



RECOVERY AND RESILIENCE SCOREBOARD

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Thematic analysis

Digital skills and education

April 2022



This paper is part of a series of thematic analyses undertaken by the European Commission to illustrate the impact of the Recovery and Resilience Facility (RRF). The RRF is the European Union's largest ever funding instrument and is intended to support European economies and societies to recover from the Covid-19 pandemic and build resilience against future shocks. EU Member States commit to implement ambitious reforms and investments and receive funds from the RRF when they achieve these commitments.

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Policy Overview

An adequate level of digital skills is essential for people to seize the opportunities offered by the digital transformation of the economy and society. They allow workers to access better jobs and higher earnings more easily and could represent one of the EU's competitive advantages in an increasingly digital and knowledge-based economy. A better skilled workforce underpins inclusive and sustainable growth and increases countries' resilience to challenges arising from climate change, globalisation, demographic and technological change. Digital skills are also crucial to allow citizens to trust digital products and online services, identify disinformation and fraud attempts, and thus protect themselves against cyberattacks, scams and fraud online. Similarly, digital skills also enable children to learn how to understand and navigate through the myriad of information they are exposed to online.

At the same time, digital skills shortages remain pervasive in the EU. More than 40% of Europeans lack basic digital skills. Europe also lacks the sufficient amount of people with advanced digital skills and ICT specialists: in 2020, 54% of SMEs and 64% of large enterprises who tried to recruit ICT specialists reported it was hard to fill vacancies. In addition, only 19% of ICT specialists are women. The digital skills shortages risk hampering investment in high value-added sectors, slowing down the adoption of advanced digital technologies, such as artificial intelligence (AI), and thus dampening productivity and economic growth. Indeed, availability of staff with the right skills constitute one of the most important barriers to investment in European firms.¹

Digital skills development is a priority in the EU's policy agenda. In the Digital Decade policy programme, the Commission has proposed ambitious targets in this field: to equip 80% of people with basic digital skills and to have 20 million ICT specialists employed in the EU by 2030, with convergence between men and women. Moreover, the Council Resolution on a strategic framework for European cooperation in education and training aims to reduce the share of low-achieving eight-graders in computer and information literacy in the EU to less than 15% by 2030. Furthermore, the EU Skills Agenda and the European Pillar of Social Rights Action Plan call for collective action to support the development of digital skills in the adult population. In addition, the Commission has recently launched a Structured Dialogue on digital education and skills with Member States, with the aim to identify shortcomings and good practices. The Commission will also propose two Council recommendations in the area of digital education and skills in 2022.

The Commission is also taking action to support the digitalisation of education. In September 2020, the Commission adopted the Digital Education Action Plan (2021-2027) as part of the long-term approach to address digital transformation of the education systems. It presented a comprehensive vision for education fit for the digital age and identified two strategic priorities for achieving it: i) developing a high-performing digital education ecosystem, and ii) enhancing the digital skills and competences needed for the digital transformation. The Digital Education Action Plan offers a long-term strategic vision for high-quality, inclusive and accessible European digital education, addresses the challenges and opportunities of the COVID-19 pandemic, which has led to the unprecedented use of technology for education and training purposes, seeks stronger cooperation at the EU level on digital education and underscores the importance of working together across sectors to bring education into the digital age. The Action Plan also presents opportunities, including improved quality and quantity of teaching concerning digital technologies, support for the digitalisation of teaching methods and the provision of infrastructure required for inclusive and resilient remote learning.

In the context of the Recovery and Resilience Facility (RRF), the Commission has encouraged Member States to include reforms and investments aiming to boost the take up of basic and advanced digital skills in their Recovery and Resilience Plans (RRPs), for example through the European flagship "Reskill and upskill".

¹ EIB Investment Survey 2021, p. 19.

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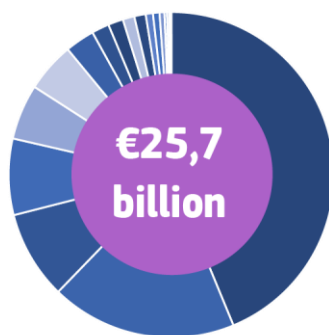
Digital education and skills in the recovery and resilience plans

Overview of the plans

Skills development as enabler for the digital transformation is acknowledged throughout RRP. Plans include a wide range of actions whose objectives align with the EU agenda on digital skills. These include comprehensive digital skills strategies; actions to close the shortage of ICT specialists and to endow the broader population and workforce with digital skills, including those employed in SMEs and in the public administration; support to cyber skills; digitalisation of educational institutions and content; and targeted support to vulnerable groups.

Digital skills and education

Expenditure in EUR millions per Member State



Italy, € 11252	Spain, € 4752	Germany, € 2256
France, € 1948	Portugal, € 1412	Romania, € 1267
Greece, € 754	Czechia, € 446	Austria, € 385
Slovakia, € 298	Belgium, € 292	Lithuania, € 184
Croatia, € 168	Latvia, € 124	Ireland, € 64
Slovenia, € 60	Cyprus, € 24	Estonia, € 10
Finland, € 7	Luxembourg, € 7	Malta, € 3
Denmark, € 0		

Note: This chart shows estimated expenditure based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and corresponds to the measures allocated to the policy area "Human capital in digitalisation" as primary or secondary policy areas.

A number of Member States include digital skills strategies as part of their recovery and resilience plans².

The strategies typically aim to identify digital skills objectives and outline needed action, tackling digital skills shortages in a coherent and strategic manner, involving relevant actors. As such, they often encompass actions across the digital skills spectra, such as actions to increase digital skill levels for the general population, public sector workers, SMEs, and the unemployed; digitalise the education system; bridge the digital gender divide; and increase the number of ICT specialists.

The Recovery and Resilience Facility will contribute to closing the ICT specialist gap in the EU. The measures to foster advanced digital skills and ICT professionals include development of training modules in advanced digital technologies and their inclusion in higher education courses. In some Member States, the vocational training offer related to advanced digital skills will be expanded.

Many plans also include measures to increase the digital skill levels in the general population and in the workforce, mainly by providing digital up- and re-skilling opportunities for the employed, unemployed, or specifically targeting SMEs. Support takes different forms, including through the development of new trainings, through voucher

² This includes the 22 recovery and resilience plans approved by the Council by March 2022.

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systems to beneficiaries, by expanding online course offer, or through digital skills training for conscripts. Reforms of active labour market policy, such as retaining the right to unemployment benefits during the participation in trainings, are also planned and will further foster upskilling. A number of plans also include other support systems, such as mapping of skills demanded by the labour market or individual learning accounts.

Multiple Member States will use the RRF to strengthen their cyber resilience by boosting the necessary skills. This includes cyber security awareness raising campaigns, training for the population, the public administration or for SMEs, cybersecurity skills inclusion in all educational levels, establishment of cybersecurity competence centres in universities, and strengthening the frameworks for public-private-academic partnerships. Other measures include dedicated action to increase the amount of cyber security experts as well as making cyber security teaching material and resources available to the general population.

The digital transformation of the public administration can only be realised if managed by digitally competent staff. Therefore, RRP investments in the digitalisation of public services or processes are often accompanied by digital upskilling for relevant staff. This includes dedicated training for healthcare staff to embrace e-health solutions, for teachers to master digital content and technological tools, for police to detect and tackle cyber-crime, as well as for judicial staff as a part of the digitalisation of the justice system. A large share of the plans also include measures to increase the digital skills of employees in local and national governments, including skills for the use of data analytics and artificial intelligence as well as to enhance cybersecurity.

The pandemic has highlighted the need for digitalisation of schools and for ensuring pupils' access to digital equipment. Multiple Member States address these new challenges by targeted investments in digitalisation of schools and higher education institutions, such as preparing classrooms with the necessary equipment for distance teaching, developing digital education content and resources, as well as strengthening the connectivity in schools. A number of Member States plan to update primary and secondary school curricula to improve digital competences for pupils, e.g. through dedicated courses or by streamlining digital learning and skills across education areas. There are also a number of Member States that plan to provide hardware to students, sometimes with a particular focus on vulnerable groups.

A number of plans include targeted support for vulnerable or underrepresented groups. Measures targeting unemployed or people at risk of unemployment aim to increase their employability by providing either general or sector-specific digital up- or reskilling support. The employability of youth is supported through a number of measures: through apprenticeships, career guidance, or expansion of places in higher education related to digital skills. In addition, multiple Member States include measures aimed at reducing the digital gender divide: by supporting female entrepreneurship, encourage more women to choose careers in ICT (e.g. through career guidance programmes for women focusing on digital professions), and digital skills training for women in rural and urban areas.

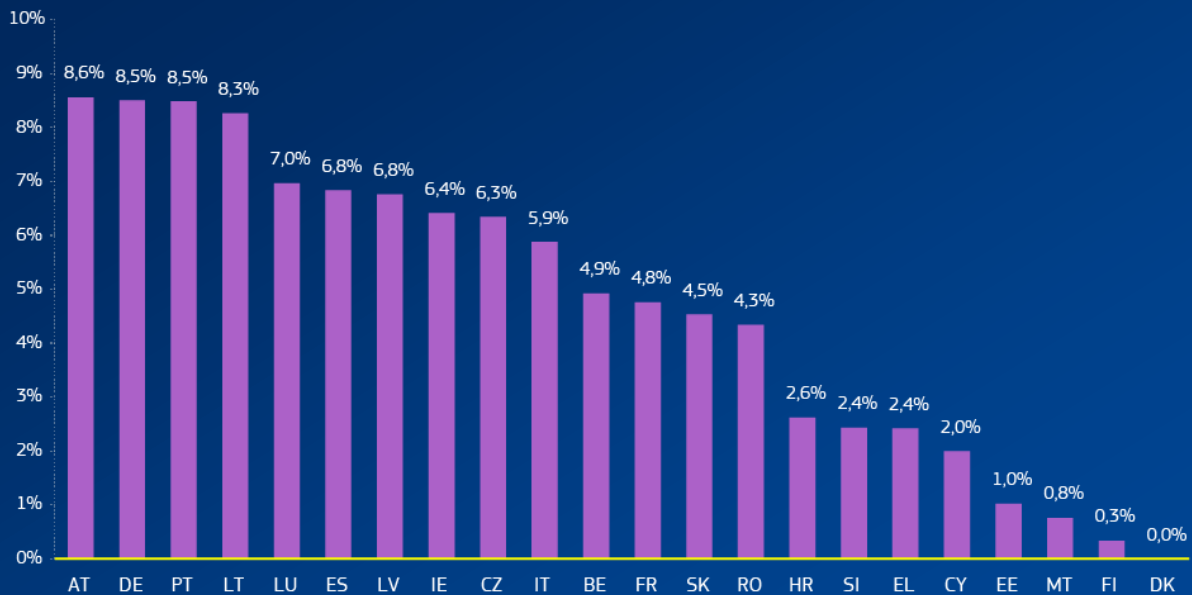
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Expenditure on digital skills and education, % of total estimated cost per Member State



Good practices



The Latvian plan includes a measure aimed at significantly increasing the number of **specialists with advanced digital skills**. The measure consists of developing approximately 20 training modules in advanced digital skills for technologies such as quantum, high performance computing, and language technologies. The training modules will be included in higher education programmes (bachelor, master, and doctoral) as well as educational programmes for professionals in enterprises. The investment will support 3,000 participants in the developed modules.



The Spanish plan includes a measure aimed at increasing the **digital skills for employment**, structured along three pillars. The first pillar entails digital skills for the employed and unemployed, in particular youth, by strengthening active labour market policies in dedicated programmes and guidance for unemployed, employment maintenance as well as entrepreneurship. The second pillar includes a digital training programme for public administrations, including health professionals, troops, seafarers, state security forces, and staff working in social security and finance areas. The third pillar includes training programmes for digital skill development for managers and experts in SMEs, with a particular focus on increasing the number of female managers and workers in ICT sectors. The objective of the third pillar is that participants act as catalysts for digital transformation in their enterprises. Taken together, the measure aims to target groups where digital skill levels are currently low, to increase employability, raise efficiency of the public administration, and foster digital transformation in enterprises. The investment will support digital skills development for at least 450,000 people, having participated in training of at least 15 credits according to the European Credit Transfer System.

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The Finnish plan includes a measure with the aim to increase basic **cybersecurity skills of the general population**. First, the investment will fund a research project to collect and summarise information from all EU Member States on how each country trains citizens in basic cybersecurity. Second, the information will be used to create a common digital platform for teaching and developing cybersecurity skills, supported by this investment. In a third stage, the platform will be made available for all Europeans in different languages. The project will be implemented by a research consortium bringing together Finland's key cybersecurity research universities.



The Cypriot plan includes a reform whose aim is to support the **digital transformation of schools and the education system**. The measure combines the transformation of curricula and development of education material to support digital skills development with the provision of digital equipment for classrooms and related training for teachers. Students will, based on eligibility criteria, be equipped with the necessary hardware, as a way to ensure equal opportunities for pupils of low socio-economic background. The measure will include the provision of digital skills and STEM methodology training to at least 3 375 teachers (32% of all teachers in primary and secondary school). It will digitally equip 700 classrooms, and transform curricula and produce education material for digital skills and STEM methodology for 120 school subjects.



Romania plans a measure that aims to enhance the **basic digital skills of citizens living in disadvantaged communities, which currently have limited access to training**. The investment consists of the reconversion of 105 libraries in communities with marginalised groups into hubs for the development of digital skills, underpinned by additional funds for 1 030 libraries to change/upgrade their IT equipment. Under this investment, it is expected that basic skills such as digital literacy, communication, media literacy, digital content creator, digital security, and digital entrepreneurial education will be developed for 100,000 citizens from disadvantaged communities.

Country overview

The figures provided in the Country Overview are based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and correspond to the measures allocated to the policy area "Human capital in digitalisation" as primary or secondary policy area. For all Member States, the listed relevant components are based on the Council Implementing Decision. The descriptions are based on the content of endorsed plans and are also included in the 2021 Digital Economy and Society Index country reports.



Austria

Allocation: EUR 385 million. Relevant components: 2B and 3B

The measures for digital skills development address challenges linked to education and training. For example, a measure on IT equipment for students includes the provision of digital terminal equipment for at least 80,000 school students per year. In terms of reskilling and upskilling, included measures aim to improve the skills of unemployed people, and to provide specific ICT training (e.g. coding, software development and network engineering).



Belgium

Allocation: EUR 292 million. Relevant components: 2.2, 2.3, 4.1, 4.2 and 5.1

The plan includes several measures to support the development of digital skills, including, among others, the digitalisation of schools and higher education institutions. The plan also includes e-inclusion projects targeted at supporting the digital inclusion of vulnerable groups, in particular people lacking basic digital skills and inmates. Upskilling and reskilling of the labour force includes measures to digitalise and improve services

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and training offered by public administrations service, as well as to help develop workers' digital skills.

Croatia

Allocation: EUR 168 million. Relevant components: 1.6, 3.1, 3.2 and 4.1

The Croatian plan includes a number of measures to support the development of digital skills. The plan includes the continuation of the education system reform to improve the basic skills of pupils through increased instruction time and strengthen the link between vocational and adult education and the labour market. A new curriculum with a focus on the digital transition, will be developed. Croatia also launches dedicated measures to boost employment and develop skills for the labour market. The measures are expected to increase the employment rate, improve quality of life and strengthen social cohesion, especially for young people and the self-employed. Investments aimed at fostering lifelong learning and upskilling of workers will contribute to the employability of all generations. A system for re- and upskilling will be developed in line with the needs of the economy. Skills acquisition is also partially addressed in other areas of the plan, for example (i) by implementing a voucher system for re- and up-skilling aimed at increasing workers' employability with a particular focus on vulnerable groups, (ii) measures to educate students and unemployed persons to strengthen knowledge and skills in tourism, and (iii) by granting support that will cover training related to green and digital skills.

Cyprus

Allocation: EUR 24 million. Relevant component: 5.1

The development of digital skills is among the main objectives of measures in component 5.1 of the plan. The measures planned include modernising primary and secondary education curricula, developing new educational material, training teachers, and making investments in digital equipment for schools. In the meantime, Cyprus adopted a national e-skills action plan to boost digital skills across all population groups, including in public administration, enterprises and society at large.

Czechia

Allocation: EUR 446 million. Relevant components: 3.1 and 3.3

Czechia's plan includes efforts to improve digital skills and offer upskilling and reskilling opportunities in the digital domain. The measures focus on reforming education, providing schools with digital equipment and providing new training opportunities for job seekers and employees. On education, the plan is in line with the national education strategy and aims to bring more IT, computer science and digital literacy classes into primary and secondary schools, accompanied by teachers' training. Targeted investments acquire ICT equipment for schools and pupils and to improve connectivity in schools, taking into account socioeconomic disparities. On tertiary education, the plan aims to create better conditions for adaptation to digital learning and development of new university programmes (including in advanced digital technologies and industry 4.0) which could increase the share of ICT graduates and make more digital experts available to meet the needs of job market. The RRP aims to address other labour market needs by creating up-skilling and re-skilling opportunities for both employees and job seekers. By the end of 2025, 130,000 people should benefit from training, upskilling and reskilling in digital and to acquire other skills needed for industry 4.0. The plan also aims to foster cooperation between the government and social partners to better react to the labour market's changing needs for digital skills.

Denmark

Relevant component: 6

The Danish plan recognises the digital skills gaps and aims to tackle them as part of a new Digital strategy, due to be adopted in the first half of 2022. An expert group that includes representatives from the private and public sectors has developed recommendations for the strategy, which were published in autumn 2021. Two potential sub-reforms in the strategy touch on digital skills. The Strategy for the digital professions and jobs of the future may include actions to get more people with IT skills into the workforce. The 'Framework for a Denmark fit for a digital future' may include measures on promoting both the teaching of digital skills in schools and digital skills for the public, businesses and public employees.

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Estonia

Allocation: EUR 10 million. Relevant component: 1

The Estonian plan includes one measure supporting the acquisition of digital skills for the Estonian population. It consists of the following four parts: i) training managers in companies (SMEs in particular) to increase their ICT skills and knowledge and raise their awareness of the importance of developing and maintaining the skills of their ICT specialists; ii) revising the content and organisation of training for ICT experts, taking into account the latest technological developments, the growing importance of cybersecurity, and the needs of companies; iii) a pilot programme to redesign the qualification framework for ICT specialists; and iv) the upskilling and retraining of ICT specialists, including in cybersecurity.

Finland

Allocation: EUR 7 million. Relevant component: P3C2

Several measures foster digital skills in the Finnish plan. The plan includes a reform of continuous learning with a focus on vocational training. This is complemented by a targeted measure for Åland islands expected to introduce student-centred digital education in all higher education studies and to introduce new study programmes in particular in the field of digitalisation and automation. The plan, under the umbrella of digital public services, foresees a comprehensive digitalisation programme of the education, training and skills development system, which will use digital tools to raise Finland's level of digital competences and increase the effectiveness of the higher education system. In the field of advanced technologies, one investment has the objective to increase basic cybersecurity skills of the general population through the creation of a common digital platform for teaching and developing cybersecurity skills. Another measure will fund cybersecurity exercises for at least 2,000 public officials.

France

Allocation: EUR 1,948 million. Relevant components: 6, 7, 8 and 9

The French plan includes significant investment to support education and employment, including specific initiatives for digital skills development. Digitalisation of education will be supported, in particular for primary and secondary schooling, including an enhanced use of platforms and digital technologies for pedagogical purposes. A “digital teaching” strategy will support the development of Education Technologies. Specific investment is also dedicated to digital inclusion, aiming to provide citizens with basic digital skills, necessary to have access to online public services, thereby contributing to preventing social exclusion. In addition, the RRP includes a complementary allocation to individual learning accounts to training 22,500 people in digital skills or digital professions. Finally, a dedicated action aims at supporting the development of digital education ecosystems at all levels of education, from primary school to universities, encouraging the development of structural partnerships between educational and research institutions and businesses. These partnerships can be particularly relevant if implemented in the digital area because they offer students the possibility to use state-of-the-art technologies in their training and ensure that school curricula are in line with the rapidly changing demands of the labour market.

Germany

Allocation: EUR 2,256 million. Relevant components: 2.1, 2.2, 3.1 and 4.1

The German plan includes seven measures that are entirely or partially linked to digital skills. Measures include the financing of digital devices for teachers, the establishment of a national education platform for online trainings and courses. Education competence centres will be established for teachers to improve their knowledge and skills on digital technologies and digital learning concepts for remote teaching. As part of efforts on an innovative data policy, the data literacy of the public administration will be improved. Modernisation of the educational institutions of the Federal Armed Forces will e.g. enable remote teaching and working. One measure finances the establishment of training networks that support companies – especially SMEs – to develop trainings in relevant areas (e.g. digital competence) for their staff, and another includes the support for apprentices. The measure also includes apprenticeships related to digital areas and

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apprenticeships that take place remotely and use digital technologies.

Greece

Allocation: EUR 754 million. Relevant components: 2.2, 3.2 and 4.3

Reforms and investments are planned across all education levels to digitalise processes and infrastructures and integrate digital skills into school curricula. A reform to modernise Vocational Education Training is also planned to upgrade and align the vocational education and training (VET) curricula with labour market needs, in particular digital skills for the digital and green transition, as well as a programme for digital skills upgrade for conscripts/military and for digital skills for judges and judicial employees. Additionally, reforms and investments in upskilling and reskilling programmes for the labour force, focusing on the digital and green transition, are also envisaged to increase long-term employment and productivity.

Ireland

Allocation: EUR 64 million. Relevant component: C2

The Irish plan includes an investment that aims to ensure that learners in primary and post-primary schools are equipped with appropriate digital skills, through the provision of high-speed broadband connectivity for primary schools, as well as through supporting schools to provide digital devices and software to disadvantaged students. A reform with the objective to support digital transformation of Irish education and training at all levels, enhance digital skills and address the risk of a digital divide is also included. The reform consists of four measures: i) a Digital Strategy for Schools 2021-2027 that shall aim to realise the potential of digital technologies in teaching, learning and assessment; ii) a 10-year Adult Literacy, Numeracy and Digital Literacy Strategy to help individuals build their digital literacy; iii) a measure to increase the number of graduates with high-level ICT skills; and iv) a measure enabling further and higher education institutions to provide laptops to disadvantaged students.

Italy

Allocation: EUR 11,252 million. Relevant components: M1C1, M1C2, M4C1, M4C2, M5C1 and M5C2

Digital skills are addressed in the plan through a comprehensive set of measures targeting the general population (with particular regard for people with disabilities and at risk of digital exclusion), the public administration, the education system and the needs of a labour market in transition. The plan includes measures to tackle the digital divide by strengthening people digital skills. Investments aim to reinforce the 'digital civil service', a programme which deploys a network of young volunteers across Italy to train people in digital skills, and are expected to strengthen the existing network of digital facilitation centres. The latter centres are physical access points, usually located in libraries, schools and social centres, which provide individuals with both in-person and online training to effectively support their digital inclusion. Regarding advanced and specialised digital skills, the plan aims to support to PhD courses in new technologies and expand the academic offer in the field of digital technologies, also envisaging possible cross-border cooperation. The plan includes a number of reforms and investments to modernise the education system, facilitate the transition to the labour market and boost upskilling and reskilling, for example by strengthening the tertiary vocational-training system (ITS), updating university curricula, and strengthening public employment services. Italy is expected to also launch a new 'National Programme for the Guaranteed Employability of Workers' which aims to support the unemployed and workers in transition, including through digital skills training. Finally, investments for digital skills development also target the public sector, notably: public sector employees, through Massive Open Online Courses on key competences including digital skills; teachers, under the National Digital School Plan; and doctors, in connection with measures to strengthen the electronic health record.

Latvia

Allocation: EUR 124 million. Relevant components: 2, 3 and 6

Latvia's plan will address the lack of digital skills in most age groups, social and work environments. There are five investments focusing on the digital transformation of the labour force; including i) measures to help professionals and learners acquire advanced digital skills; ii) support to develop key digital skills in

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enterprises; iii) support to self-managed training of ICT specialists through non-formal education; iv) development of individual learning accounts for adults; as well as v) a support programme for digital skills development for the population (youth in particular), including technological innovation activities and the acquisition of advanced digital self-service skills. In addition, two measures include provisions improving digital skills and access to equipment for students and adults, including the unemployed and socially vulnerable learners. The plan also aims to increase the digital skill levels of over 60,000 public administration employees, to support the digital transformation the public administration.

Lithuania

Allocation: EUR 184 million. Relevant components: 3, 4, 6 and 7

The Lithuanian plan include measures related to digital skills and education, digitalising educational content and resources and creating technological Lithuanian language resources for AI solutions. Lithuania is expected to significantly increase its human digital capacities through the following initiatives: i) 10,000 adults should acquire digital skills and competences; ii) 500 educators should achieve a master's degree in IT; iii) 2,200 teachers and 800 higher education staff should develop digital competences; iv) more than 21,000 students and more than 21,000 adults should improve their skills; v) 4,000 public-sector staff should be trained in digital skills; vi) 900 digital self-employed jobs should be created; vii) laboratory equipment should be upgraded at least at 10 STEM centres; viii) 2 new digital solutions for people with disabilities should to be launched. In addition, apprenticeships and support to vocational education and trainings will further foster the digital skill levels in Lithuania.

Luxembourg

Allocation: EUR 7 million. Relevant component: 1A

The component 'skilling, reskilling and upskilling' is part of the government's general policy for digital inclusion. The training courses in the plan covers different levels of digital skills. Under the Future Skills initiative, the courses are expected to attract mainly job seekers aged 45 and above, to help reduce the widespread early retirements and to improve skills. The contents

generated by the programme shall then be put at the disposal of a larger population of job seekers. Under Digital Skills, all employees placed on short-time work schemes between January and March 2021 will have access to e-learning courses for digital skills. Using vouchers worth up to EUR 500, they may choose from among basic and intermediary courses.

Malta

Allocation: EUR 3 million. Relevant component: 3

The Maltese plan envisages developing and implementing initiatives for digital skills under the umbrella of the country's upcoming Digital Strategy 2021-27. In particular, one reform included in the plan pursues the objectives of: i) reducing the digital divide and ii) promoting digital skills through initiatives for upskilling and for increasing Malta's pool of ICT professionals. Regarding the first objective, Malta plans to launch a programme supporting at least 1,000 low-income individuals, to enable them to be connected and have access to computers and benefit from digital technologies. Regarding the second objective, the reform aims to increase Malta's pool of ICT professionals especially in niche areas, such as Artificial Intelligence, in line with national policies and the upcoming Digital Strategy. One of the concrete measures will be the launch of a scholarship scheme for students to become ICT professionals in specific areas. However, funding from the Recovery and Resilience Facility will not be used to implement these measures, which will be supported by national and/or other EU funding instruments. The RRP plan also includes investments for digital skills development in the public sector, which reinforce the digitalisation processes in public administrations (notably in the Merchant Shipping Directorate).

Portugal

Allocation: EUR 1,412 million. Relevant components: 6, 16, 19 and 20

Portugal's plan contributes to addressing the challenges of raising the digital skills level of the population using a segmented, systemic approach covering key population groups. Reform and investments tackle digital skills through tailored measures for the training of civil servants, students, teachers, and the workforce, adjusting adult learning to the labour market and

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anticipating its needs. Planned activities include raising the percentage of STEM students, upskilling/reskilling, early school orientation for skills and labour market match. To speed up its transition to the digital economy and society, Portugal will modernise vocational education and training institutions, with particular focus on digital literacy and competences. This is reflected in: training and digital inclusion of people through education in schools; training in digital skills and promotion of digital literacy; digitalisation of the business sector; digitalisation of public services. Portugal Digital Academy in particular is a platform for digital competences, aiming to train 800,000 employees through funding from RRP. It will evaluate employees in their digital skills level and find a personalised training path to match the skills required by their jobs profile.

Romania

Allocation: EUR 1,267 million. Relevant components: 7, 8, 9 and 15

The digital education of all parts of the population is addressed extensively in the Romanian plan, its main objective focusing on increasing the resilience of the education system by modernising education infrastructure and education systems. Digital skills development is supported by for example i) digital skills training for civil servants; ii) cybersecurity skills for the population; iii) the transformation of libraries into digital skills hubs; iv) digitisation of universities, schools, high schools and VET schools; v) development of an online teaching platform.

Slovakia

Allocation: EUR 298 million. Relevant components: 7 and 17

Developing digital skills is one of the main objectives of the educational reform outlined in the Slovak plan and the reform builds on previous and existing initiatives to improve digital skills. Concrete measures include revising the curriculum to focus more on digital skills, providing training opportunities for teachers and ensuring investments in the digital equipment of schools and digitalisation in higher education. The plan includes developing a national digital skills strategy for adults to ensure that all adults are able to participate in a society transformed by digitalisation. Additionally, investments

are planned to improve the digital skills of the elderly and vulnerable persons through the combination of training in digital skills and the provision of digital equipment. The plan also focuses on developing the specialised skills of IT and cybersecurity experts in the public sector. Digital innovation hubs will offer services to businesses, in particular SMEs, for developing the digital skills of their employees.

Slovenia

Allocation: EUR 60 million. Relevant component: 12

Investments in digital skills is a key focus of the digitalisation measures in the Slovenian plan. Measures include reforms and investments to increase the digital skill levels of public employees as well as of the population at large. This includes the setting up of a competence centre for upskilling civil servants and strengthening their digital skills, the development of IT solutions for education, trainings of teachers, modernising curricula for digital skills development, and digitally equipping learning places. A significant part of the education investments in the RRP also focuses on increasing digital skills and the number of education professionals and managers who have completed training in digital and sustainable development. Parts of the investment under the 'digitalisation of the public administration' component also contain measures to develop digital skills in the public administration.

Spain

Allocation: EUR 4,752 million. Relevant components: 13, 15, 19, 20, 21, 23

A wide set of measures includes actions for specific groups and areas such as education, Vocational Education and Training (VET), the public sector and SMEs. Actions include a National Digital Competences Plan, which will act as a road map to identify and enact the necessary measures to ensure access and development of digital skills for all people in Spain. Transversal digital skills programmes are also envisaged, including i) the development of a network of digital training support centres; ii) specific e-inclusion actions; iii) awareness-raising campaigns; iv) activities to increase digital skills of people in Spain in general; and v) digital education resources. The digital transformation of education will be supported by access to digital learning through the provision of electronic devices to

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students from vulnerable groups and an interactive digital system (IDS) as well as a digital VET plan. Digital skills for employment is supported by strengthening existing active labour market policies for skills and requalification for the employed and unemployed; a digital training programme for public workers; and a programme for digital transformation and training in digital skills for SMEs. Investments for digital professionals are aimed to adapting the existing vocational training offer on advanced digital skills, and attracting and retaining talent.