2022

EIB GROUP ACTIVITIES IN EU COHESION REGIONS

European Investment Bank | Group

EUROPEAN INVESTMENT BANK GROUP

2021

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EIB Group activities in EU Cohesion regions, 2022

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This report has been written with the active assistance of many individuals across the EIB Group. Our cordial thanks go to all of them for their support.

The power of nature is awesome. Throughout history, people have feared its storms, its floods, droughts and eruptions. At this critical time, we realise that we must instead be in tune with nature and harness its power, if we are to beat the climate change that our own actions have caused. More than half the European Investment Bank's investments are now in climate action and environmental sustainability. Our priority is to finance the green transition to renewables powered by nature, from geothermal energy to hydroelectricity and wind power. That is why we are putting these natural forces right on the covers of our major reports this year.

Disclaimer
To accommodate scheduling limitations, this publication has not undergone standard EIB proofreading.

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FOREWORD BY LILIANA PAVLOVA

European Investment Bank Vice-President

The war in Ukraine risks exacerbating the challenges to Europe's cohesion that specific social groups and regions were already facing. Coming on the heels of the pandemic, the energy crisis triggered by the war has further worsened the financial situation of all households, particularly poorer and older ones. Regional cohesion is likely to suffer from the compounded effect born by geopolitical uncertainty, refugees influx and the energy shock. Therefore all efforts must be made to further strengthen social and regional cohesion. Regions will need to transform in the coming decades to reach the European Union's climate goals and reduce the digital divide. Without this broad-based transformation, Europe will not be able to reduce its dependence on fossil fuels in the medium term or reach carbon neutrality in the longer term. Fast transformation requires flexibility, new ideas and investment by public and private stakeholders alike.

To offset the negative impact of the energy crisis on cohesion, governments in poorer regions need to improve their business environments and tackle barriers to investment such as hampered access to finance, incorrect regulations and higher energy costs , as shown in the **EIB Investment Report 2022-2023**[1]. Thirty per cent of small and medium-sized business in cohesion regions cite the availability of finance as a major obstacle, compared with 17% of such businesses in more developed regions.

At the same time, innovation is vital in addressing these challenges. According to the **2022 European Innovation Scoreboard**, the EU remains a good place to innovate and is slowly closing the performance gap between its innovative competitors, overtaking Japan and reducing the gap with South Korea and the United States. However, significant divergences remain among the Member States and are widening. Action is key to address this innovation divide by boosting **public and private investment in R&D**, setting the right framework conditions that allow innovation to flourish, and ensuring that innovative solutions benefitting people and the planet find their way to the markets.

With many national budgets already tight, policy support should be precisely targeted, focusing on the groups and regions most affected. As with any economic transformation, corporate investment and innovation are equally necessary for the green and digital transformation. Investment and innovation can only flourish if they are fostered by an appropriate regulatory environment, sufficient public capital and high-quality public services. **Governments should enable firms to transform, grow and innovate**. Good governance is also critical in mproving the business environment, yet is found weaker in cohesion regions. Municipalities frequently cite access to finance as a constraint, particularly in cohesion regions. EIB Group lending and EU funds can provide ample support to improve the conditions for growth and convergence in cohesion regions building on the preparation and successful implementation of those projects selected for investment.

1. EIB Investment Report 2022-2023: Europe must take action now to address structural challenges

FOREWORD
BY ELISA FERREIRA

EU Commissioner for Cohesion and Reforms

Cohesion means sticking together – and seldom has it been more important for Europeans to stick together. The aftermath of the Covid crisis. Russian aggression, which has created a triple crisis – refugees, energy and cost of living. The twin transition to a green and digital economy, which offers opportunities, but also risks for many people and many places. And all this against the backdrop of a momentous demographic change, where by 2040 more than half of Europeans will live in a region of shrinking population.

As Europeans, one of our key values is solidarity. In all these crises and changes, we shall leave no person behind – and no region feeling forgotten. No matter how rough the seas, we do not let any of the crew go overboard. This is not just political principle, it is also economic efficiency: one of the key findings of the Regional Competitiveness Index, published by the European Commission earlier this year, is that the most successful countries have the smallest territorial imbalances. In other words, territorial cohesion is key, not only for the regions, but also for national success, and for the success of the Union as whole.

So I welcome this EIB Group 2022 Cohesion Report. I particularly welcome the confirmation of the Bank's commitment to Cohesion. The 2021-27 targets for increased lending volumes, and concentration of resources in less developed regions, are a concrete signal of this commitment. I am satisfied to see that the 2022 results were in line with these goals. Proof that, although the targets were ambitious, they were achievable – and that the first dividends are appearing for Europe's regions and citizens.

It is very encouraging that cohesion regions received approximately half of the EIB's total EU lending for climate action and environmental sustainability in 2022. It is now important to increase the share of cohesion regions in lending for innovation, digital and human capital, SMEs and mid-caps. And to increase the focus on the less developed among the cohesion regions.

This is in line with the work of the 2021-27 cohesion programmes, which will mobilise investments of €545 billion, of which €378 billion is EU money. These investments are expected to support the creation of 1.3 million jobs and to increase the EU's GDP by 0.5% on average, and up to 4% in some Member States. They will also help deliver many local public goods, from the classic investments in businesses, skills, infrastructure, and local services, to newer investments in the digital economy and e-governance, as well as in renewables, recycling and renovation.

We are particularly conscious of the risk of development traps. Although development gaps have seriously reduced in the last 20 years, in some regions we see the emergence of development traps, where, for structural reasons, a region gets stuck at a certain point on the development path. We are committed to tackling these traps, for example with the Talent Booster Mechanism to support regions at risk of a skills trap, including brain drain. And the Just Transition Fund for regions heavily dependent on carbon intensive industries, to help them diversify their economies and support workers to obtain the skills necessary for the new jobs being created.

But we know that Cohesion Policy will need to adapt even more in the future. The discussion has already begun. Since one of our key values in Cohesion Policy is partnership, we are discussing with different levels of government, from the national to the very local level, as well as with economic and social stakeholders, and citizens.

You are welcome to join this discussion. And of course, we will continue to work together with our partners in the EIB group, to ensure that every region benefits from the future green and digital economy - and no person and no place is left behind. This is the meaning of cohesion. And this is our joint commitment.

INTRODUCTION

The European Union's Cohesion Policy aims to ensure economic, social and territorial cohesion between the different regions of the EU, to bring about a convergence in living standards and prosperity. By tackling regional disparities, the policy contributes to the harmonious development of the Union and reduces the risk of fragmentation. In addition to regional differences in gross domestic product (GDP), it seeks to redress other inequalities such as differences in opportunities or varying exposures to the negative impacts of globalisation and climate risks.

Cohesion priority regions for each programming period are defined by the EU Cohesion Policy map and fall into two categories:

1. **Less developed regions** - GDP per inhabitant less than 75% of the EU average;

2. **Transition regions** - GDP per inhabitant between 75% and 100% of the EU average.

The EU's Cohesion policy for its 2021-2027 long-term budget devotes special attention to regions where economic development is below the EU average.

Cohesion was one of the original reasons behind the foundation of the European Investment Bank (EIB) in 1958 and remains one of its core priorities.

The EIB Group, which includes the European Investment Bank and the SME-focused European Investment Fund, provides loans and other financial instruments[2] that complement and leverage EU grants to support investments in cohesion regions that target social inequalities by providing employment and educational opportunities, access to public infrastructure and services, and a healthy and sustainable environment. All the EIB Group's financing for projects in less developed and transition regions count towards its cohesion lending.

The Bank also advises public authorities and project promoters in cohesion regions on how to improve the technical and financial quality of their projects, adopt successful investment strategies, strengthen their institutional capacity and attract funding from the private sector.

This report analyses the EIB Group's activity in cohesion regions in 2022. This year's edition focuses on the Group's contribution towards innovation for an inclusive, green and digital transition in line with the Innovation, Digital & Human Capital (IDHC) Orientation 2021-2027[3].

Acknowledging the vital role that innovation plays in the Union's cohesion efforts, this year's edition of the report highlights the Group's contribution to innovation as a key enabler for the inclusive, green and digital convergence pursued across EU's regions. Drawing from research undertaken by the EIB in 2022 across the EU investment ecosystem and EU municipalities alike, the essay section of the report outlines key challenges and gaps hindering regional convergence and illustrates how the EIB Group's targeted investments in the public and the private sector foster innovation so as to unlock structural bottlenecks and usher cohesion and growth. The Group's overall support for economic, social and territorial cohesion is presented in relation to policy objectives, activity sectors, countries, contribution to the UN's Sustainable Development Goals (SDGs) and sector-specific project results. Case studies of flagship projects and advisory assignments signed or undertaken during the year are included to illustrate the Group's impact and provide inspiration to the range of investments and advisory support the Group offers in Cohesion regions.

2. Referred to as "lending" throughout the body of the report.
3. Innovation for inclusive Green and Digital Transition (eib.org)

EIB GROUP ACTIVITY IN COHESION REGIONS IN 2022

KEY FIGURES

In October 2021, the European Investment Bank adopted a new Cohesion Orientation[4] setting out how it plans to foster and expand its investment in cohesion regions –defined as the combined set of less developed and transition regions in the EU– over the current 2021-2027 long-term EU budget. Given the widened geographical scope[5] of the EU's cohesion policy, the Bank increased its ambition for cohesion lending, with

a) an orientation to allocate 40% of its total lending in the EU to cohesion regions and as much as 45% by 2025, and

b) b)a Key Performance Indicator (KPI) of 20% of total EU lending to be located in less developed regions, rising to 23% by 2025. Accordingly, this KPI has been formally introduced in the Bank's Operational Plan for 2023-2025[6].

The EIB's 2022 results were in line with these goals, although they remain ambitious.

Table 1 – EIB Group lending in cohesion regions 2022

	Total lending in EU-27 (€bn)	Lending in cohesion regions (€bn)	Percentage of total lending in cohesion regions
EIB	54.2	24.8	45.9%
EIF[7]	9.2	3.6	39%
EIB Group	**63.9**	**28.4**	**44%**

In 2022, the EIB Group provided €28.4 billion to projects in cohesion regions. Of this, EIB lending amounted to €24.8 billion, or 45.9% of the Group's total lending in the EU. Across the EU, EIB lending supported projects with a total investment cost of €146 billion in 2022.

The European Investment Fund introduced a new KPI measuring the economic and social cohesion focus of its activities in early 2022. This indicator measures the percentage of the Fund's commitments in cohesion regions to its overall volume activity. For 2022, this orientation was set ex-ante at 38%. With actual EIF commitments to cohesion regions (€3.6bn) representing 39% of total EIF commitments, the orientation was achieved in 2022.

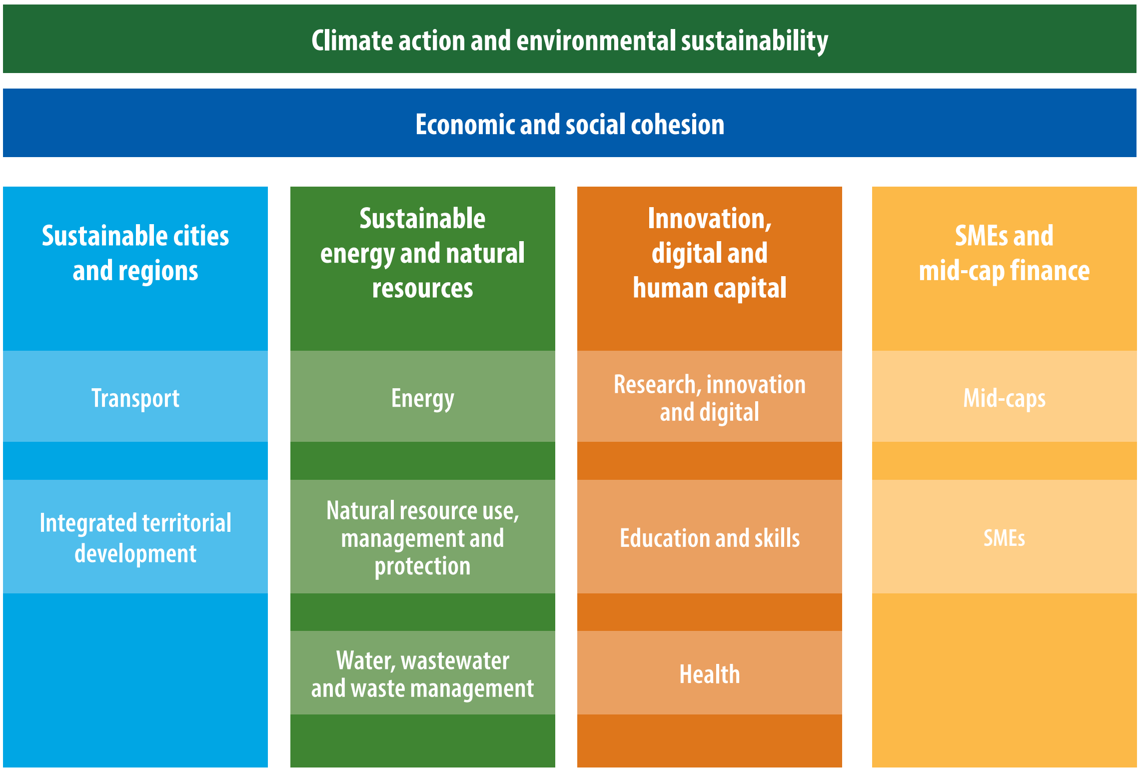
5. European Investment Bank Cohesion Orientation 2021-2027 (eib.org)
6. The 2014-2020 Cohesion Policy defined transition regions as those with GDP per inhabitant between 75% and 90% of the EU average, instead of between 75% and 100%, as is currently the case.
7. The EIB Group Operational Plan 2023-2025
8. Commitment figures for EIF

EIB COHESION LENDING BY PUBLIC POLICY GOAL

Lending in cohesion regions covers a wide spectrum of economic activities, which are reflected in the European Investment Bank's Public Policy Goals (PPG) Framework. The framework reflects the Bank's lending priorities and ensures that these are aligned with the political priorities set by the European Union. The framework also enables the Bank to balance its support across the different policy goals and provides a clear framework for communication and reporting on its lending.

The current PPG framework relies on four ***vertical*** public policy goals: sustainable cities and regions; sustainable energy and natural resources; innovation, digital and human capital; and SMEs and mid-cap finance. In addition, two ***horizontal*** objectives are embedded in the framework: economic and social cohesion; and climate action and environmental sustainability (CA&ES).

Figure 1 – EIB Public Policy Goals (PPGs) and sectors



The pattern of EIB lending activity by public policy goal may differ between cohesion regions and non-cohesion regions because cohesion regions have specific needs. In 2022, cohesion regions received a relatively greater share of the EIB's overall EU lending for two policy goals (sustainable energy and natural resources; sustainable cities and regions) but a relatively smaller share for the other two (innovation, digital and human capital; and SMEs and mid-cap finance.

The EIB's lending to the four public policy goals in the EU and cohesion regions was distributed as follows in 2022:

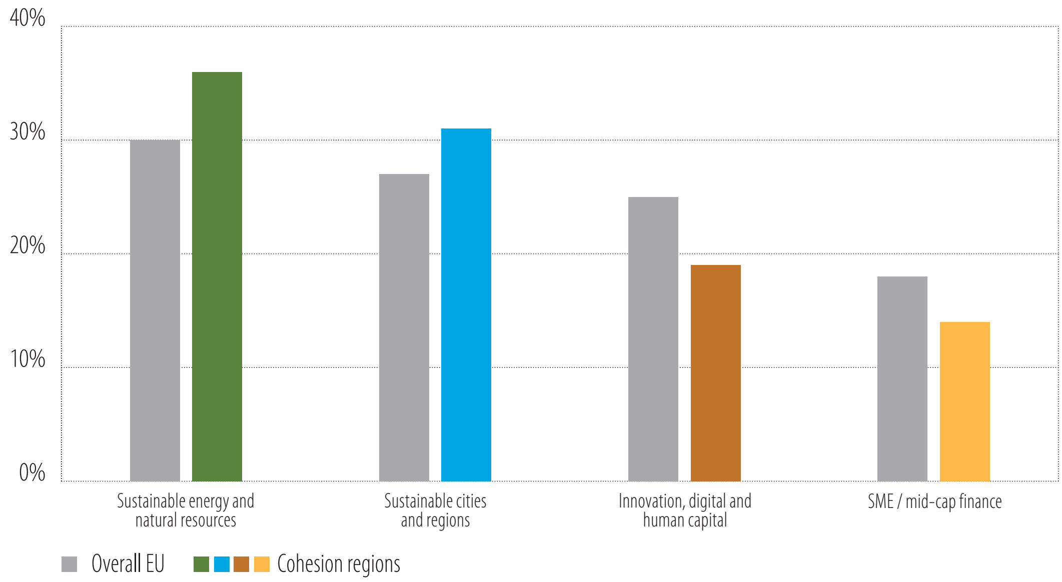
- Support for the ***sustainable energy and natural resources*** policy goal represented 30% of total EU lending, of which 55% in cohesion regions (€8.8 billion). This represented 36% of lending to cohesion regions, thanks to a significant concentration of large renewable energy and electricity network projects in cohesion regions in 2022.[8]

- Support for the ***sustainable cities and regions*** policy goal represented 27% of total EU lending, of which 53% in cohesion regions (€7.8 billion). This represented 31% of lending to cohesion regions, primarily driven by lending under the transport policy objective[9] for safe and sustainable infrastructure as well as lending for social housing, urban development and regional development.

- Support for the ***innovation, digital and human capital*** goal represented 25% of total EU lending, of which €4.6 billion (34%) was in cohesion regions. This represented only 19% of lending to cohesion regions, mainly due to a low share of EIB lending for investment in innovation by private sector entities.

- Lending under the ***SME/mid-cap finance*** policy goal in 2022 accounted for €9.7 billion (18%), of which €3.5 billion (36%) went to cohesion regions. This represented 14% of lending to cohesion regions.

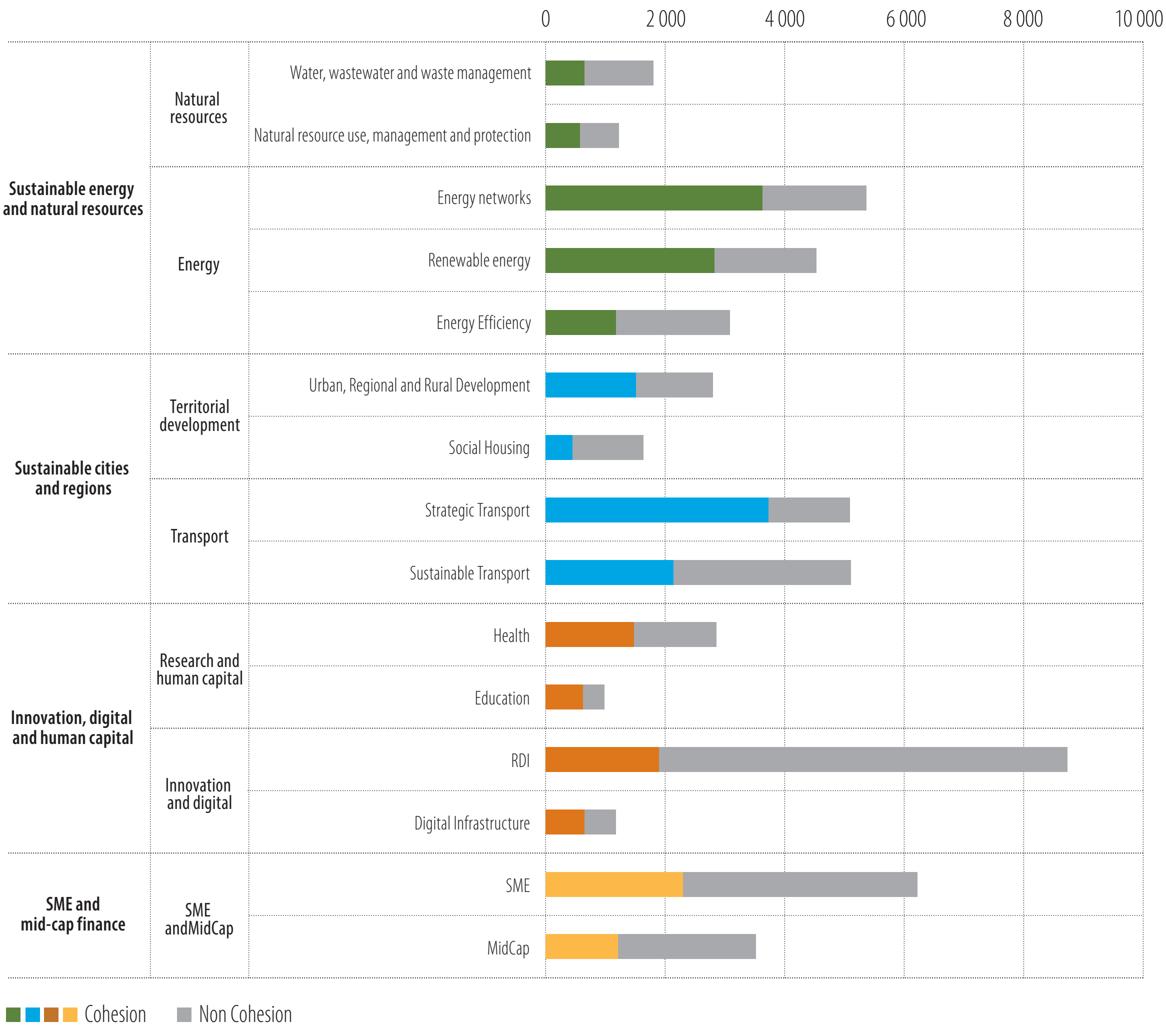
Figure 2 – EIB lending in the EU and cohesion regions by PPG



In terms of the horizontal policy goals, the EIB's lending for ***climate action and environmental sustainability*** in 2022 amounted to €32.4 billion for the EU as a whole (60% of the total), whereas its lending for the same goal in cohesion regions amounted to €16.2 billion, or 66% of the total volume of lending for cohesion. This implies that cohesion regions received approximately half of the EIB's total EU lending for climate action and environmental sustainability in 2022.

8. For more information on EIB's lending towards Energy please refer to the EIB energy lending policy: Supporting the energy transformation.
9. For more information on EIB's lending towards Transport please refer to the Transport Lending Policy 2022: The Way Forward (eib.org).

Figure 3 – EIB lending in the EU and cohesion regions by PPG and sector



Notes: 1. EIB sectors are sorted by decreasing absolute (€ million) contributions to cohesion lending.

2. The 15 sectors shown in this figure can be mapped into the 10 activity areas reported under the PPGs in Figure 1 as follows: Energy includes energy networks, renewable energy, and energy efficiency; Research, innovation and skills includes RDI and digital infrastructure; Integrated territorial development includes urban, regional and rural development, and social housing; finally, Transport includes strategic transport and sustainable transport.

The relative concentration of the EIB's cohesion lending in its vertical public policy goals is linked with the sectors of activity that are financed in cohesion regions. The chart below, presents the breakdown of the EIB's EU lending in 2022 by sector, distinguishing between cohesion and non-cohesion regions[10]:

- For the **sustainable energy and natural resources** policy goal, Figure 2 shows strong contributions from EIB projects concerning energy networks and renewable energy, both in absolute and in relative terms – with cohesion regions accounting for 67% and 62% of total lending, respectively. By contrast, in projects related to energy efficiency and water, wastewater and waste management, cohesion regions are slightly under-represented compared to the overall EIB cohesion lending share (46%).

10. An operation's contribution towards each of the Bank's PPGs (including cohesion and CA&ES) is established at the level of the overall project to be financed. For the purpose of this analysis, in case of projects falling only partially under the Bank's cohesion objective, it is assumed that the project's cohesion component shows the same relative contribution to each of the vertical PPGs as the overall project.

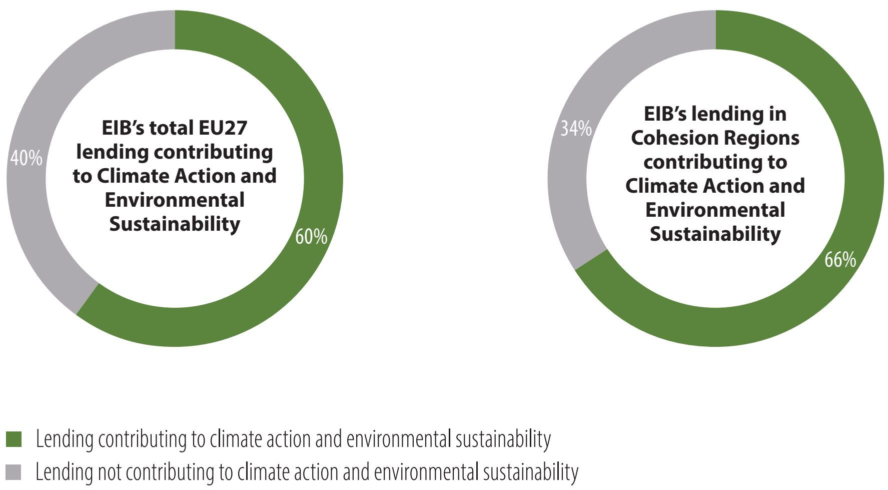
- Looking at the sustainable cities and regions goal, the weight of cohesion regions was particularly high (73%) in strategic transport projects in 2022, as TEN-T networks remain yet to be completed, and it was still above average in urban and regional projects (54%). By contrast, lending to non-cohesion regions dominates in social housing projects.

- The shares of cohesion regions in the EIB's lending to **SMEs** (37%) and **midcaps** (34%) goal are comparable to the weight of cohesion regions in EU GDP, but fall short of the overall EIB cohesion lending share. A large proportion of this lending comes in the form of Multi-Beneficiary Investment Loans (MBILs) signed with commercial banks operating throughout Member States. Therefore, the geographical breakdown of the lending tends to reflect the pattern of investment demand in the economy.

- Similarly, for the **Innovation, digital and human capital** public policy goal, the share of cohesion regions (34%) was almost identical to the overall weight of these regions in the EU economy, although this hides strong differences at the level of individual sectors. On the one hand, cohesion regions continued to be strongly underrepresented (22%) in the Bank's lending for research development and innovation in 2022. On the other hand, their share was clearly above average in education (64%) and health investments (52%). This underlines the EIB's contribution to addressing social infrastructure investment gaps and reducing geographic inequalities.

As discussed above, climate action and environmental sustainability (CAES) is, like cohesion, a ***horizontal*** objective of the EIB. In 2022, there was no trade-off between the two horizontal policy goals as, for the second year in a row, the share of CAES was higher in the Bank's cohesion lending than in its overall EU lending.[11] This development is a marked improvement over the previous programming period 2014-2020. It is also fully in line with the EIB's cohesion orientation, which committed to "increasing significantly the share of climate action and environmental lending across transition and less developed regions".[12]

Figure 4 – Climate action and environmental sustainability lending in EU and in cohesion regions



11. For the purpose of the analysis, in case of projects falling only partially under the Bank's cohesion objective, it is assumed that the project's cohesion component shows the same relative contribution to CAES as the overall project.
12. EIB Cohesion orientation 2021-2027, p. 35

EIB LENDING IN COHESION REGIONS BY COUNTRY

Of the EU's 145 cohesion regions, 67 are transition regions and 78 are less developed regions. The less developed regions are mostly located in Central and Eastern Europe, as well as in Portugal, Greece and the southern parts of Italy and Spain. Many of the transition regions, by contrast, are former wealthy industrial regions struggling to cope with globalisation and technological change. They can be found across the European Union, including in wealthier Members States such as France, the Netherlands and Finland (see Map 1).

As shown in the cohesion map at the beginning of the report, several Member States only have cohesion regions (Bulgaria, Croatia, Cyprus, Estonia, Greece, Latvia, and Malta), whereas Luxembourg is the only Member State with no cohesion region. All other Member States consist of a mix of cohesion regions and more developed regions, with the weight of cohesion regions in Member State's GDP ranging from 25% or less in Austria, Belgium, Denmark, Germany, Ireland, the Netherlands, and Sweden to more than 60% in the Czech Republic, Hungary, Poland, Portugal, Romania, and Slovakia, which have more developed capital regions but GDP per capita below the EU average everywhere else.

Against this backdrop, the figure below shows the EIB's total EU lending for 2022 by country, providing both the absolute lending figure and its distribution (in %) between cohesion and non-cohesion regions. In most countries, the EIB's lending for cohesion regions is comparable to the weight of those regions in the country's GDP.

At the same time, looking across EU *countries*, the 19 Member States hosting many or only cohesion regions[13] tend to attract a large proportion of total EIB lending in comparison to their weight in the EU economy.[14] In total, these countries, which contribute 54% to the EU's GDP attract some three quarters of the EIB's total lending in the EU. France, Italy and Spain were the three countries with the highest EIB lending volume overall, each of them absorbing more than €8bn. In terms of absolute lending volumes to cohesion regions, France (€4.8 billion), Spain (€4.2 billion), and Poland (€3.8 billion) received the most.

Zooming in on the *cohesion* lending to each Member State - and bearing in mind the above finding of particularly strong investment demand for transport, energy and other infrastructure projects in cohesion regions - the next figure breaks the volumes down in terms of the EIB's public policy goals. This breakdown is based on the last two years of EIB lending, 2021 and 2022, to even out the potential impact of individual large projects on the sector pattern in a given year.

Overall, financing in the areas of **sustainable energy and natural resources** accounted for 38% of lending to cohesions regions, while **sustainable cities and regions** accounted for 28%. 20% of cohesion lending went to ***innovation, digital and human capital*** and the remaining 14% was dedicated to ***SME and mid-cap finance***.

13. These Member States are Bulgaria, Czech Republic, Estonia, Greece, Spain, France, Croatia, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Portugal, Romania, Slovenia, Slovakia, and Finland. In all of them, the share of GDP produced in Cohesion regions is above 25%.
14. This "composition effect" explains that the EIB Cohesion lending share (46%) significantly above Cohesion regions' share in EU GDP (35%).

Map 1 – Regions by cohesion classification

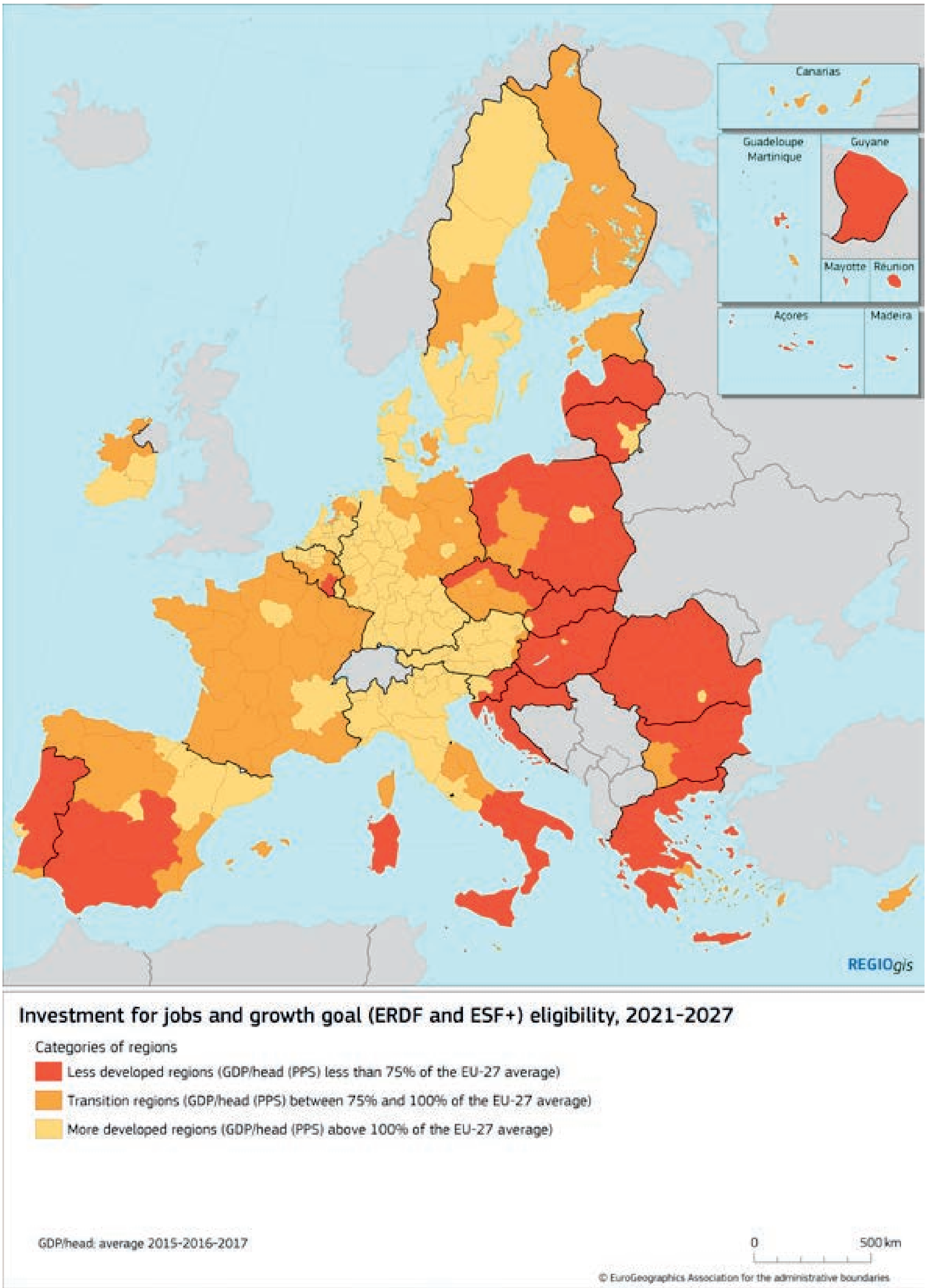
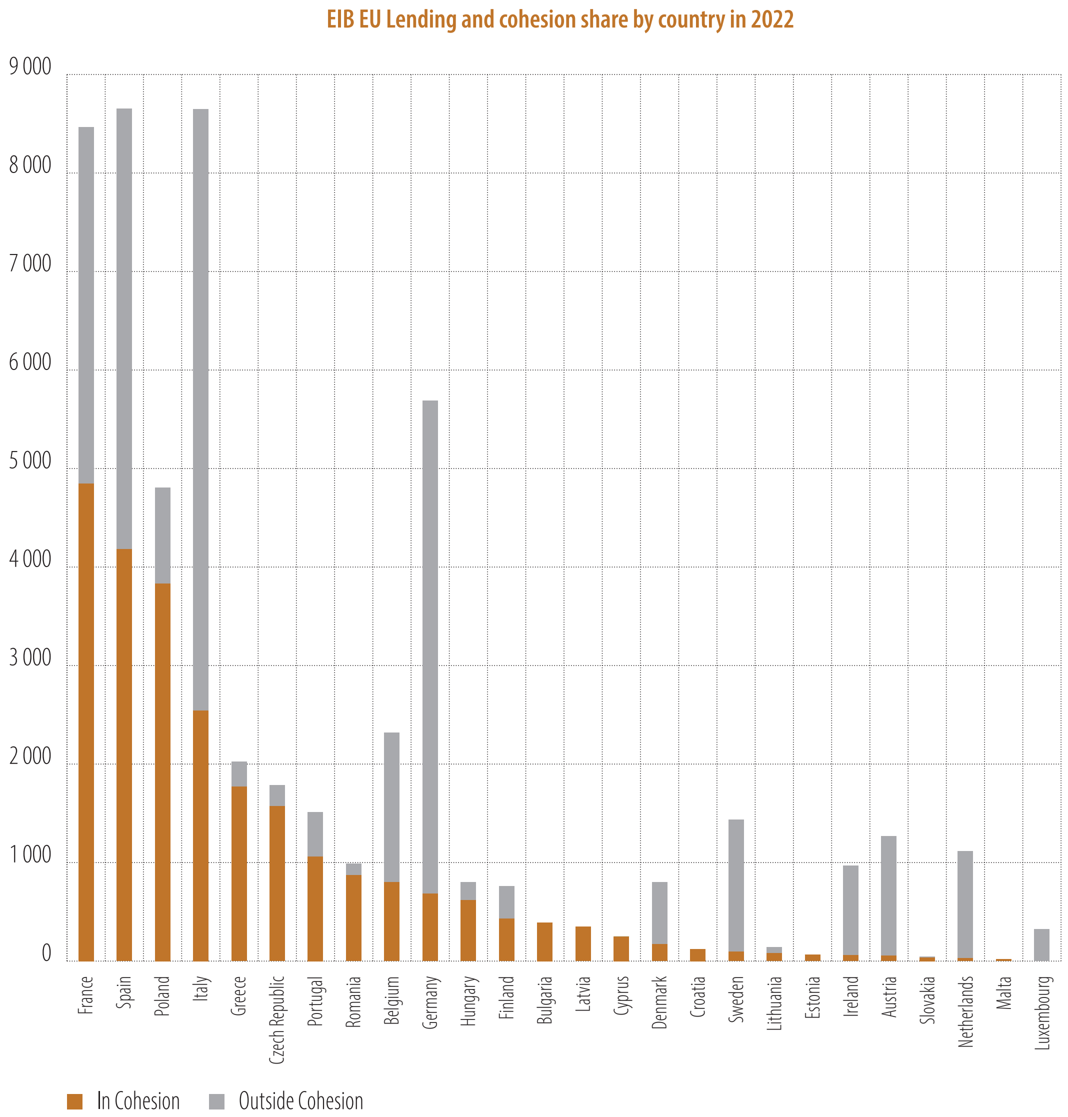


Figure 5 – Total EIB EU-27 lending inside and outside cohesion regions in 2022

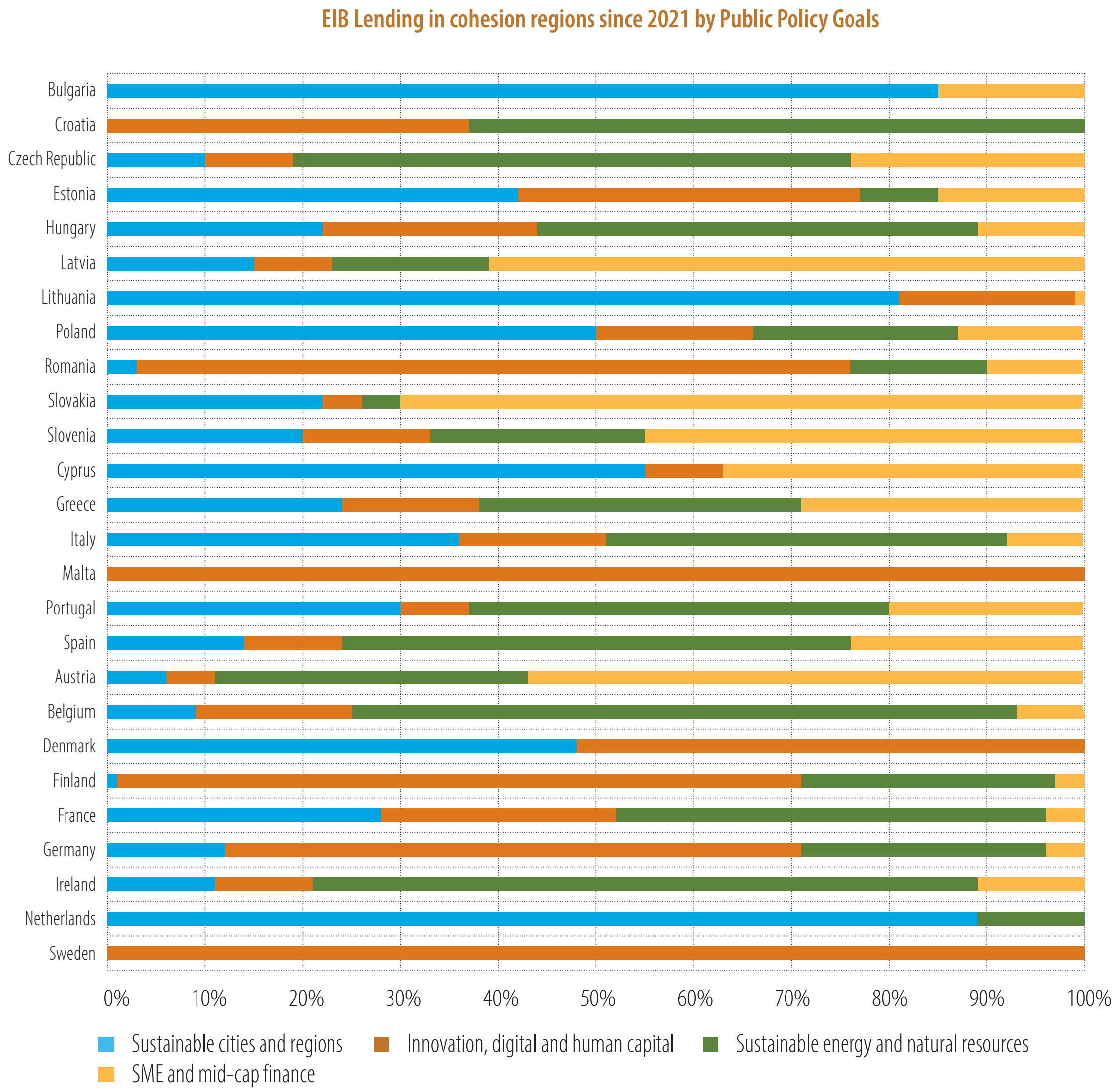


Notes: Countries are sorted in decreasing order of absolute EIB cohesion lending amounts. The cohesion percentage may be lower than 100% even in countries that are "pure" cohesion countries in the 2021-2027 programming period (i.e. all their regions are classified as either less developed or transition) if EIB signed a loan approved before 2021 to projects located in regions formerly classified as more developed.

The pattern from figure above is confirmed, with **Southern and Eastern Member States** consisting entirely or mainly of cohesion regions absorbing high financing volumes for projects in the areas of **sustainable energy and natural resources as well as sustainable cities and regions**. For example, EIB lending to Bulgaria, Lithuania and Poland had a strong focus on *sustainable cities and regions whereas the sustainable energy and natural resources goal* was dominant in Croatia, the Czech Republic, and Spain.

By contrast, EIB lending in the group of **Northern and Western Member States**, where more developed regions dominate, tends to be strongest for ***innovation, digital and human capital***, with Sweden, Finland, Germany and Denmark being the most salient examples.

Figure 6 – Cumulative EIB lending in cohesion regions by Public Policy Goal[15] since 2021



Nonetheless, some Member States have distinctive patterns, e.g. Malta and Romania present very high shares of innovation, digital and human capital when compared to other cohesion region-only countries. On the other hand, the high lending shares for ***sustainable energy and natural resources*** in Belgium and Ireland and for ***sustainable cities and regions*** in Denmark and the Netherlands testify to the high need for related projects in richer Member States too.[16]

Concerning ***SME and mid-cap finance*** in cohesion lending, there appears to be no clear connection between the level of economic development of the Member State and the share of the SME goal in EIB lending. Some Member States strongly lean towards this goal, with shares above 50% notably in Latvia and Slovakia. Very low or no shares are, however, observed for Lithuania, Italy, Malta, and Croatia.

15. Since results may differ substantially based on the specific business mix in each country in a given year, the figure is showing cumulative data from 2021 to avoid over-estimating the results of PPG. However, far from the equal distribution of PPG, countries with singles PPG bar corresponds either to one single EIB operation (Malta) or, in the case of Sweden, to lending to the only *transition* region, Norra Mellansverige
16. However, all these counterexamples concern relatively small Member States where the sample of EIB loans for 2021 and 2022 is relatively small so that a few individual projects may drive the EIB lending pattern in that country.

IMPACT OF EIB LENDING IN COHESION REGIONS

The European Investment Bank's support for investment projects in cohesion regions over the decades has contributed to the European Union's economic development in a meaningful way. The project examples that follow help highlight what cohesion means in practice and how such projects contribute to the United Nations' Sustainable Development Goals (SDGs).

Contribution to UN's Sustainable Development Goals (SDGs)

The European Investment Bank has been tracking and reporting how its projects contribute to the SDGs[17] since 2016. Recently, the Bank expanded its reporting to give a clearer picture of the impact of its investments throughout the EU and beyond.

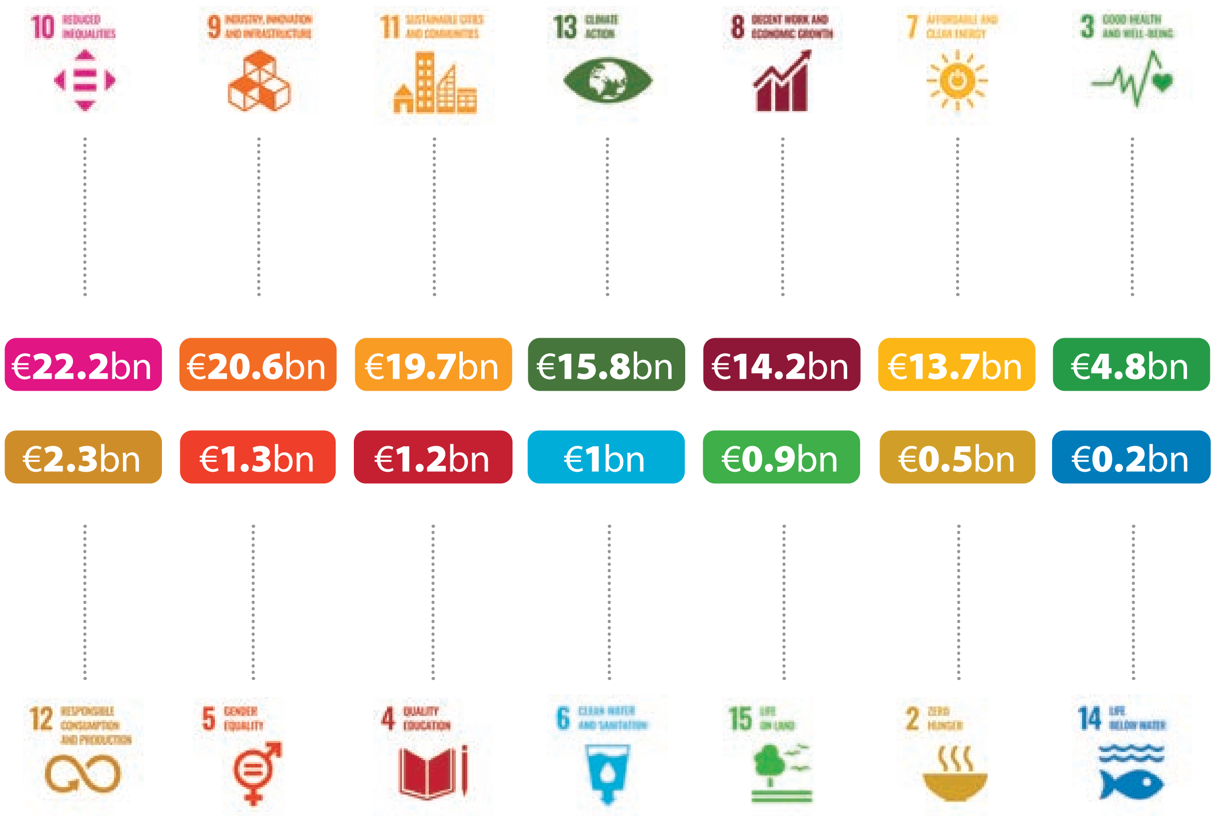
The European Investment Bank's methodology for SDG reporting, in financial terms and in terms of project outputs and outcomes, is comparable to those adopted by other multilateral development banks. It defines the relationship between the Bank's detailed policy objectives, sector-specific project outputs and outcomes, and the Sustainable Development Goals. All these indicators are mapped to the appropriate goal independently of the actual projects, with each indicator mapped to up to three different SDGs. Each EIB-financed project thus contributes to all of the SDGs to which its data has been mapped through the policy objectives under which the project falls and through the sector-specific result indicators that it feeds.

The following chart gives a visual summary of the EIB's impact through the lens of its contribution to the SDGs[18] in Europe's cohesion regions, based on operations financed by the Bank in 2022.

As was the case in 2021, SDG 10 (Reduced inequalities) and SDG 9 (Industry, innovation and infrastructure) appeared to be those supported by most EIB projects (as measured by lending volume), followed by SDG 11 (Sustainable cities and communities). This is consistent with the high shares of the sustainable energy and sustainable cities policy goals in cohesion lending discussed above.[19] The fourth and sixth position, respectively, of SDG 13 (climate action) and SDG7 (affordable and clean energy) corroborate the earlier finding that the EU Climate Bank strongly supports climate action and the low-carbon energy transition in cohesion regions.

17. The United Nations' 17 Sustainable Development Goals (SDGs) provide a framework for measuring international efforts to end world poverty, protect the planet and ensure that everyone can enjoy peace and prosperity. The goals are explicitly taken into account in the formulation of all European Union policies.
18. More details can be found in The European Investment Bank's contribution to the Sustainable Development Goals (eib.org).
19. Note that the sum of reported lending volumes across SDGs by far exceeds the EIB Cohesion lending total for 2022 (EUR 24.8bn). This is because many EIB projects contribute to more than one SDG and a percentage breakdown of SDGs is not provided at the project level.

EIB's financial contribution towards the UN SDGs in cohesion regions in 2022



CLOSING INNOVATION GAPS IN THE EUROPE'S COHESION REGIONS

Acknowledging the vital role that innovation plays in the Union's cohesion efforts, this year's edition of EIB's Group Cohesion Report highlights the Group's dedication, attention and contribution to innovation as a key enabler for the inclusive, green and digital convergence pursued across all regions of EU Member States. Drawing from research undertaken by the EIB Group in 2022 across the EU investment ecosystem and EU municipalities alike[20], this section will proceed to outline a number of key challenges and gaps hindering regional convergence, as well as illustrate how EIB Group targeted investments in the public and the private sector foster innovation so as to unlock structural bottlenecks and usher cohesion and growth.

20. EIB Group Survey on Investment and Investment Finance (EIBIS) 2022.
EIB Municipality Survey 2022.

Greater innovation needed for stronger regional convergence

The economic crisis triggered by the pandemic hit the economic convergence of EU regions in 2020. However, the shock from the pandemic seems to have been overcome more quickly than that of the 2009 crisis, with the gap between regional GDP narrowing again in 2021 (see Figure 7a). Less developed regions have, on average, been catching up with the rest of the EU (see Figure 7b) but economic growth is slower than during the five-year period leading up to 2007 when cohesion regions showed strong convergence. To jumpstart growth, a key priority is for less developed and transition regions to improve their capacity to innovate.

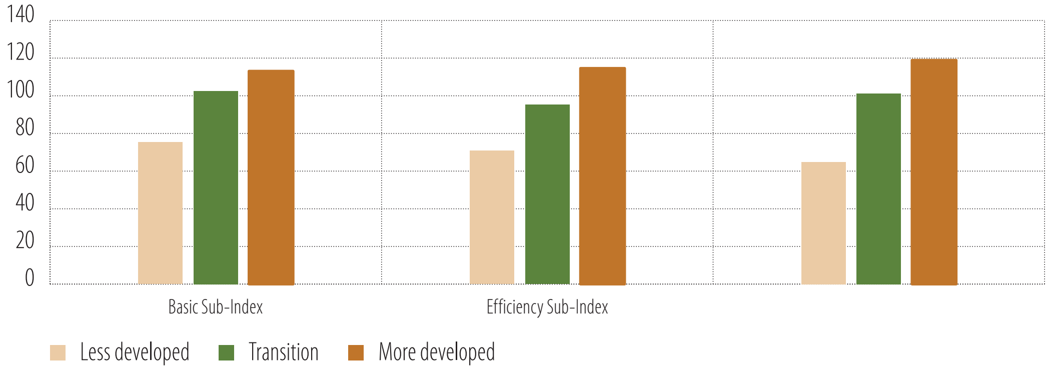
Figure 7 – Evolution of regional real GDP

Source: ECON calculations based on Eurostat.

Notes: Figure (a) shows the dispersion of gross domestic product (GDP) per capita at purchasing power standard prices by NUTS 2 regions in EU27 compared to the average (the coefficient of variation). Figure (b) shows the average annual growth rates in real GDP per capita per region type, i.e. less developed, transition and more developed, as classified for the programming period 2021-2027.

Innovation is critical to closing the economic output gap between EU regions. The 2022 edition of the Regional Competitiveness Index (RCI) shows that there are still large differences between EU regions in each subcategory, such as basic institutional factors, market efficiency, and innovation (Figure 8). The category with the widest gap is the capacity to innovate, where less developed regions score only half as well as more developed ones.

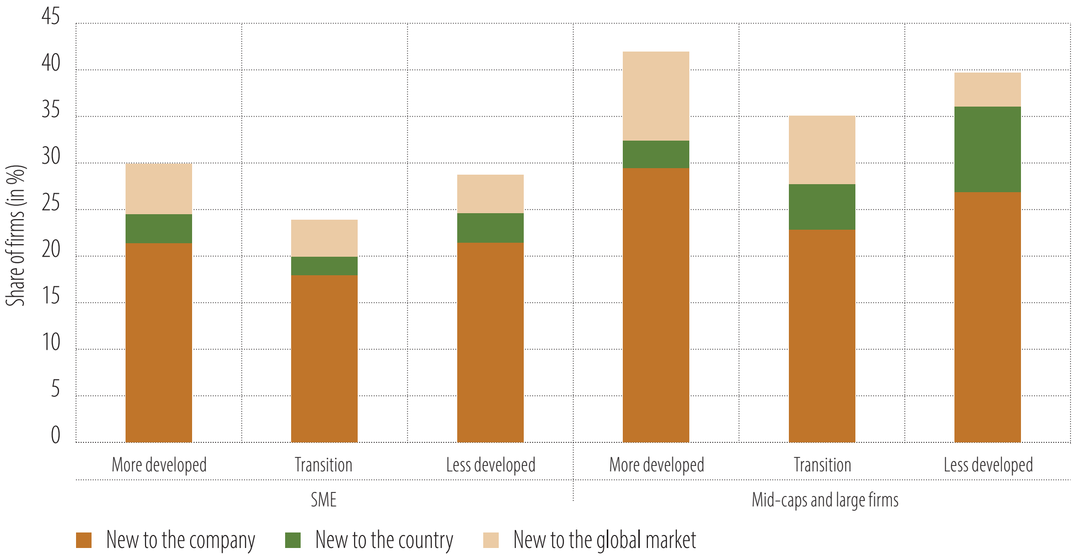
Figure 8 – Regional competitiveness, standardized scale



Source: ECON calculations based on the EU Regional Competitiveness Index 2.0 by NUTS 2 regions in EU27.
Notes: Methodological details behind the EU Regional Compeititvenss Index 2.0 are available at: https://ec.europa.eu/regional_policy/information-sources/maps/regional-competitiveness_en.

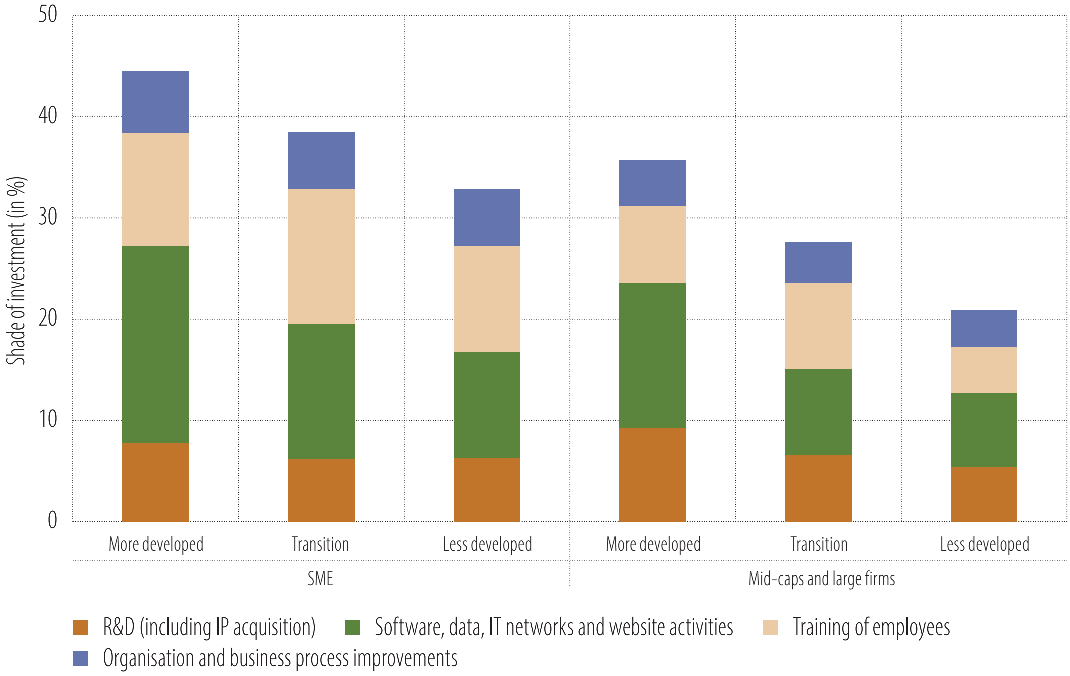
Firms in transition and less developed regions are trailing behind in innovation. Although larger firms across all regions tend to be more innovative, those in less developed regions adopt significantly fewer innovations that are new to the global market compared to their counterparts in other regions (see figure 9). Furthermore, these larger firms in less developed regions have invested the least in intangible assets, including critical categories such as digital infrastructure (software, data, IT network and website activities) and employee training (see figure 10).

Figure 9 – Types of innovation adopted, by firm size (in percent)



Base: All firms (including don't know/refuse to answer).
Source: EIB Group Survey on Investment and Investment Finance (EIBIS) 2022.

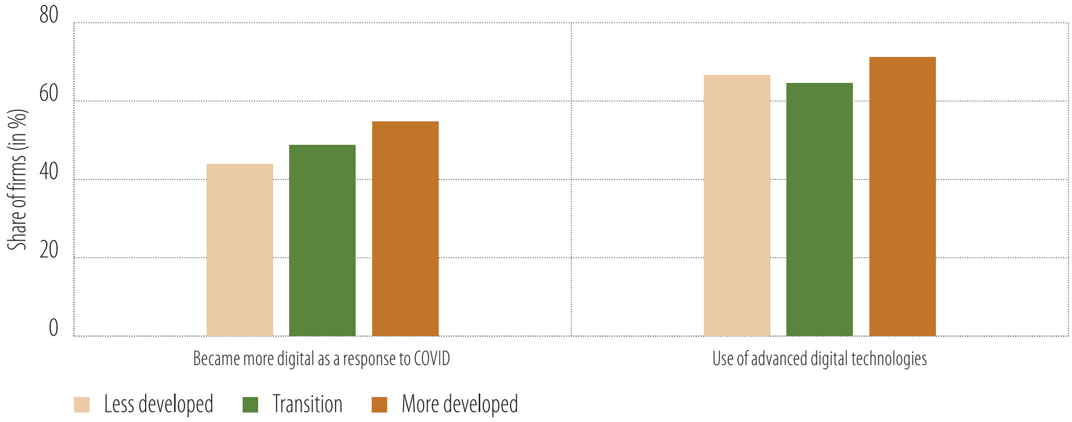
Figure 10 – Firms' investment in intangible assets (in percent)



Base: All firms that invested in the last financial year, excluding "don't know/refuse to answer").
Source: EIBIS 2022.

The proportion of firms in less developed regions that have embraced digitalisation in response to the pandemic is lower than in other regions. Less developed and transition regions fell behind in terms of becoming more digital in response to COVID (see figure 11), affecting their ability to withstand the impact on their activity. The differences in the rates at which firms adopt digital technologies across regions are partly due to differences in size, since firms tend to be larger in more developed regions, and large firms tend to digitalise faster. The disparity is less pronounced when it comes to adopting more advanced digital technologies such as 3-D printing, advanced robotics, the internet of things, big data analytics and artificial intelligence, drones, augmented or virtual reality, or platforms. The share of firms implementing these technologies has increased substantially since 2019, though smaller firms are in a much weaker position to adopting these newer technologies.

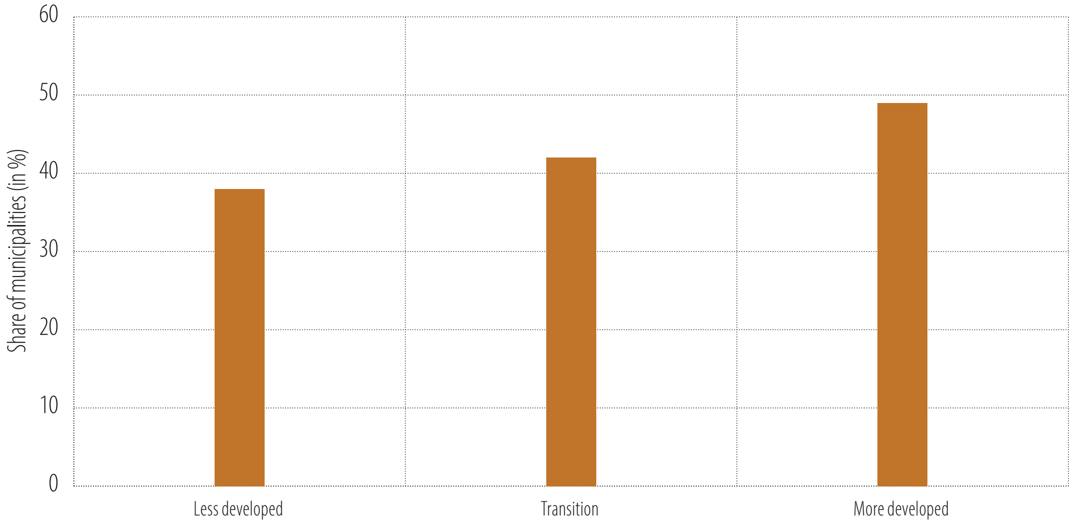
Figure 11 – Use of advanced digital technologies and becoming more digital as a response to COVID (in percent)



Base: All firms (excluding don't know / refused).
Source: EIBIS 2022.

Municipalities in less developed and transition regions have implemented fewer digitalisation measures compared to their counterparts in other regions. They are also less likely to have implemented at least three of the five digital measures that the EIB Municipality Survey inquired about (see figure 12). These consist of integrity/protection of IT systems; provision of digital/online government services; systematic assessment of adequacy of municipal digital infrastructure; deployment/use of remote sensors; and dedicated staff working on digitalisation plans. The proportion of municipalities that have cybersecurity measures in place is substantially lower in less developed regions than in the other regions. An increase in digitalisation efforts is needed to facilitate economic activity in regions that are lagging behind.

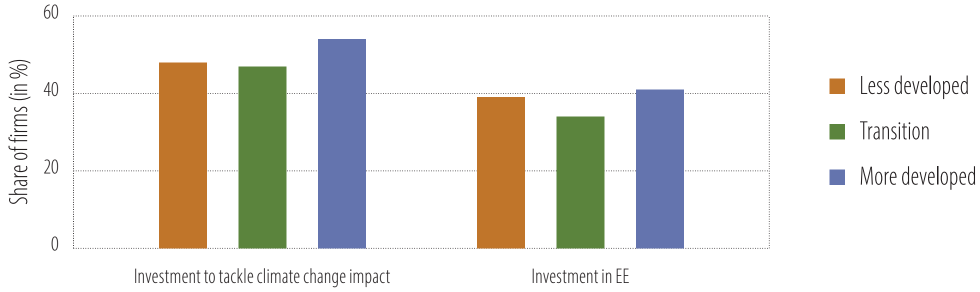
Figure 12 – Share of municipalities that have adopted at least three digital measures (in percent)



Base: All municipalities (excluding don't know / refused).
Source: EIB Municipality Survey 2022.

When it comes to green innovation, a lower proportion of firms in less developed and transition regions are addressing climate change risks. Specifically, fewer firms in these regions are investing in measures to address the impact of weather events and reduce carbon emissions. Additionally, firms in these regions are less likely to have invested in sustainable transport or to have implemented climate adaptation strategies. Firms in transition regions are also the least likely to have implemented energy efficiency measures (see figure 13).

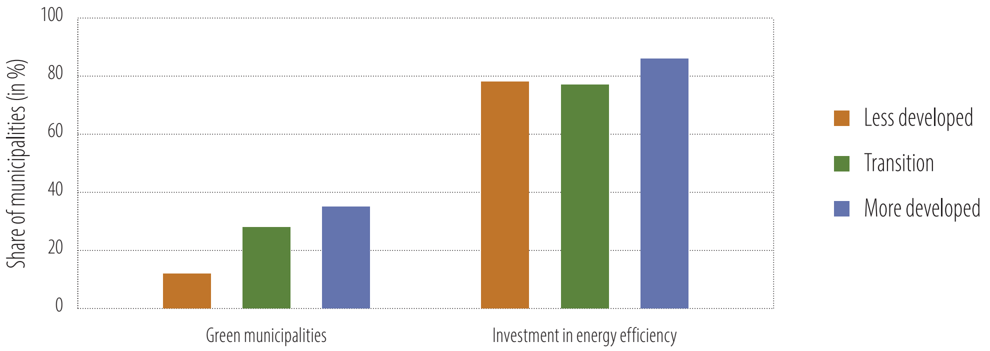
Figure 13 – Investment to tackle climate change impact and investment in measures to improve energy efficiency (% of firms)



Base: All firms (excluding don't know / refused) .
Source: EIBIS 2022.

Similarly, a lower share of municipalities in less developed and transition regions have invested in environmental or sustainable measures. Municipalities in less developed regions are the least likely to be classified as "green", meaning that they are less likely to have implemented at least three out of the five green measures mentioned in the EIB Municipality Survey (see figure 14). These green measures are green budgeting, circular economy activities, systematic assessment of the energy efficiency of municipality assets, systematic assessment of municipality assets for resilience to climate change, and dedicated staff working on climate change plans. While 43% of municipalities in less-developed regions have not implemented even one of the five green measures that the survey inquired about, 31% of municipalities in transition regions and 24% of municipalities in high-income regions have not implemented any of them. The proportion of municipalities that have invested in energy efficiency is highest in more developed regions. However, the proportion of municipalities that have invested in energy efficiency is still quite high and very similar in less developed and transition regions.

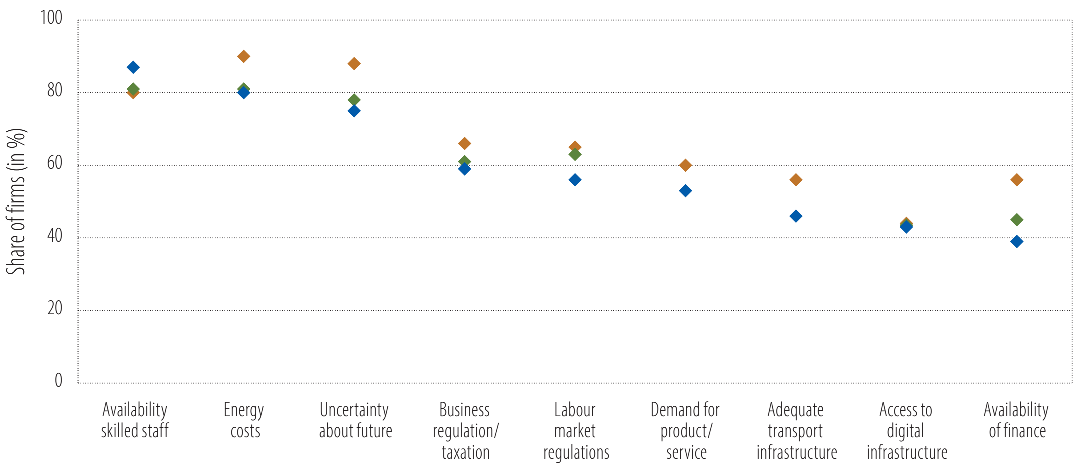
Figure 14 – green municipalities and municipalities investing in energy efficiency of municipal assets/ social housing (% of municipalities)



Base: All municipalities (excluding don't know / refused).
Source: EIB Municipality Survey 2022.

Barriers to investment remain high in less developed and transition regions. While firms across the European Union report that limited availability of skilled staff and high energy costs are the main investment obstacles, firms in less developed regions face a greater number of factors that they consider investment barriers than firms in other regions (see figure 15). This suggests that firms in less developed regions operate in a more challenging business environment.

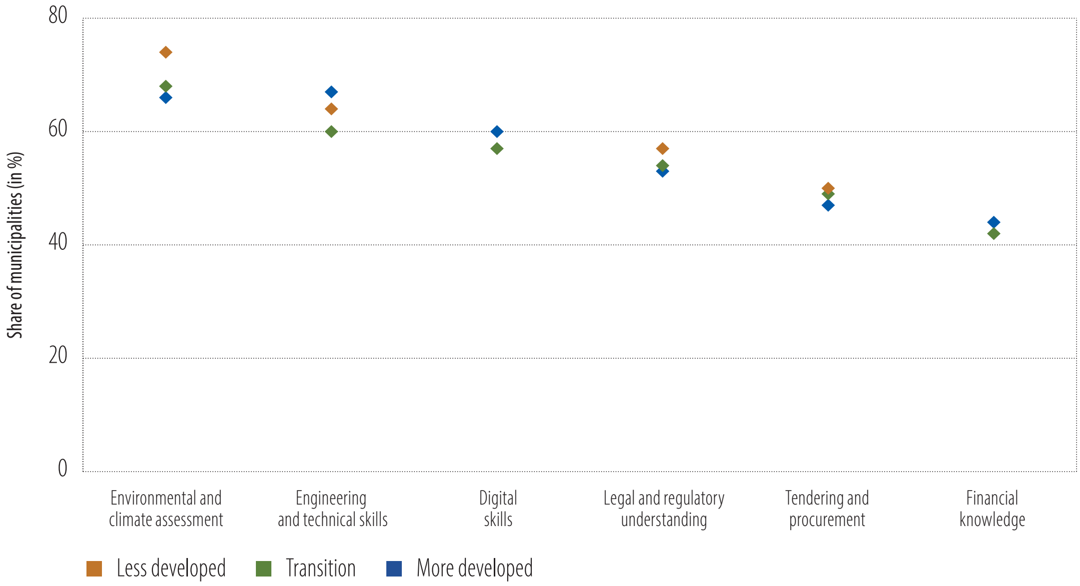
Figure 15 – Firms' long-term barriers to investment (in percent)



Base: All firms (data not shown for those that said not an obstacle at all/ don't know / refused).
Source: EIBIS 2022.

Skills are a large constraint to implementing investment programmes in these regions. Municipalities throughout the EU share firms' concerns about the availability of skilled staff and identify it as one of the main impediments to implementing their investment plans, along with supply chain constraints. Accessing experts with environmental and climate assessment skills is reportedly the most challenging, with one-third of municipalities in less developed regions considering it a major obstacle to the implementation of their investment plance. This proportion is marginally lower in municipalities in more developed and transition regions. Approximately two thirds of municipalities in more developed regions perceive access to experts with engineering or technical skills as problematic. This perception is slightly lower in less developed regions and transition ones (see figure 16). Municipalities in less developed regions are more pessimistic about two demographic trends that could further exacerbate the scarcity of skilled labour: outward migration and population ageing.

Figure 16 – For each of the following areas, to what extent is access to experts a major/minor problem to the delivery of your municipality's investment programme (in percent)



Base: All municipalities (excluding don't know/refused responses).
Source: EIB Municipality Survey 2022.

Boosting innovation in Europe's cohesion regions

Innovation is a key driver of growth and competitiveness and a strategic priority for both national and EU policies. Although the approach towards innovation is very different across countries and economic sectors, one of the common factors to accelerate and stimulate innovation at scale is the existence of **a supportive ecosystem providing adequate infrastructure**. Such ecosystems also allow for spillover effects and catalyse further innovation through collaboration and partnerships between different actors along the full value chain and across different sectors. Strong innovation ecosystems include enabling infrastructures, such as connectivity, and very importantly, a skilled workforce with technical and technological knowledge of the industry able to introduce innovations in systems and processes that can then enable wide-ranging and transformative changes.

Investments in innovation-enabling infrastructure usually involve strengthening physical capital allocation – i.e. investment in tangible assets that are the foundations for innovation – which allow for investments in intangible assets to happen at a later stage. According to the European Investment Bank's Investment Survey (EIBIS) 2022, investment in intangibles, such as research and development (R&D), training, improving processes or software and IT is lagging behind in less developed regions and transition regions compared to more developed regions. Higher innovation in non-cohesion regions entail higher spillover effects, as many knowledge-intensive activities tend to cluster around innovation poles.

Relying on an adequate and supportive operating environment –including access to finance– can be a determining factor and even a game-changer for companies to grow and for the wider ecosystem to develop further. The EIBIS (2022) shows that large firms tend to innovate more than SMEs. Indeed, as companies wish to expand their activities into new markets –either geographically or to new client segments or to broaden their product range– innovation becomes more relevant and crucial for their survival in a more competitive environment.

EIB action in support of the *Innovation, Digital and Human Capital* (IDHC) public policy goal mirrors the patterns described above and also reflect changing realities and different financing needs. As a matter of fact, the distribution of IDHC financing across countries and regions shows the Bank's capacity to accommodate different development stages and economic structures thanks to a strong value proposition and product offering.

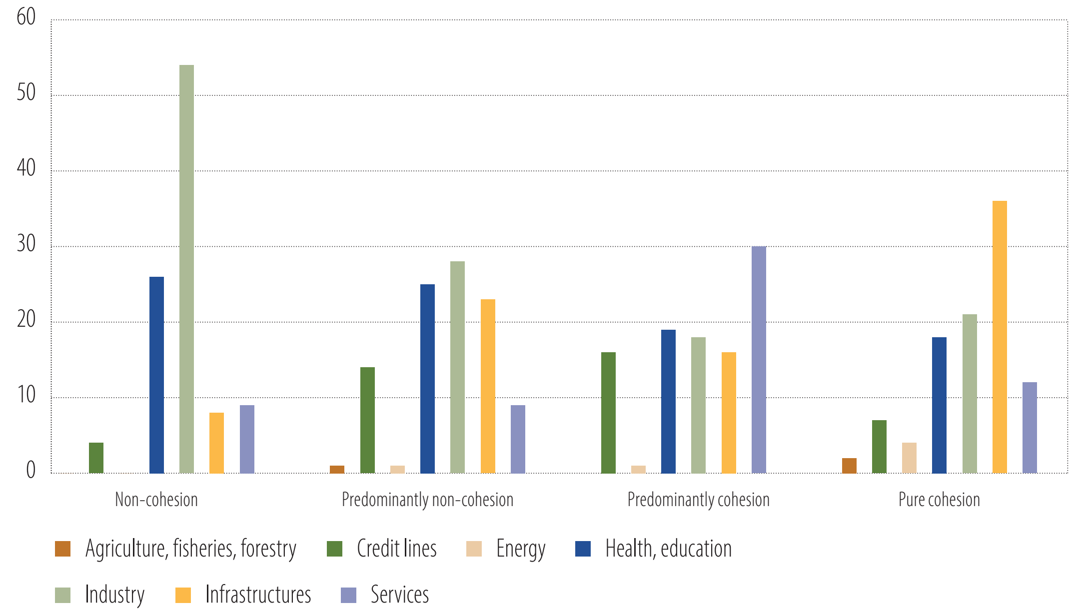
In cohesion regions, EIB action is mostly focused on putting in place the key elements for an innovation-supportive ecosystem. As evidenced in the graph(s) below, projects contributing to the Innovation, *Digital and Human Capital* public policy goal in "pure" cohesion countries[21] have a strong infrastructure component (e.g. composite infrastructure, transport and fibre access network), with a positive impact on the destination country's/region's capital allocation and, hence, on its growth potential and ability to compete in wider markets.

As we move away from "pure" cohesion countries, EIB financing for IDHC tends to be increasingly concentrated around industry and manufacturing, with intangible investments on the development and deployment of advanced manufacturing and innovation being predominant. What also stands out is the high share of financing in the area of (academic) research (included in the category of "services" in the graph below), especially for the "predominantly cohesion" countries.

The versatility and flexibility of EIB financing to adapt to different stages also shows the Bank's strong capacity to accommodate evolving needs and support the modernisation and convergence process of cohesion regions. The next section showcases the various areas of intervention through which the EIB helps to promote innovation in cohesion regions.

21. Countries were all territories are classified as Less Developed or Transition regions on the 2021-2027 Cohesion map.

Figure 17 – IDHC finance by sector in different cohesion type countries
(Percentage of total investment in IDHC) **2015 - 2022**



Public sector R&D and research infrastructure

Public R&D and research infrastructures are important catalysts both for European research excellence and for a more equitable distribution of innovation-led growth across EU regions. Public R&D provides a foundation upon which competitive private sector R&D and innovation can grow. Notable progress can be observed in some areas, while challenges remain in others. Poland, Slovenia, Czechia, and Portugal, for example, have made visible progress in elevating their economy-wide R&D intensities in recent years.

The EIB's focus on regions with poor innovation capacity is reflected in the 46% transversal cohesion share of its public R&D projects. Europe still lags behind some of its main competitors, however, with regard to the research intensity of its workforce, and notable heterogeneity in R&D and innovation performance across EU Member States persists. Horizon Europe[22] aims to address these priorities through support for widening participation and equitable spreading of research excellence, and a strengthening of the European Research Area[23]. In support of these policy objectives, the EIB will continue focusing on the following key areas and priorities:

- **Public sector R&D facilities** and activities, which includes investments in university campuses and equipment, salaries of qualified research personnel for the time dedicated to research, and grants competitively awarded for research.

- **Research infrastructures:** facilities used by the scientific community. Research infrastructures are often international in nature, which makes them essential for the EU research ecosystem, serving as catalysts for common research programmes and allowing for resource sharing that also favours interaction between public and private actors.

22. Horizon Europe (europa.eu).
23. European research area (europa.eu).

- **Science and technology parks** and other technology transfer infrastructure, including digital innovation hubs to support innovation and effective deployment of scientific research in the wider economy. Priority is given to (i) support excellent research in order to make the Union's research and innovation system more competitive on a global scale, (ii) alleviating territorial polarisation of R&D and innovation, which limits the Union's overall innovation potential and innovation-led convergence; and (iii) public research related to climate action.

Business sector R&D and innovation

The Group's lending for business sector R&D, innovation and digitalisation is widely distributed across industries and countries. In addition to upstream, early-stage corporate R&D, the Bank also supports demonstration and first commercial deployment of socially beneficial breakthrough technologies and digital transformation of industry – that goes beyond the state of the art – when market failures result in suboptimal investment situations relative to what is optimal for society. The following areas are prioritised in the EIB's lending to business sector R&D, innovation and digitalisation:

- **Development and deployment of breakthrough low-carbon and circular economy technologies:** In line with its Climate Bank Roadmap, the EIB focuses on innovation supporting deep decarbonisation of the energy, industry and transport sectors, while also financing training and re-skilling of the workforce to be able to contribute to and function within a climate-neutral economy.

- **Experimental business innovation based on the development and deployment of transformative digital technologies**, including industrial Internet of Things (IoT), semiconductors, data collection and analysis, cloud computing, AI, blockchain technology, quantum technologies, digital manufacturing and simulations, actuators, robotics, predictive maintenance, cyber-physical systems, etc.

- **Resilience of strategic industries**, such as semiconductor manufacturing. The European Union is highly dependent on imported semiconductors and needs to strengthen its domestic manufacturing capacity to reduce its vulnerability to supply disruptions such as those that occurred during the COVID-19 pandemic and in light of geopolitical tensions.

- **Development of new innovative drugs and innovative new medical technologies** that are safe, efficient, easy to use and affordable. Prioritised projects are those that: address global health challenges by providing novel insights into severe diseases; provide opportunities to fulfil unmet medical needs; have a significant impact on quality of life; support technology transfer from universities into new businesses; foster the creation of European intellectual property and provide and disseminate novel scientific insights and knowledge.

- **Support for highly innovative SMEs**, particularly in life sciences, digital technology and transformation, and industries supporting the development and deployment of low-carbon technologies across all industry sectors. Whether through direct financing in the form of quasi equity/venture debt (on the basis of EU budget-financed risk sharing arrangements), or through intermediated lending or funds, the EIB Group, has been able to – and will continue to – support an important category of players in the innovation chain: SMEs, and most notably start-ups. Such companies often take the lead in the development, validation and testing of trailblazing innovative technologies, which can then be further developed and commercialised either on their own or in partnership with more established players. However, these typically young, small and innovative start-ups carry most of the risks (and investment burden) in the early stages of the innovation process; risks that larger incumbents are often either unwilling to bear or organisationally less well equipped to manage. Start-ups are typically well placed to develop radical innovations.

Supporting the digital transformation of Europe's cohesion regions

Broad-based digital infrastructure across Europe is a key precondition for all regions to reap the benefits of the digital economy. These benefits, if realised, can be substantial. In areas such as health, education, communication and financial services, digitalisation can help provide crucial high value-added services to regions that have been underserved when dependent on physical service provision. Having access to high-capacity digital infrastructure and digital services is also the foundation for digital entrepreneurship, where reliable connectivity can allow regional firms to address a wider market. Digitalisation can help better connect less developed and transition regions to infrastructure, services, and job markets that are geographically removed. Services such as e-commerce have also been shown to allow smaller entrepreneurs to access larger markets with smaller up-front investments in marketing and distribution. Remote working allows companies to draw on pools of skilled labour in regions where job opportunities are lacking.

A successful digital transformation requires a combination of several reinforcing factors. First, for the digital transformation to be successful, it needs to be inclusive, both socially and geographically. A digital revolution that leaves large segments of the population and industry trailing only widens the digital divide. This has consequences for how the EIB views the financing of digital infrastructure, which in particular takes aim at supporting an **expansion of high and very high capacity fixed and mobile networks to all regions**. Also, in the context of supporting digitalisation in SMEs, there is still a very substantial digital divide. To **encourage wider adoption of digitalisation among SMEs, especially in cohesion regions**, a supportive policy framework needs to be in place, both at EU and Member State level. In addition to financing, this includes technical and financial advisory and the creation of ecosystems for local knowledge sharing, such as digital innovation hubs.

Second, **digital innovation is greatly enabled by having a suitably skilled labour force**. Digital transformation is a skill-dependent enabler of innovation. Here too there is a large concentration of required skills in leading larger firms in particular, and these are also typically the ones that are ahead in terms of digitalisation. There is therefore a great need to adopt a wider and more inclusive approach to digital skills formation, so that a pool of workers with at least basic digital skills are available also to SMEs. Finally, there is widespread concern that digitalisation will destroy jobs, and indeed empirical evidence suggests that some cohesion regions have an industrial composition that is particularly exposed to these risks. At the same time, if the necessary reskilling for the digital economy can be achieved, and the necessary investments made, this will give rise to new jobs and new business opportunities. Because of its ability to overcome barriers of distance, digital transformation and digital connectivity are particularly important for cohesion regions as they allow them to connect to wider markets, not just for goods and services, but also for jobs.

Digitalisation is already a prominent feature in all areas of the EIB's integrated support package, which includes investment as well as technical and financial advisory. With a foundation in digital infrastructure and the deployment of digital technology in industry and services, digitalisation can facilitate revolutionary transformations in R&D methodology and the provision of health services and education. It is also an important component in transforming the energy system with the smart grids and smart buildings necessary for a higher share of energy coming from intermittent renewables. In short, digital technologies are vital for the green revolution and the two go hand in hand in a twin transition.

The EIB's focus on innovation-enabling digital infrastructure and skills

Europe digital infrastructure lags behind the leading regions of the world. In terms of mobile networks, there are pronounced differences across regions. In 2019, 4G as a percentage of total subscriptions was only 42% in Central and Eastern Europe. But even Western Europe, with a 69% 4G share, lagged behind North East Asia (88%) and North America (91%). The rollout of 5G has also not been very brisk. As of Q4 2019, only 1% of 4G sites had been upgraded to 5G across the EU 27, compared to 98% in South Korea and 7% in the U.S. The rollout of 5G in China also appears to be more advanced than in Europe. By 2025, Western European investment in 5G is expected to represent just 9% of the global total, compared to South Korea's 7%, 23% for the U.S. and 45% for China. As with other technologies, there are first-mover advantages in scaling up early, and countries that take the lead in rolling out 5G are also more likely to retain technological leadership, including in downstream innovation that builds on the 5G infrastructure.

Underinvestment is particularly evident in rural areas and less developed regions, contributing to the digital divide. The slow rollout of 5G technologies and very high-capacity fixed networks threatens to aggravate the situation, justifying the need for EIB intervention. The EIB supports **investments in 5G mobile networks** in line with the EU-wide broadband connectivity targets of the Digital Compass 2030. The Bank has also partnered with the European Commission through the Connecting Europe Facility, in establishing the Connecting Europe Broadband Fund, which targets **smaller rural broadband initiatives to support digital inclusion**.

There is a large gap between urban and rural areas when it comes to very fixed high-capacity network (VHCN) coverage, which underlines the regional disparities in digital opportunities. Less densely populated, rural areas typically suffer from an imbalance between high up-front investment costs and limited cash flows from a lower number of consumers. Because of this lack of commercial viability, private investors are often reluctant to invest in projects in rural areas, which deepens the digital divide. The EIB also addresses the digital divide directly by supporting **very high-capacity network projects with rural components across the EU**. It does this through a number of different financial instruments, including direct blended lending, project finance structures or co-financing with regional subsidy plans initiated by member states. One of many examples of such support can be found in **Poland**, where the EIB financed **Nexera**, for the rural fixed high-capacity network rollout in five regions in the country.

An important complement to the EIB's digital infrastructure projects is its **support for reskilling and upskilling the population for the digital transition**. We know from the EIB Investment Survey[24] that a shortage of digital skills is one of the key impediments to the growth of digitally enabled companies. The gap is clearly visible between large urban centres and rural areas. But the digital divide is not just regional. It is also very much present across the social spectrum. As the digital transition progresses and new jobs increasingly require at least a basic level of digital skills, this threatens to widen income inequality further between the higher and the lower educated segments of the population. Investing in digital skills, purposefully integrated in school curricula, as well as in the knowledge and skills of teachers, is essential to tackling the digital divide. The EIB is very keen to support investments and provide advisory services related to the digital strategies of education providers and governments, as part of a more comprehensive strategy to align education systems to the ambitions of the twin transition.

24. EIB Investment Survey for 2022.

Working with the Cohesion Policy Funds to address the digital divide

In the area of Cohesion Policy Funds, the EIB has provided support to countless SMEs in cohesion regions by managing **Decentralised Financial Instruments (DFIs)**, which typically target SMEs in the early phases, SME growth and internationalisation or SMEs in specific sectors such as agriculture. In addition, the EIB is co-financing the public-sector endowment of DFIs supported by Cohesion Policy Funds in the context of Structural Programme Loans. Demand for decentralised SME guarantee instruments tends to be stronger from poorer regions than from wealthier ones. Looking ahead, "enhancing sustainable growth and competitiveness of SMEs and job creation in SMEs, including by productive investments" is among the specific objectives of the European Regional Development Fund (ERDF)[25].

Through their redistributive nature, Cohesion Policy Funds help level the playing field between the less developed and richer regions of the EU. In many lower-income Member States and less developed regions, the EIB has facilitated the implementation of investments under the Funds by **co-financing the national co-financing obligations**, including for the "Smarter Europe" objective that includes investments in ICT and digitalisation. In this way, **local e-administration and ICT projects with municipalities and provincial administrations** have received funding from both the EU and the EIB.

The EIB's **Structural Programme Loans** will continue to support the implementation of the respective operational programmes. Over and above the redistributive impact that the allocation of Cohesion Policy Funds has across regions, the **"Smarter Europe"** objective, which groups together support for R&D, innovation, digitisation, ICT and SMEs, plays centre-stage within the European Regional Development Fund through "thematic-concentration" obligations. This means that less developed regions need to use at least 35% of their allocations from the fund for "Smarter Europe" investments. Looking ahead, "reaping the benefits of digitisation for citizens, companies, research organisations and public authorities" is one of the specific objectives of the Fund[26] in the EU programming period 2021-2027. The EIB will continue to support the European Regional Development Fund programmes through Structural Programme Loans, the Bank's well-tested EU funds co-financing instrument.

EIB support for digitalisation also takes place through **intermediated lending support for the digitalisation of technology adopters** among SMEs and mid-caps to help meet the EU's target under Digital Compass 2030[27] of 90% companies in this segment attaining at least a basic level of digitalisation. This objective is pursued in alignment with the EIB's support for the enabling environment, especially digital infrastructure, and for innovative SMEs and mid-caps, which tend to generate demonstration and spillover effects by encouraging technology adopters to accelerate the pace of their digital transformation. For this purpose, the EIB can leverage its intermediated financing in tandem with additional financial or non-financial incentives such as advisory services offered by digital hubs to financial intermediaries to build viable pipelines, especially in countries that have identified SME/mid-cap digitalisation as a priority under their Next Generation EU Recovery and Resilience Plans.

25. See ERDF Regulation 2021/1058, Art. 3.1 (iii).
26. See ERDF Regulation 2021/1058, Art. 3.1 (ii).
27. EUR-Lex - 52021DC0118 - EN - EUR-Lex (europa.eu).

The EIB's advisory services have undertaken extensive work on the challenges and opportunities of digitalisation across Europe with a specific focus on regions in Central, Eastern and South-Eastern Europe (CESEE), which are mostly cohesion regions. The gap between digital natives and digital adopters has in particular been studied through the EIB advisory services report on Digital innovation and scale-ups in Central, Eastern and South-Eastern Europe (DISC), with the report highlighting the need for, on the one hand, dedicated financial support, but also the need to complement it with technical and advisory support. The aim is to help countries in the CESEE region in developing innovation programmes that help digital start-ups succeed and support the wider adoption of digital technologies.

The report includes a look at the level of digitalisation across the private sector and makes recommendations in terms of financial and technical support to overcome the challenges. In addition, it is embarking on some specific country case studies to assess the technology transfer capabilities of one country and the level of digitalisation of SME's in another country, providing insights and lessons that could be appropriate for other cohesion regions.

There is an opportunity to close the digitalisation gaps through broad-based investment, which is not only a question of investing in digital technologies per se, but in the convergence of digital with traditional 'physical' technologies. Digital technology cannot prosper in isolation, in particular because of large complementarities between, on the one hand, digital deployment, and on the other, digital competencies, skills, and inclusive access to infrastructure, across sectors, firms and individuals.

Effectively embracing this opportunity also requires striking the right balance between technology development and diffusion, which both vie for scarce economic and human resources. It has been observed that, while the United States is a global leader as an ICT producer, this sector makes use of economic and human resources to an extent that may starve the ICT-using sectors of the economy of resources needed to reap the full benefits from digitalisation. Europe's ICT-producing economy is notably smaller, allowing for greater diffusion of scarce human and other resources across ICT-using sectors, broadening the productivity gains from digitalisation throughout the EU ecosystem.

The economic impact of investing in innovation and digital transformation would be stunted without the complementarity of human capital, in the form of a healthy and relevantly educated and trained working population. A healthy and better educated population not only contributes to innovation and growth; it is also more resilient in the wake of technological transformation and global health crises. Carefully considering social inclusion is also essential in this context, for building up human capital across socio-economic groups and characteristics (e.g. gender, age, ethnicity) or geographical location (regional cohesion). The EIB will continue to finance innovation in life sciences (pharmaceuticals, vaccines, medical technology, diagnostics), health infrastructure and education projects in accordance with the objectives of the European Education Area, the Digital Education Action Plan, Horizon Europe and the EU4Health programme launched in the wake of the Covid-19 pandemic. Increased emphasis will also be given to gender equality and the economic empowerment of women, recognising that gender equality and equal access to financing is essential to maximising the effective use of human capital and to inclusive economic growth.

As was highlighted in the EIB DISC report, access to finance and ecosystem development gaps can and should be addressed at different levels from local to global. In the context of the European Union, it is especially important to acknowledge the role that each Member State has in terms of its responsibility and competence to provide financing opportunities and develop their own digital ecosystem in their country. The recommendations of this study will help to infrm their work and propose the design of financial and non-financial products offered by the European Commission incorporating EU-level institutions.

A study by the EIB's advisory services on access-to-finance conditions for digital innovation hubs[28] highlights how the propensity to digitalisation and digital maturity of SMEs is not only affected by financial factors (access to finance) but also by non-financial factors (knowledge and ambition to digitalise). In particular, the study shows the crucial role of digital innovation hubs and the wider eco-system in supporting the digitalisation of SMEs. Many digital innovation hubs have taken rapid actions to respond to the COVID-19 crisis and better help SMEs in the current circumstances

28. Financing the digitalisation of small and medium-sized enterprises: The enabling role of digital innovation hubs (eib.org).

SECTOR-SPECIFIC PROJECT RESULTS AND CASE STUDIES

The following pages present a selection of key sector-specific project result indicators for operations that were signed in 2022[29]. These figures represent concrete, sector-specific measures of project outputs and outcomes, expressed in physical units (such as the number of people receiving improved healthcare, or benefitting from safer drinking water, etc.)[30] and are based on data gathered at appraisal for each project located in a cohesion region.

EMPLOYMENT DURING PROJECT CONSTRUCTION AND OPERATION

EIB operations achieve both temporary and permanent effects on employment. Temporary employment is associated with the implementation phase of projects. For example, investment in new urban infrastructure, schools or flood defences will lead to the employment of construction workers in a given region during the construction period. New operations signed by the Bank in cohesion regions in 2022 are expected to generate employment of about 432 500 person-year equivalent over the period of their implementation.

The second type of direct employment effect concerns new permanent jobs during a project's operational phase. For example, a project to develop new transport infrastructure such as a rail connection will almost certainly mean recruiting additional staff to maintain the infrastructure or to operate the equipment using the new infrastructure. The new operations signed for projects in cohesion regions in 2022 are expected to generate over 9 000 full-time equivalent jobs.

Projects supported by the Bank can also generate significant indirect or induced employment effects. Continuing with the railway example, new jobs may be created in the local economy because firms are able to trade more cost-effectively with key markets elsewhere. Similar types of effects can be found in the fields of innovation and skills, and the environment. For example, EIB investment in SMEs should enable them to innovate and grow, thereby creating new job opportunities. Although more difficult to measure, it is the longer-term direct and indirect or induced employment effects arising from EIB-financed operations that are likely to be the most significant. These types of effects are further discussed in the second part of the report.

The Bank's operations in support of SMEs and mid-caps in 2022 are expected to sustain a further 518,200 among SMEs and mid-caps.

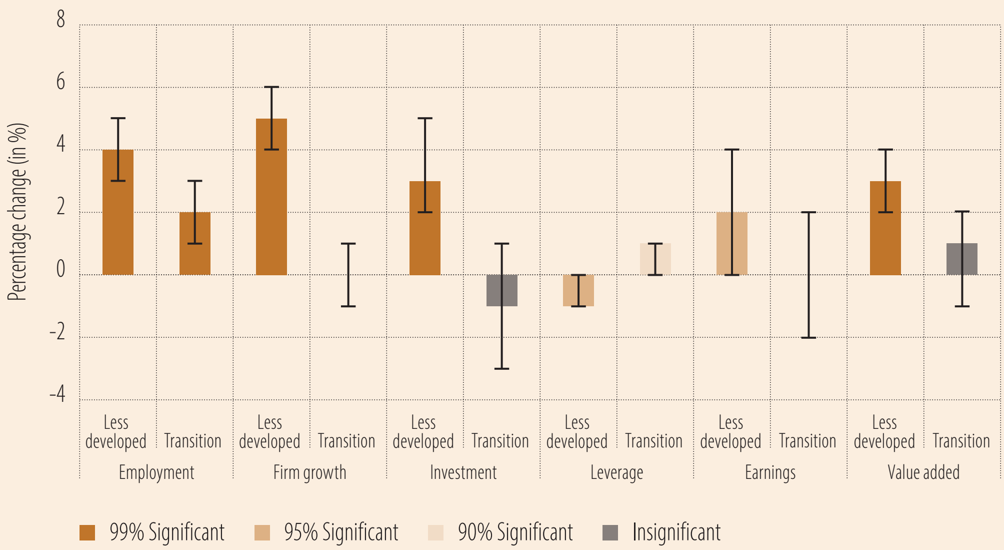
29. To avoid the double counting of project results across years, output and outcome indicators are reported for each project only once, in full, in the year of the first contract signature.
30. Expected outputs and outcomes are established during the appraisal stage, at the level of the overall project to be financed. The figures presented in this report refer to projects located either entirely or partially in Cohesion priority areas. For projects contributing only partially to the Bank's Cohesion objective, output and outcome indicator values are considered here pro-rata, based on the size of the project's Cohesion component relative to the total project size. In addition, to avoid double counting project results (outputs and outcomes) across years, the indicator values in this section refer only to those projects for which the first financing contract was signed with the EIB in 2022 (in other words, projects financed in 2022, which were already partially financed by the EIB in previous years, are excluded from these figures).

HIGHER IMPACT OF INTERMEDIATED LENDING FOR FIRMS IN COHESION REGIONS

A 2022 impact assessment of the EIB's intermediated lending to SMEs found that three years after receiving financing, firms experience significant benefits and that these positive impacts are even greater in cohesion regions. The impact assessment encompasses loans provided to 96,830 businesses between 2008 and 2017, i.e. the largest sample of EIB beneficiaries analysed to date. A counterfactual analysis was then carried out selecting a comparable control group from over two million firms for which data is available. The results show that EIB loan beneficiaries (relative to their peers who have not accessed EIB lending) create significantly more jobs, benefit from both an increase in productivity and an increase in earnings, and show a significant increase in their innovation capacity. EIB intermediated lending beneficiaries report employment numbers on average that are 5.4% higher, investment that is 15.3% greater, firm growth that is 6% bigger and productivity that is 5.3% above that of non-beneficiaries in the three years after the loan.

The benefits from EIB-intermediated lending are much greater for firms in cohesion regions. Figure 31 plots the relative impact when we group firms using the 2014-2020 cohesion region classification. We observe that beneficiaries in less developed regions experience a higher impact on employment, firm growth, investment, earnings and productivity by 2 to 5%, relative to beneficiaries located in more developed regions. Recipients in transition regions report increases in employment that are about 2% higher than those in more developed regions. (Source: Impact assessment of the EIB's intermediated lending to businesses).

Figure 18 – Impact by cohesion type region (relative to firms in more developed regions)



Notes: For each output variables, the graph reports the average impact for MBIL recipients in less developed regions and transition regions relative to their peers in more developed regions in the three years after the loan. The whiskers around the bars show the 95% confidence intervals. The categorization of MBIL recipients is done at NUTS2 level using the 2014- 2020 Cohesion Region classification.

Source: Impact assessment of the EIB's intermediated lending to businesses

RESEARCH, DEVELOPMENT AND INNOVATION

OUTPUTS	OUTCOMES
€2.156 million EIB financing of **new RDI projects**	An additional **€14 billion of potential sales** resulting from the projects financed **Employment of 22 388 full time equivalent** staff supported by the projects

ADVISORY FOCUS
SCALING UP PEA PROTEIN SUPPLY IN LATVIA

Latraps provides agricultural services to its cooperative of small, independent farms in the Baltic region. Originally founded by 12 farmers in the main cereal-growing region of Latvia, the organisation has become the largest agricultural company in the Baltics with 1 046 members.

It enables farmers to pool their produce together, supply the market with higher volumes and secure higher prices. Key products are cereals, grains, malt, rapeseed oil, and derivatives. The company provides its members with services such as crop insurance, freight transportation, and the supply of raw materials (fertiliser, seeds, etc.), machinery and agronomic consulting.

It is looking to expand and diversify its product range to include pea protein isolate – extracted by splitting yellow peas, drying then rehydrating them to produce pea flour. The isolate is a high-quality protein and a great source of iron typically used as a food ingredient and for sports nutrition. However, for Latraps to develop commercial-scale production of pea isolate it will require a new operating plant.

The group estimates that the total project cost for an 8 500 m^2 site in Jelgava, Latvia to be around €86 million. As part of its innovation angle, it is focusing on supplying pea protein isolate to food manufacturers in the high-priced, low-volume vegan and gluten-free markets.

RESEARCH CENTRES SUPPORT, GREECE

The project concerns the construction, renovation and modernisation of research and development (R&D) infrastructure at four leading Greek research centres, including the establishment of an Advanced Centre for Infectious Diseases and Precision Imaging Diagnostics and the purchase of scientific equipment dedicated to advanced organic materials and cancer theragnostic and bioelectronics applications.

Although Greece's performance in innovation relative to the EU average has improved significantly, particularly since 2018, the country needs to improve on indicators such as public and private expenditure on R&D as a percentage of GDP, training of doctoral students, and knowledge production.

By investing in crucial public research infrastructure and equipment, the project will promote research and public-private innovation partnerships, enhancing Greece's standing as an innovator and hence its international competitiveness and productivity growth.

The operation consists of an €80.69 million loan to finance about 50% of the total project cost, with the remaining amount to be financed by the borrower through funds from the Recovery and Resilience Facility.

ICOSAGEN, ESTONIA

The project supports the research, development and innovation investments of the Estonian biotechnology company Icosagen AS. The investments are related to the discovery and development of biologics, including recombinant proteins and antibodies, as well as the construction and necessary certification of a facility for the manufacturing of biologics for clinical use.

Icosagen has developed a suite of proprietary technologies for biologic drug development and manufacturing over the years. These technologies include antibody-cloning technologies from B-cells (HybriFree), further powered by the proprietary protein expression platforms QMCF and IcoCell.

The transaction addresses a market gap in terms of funding an EU-based, innovative, fast-growing SME with a high-risk credit profile, as the company's financial sustainability largely depends on its capacity to make advances in its RDI programmes. Given the limited financing amounts and tenors available to such companies, the planned acceleration of the investment plan would not have been possible without the support of the EIB's financing.

The operation consists of an €18 million loan drawn in three tranches, each with a five-year maturity, under Invest-EU. The loan schedule will support Icosagen in reaching the next growth stage without constraining its cash needs upfront, while also providing the flexibility to take on higher debt levels only in proportion to the relative success of its business plan.

EDUCATION

OUTPUTS	OUTCOMES
Over **478 100 m²** of newly constructed or rehabilitated **education facilities** Some **€310 million** of new **educational and ICT equipment** supplied	Some **194 700** students enrolled in education facilities benefitting from **student loans**

ADVISORY FOCUS
HIGHER EDUCATION INSTITUTIONS IN ROMANIA

The EIB's advisory services have supported the financial structuring and modelling of a number of universities in Romania, namely Cluj Babes-Bolyai University, Technical University of Cluj Napoca, University of Medicine and Pharmacy "Carol Davila," and Targu-Mures University. These projects subsequently received EIB financing under a €100m Higher Education Programme Loan I.

Under a second loan, the Higher Education Programme Loan II, advisory services will continue, through InvestEU to support the selected universities: Grigore T. Popa University of Medicine and Pharmacy Iasi, University of Agricultural Sciences and Veterinary Medicine Cluj Napoca and Iuliu Hatieganu University of Medicine and Pharmacy Cluj Napoca.

During the implementation of the projects, additional support may be provided to the universities that are in the programmes.

TARGU MURES MEDICINE UNIVERSITY, ROMANIA

The Bank lent €20 million towards the refurbishment and upgrade of educational infrastructure and clinical laboratories on the campus of the George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureş.

While being among Romania's top six medical schools, Târgu Mureş decided that, in order to keep up with the growing number of local and international students, it needed to expand its current infrastructure. By renovating and expanding its infrastructure, the university creates new jobs in education and research, creating more room to invite specialised teachers and other health professionals. This strengthens the research centres to train future generations of doctors, engineers, economists, lawyers, and teachers.

The university is now able to renovate and modernise its seven buildings, making them energy efficient. By adopting sustainable eco-friendly measures, the university reduced its carbon footprint, saves energy, and lowers its operational costs. The university is also constructing two new buildings as part of the campus development programme, which will serve as new educational centres. They will also have more modern learning spaces, educational equipment, and additional residences – with capacity for 400 people – for students and visiting staff.

In addition to the loan, the university received technical assistance from the EIB Advisory Hub. which helped it structure its investment proposal. Similar advisory support was provided to other universities in Romania, leading to the successful deployment of the Bank's €100 million streamlined support for university investment in Romania (the "Romania Higher Education Programme Loan" initiative) launched in 2020.

HEALTH

OUTPUTS	OUTCOMES
Some **862 700 m²** of constructed or rehabilitated **floor area in health facilities**	Some **12 542 000 people** with access to **improved health services**
7 329 beds in new or refurbished health facilities	**778 000 patients** benefitting of improved health services
€205 million of equipment and ICT supplied to health facilities	

ADVISORY FOCUS
UNIVERSITY CHILDREN'S HOSPITAL IN BULGARIA

The EIB's advisory services are supporting the Municipality of Burgas, on Bulgaria's Black Sea coast, in assessing the feasibility of building a new specialised children's university hospital of regional importance.

The municipality requested support for the development of a full feasibility study (including functional planning and preliminary design) in line with best European and international practices and standards. The EIB will also work on next stage planning and design related activities

KANTA-HAME CENTRAL HOSPITAL, FINLAND

The project is the latest example of the EIB financing investments in the healthcare sector in Finland. It concerns the construction of a new, highly efficient hospital building in the city of Hämeenlinna, located about 100 km north of Helsinki, to contribute to the overall well-being of the approximately 170 000 inhabitants in the Kanta-Häme region.

The investment involves replacing outdated facilities in the current central hospital, built in 1979, with the construction of a new, adjacent hospital building of about 79 000 m^2.

Additionally, in terms of energy efficiency, the new hospital has been designed to perform about 20% better than the legally required level and will serve as a climate friendly building.

The operation consists of an €175 million EIB loan to the Kanta-Häme Health Care Joint Authority (KHSHP) that aims to help the region deal with some of its most urgent issues, including the advanced ageing of the population, a shortage of qualified healthcare staff, an increasing disease burden, and the greater cost of healthcare services.

REGIONAL AND URBAN DEVELOPMENT

URBAN RENEWAL AND RURAL DEVELOPMENT	
OUTPUTS	**OUTCOMES**
Some **1 375 000 m² of built surface** newly constructed or upgraded Over **1 184 000 m² area of open space** developed or remediated **50** social, cultural, recreational, etc. **facilities** built or renovated	Over **15 527 000 people benefitting** from new or improved infrastructure Some **2 278 000 people with access** to new or upgraded urban infrastructure and services through multi-sector municipal framework loans **3 750 000 visitors per year** to new or renovated culture, recreation and sport facilities

SOCIAL OR AFFORDABLE HOUSING	
OUTPUTS	**OUTCOMES**
Over **13 350 social or affordable housing units** new or refurbished	Over **13 350 households** in new or refurbished **social or affordable housing**

ADVISORY FOCUS
ECO DISTRICT IN CHRZANOW, POLAND

Comprehensive project development support was offered to the City of Chrzanów for the development of an eco-district urbanistic concept. The project assumes mixed use with residential function aimed at the needs of all social groups, underlining the needs of senior citizens, people with disabilities and families, maximizing sustainability and quality of life for residents.

The Advisory Hub's support includes the preparation of a feasibility study and an optimal project implementation and financing plan. The sustainability measures are to be included at the highest possible scale and utilize best practices in energy efficiency, natural solutions and circular economy.

EU FUNDS CO-FINANCING ANDALUCÍA 2021-2027, SPAIN

Andalucía is the second largest region in Spain (87 597 km^2). With 8.5 million inhabitants, it is the most populous region in the country. Its economic position in terms of per capita GDP has deteriorated significantly over the recent past – sliding from 78% of the EU average in 2008 to 63% in 2020 – as the recovery from the economic and financial crisis was weak and the COVID-19 pandemic hit the region particularly hard.

Supporting Andalucía is a priority for EU Cohesion Policy in the current programming period. The European Regional Development Fund (ERDF) and the European Social Fund Plus (ESF+) will enable a total investment volume of some €6.67 bn from 2023 to 2029, of which €5.69 bn will be financed with EU funds.

An EIB Framework Loan of up to €650 m will fund most of the regional government's co-financing obligation for the project. The first tranche of €195 m, signed at the end of 2022, will help kick-start the implementation of the many small investment schemes jointly supported by the EU funds and the EIB.

The Project will contribute to the policy objectives Education and training (29%), Research development, innovation (RDI) and digitalisation (18%), Health (12%), Integrated territorial development (11%), and Sustainable transport (10%). The remaining 20% concerns the policy objectives Sustainable energy; Natural resource use, management and protection; and SMEs and midcaps.

Thanks to its multi-sector nature and strong policy conditionality, the project is expected to result in economic benefits that are greater than the private financial return thanks to positive knowledge spillovers from RDI; reduced greenhouse gas emissions thanks to investment in energy efficiency and energy production from renewable sources, and also thanks to the expected modal shift from private cars to sustainable public transport; and public-health benefits from improved access to healthcare infrastructure and drinking water provision.

The project will also support two large investment schemes.

In the first case, the new hospital of Málaga will replace the old existing buildings and boost the quality and efficiency of health care provision in the greater Málaga area.

The second scheme will contribute to climate change mitigation and the environmental sustainability of the extension of Metro Line 3 in the regional capital of Sevilla, with the concrete goals of reducing air pollution and greenhouse gas emissions. Furthermore, significant positive externalities stem from the expected time savings to passengers of the extended metro line.

TRANSPORT

SUSTAINABLE TRANSPORT	
OUTPUTS	**OUTCOMES**
Over **1 360 km of rail** tracks constructed or upgraded Over **80 km of public transport** lanes or tracks constructed or upgraded **180 stations** or stops constructed or upgraded **2 861 vehicles** or rolling stock purchased or rehabilitated Over **1 500 alternative fuel stations**	Over **152 000 000 additional trips** on public transport per year Almost **16 million hours of time savings** per year **€19 million** of vehicle operating cost savings per year

STRATEGIC TRANSPORT	
OUTPUTS	**OUTCOMES**
775 km of road lanes built or upgraded	Over **70 300 daily road passengers** benefitting from improved road infrastructure An estimated **28 road fatalities** avoided each year

ADVISORY FOCUS

DRONE DEVELOPER IN BULGARIA

Dronamics is a new type of cargo airplane – small, unmanned and extremely fuel efficient. It can transport 350 kg over 2 500 km for a cost that's 50% lower than other airplanes. It flies autonomously, can be monitored and managed remotely via satellite, and the whole system costs less than a sports car. During 2022, the EIB's Innovation Digital Finance Advisory (IDFA) team worked with Dronamics to explore potential financing under the Bank's applicable thematic financing instrument. The Bank's advisors and technical experts gathered key information to evaluate and prepare the company for potential further due diligence.

GDYNIA OUTER PORT PROJECT IN POLAND

In 2022, a team comprising of the European PPP Expertise Centre (EPEC) and EIB maritime sector experts provided project advisory support on the Gdynia Outer Port (expected to be the biggest public-private partnership project in Poland). The support (which includes advice on the draft public-private partnership agreement) is aimed at strengthening the promoter's capacity in project preparation and tender negotiation and its awareness of best practices in the general European PPP market and maritime port terminal markets.

HUNGARY BUS FLEET RENEWAL

The assignment is supporting the implementation of financing approved by the Bank to Volan Buszpark Kft. for its comprehensive bus fleet renewal programme for the period of 2019-2022. The goals of such support are to: 1) set the foundations for sustainable and climate-friendly growth of public transport, b) contribute to Hungary's efforts to comply with the revised Clean Vehicles Directive (2009/33/EC) and c) tackle immediate operational needs by improving the fleet's availability to stop the continuing downward trend in passenger traffic.

ROAD SAFETY FOR BUCHAREST SECTOR 1

Sector 1 Bucharest has requested EIB support for both financing and advising on a road safety programme. The scope of the advisory assignment is to develop a road safety impact assessment that will help, together with the related investments, Sector 1 City Hall to meet European standards.

PLK E65 SOUTHERN SECTION PHASE II, POLAND

The Bedzin – Katowice – Tychy line is one of the most congested railway lines in Poland. The lack of capacity has led to a decline in the share of rail traffic and contributed to greater congestion on the road network of the Katowice agglomeration.

A €600 m EIB loan is supporting a project to upgrade over 80 km of rail and build two additional tracks for regional traffic that are expected to facilitate a significant shift from road to rail for trips to the City of Katowice, the regional capital.

Upgrading the rail line between several towns in the Upper Silesia region including Bedzin, Sosnowiec, Katowice, Tychy, Pszczyna and Bielsko Biala will provide faster and more efficient passenger rail connections within the Katowice agglomeration. Furthermore, it will provide efficient rail freight connection between the highly industrial Upper Silesia region , the Czech Republic and Southern Europe via Zebrzydowice.

Once the works are finished, a significant increase in the frequency of local and regional passenger trains is projected that, in turn, will elevate rail's role in the city's public transport system. The line's capacity will be significantly increased and passenger numbers are expected to rise from 8.9 million to 12.5 million on the Sosnowiec – Katowice section.

On the freight side, the annual volume transported will remain at four million tonnes per year. Regional and some intercity services for passengers will be covered by public service contracts, whilst high-speed passenger services and freight services will be operated on a commercial basis.

The economic benefits expected for passengers are time savings for existing users. In addition, some time savings, vehicle operating cost reductions, and accident reductions are expected for those travellers shifting from road to rail. Journey times will also be significantly reduced on some sections and nearly halved on the Bedzin - Zebrzydowice trip.

Overall, the upgraded line, on a route which forms part of the Trans-European Transport Network (TEN-T), is expected to give a significant boost to economic development and social integration in Upper Silesia, Katowice agglomeration as well as in connection with Czechia and southern Europe.

SUSTAINABLE ENERGY

RENEWABLE ENERGY	
OUTPUTS	**OUTCOMES**
8 435 MW of **electricity generation** capacity from renewable energy sources	**15 614 GWh of electricity produced** from renewable energy sources per year Over **3 885 000 households** which could be supplied with the electricity generated by the project

ENERGY NETWORKS	
OUTPUTS	**OUTCOMES**
Some **19 271 km of power lines/cables** constructed or upgraded for transmission and distribution of electricity Over **11 000 MVA capacity of electricity** sub-stations constructed or upgraded Some **2 433 000 smart energy meters** installed	Incremental demand supplied of more than **9 200 GWh/year**

ENERGY EFFICIENCY	
OUTPUTS	**OUTCOMES**
Some **25 066** refurbished **energy efficient housing units**	Some **25 066 households** in refurbished energy **efficient housing**

Energy savings of almost **833 9512 MWh/year** from energy efficiency measures in new projects financed in cohesion regions in 2022.

ADVISORY FOCUS

HYDROGEN CLUSTER IN POLAND

EIB Advisory is helping Poland to transform its energy sector, through an assignment that consists of an advisory "feeder agreement" with the Polish Hydrogen Cluster, whose objective is to identify hydrogen-based investment projects in Poland that could benefit from EIB financing.

SUPPORT THE DECARBONISATION OF ROMANIA'S GAS NETWORK

EIB Advisory is supporting Transgaz in its transition to carbon neutral activities. The objective is to create a climate strategy for Transgaz that helps to efficiently decarbonise its activities and strengthen its resilience to climate change, taking into account best practices and national and international climate policies and regulations.

NATIONAL DECARBONISATION FUND IN BULGARIA

EIB Advisory facilitated a comprehensive assessment of the Bulgarian market and its barriers for energy efficiency investments in commercial, public and residential buildings and as well a set of financial and legal recommendations to improve the renovation pace of the latter.

In view of the variety of existing support schemes available for energy efficiency investments in Bulgaria in the short-term, the assignment proposed an investment strategy that would encompass all relevant public and private stakeholders, significantly reinforce their coordination, and progressively leverage national and EU sources of funding in the medium term.

The recommendations for the NDF design were structured around an umbrella fund constituted at government level to coordinate energy efficiency policies and financing streams. The umbrella fund would entrust holding fund(s) to provide financing to project promoters via selected public and private financial intermediaries.

EOLMED FLOATING OFFSHORE (PORT-LA-NOUVELLE), FRANCE

The port of Port-la-Nouvelle near Montpellier, southern France, traditionally handled cereal and other agricultural exports destined for North Africa. Now, the Occitania region is investing €340 million, €150 million of which is being provided by the European Investment Bank, to refurbish ports in Sète and Port-la-Nouvelle. The plans call for Port-la-Nouvelle to be transformed into a Mediterranean hub for the construction, logistics and support of offshore floating wind farms. The hub will also eventually produce green hydrogen from the clean energy generated by the wind farms.

Port-la-Nouvelle's transition is part of an ambitious renewable energy strategy laid out by the Occitania region. The region is hoping to benefit from the development of two floating offshore wind farms planned in the Mediterranean, whose production is expected to cover the energy needs of 400 000 people. Occitania, which has one of the highest unemployment rates in France, sees renewable energy as an opportunity to re-energise its traditional economy of agriculture, tourism and, further inland, aerospace.

In addition to financing Port-la-Nouvelle, the EIB is also supporting the pilot wind farms — one offshore from Leucate-Le Barcarès, run by Les Éoliennes Flottantes du Golfe du Lion, and another close to Gruissan, which will be operated by EolMed. The Bank signed an €85 million loan with EolMed in April and a €75 million loan with Les Éoliennes Flottantes in May. Both loans are backed by a guarantee from the European Fund for Strategic Investments. The Bank is also providing €50 million to a third offshore park, planned 40 kilometres west of Marseille.

The surrounding region of the eastern Pyrenees has limited industry and unemployment at close to 10%. Turning the port's business toward renewable energy offered an opportunity to revitalise the area's economy. The immediate pilot projects are expected to create about 300 full-time jobs.

The infrastructure and support Port-la-Nouvelle will provide to the wind farms is part of a bigger regional strategy to create a hub of renewable energy, that also includes a focus on green hydrogen. A related project, Corridor H2, will develop a network of hydrogen distribution stations in Occitania along the road that runs from the Mediterranean to the North Sea. The EIB is lending €40 million to the Corridor H2 project.

NATURAL RESOURCES USE, MANAGEMENT AND PROTECTION

BIOECONOMY	
OUTPUTS	**OUTCOMES**
2 405 000 ha of **agricultural land** with improved management Over **1 482 00 ha** of **forestry land** with improved management	Almost **21 000 beneficiaries** - farmers, foresters, fish producers - receiving support for investment

ADVISORY FOCUS
INNOVATIVE RECYCLABLE FOOD TRAY IN SPAIN

PackBenefit is an innovative producer of compostable food trays from wood-based virgin pulp for use in catering, food-to-go and fresh food. It has an innovative solution to produce food trays that are recyclable, as well as being certified for composting - covering the most sustainable end-of-life options for single use materials.

The company intends to build a second plant producing an additional 180m trays a year (c. 4 000 metric tons) in Valladolid, Spain, close to the existing manufacturing site, with the first five production lines operational by mid-2022.

The EIB's Innovation Digital Finance Advisory team developed a relationship with the promoter by conducting an initial review of its proposal and its fit with EIB's product portfolio.

The Bank's advisors facilitated information exchanges with the EIB's project teams in order to assess the company's technology and the project's overall eligibility and viability, subsequent to which the project was proposed for financing under the Bio-Economy thematic instrument. Following the advisory team's handover to the lending team, a €13.15m EIB venture debt loan was signed in December 2022.

PESCARA CLIMATE ACTION & CIRCULAR ECONOMY, ITALY

The project concerns support for investments in circular economy, solid waste management and energy efficiency in the city of Pescara, capital of the Abruzzo region, a transition region in central Italy. The project, expected to run between 2021 and 2025, includes the construction of an anaerobic digestion plant for bio-waste, the upgrade of recycling facilities, the acquisition of new collection equipment, and a mix of energy efficiency measures for public buildings.

The operation consists of a €35 million loan to the municipality of Pescara, with the local power company Pescara Energia SpA and the majority owned waste management company Ambiente SpA as final beneficiaries.

The EIB loan directly helps to support the local economy towards a greener shift.

WATER, WASTEWATER AND SOLID WASTE

DRINKING WATER SUPPLY

OUTPUTS	OUTCOMES
Over **1 000 km** of **water mains** or distribution pipes installed or rehabilitated **64 km** of combined **collectors** installed or rehabilitated **65 000 m^3** capacity of retention structures, reservoirs or raw water storage constructed or rehabilitated **212 000 m^3/day** capacity of **water treatment plant** constructed or rehabilitated **298 624** domestic connections to **water supply** created or rehabilitated	Over **3 561 000 people** benefitting from safe **drinking water**

FLOOD PROTECTION

OUTPUTS	OUTCOMES
62 km of dykes constructed or upgraded	Over **207 500 persons** facing reduced **risk of flooding**

WASTEWATER COLLECTION AND TREATMENT

OUTPUTS	OUTCOMES
Over **360 km of sewer** and/or stormwater pipes installed or rehabilitated **1 275 000 person-equivalent** capacity of **sewage treatment plant** constructed or rehabilitated **491 000 tonnes/year** of new or rehabilitated treatment facility capacity and **119 000 tonnes/year** new waste facility capacity	Over **1 122 000** people benefitting from improved **sanitation services** **400 000** people served by new **waste treatment facilities** **297 000 tonnes/year of waste** handled in new or rehabilitated waste or waste treatment facilities **347 500 tonnes/year of recyclable bio-waste** collected separately

WALLONIA WATER SUPPLY & CLIMATE – SWDE, BELGIUM

Wallonia is home to over 3.5 million people and covers an area of 16 844 square kilometres. With a per capita income lower than the EU average, many parts of Wallonia are considered to be “cohesion” regions entitled to extra funding from the European Union. Despite its abundant natural resources, climate change, population growth, and industrial development have put immense pressure on the region's water supply.

Climate change means that extreme weather events in the region are only likely to become more frequent. The region’s largest water company, Société Wallonne des Eaux (SWDE), is well aware of the challenges. To ensure adequate water supply, the company is undertaking a massive investment plan to upgrade its network, improve connectivity between different municipal networks, and adapt to Belgium’s changing climate. Measures include increasing water storage capacity, improving water efficiency, enhancing water quality, and strengthening flood resilience. These actions aim to address the impacts of climate change on water availability, quality, and infrastructure by bringing down energy costs and ensuring that water remains affordable for everyone, as well as cutting greenhouse gas emissions by 20% by 2030. Protecting biodiversity also features strongly.

To meet this target, SWDE is looking to invest in additional solar power panels and purchase power agreements with wind farms. It is also looking to greatly improve its energy efficiency.

To finance its ambitious investment and climate plans, In 2022, SWDE signed a €250 million loan for its 2022-2026 investment programme. The loan is the fourth from the Bank in 16 years and will support the company in a range of projects aimed at improving the resilience of Wallonia's water infrastructure, including the construction of new reservoirs, the modernization of water treatment plants, advanced leak detection technologies, and the expansion of sewer networks.

Thanks to a previous €200 million European Investment Bank loan granted in November 2016, SWDE has invested an average of €120 million a year without raising prices for its consumers.

INFORMATION AND COMMUNICATION TECHNOLOGIES

OUTPUTS	OUTCOMES
2 629 3G, 4G and 5G **sites** installed	**5 330 000** additional subscribers with **5G services** enabled
Over **1 957 000 homes** passed to fibre-to- the-home (FTTx) (excluding VDSL)	Over **3 098 000** homes connected **to FFTx** (excluding VDSL)

EPIC MALTA MOBILE AND FIXED NETWORK EVOLUTION, MALTA

The project concerns an upgrade to Epic Communications' mobile network with advanced 4G/LTE, early deployment of 5G, roll-out of a fixed very high-capacity network (VHCN), as well as upgrades to the core network and IT systems.

The operation is the first in Malta included under the InvestEU mandate. It consists of a 10-year €20m InvestEU-backed EIB loan to Epic Communications (formerly known as Vodafone Malta). Epic is one of the largest private providers of telecommunication services in Malta, offering a full range of mobile voice and data services as well as fixed broadband.

The project provides a benefit to the promoter as it becomes less dependent on wholesale agreements with the incumbent fixed line operator and, above all, it benefits the whole Maltese economy with the acceleration of VHCN broadband coverage. The project will benefit inhabitants and regional development, as VHCN broadband connections directly enhance digitalisation of economic sectors such as agriculture, tourism and commerce, on which the country is significantly dependent.

SME AND MID-CAP FINANCE

KEY FIGURES

€3.3 bn new signatures[31] benefitting SMEs/mid-caps in cohesion regions (€1.8bn in less developed regions and €1.5bn in transition regions)

Approximately **26 500 SMEs/mid-caps supported** in cohesion regions[32]

Circa **518 200 jobs sustained** in SMEs/mid-caps in cohesion regions[33]

Small and medium-sized enterprises (SMEs) and mid-caps are a crucial part of the European economy, representing some 99% of all enterprises and employing around 100 million people in the European Union. They account for more than half of EU GDP and are present throughout the full value chain of economic activities in Europe.

However, SMEs and mid-caps often face significant barriers to growth and competitiveness. These barriers include limited access to finance, high energy costs, inadequate infrastructure, and a lack of skilled labour. This is particularly the case for SMEs and mid-caps in cohesion regions, for which access to finance remains an investment obstacle and the percentage of companies investing remains below the EU average[34].

The importance of financing SMEs and mid-caps in cohesion regions cannot be overstated. By providing access to finance and other forms of support, SMEs and mid-caps can unleash their potential for innovation and growth, create new jobs and drive economic development in these regions. This, in turn, can contribute to reducing regional disparities and promoting social inclusion and other EU economic and social objectives.

SMEs and mid-caps are important drivers of innovation, productivity, and competitiveness. They also tend to have strong local roots, which can be a significant advantage in regions where social and institutional networks are crucial for economic success.

The EIB actively supports SMEs and mid-caps in cohesion regions, managing a total €3.3 billion new signatures benefitting SMEs/mid-caps in cohesion regions (a very positive performance compared to €3.0 billion new signatures in 2021). Most of the Bank's financial support to SMEs and mid-caps is distributed through financial partnerships with local commercial banks and national promotional banks and institutions, however, the Bank also provides direct support in the form of direct venture debt, as illustrated in the following case studies.

31. Signatures with financial intermediaries in 2022 to support SME/mid-cap final beneficiaries. The total amount benefitting Cohesion regions is based on ex-ante estimates except in cases where the loan has been fully allocated where the actual split is used. The split between LDR and TR is based on historic % of allocations between 2018 and 2021 as for previous year.
32. Figure relates to SME/mid-caps that benefitted from EIB support in 2022 as a result of operations signed with financial intermediaries up to the end of 2022.
33. Figure relates to SME/mid-caps that benefitted from EIB support in 2022 as a result of operations signed with financial intermediaries up to the end of 2022.
34. EIB Investment Survey 2022 - EU overview.

ADVISORY FOCUS

TECHNOLOGY TRANSFER AND HUMAN CAPITAL INVESTMENT IN POLAND

Polski Fundusz Rozwoju (PFR), the Polish Development Fund, sought assistance from the EIB for its plans to increase the output from technology transfer initiatives to enhance the growth of SME's and thereby support economic development and innovation in Poland. It also requested technical assistance to develop initiatives to support talent development in SMEs. The main objectives of the assignment include a best practice analysis of talent development and upskilling schemes for SMEs, funding gap estimates for Polish SMEs, and an analysis of the gender gap dimension with recommendations.

UCL ROMANIA LOAN FOR SMES AND MIDCAPS III.

In 2022, the EIB provided a loan of €70m to UniCredit Leasing Romania, a market leader in the Romanian leasing industry.

Through this operation, the EIB will support innovative SMEs and mid-caps in Romania, which may otherwise experience constrained access to finance, and stimulate new investments in this area. The funding is aimed at SMEs and mid-caps in general but with a focus on investments in innovative and/or fast-growing enterprises as well as innovative projects by mid-caps.

The mobilisation of funds under this operation is expected to address multiple areas including financial market failures and their resulting sub-optimal investment conditions; improving financial conditions for SMEs and mid-caps operating in cohesion regions in Romania, which continue to be affected by financial market fragmentation; and acting as a catalyst for mobilising funds for innovative SMEs and mid-caps.

CODASIP (IDGF)

Nowadays, semiconductors are at the centre of strong geostrategic interests and at the core of the global technological race. Countries are keen to secure their supply of the most advanced chips as these condition their capacity to act economically, industrially, militarily, and drive the digital transformation. Currently, Europe is too dependent on chips produced abroad. This became even more evident during the COVID crisis when strategic sectors such as industry, health, defence and energy faced supply disruptions and shortages. The EU's overall global semiconductors market share is 10% in value, well below its economic weight. Despite its strong global position in materials and equipment manufacturing, the European Union is heavily dependent on third-country suppliers for the design, manufacturing, packaging, testing and assembly of chips. This dependency weakens Europe's strategic competitiveness in high-value added products.

Amidst this challenging scenario, the Czech Republic has a growing and competitive market for chip design. Several companies in the country are involved in chip design, engineering, and technology, with a highly skilled workforce and a strong focus on innovation.

One of these companies is Codasip, an SME that provides the basic design and software suite for chip designers to create RISC-V based processors; it is seen as the emerging royalty-free technology on the market.

Codasip, founded in 2014, offered its first commercial RISC-V processor in 2015. Today, RISC-V represents a license-free alternative to the dominant player in the market. The company has 120 employees, primarily based in Brno in the Czech Republic, with some presence in other EU countries, the UK, and China. In 2022, the EIB provided a venture debt loan of €15 million to Codasip.

Codasip is the only major RISC-V player in Europe. Through this operation, the Bank supports the company's R&D efforts in the EU for a sector considered a strategic priority by the European Commission. EIB financing supports the funding of Codasip's investment plan, generating a positive crowd-in effect for other investors. The loan will enable the creation of innovative processes, products, services skills development and upgrading, therefore addressing the market failure resulting from the sub-optimal investment levels in chip design in Europe.

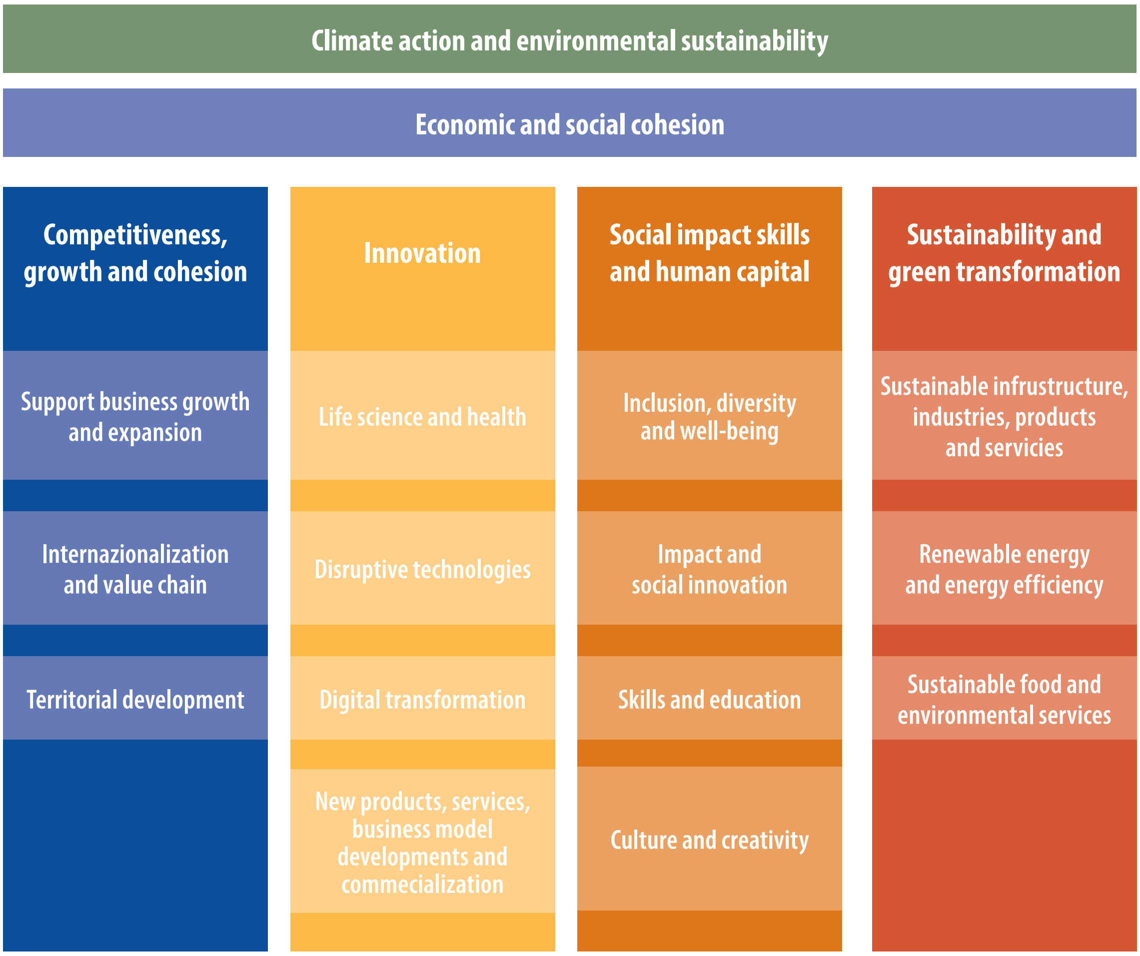
In the last five years, the EIB Group has financed semiconductor projects for a total amount of €1.9 billion across the European Union, mobilising €5.8 billion of investment, with the main ambition to reach at least 20%, in value terms, of the world's production of cutting-edge and sustainable semiconductors by 2030.


CURRENT 9500M
CURRENT 7500M
CURRENT 6500M

EIF ACTIVITY IN COHESION REGIONS IN 2022

Transactions signed by the European Investment Fund in 2022 provided support to SMEs and other eligible final recipients located in cohesion regions in 26 of the EU's 27 Member States, as illustrated in the chart below. The support was mainly through debt/guarantee and equity financial instruments in both transition regions and less developed regions.

Figure 19 – EIF Public Policy Goals (PPGs) and sectors



In absolute terms, the cohesion regions that are expected to benefit the most from EIF transactions signed in 2022 are located in Spain, France, Poland, and Italy. Relative to GDP, however, EIF support for cohesion areas in 2022 is expected to be greater in Lithuania, Finland, Estonia, and Bulgaria.

Figure 20 - EIF public policy goals (PPGs)

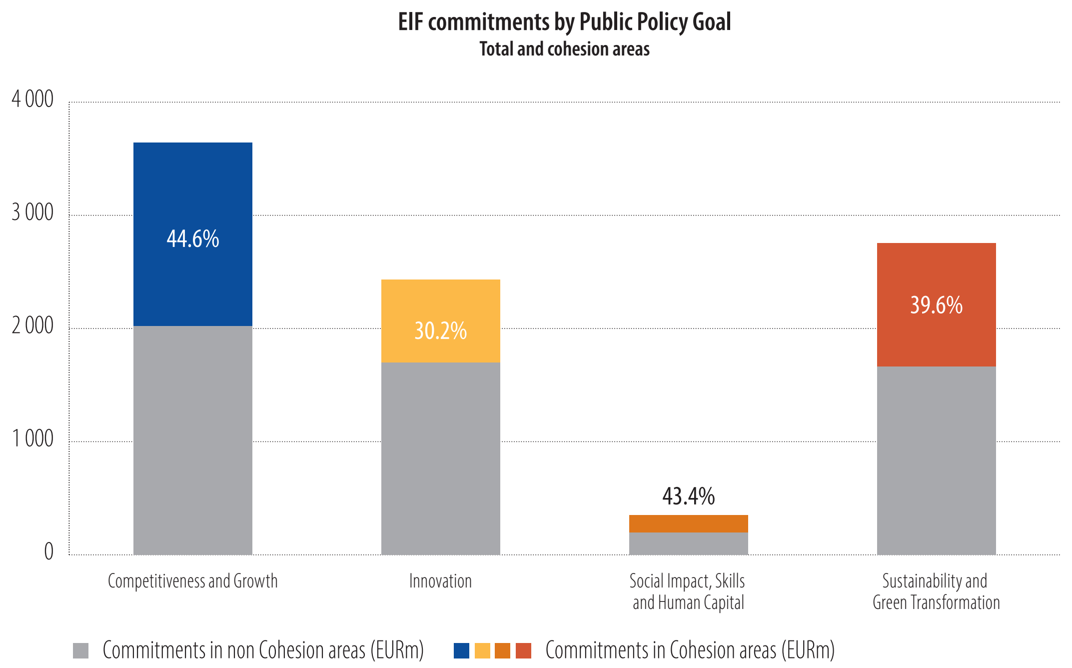
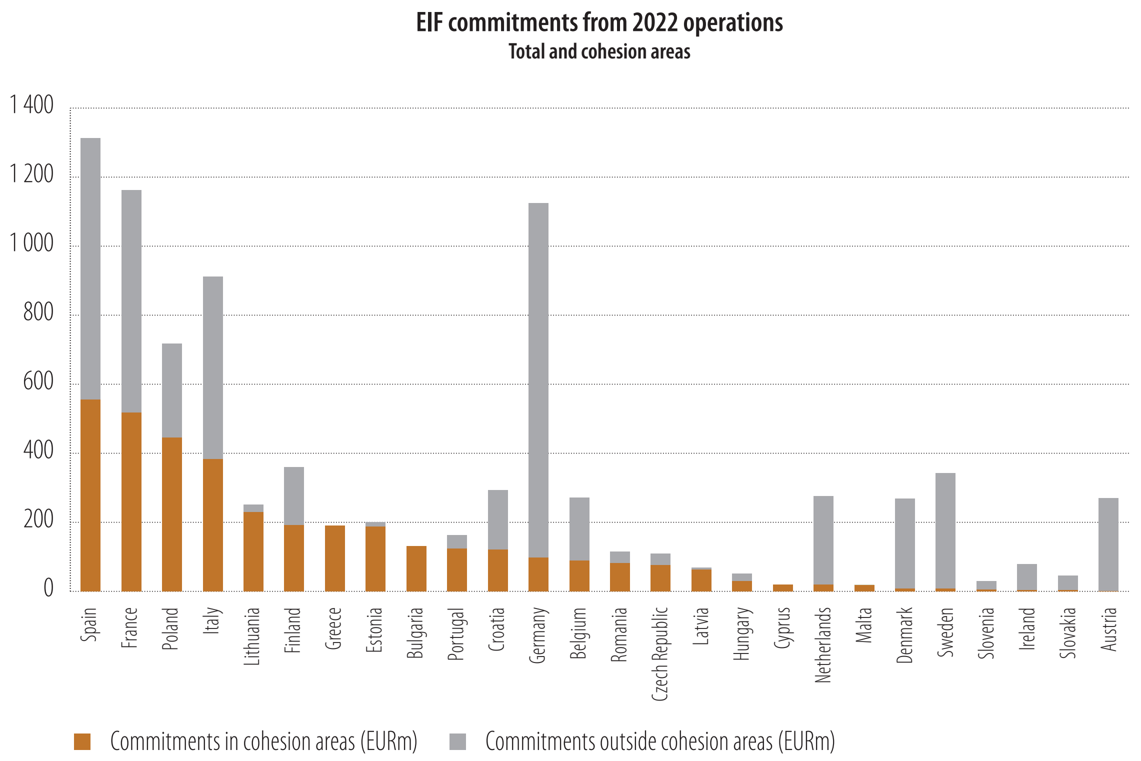


Figure 21 - EIF commitments by country



EIF decentralised financial instruments targeting cohesion regions

Over the last 15 years, the EIF's decentralised financial instruments (DFIs) have been key to delivering results and impact in cohesion regions. The experience and expertise accumulated have positioned the EIF as a partner of choice for the implementation of financial instruments under the EU cohesion policy and on behalf of EU Member States/regional authorities.

During the 2007-2013 programming period, the EIF developed experimental precursor decentralised financial instruments. These were deployed under the flagship Joint European Resources for Micro to Medium Enterprises (JEREMIE) initiative, set up in 2007 by the European Commission (DG REGIO) in co-operation with the EIB Group.

Building on JEREMIE's successful track-record, the EIF's DFIs became a more established activity. For the European Commission - DG REGIO and DG AGRI specifically - financial instruments became the new standard to support income-generating activities and local economies, especially in cohesion areas. In this context, the EIF developed new standard products and pilot mandates to expand its geographical coverage (more French and Italian regions) and scope (Greece and Portugal) as well as engage in new thematic areas (agriculture, renewable energy & energy efficiency, and innovation).

Through its DFI interventions, the EIF has managed to achieve significant policy impact across thematic areas and geographies, leading to substantial results in cohesion areas. Altogether, the EIF manages over €7.8 billion of financial instruments using ESIF/EU-Funds. These instruments have supported about 95 000 SMEs and catalysed €14 billion of financing.

In 2022, three additional DFIs were launched in France and Bulgaria to cover competitiveness and innovation.

USING ROBOTICS TO HELP THE ENVIRONMENT

Sector	**Energy efficiency, robotics**
Financing purpose	**Scaling the business**
Location	**Riga, Latvia**
EIF financing	**Baltic Innovation Fund – BIF; InnovFin Equity, EFSI**
Financial Intermediary	**Change Ventures**
SME	**Aerones**

"We stuck to the problem, not to the solution" says Dainis Kruze, co-founder of the Latvian company Aerones; a robotic wind turbine inspection, maintenance and repair solution that enables a two-to-three-man team to execute a range of services in hours that would otherwise take days.

The concept of Aerones had originally started off as a heavy lift drone project, when Dainis and his co-founders Janis Putrams and Andris Dambis joined forces in 2015. The co-founders considered applications such as rescue and firefighting but the business model wasn't quite clicking; the market wasn't very large and urban regulation on drone operation meant there were several barriers to success. "But then we thought of the wind energy industry and things fell into place", explains Dainis, "After testing the drone solution, we continued to improve the technology until we understood that the drone is not the most precise technology for this task, so instead we developed a system of pulleys to enable the robots to climb up, clean, inspect and repair wind turbine blades as well as apply things like ice phobic coatings and fillers - all with the same system, just by changing different robotic arms."

With the wind energy industry predicted to grow to 30 times its current size, Aerones saw an explosion in demand and now works all around the world for large wind turbine manufacturers. "We are building something completely different from the currently available solutions. The wind industry can provide energy for our children. If we can be a part of making renewable energy more accessible even by only five percent, that's already something valuable".

In 2020, the company received investment from Change Ventures, a venture capital firm backed by the EIF, to help it scale its commercial offer, "it's great to be able to discuss ideas or ways in which we can solve problems, and to have a partner which champions our business" says Dainis. "As founders we also bring different things to the table, and this is important too. I am the sales guy, Janis is the start-up veteran, and Andris is the mechanical engineer; it's the perfect combination". And with giants like GE starting to approach Aerones for offshore maintenance, the sky is quite literally the limit for this future-focussed trio.

TOWARDS A LOW ENERGY BUILDING

Sector	Energy efficiency
Financing purpose	Individual
Location	Malta
EU financing	EERE Malta
Financial Intermediary	Bank of Valetta
Beneficiary	Paul Fenech

Achieving climate neutrality is a goal that requires collective effort from all parties, be it governments, NGOs, small businesses, private households, public or private individuals. For this reason, the EIF and the Maltese government have teamed up to put together a pilot financing programme to incentivise investments in renewable energy and energy efficiency, offering loans with very attractive terms.

One such investment was made by engineer Paul Fenech, from Ta'Xbiex, Malta, to improve the energy efficiency of his new build. His goal is that his residence will be the first certified low energy building on the island. A mechanical engineer by profession, Paul has taken a keen interest in energy efficiency and spent time getting certified as a Passive House Designer with the PHI institute in Darmstadt, Germany.

Stable climatic conditions allow for more predictable energy consumption and lower energy bills, but also make it easier to manage the space in terms of comfort. To bring the project to fruition, Paul secured a loan from the Bank of Valetta, backed by the EIF.

S&E GUARANTEE PILOT: JANA KUDLICKOVA

Sector	**Higher Education Individual**
Financing purpose	**Student loan**
Location	**Alicante, Spain**
EIF financing	**Skills & Education Guarantee Pilot; EFSI**
Financial Intermediary	**Universia Foundation (Santander Group)**
Beneficiary	**Jana Kudlickova**

"The tech industry is very relevant right now and it is growing, creating opportunities as everything is going digital. I thought, why not me? Why not try it as a career?" says Jana Kudlickova, who lives in Alicante, Spain and has recently made a complete shift in the direction of her career.

Jana, from Ružomberok in northern Slovakia, studied Slovak and English philology. Around ten years ago, however, she moved to Spain: "I love languages and I'm always looking to learn new ones, that's why I came to Spain and I ended up staying, teaching in private academies. Teaching always felt like the obvious path for me. I taught afternoon classes, a few hours per week, sometimes more, but I never had a proper full-time job," she says.

When the pandemic hit, things got significantly tougher. "With people in lockdown, teaching really dried up. I had no indication of how long this would last and I was not too keen on remote teaching either, so I started looking at other options. I was ready for a career change," she explains.

She searched for resources online and came across WordPress, creating web pages. It sparked her curiosity and she decided to dig deeper. "I learned how to develop websites, work with HTML and CSS on my own. I soon realised that if I was going to do this seriously I needed some guidance. I wanted something that is current, intensive and done in a short time. That's how I came across the Full Stack Development boot camp."

It was a leap in the dark for Jana. "I'm from a very different world. I had zero IT literacy, so it jolted me out of my comfort zone but they said that it was OK for beginners - so I went for it. I saw it a bit like learning another language. After all, when you are coding you are communicating with computers, right?"

With the boot camp, Jana found balance and renewed motivation. "It was great to be on the other side, to be learning again like a student. It has been very intense, learning to code from scratch. In this field you need to be the kind of person who likes to learn, research, and find solutions. It's not for everyone." But learning unfortunately often comes at a price: "Boot camps are expensive, I had just lost my job, and had no income, so I needed to figure out a solution." An income sharing agreement with Universia Foundation (Santander Group) backed by the EU through the EIF provided the much-needed financial support. "My course is paid for and I will only start to repay the full amount once I have a stable salary…and if anything happens, repayment is paused. It gives me flexibility and peace of mind."

Jana completed the boot camp in February and immediately afterwards found an internship as a web developer working for a property rental company in Portugal. "I love the fact that I still keep learning and this is a great team. My internship lasts until October, but I'd love to stay and see where this takes me."

ADVISORY FOCUS: FI COMPASS

LA RÉUNION START-UP BOOSTS DIGITAL BANKING

Sector	Fintech
Financing purpose	Equity investment
Location	La Réunion, France
EIF financing	Financière Région Réunion (FRR)
Financial Intermediary	Essor PME / APICAP
SME	HUB2

Connect4, a Reunion-based SME has benefited from a €1.25 million-equity investment from ESSOR PME La Réunion (a financial instrument funded by Région Réunion and ERDF) to develop HUB2, an Application Programming Interface (API) enabling interoperability between mobile money wallets in Western Africa. Thanks to the investment, the start-up was able to accelerate the development of the API on the African market and answer the huge demand for more interoperability in mobile banking and banking systems in Africa.

Located 8 420 km from Paris in the middle of the Indian Ocean, La Réunion was recently labelled "French Tech Capital" and thus positioned as a global hub for overseas innovation and a popular location for innovative companies.

Although R&D in La Réunion is not yet as developed as in the EU, the island's performance is stronger than other countries in the Indian Ocean zone, such as Mauritius, the Seychelles or Madagascar. Since 2010, Région Réunion has initiated several strategies to create a virtuous ecosystem that boosts innovation and access to finance for SMEs. The Région decided to set up Financière Région Réunion (FRR), a fund of funds financed by ERDF and Région own resources and managed by European Investment Fund (EIF). FRR has, in turn, designed two underlying financial instruments, a loan fund managed by Banque Française Commerciale Océan Indien (BFC OI) and the equity fund ESSOR PME La Réunion, managed by APICAP.

"In the field of innovation, Essor PME is quite unique and very active in Réunion, so it was not hard for us to find them", says Ashley Gaüzère, the entrepreneur who created HUB2. He then developed the technical solution and found the first customer of the aggregator in a co-working space as well as tech business partners and investors such as COMPASS and APICAP who have shown trust in the growth of his company. "We started to talk long before the first investment took place. Since then, we have been receiving not only financial support but most importantly, regular support though shareholder follow-ups and advice to anticipate any development needs", recalls this Reunionese entrepreneur.

A graduate of the École Nationale Supérieure des Télécommunications, Ashley Gaüzère got the idea to create his business when deploying broadband networks in Africa. "Having worked for ten years as the director of the mobile operator Orange's internet business unit in the Ivory Coast, I realised that the payment space across French speaking countries was lacking interoperability as well as e-merchant acquisition capabilities. I decided that this issue should be addressed to unlock the Internet economy", he explains, persuaded that Africa's mobile money market will remain the main driver of financial inclusion on the continent.

In addition to securing €1.8 million from Essor PME, the Reunionese start-up had benefitted from BPI investment programmes (Programme d'Investissements d'Avenir, Subvention Innovation Outremer, Bourse Frenchtech). The fundraising has allowed new recruits to strengthen the current team of 18 people and marketing activities.

The key development occurred when Essor PME, through the FRR, reinforced the SME base in La Réunion by developing the technical R&D on the island and to upgrade the transaction processing capacity of the HUB2 platform, its security, governance, and compliance", says the CEO. Today, from Saint Denis de la Réunion, 14 employees strive to sell HUB2 payment gateway solutions across all French speaking African countries and more specifically Senegal, Ivory Coast, Burkina Faso, Benin, Togo, Guinea, Cameroun, Mali, DRC, Congo.

Based on innovative and reliable payment technologies, HUB2 solutions allow more customers to receive money and make their payments through various channels, mainly mobile money, bankcards and transfers. "Our platform provides the missing interoperability layer to connect all payment methods in a country. It answers the huge demand for more interoperability in mobile banking and banking systems in Africa", explains the start-up founder while he goes on to say: "Africa suffers from an extremely low banking rate (18% in average) in the West African Monetary Union (WAMU). Therefore, we needed to create an application programming interface (API) that was reliable enough to scale on. We can compare HUB2 to a mobile payment system without credit card, a kind of 'PayPal' for Africa".

In 2018, the year it was created, HUB2 won the Overseas Innovation Competition and the prize for the best overseas start up at NxSe that same year. Two years later, HUB2 was recognised as one of the 10 best companies offering digitalisation solutions to African insurers by the Federation of African Insurance Companies (FANAF) and third by Hannover Re, one of the largest reinsurer groups in the world.

The Connect4 team during a seminar in Abidjan, Ivory Coast.

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