



European  
Commission

# RECOVERY AND RESILIENCE SCOREBOARD

## Thematic analysis

Education

NEXT  
GEN  
EU

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This paper is part of a series of thematic analysis 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

**Education and training systems<sup>1</sup> across the EU are faced with key challenges that risk persisting or worsening due to the COVID-19 pandemic.** The basic skills proficiency of the younger generation has not improved during the past decade. This is not only a worrying social issue, but also a drag on the EU's future economic competitiveness and resilience. The COVID-19 crisis has further emphasised the importance of basic and advanced digital skills for sustaining our economies and societies. Significant efforts are necessary to reduce the share of pupils underachieving in digital skills across all EU Member States.

**Structural shortcomings continue to persist and may be further aggravated by the pandemic.** The rate of early leavers from education and training has decreased steadily in the past decade but positive trends have slowed down, and rates remain high among vulnerable groups. Also, progress has been uneven, with pronounced differences across and within countries. Surveys in different Member States suggest that the positive trends of the past years could end up being reversed. The well-being and mental health challenges already identified in the PISA2018 survey have been exacerbated by the COVID-19 pandemic, and there is still considerable variation across countries and socioeconomic groups. At the same time, it is necessary to allow graduates to adapt better their competences and qualifications to changing labour market needs. In particular, demand for science, technology, engineering, and mathematics, and information and communication technology skills face severe shortages, especially among female graduates.

**Structured action is necessary to facilitate the recovery, reverse the negative trends and improve the labour market relevance of education and training.** In the absence of appropriate measures, underachievement in basic and digital skills, educational inequalities and early school leaving are expected to worsen due to the disruption of the educational process, the emergency shift to remote learning and the uneven access to online learning. Improving the labour market relevance of education and training and preparing both education institutions and learners for the digital and green transitions will require long-term sustained policy efforts.

**In this context,** Member States included in their recovery and resilience plans a range of reforms and investments to support quality, inclusion and effectiveness of education. These measures are based on a number of key initiatives such as the **Digital Education Action Plan 2021-2027**, which sets out a long-term strategic vision for high-quality, inclusive and accessible European digital education. In order to achieve its goals, the Action Plan includes 13 actions supporting two strategic objectives: on the one hand, developing a high-performing digital education ecosystem, and on the other, enhancing digital competences for the digital transformation. It also envisages to launch a Digital Education Hub to promote a more coherent and integrated cooperation on digital education at European level. In addition, one of the key Commission actions planned for 2022 under the European Education Area and the European Pillar of Social Rights Action Plan is the proposal for a Council Recommendation on **'Pathways to School Success'**. The objective of this initiative is to promote better educational outcomes for young Europeans (with a special focus on disadvantaged groups), in particular by reducing underachievement in basic skills (reading, maths and science) and early leaving from education and training.

<sup>1</sup>This note only covers pre-primary, primary, general secondary and initial vocational education and training as well as tertiary education. Adult education will be covered by a separate note.

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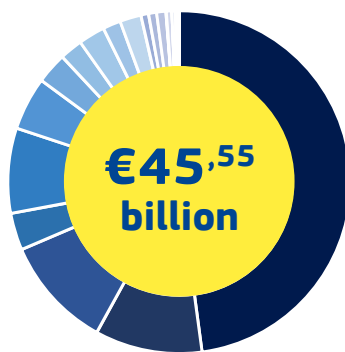
# Education in the recovery and resilience plans

## Overview of the plans

**The Recovery and Resilience Facility will advance large-scale investments and reforms in education that have the potential to make an impact in the medium to long-term.** Member States have chosen to use the Facility primarily to improve the resilience of their education systems with a strong focus on digital education. Some Member States will also use the Facility for targeted measures to compensate for the learning loss resulting from the pandemic. The investments and reforms address all levels of education and training (i.e. pre-primary, primary, secondary, and tertiary education and training) with country-specific variations linked to national priorities and challenges.

### Education and Early childhood education and care

Total expenditure in EUR millions, per Member State



IT €21 801,6	ES €4 612,02	FR €4 819,9	EL €1 596,7	RO €3 654,9	DE €2 283,8
PT €1 332,5	CZ €982,09	SK €1 142,4	HR €768,2	BE €912,4	AT €329,5
SI €344,5	LT €399,5	FI €17,4	LV €237,1	DK €0	CY €141,85
IE €103,5	EE €0	MT €66,3	LU €0		

**Measures worth EUR 45.55 billion, representing approximately 10% of the total budget of the 22 recovery and resilience plans currently covered by the Scoreboard, contain investments relevant for education.** Investments and reforms cover early childhood education and care, general primary and secondary school education, initial vocational and training, and higher education. Specifically EUR 7.29 billion will be devoted to early childhood education and care and EUR 38.26 billion on general, initial vocational, and higher education<sup>2</sup>.

**Almost all 22 plans contain investment in digital education, making up about 30% of the total spending on education** (EUR 13,8 billion). Most countries plan to invest in the digital infrastructure and connectivity of schools, often with a focus on disadvantaged and rural schools. These investments include transforming classrooms into flexible and connected learning environments and equipping learners and teachers with digital devices to reduce the digital divide. Digital competences of pupils will be improved through the adaptation of the school curricula and developing digital resources and

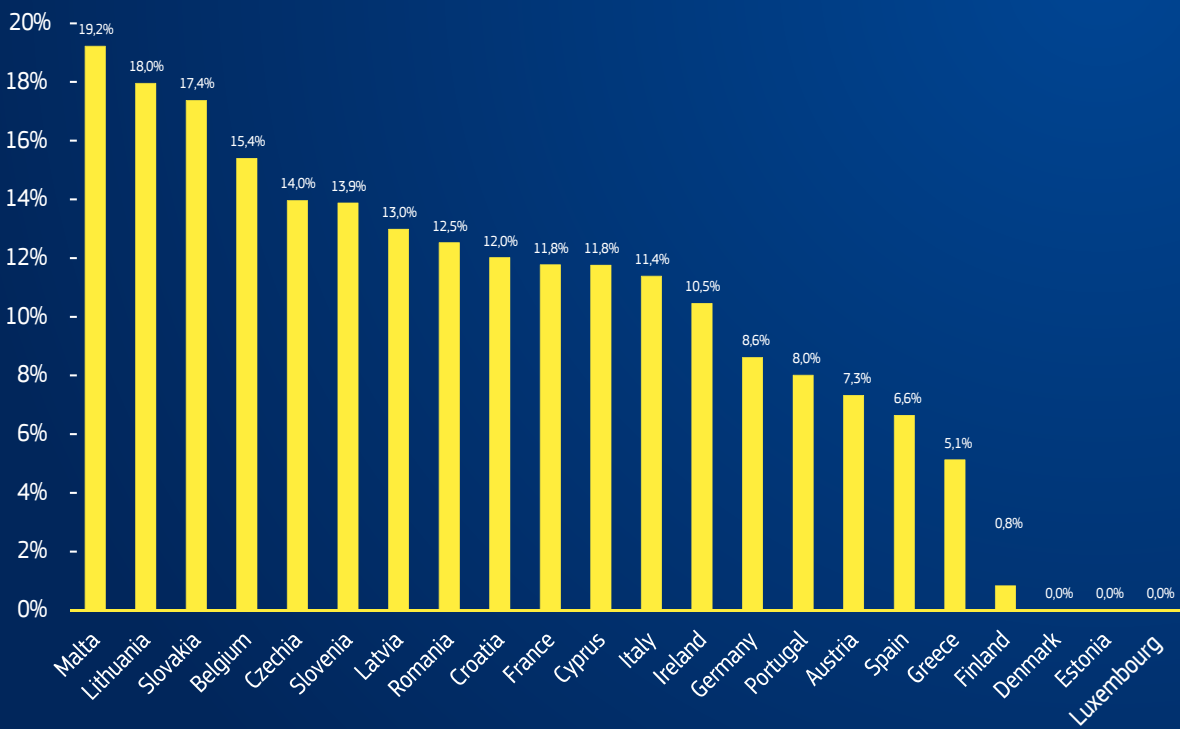
<sup>2</sup>The figures in this thematic analysis are based on the pillar tagging methodology for the Recovery and Resilience Scoreboard and correspond to the measures allocated to the policy areas "Early Childhood Education and Care" and "General, Vocational and Higher Education" as primary or secondary policy areas.

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Share of expenditure on general, initial vocational and higher education and on early childhood education and care, % of total estimated cost per Member State.



content. About half of the Member States include teacher training on digital education in their plans. The digital transition of higher education will be supported through the development of digital infrastructure, digital teaching resources, adaptation of study courses and training, digital training for academic staff, and the development of online courses and strengthening of blended teaching. These measures will improve digital competences of pupils, improve quality and excellence in higher education and enhance the availability of digital skills in the labour market.

**Investments in early childhood education and care are expected to increase participation rates, in particular among disadvantaged groups, hence reducing inequalities.** About half of the countries proposed measures to improve access to high-quality early childhood education and care by expanding its capacities.

**Some of the investments in early childhood education and care are also supported by reforms aiming to improve access, inclusiveness and quality.** Countries plan to lower the age of compulsory pre-school education, review the financing model, reduce early childhood education and care fees, improve early diagnosis and support for children with disability and special needs, review the recruitment system for early childhood education and care staff, and to adopt the legal framework to facilitate access to training and opportunities for further professionalisation of staff, including by introducing a legal entitlement.

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#### **Investments and reforms in general school education will support improvements in quality and inclusiveness.**

Member States will offer individualised support to disadvantaged schools and to students, including mentoring, also to overcome learning gaps and potential school dropouts caused by the partial school closure. Other measures include investments to increase the number of instruction hours and enable whole-day schooling. Several measures address topics such as implementing a curricular reform, reforming teachers' recruitment mechanisms, fighting early school leaving, improving special needs education, supporting low performing students, improving external evaluation of schools or supporting desegregation.

**At least fifteen Member States will use the Recovery and Resilience Facility to support the transformation of their higher education with a broad range of measures.** Actions will include: modernising study programmes, expanding study places, launching new study courses, reviewing schools' funding model, developing quality assurance and governance mechanisms, introducing graduate tracking systems, and internationalising higher education. Furthermore, improving access to higher education will be funded by a number of Member States.

**The majority of Member States plan to use the Facility to invest in educational infrastructure to modernise existing buildings, improve energy efficiency or build new facilities covering all levels of education.** These investments will support improvements in quality, equity and efficiency in education, as well as the green transition. Infrastructure investments in early childhood education and care and schools are planned in almost all Member States, and for higher education in nine countries. Student campuses at upper secondary or tertiary level will also be renovated, expanded or built. Student housing offer will be increased and made more affordable.

## Case studies



**Croatia has taken a comprehensive approach towards early childhood education and care in its recovery and resilience plan, combining both reforms and investments.** The aim of one of the reforms is to improve access for children aged 3 or more and support participation, especially for children from disadvantaged groups. In this context, the number of teachers specifically trained for early childhood education and care is expected to increase, while affordability is expected to improve through the introduction of a new funding model. The reform will further increase the number of hours in the last year of early childhood education and care and will introduce a guaranteed place for children older than 4 in an early childhood education and care facility. These reform efforts will be complemented by investments in the construction of new early childhood education and care facilities and the renovation of existing ones. The objective is to create 22 500 new places, thus reducing regional inequalities in the availability of early childhood education and care.



**The Slovak recovery and resilience plan includes a component dedicated to curricular reform in primary and lower secondary education.** The aim is to create new learning content, including textbooks, to develop pupils' key competences, cognitive and soft skills, and to improve teachers' skills. The implementation of the reform will be supported by the creation of 40 regional centres for mentoring and counselling for schools, as well as by setting up a favourable digital ecosystem. This will include a network of digital methodological coordinators in schools, to improve digitalisation in education and to enable the upper secondary school leaving exam ('baccalaureate') to move online. To complete the curricular reform, changes in initial teacher education and continuous professional development are planned. By the end of 2023, at least 60% of teachers in primary and lower secondary education are expected to receive training. At the same time, complementary investments are planned to increase the percentage of schools with highly equipped and connected classrooms from 30% to at least 90% and to improve school infrastructure, including establishing or renovating school libraries. Slovakia also plans to improve the inclusiveness of education, including via relevant legislative changes, a catalogue of mainstream and targeted inclusive measures in education, training of teaching and non-teaching staff, as well as making school buildings barrier-free.



**To advance the high-quality digitalisation of the education system in Belgium,** the Flemish Community will

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implement a reform through its Information, communication and technology (ICT) plan ‘Digisprong’ consisting of actions related to four pillars: (1) ICT education, media literacy and computational thinking reforms, (2) promoting effective ICT school policies, by strengthening the role of ICT coordinators, (3) digitally skilled teachers and trainers for teachers and (4) creation of a knowledge and advisory centre to support schools in digitalising their educational provision.

 **In Latvia, the recovery and resilience plan will help advance the ongoing higher education reform.** The reform envisages complex structural changes across three pillars: governance, funding, and human resources. The governance aspects will concern the establishment of a separate academic and strategic decision-making process, involving external members. A revision of the funding model will ensure that funds are allocated according to results, in line with national priorities and the type of higher education institutions. Furthermore, a new and unified career model for academic and scientific staff will be developed, in line with established best practices, to promote the attraction and retention of foreign staff, especially the diaspora. At the same time, the recovery and resilience plan will support the consolidation of the network of universities and scientific institutes through grants.

## Country overview

*For all Member States, the listed relevant components are based on the Council Implementing Decision.*

### Austria

Allocation: EUR 329.47 million. Relevant components: 2B, 3C

The measures supporting education revolve around the digitalisation of schools and tackling the consequences of the COVID-19 pandemic on the education system. The former aims to support implementation of IT-supported teaching in schools of lower secondary level under the same framework conditions for all pupils. Furthermore, in the context of the digital transition of schooling, it aims at tailoring the services to the needs of the pupils and increasing the level of digital competences of teachers and pupils starting from the lower secondary level. This also includes providing 80 000 pupils per year with digital equipment. The latter aims at improving the access to education by strengthening early childhood education, particularly for under 3-years old, a reform which aims to improve the basic skills of disadvantaged pupils, and through extra support for pupils to compensate for learning loss during the pandemic via a remedial education package (consisting of an extensive package of additional learning hours and a bundle of individual support measures).

### Belgium

Allocation: EUR 912.39 million. Relevant components: 4.1, 4.3

The measures proposed in the Belgian recovery and resilience plan aim at improving the inclusiveness of education systems while strengthening their performance to ensure that the competences taught better match those required in the labour market. This includes investing in digital equipment and connectivity in schools, the fight against early school leaving by devising a comprehensive strategy covering three strands – prevention, intervention, and compensation, the development of a new (reinforced) coordination of stakeholders active in different fields and of different support services, but also renovating schools and universities (including energy efficiency improvements), and digital skills training for teachers. In addition, 30 000 students from the French community will benefit from individualised support to overcome learning gaps and potential school dropouts caused by the partial school closure, as well as from mental and emotional support.

### Cyprus

Allocation: EUR 141.85 million. Relevant components: 5.1, 5.2

The Cypriot plan covers a wide range of measures addressing different levels and areas of the education system. For instance, Cyprus aims to enhance the labour market relevance of education and training, including by introducing a higher education graduate tracking system, reforming

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secondary general and vocational education and training curricula, digitalising schools, providing teacher training and financing the construction of two model technical schools. Regarding early childhood education and care, Cyprus is planning to provide free compulsory pre-primary education from the age of four, including grant support for free early childhood education and care in community and private kindergartens, as well as the construction and renovation of child centres in municipalities accompanied by the adoption of a national strategy and action plan on early childhood education and care. These measures will be flanked by a reform of the teacher and school evaluation system.

#### **Czechia**

*Allocation: EUR 982.09 million. Relevant components: 3.1, 3.2, 3.3*

The plan puts forward a range of different reforms and investments in the Czech education system across all levels of education. At the primary and secondary level, the plan foresees a curricula reform to foster digital skills, accompanied by an investment in digital equipment for schools, in particular for students from disadvantaged backgrounds, and in digital skills for teachers. In the field of inclusive education, Czechia aims to provide support for disadvantaged schools inter alia by proposing a reform of the financing of schools to reflect the degree of socio-economic disadvantage, and by providing tutoring for pupils at risk of school failure. Pre-school facilities will benefit from the plan's envisaged investment in their refurbishment, renovation and expansion to provide better capacities for early childhood education and care. The capacity of childcare facilities for children under the age of three will be increased by 40% by the end of 2025. The plan envisages an expansion of university campuses to facilitate transformation of learning at university level, including through adaptation of existing and creation of new study programmes.

#### **Germany**

*Allocation: EUR 2 283.82 million. Relevant components: 3.1, 4.1*

The German plan focuses on supporting investment in the digital transition in education and on improving digital infrastructure and basic digital skills, also because the shift to online education during the pandemic combined with insufficient infrastructure and skills has hampered learning processes. The first national education platform will be set

up and will support the development of competences by learners throughout their individual learning pathways with digital means. Additional educational support will be provided for students with a learning backlog. In addition, all teachers will be lent mobile digital devices. Germany also plans to increase the availability of early childhood education and care by creating 90 000 additional places.

#### **Denmark**

*Allocation: EUR 0 million.*

The plan does not include specific measures to address challenges in the education system, but plans to focus on advancing the digital transition of the economy and society and improving the competences needed for this transformation by proposing a digital skills upgrade as part of the Digital Strategy.

#### **Estonia**

*Allocation: EUR 0 million.*

The Estonian plan does not include specific measures to address challenges in the education system, but focuses on green and digital skills and provides support for upskilling and reskilling programmes.

#### **Finland**

*Allocation: EUR 17.44 million. Relevant components: P3C2*

The Finnish plan aims to improve the level of education by increasing the number of people with a higher education degree. The investment will increase by at least 600 the number of places allocated to higher education institutions offering degree studies targeted at professional sectors experiencing labour shortages. Such sectors include social and health care, education, technology and ICT sectors.

#### **Greece**

*Allocation: EUR 1 596.75 million. Relevant components: 3.2, 3.4*

The Greek plan aims to improve the quality, efficiency and effectiveness of the education system. For instance, the plan envisages measures to enhance the labour market relevance of vocational education and training. Moreover,

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the plan provides for a new strategy for excellence in universities, aimed at enhancing their research performance and education quality through investments in upgrading research and educational infrastructures, and visiting professorship schemes. These measures are coupled with investments in the digitalisation of the education system, a large part of which is allocated to interactive learning systems in primary and secondary schools and vouchers for pupils and students from low-income families for the purchase of IT equipment. The plan also sets out a reform of the curriculum and educational programme of children aged from 3 months to 4 years aimed to promote their cognitive development, accompanied by investments in educational material and cognitive development assessment tools for 3 000 childcare centres.

#### Spain

*Allocation: EUR 4 612.02 million. Relevant components: 19, 21*

Spain's plan includes measures across different education policy areas: early childhood education and care, inclusive education, and digitalisation of schools. To increase the coverage and participation in early childhood education and care, 60 000 publicly owned early childhood and education places will be created. The plan will also provide funds for programmes to support disadvantaged students with special educational needs in dedicated learning centres (centres of special educational complexity, "Centros de especial complejidad educativa"). Lastly, Spain plans to invest EUR 1.4 billion in the digitisation of schools, and to boost dual VET by implementing a legislative reform, and creating 135 000 new places in vocational education and training.

#### France

*Allocation: EUR 4 819.9 million. Relevant components: 7, 8, 9*

The French plan includes a variety of measures across education policy areas addressing several key challenges. The plan aims to advance the digitalisation of schools and of higher education, which will contribute to promoting the development of the necessary skills and competences for the digital transition. In addition, it provides for measures to create 30 000 additional places in higher education and offer 100 000 students the possibility to benefit from state-guaranteed student loans. Lastly, the plan includes measures to boost and promote inclusive education with a mentoring programme for 180 000 disadvantaged students and personalised pathways for youth not in education,

employment, or training.

#### Croatia

*Allocation: EUR 768.2 million. Relevant components: 3.1*

One of the objectives of the Croatian plan is to increase the participation in early childhood education and care, which is among the lowest in the EU, largely stemming from a lack of infrastructure and shortage of teachers, with wide regional disparities exacerbating inequalities. It also aims to increase the instruction time in primary schools, by improving and expanding the infrastructure shortages, to allow transitioning to single-shift schools, thus enabling whole-day school. There is also a reform to increase the relevance of secondary education, by increasing students' enrolment in general secondary education, while reducing the share of vocational education and training and improving the labour market relevance of vocational programmes. The digital transformation of higher education will also be supported.

#### Ireland

*Allocation: EUR 103.50 million. Relevant components: 2, 3*

The measures supporting the education system included in Ireland's plan aim to advance the digitalisation of education at all education levels, particularly in terms of digital infrastructure. The Irish plan will fund a programme to improve connectivity of primary schools and to provide digital infrastructure and funding to schools to support learners at risk of educational disadvantage because of the digital divide. Ireland will also invest in capacity building at the five new and emerging technological universities.

#### Italy

*Allocation: EUR 21 801.6 million. Relevant components: 4.1, 5.3*

The Italian plan includes measures to support the entire education system, by strengthening early childhood education, including increasing the supply of childcare facilities, reforming teachers' recruitment, fighting early school leaving, and boosting vocational and tertiary education, with a focus on science, technology, engineering, and mathematics skills and the participation of women. Additional measures include a reform of the educational guidance system, increasing mentoring activities to ease the transition from school to the labour market, and promoting youth employ-



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ability and social cohesion with particular attention to the green and digital transition. Significant investments are also planned to support renovations of school buildings to increase their energy efficiency and safety, and to provide them with high-speed connectivity and digital equipment, which will contribute to fostering digital skills and easing distance learning. 100 000 classrooms will be transformed into flexible and connected learning environments.

#### Luxembourg

*Allocation: EUR 0 million.*

The Luxembourgish plan does not include specific measures to address challenges in the education system but includes investments in vocational training programmes to improve the provision of digital and soft skills of workers and job seekers. It also includes a complementary reform to design training programmes for the most promising job profiles.

#### Latvia

*Allocation: EUR 237.10 million. Relevant components: 2, 3, 5*

The measures proposed in the field of education in the Latvian plan address challenges relating to higher education and (digital) school infrastructure. For the former, the plan aims to improve the governance, accreditation mechanism and funding principles for the higher education sector (with a budget of EUR 82.5 million). Regarding the latter, Latvia plans to invest EUR 30.7 million to improve school infrastructure and contribute to modern education environment solutions. An additional EUR 15 million is allocated to the creation of computer libraries in schools for students and teachers to ensure a smooth running of onsite and remote learning processes.

#### Lithuania

*Allocation: EUR 399.48 million. Relevant components: 4, 5*

The Lithuanian plan includes several measures at all education levels to tackle structural education challenges: More than half of the entire amount dedicated to education will be used to reorganise the school network. This investment will be accompanied by measures to improve the quality of general education, including the modernisation of curricula, teacher training and the development of science, technology, engineering, arts and mathematics centres. In

addition, reforms are also planned at pre-school level to improve the access and quality of early childhood education and care. The plan also aims to enhance the labour market relevance and quality of the higher education system.

#### Malta

*Allocation: EUR 66.3 million. Relevant components: 5*

Several investments and reforms included in the Maltese plan are aimed at equipping all children with the education and skills needed to thrive in a changing labour market. These include literacy support programmes, the adoption and implementation of a basic skills strategy (for learners of all ages) and an early school leaving tracking system. On inclusiveness of education, the plan includes the roll-out of multi-sensory learning rooms for students with special needs in colleges and the setting up of two autism units in secondary schools accompanied by continuous training in inclusive pedagogy for teaching personnel as well as the implementation of key measures from the National Inclusion Policy Strategy. Quality education will be further enhanced by the renovation of public schools and improved monitoring and evaluation of the education system. An investment to set up a Centre for Vocational Education Excellence in the field of tourism (ITS Campus), including childcare services and updated training programmes, should boost the take-up of vocational education and training.

#### Portugal

*Allocation: EUR 1 332.5 million. Relevant components: 6, 20*

The measures put forward in the Portuguese plan mainly address two key challenges: the digitalisation of education and the need to better adapt graduates' competences and qualifications to changing labour market needs. For this purpose, Portugal will invest in digital equipment, digital laboratories, digital educational content, the modernisation of school management and connectivity for schools (primary and secondary). The plan will also implement a reform that aims at providing digital training to teachers and updating the offer of courses and qualifications for vocational education and training programmes. The reform is supported by investments in the modernisation of vocational education and training institutions. The plan also includes measures to increase the number of graduates (in particular in science, technology, engineering, arts and mathematics), for example by creating a scholarship scheme, increasing the number of

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student accommodation places, by developing 5 000 new places, and improving their affordability.

### Romania

*Allocation: EUR 3 654.92 million. Relevant components: 15*

The Romanian plan aims to implement reforms to address various challenges across education levels: in early childhood education and care, to prevent early school leaving, in vocational education and training and dual education, the digitalisation of education, and infrastructure and school governance of the pre-university education. For instance, the plan envisages the building of 110 crèches, the training of almost 20 000 personnel working in standard and complementary early childhood education services and increasing the share of students in the professional route for higher technical education from 17% to 40%. In addition, a significant part of the reforms and investments will be dedicated to the digitalisation of schools and the improvement of digital skills of students and teachers.

### Slovenia

*Allocation: EUR 344.52 million. Relevant components: 7, 12*

Several measures in the Slovenian plan aim to strengthen competences for the digital and green transitions. The Slovenian plan envisages, for instance, a modernisation of curricula and educational programmes across all levels of education with a focus on digital competences, competences for sustainable development and financial literacy. Further, the Slovenian plan includes important investments in digital infrastructure of schools and academic institutions as well as investments in expanding and greening education infrastructure.

### Slovakia

*Allocation: EUR 1 142.44 million. Relevant components: 6, 7, 8, 9, 10.*

In the Slovak plan, measures address policy areas across education levels and include reforms of pre-primary education, school curricula and teacher training, higher education and counselling system. In addition, Slovakia will pay particular attention to inclusiveness, school desegregation and mitigating the COVID-19 impact on students. This includes training at least 10 000 teachers (in schools and early childhood education and care facilities) and specialist staff on inclusive approaches. The plan also aims to enhance digital skills of teachers to be able to respond to the needs of the green and digital transitions and puts forward investments to digitalise schools. Finally, Slovakia will provide scholarships to improve access to higher education for domestic and international students.