported by Member States is defined in the 1303/2013 Common Provision Regulation Article 112:

"1. By 31 January, 31 July and 31 October, the Member State shall transmit electronically to the Commission for monitoring purposes, for each operational programme and by priority axis:
(a) the total and public eligible cost of the operations and the number of operations selected for support;
(b) the total eligible expenditure declared by beneficiaries to the managing authority".

These data are transmitted through the SFC2014 (the platform for electronic exchange of information concerning shared Fund management between Member States and the European Commission) by the Member States and then later on also published in the ESIF open data platform.

These tables include categorisation of amounts planned and implemented for all ESF programmes. The correctness of the data is ensured by the Member States.

ECA calculated amounts in ***Table 4*** for intervention fields 117 – Enhancing equal access to lifelong learning and 118– Strengthening vocational education & training, representing ESF investment priorities 10iii and 10iv. Taking these amounts, we filtered them for the secondary theme 05 Enhancing the accessibility, use and quality of information and communication technologies. Secondary themes are designed to capture information on ESF expenditure contributing to cross cutting secondary sectoral themes and objectives, such as, in our case the Enhancing the accessibility, use and quality of information and communication technologies. The final data set should ideally represent the amounts spent in education for the acquisition of digital skills.

ECA team

This ECA's review on "Basic digital skills for adults" provides an overview and analysis of the different ways in which the EU supports Member States' efforts to reduce the number of people in the labour force who do not have at least basic digital skills.

This review was adopted by Audit Chamber II Investment for cohesion, growth and inclusion spending areas, headed by ECA Member Iliana Ivanova. The audit was led by ECA Member Iliana Ivanova, supported by Mihail Stefanov, Head of Private Office and James Verity, Private Office Attaché; Niels-Erik Brokopp, Principal Manager; Dieter Böckem, Head of Task; Agota Krenusz, Deputy Head of Task; Jussi Bright, Katarzyna Solarek, and Michele Zagordo, auditors.

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In today's world, a reasonable level of digital skills is increasingly important, within and outside work. In 2019, very many adults in the EU did not have basic digital skills, illustrating a 'digital divide' between adults with and without these skills. In recent years, there has been little progress in narrowing this divide.
In this review, we examine what the EU has done to improve the situation, and what it has planned for the 2021-2027 period. While the EU has increased the guidance and support it provides to Member States, there have been relatively few EU funded projects focusing on adult basic digital skills. Based on our analysis, we highlight the main challenges facing the EU in addressing the digital divide in the future.

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