

# THE INNOVATION RESPONSE

**2021  
ACTIVITY  
REPORT**

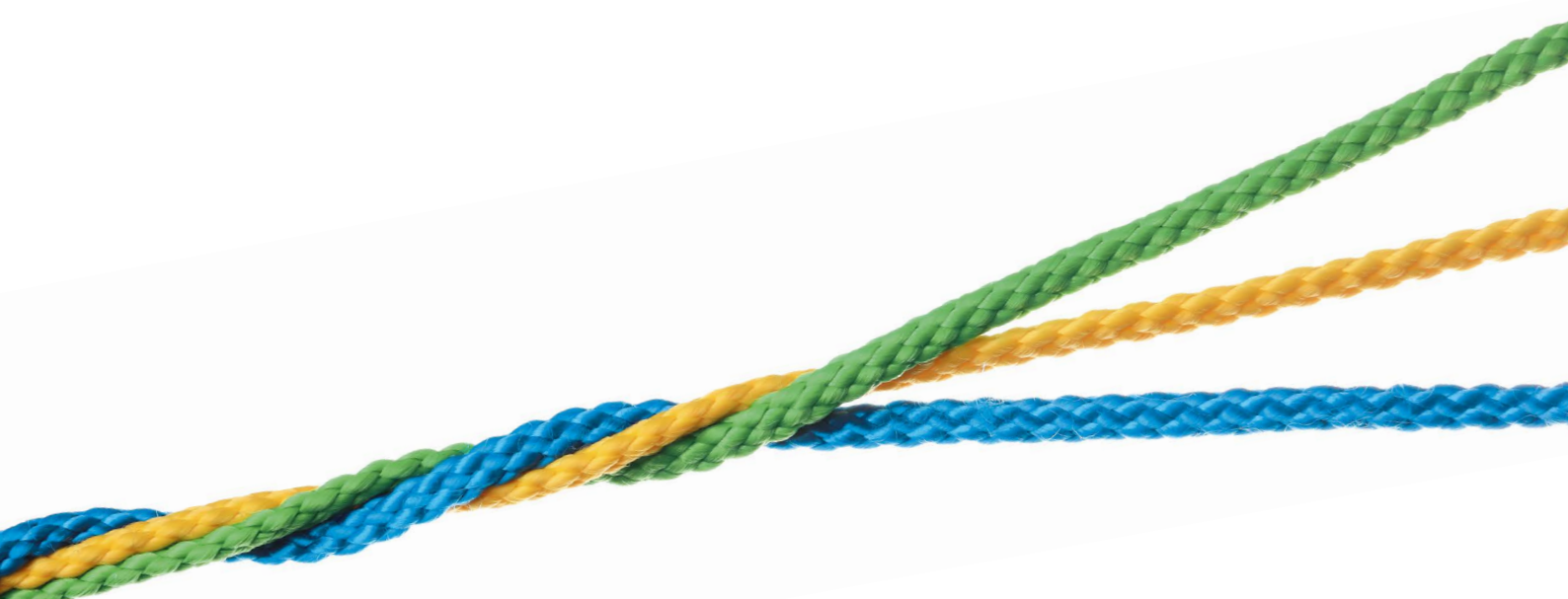




**EUROPEAN INVESTMENT BANK**

# THE INNOVATION RESPONSE

**2021  
ACTIVITY  
REPORT**



## European Investment Bank Activity Report 2021

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## WHAT'S IN THIS REPORT

When faced with unprecedented crises and massive needs, there is no point sticking to business as usual. The response must be innovative. It must offer new solutions that point to a different future.

In 2021, the European Investment Bank confronted two great threats, the climate crisis and the coronavirus pandemic, even as the challenges posed by development grew more urgent. The EU bank tackled these hazards by thinking hard and moving fast — in new directions.

That might mean investing in an innovative company. Or creating an innovative financial tool to bridge the crisis period for firms that were healthy before the pandemic hit. But the first thought was always how to go at it in a different, more effective way — how to lay a new path that leads to a sustainable, green, inclusive future.

**This report highlights our emergency response to COVID-19 through the unique European Guarantee Fund, as well as our support for healthcare companies working on cures and therapies for the disease. It illustrates the dimensions of our backing for companies that are forging new frontiers of climate action — sometimes right into outer space. It demonstrates our commitment to a better future for all Europeans in our cohesion investment and for all global citizens through our development work.**

Innovation is the framework of the future. In its three main sections, this report lays out the kind of future we aim to build. It will be a healthy world. A green world. An inclusive world.

**The rest of the report provides the context for these investments.** From our president's strategic thinking in the foreword to data on the Bank's lending and borrowing and a look at the year ahead in the highlights of the Group Operational Plan.

**The report tells the story of a crucial financial institution whose ambition is to help solve the problems we face now — inspired by a vision of a healthy, green, inclusive future.**



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# FOREWORD

**T**he European Investment Bank Group has been on the frontline of the European Union's global response to the COVID-19 pandemic. We have responded to exceptional times with immediate and flexible action. From emergency support for small and medium-sized enterprises and innovative start-ups to financing for vaccines and public sector health projects, we have delivered.

The EIB Group has unlocked investment in a situation of extreme uncertainty. Our European Guarantee Fund has ensured open credit channels for many projects that seemed too risky for commercial banks in the midst of the crisis. Our economic research shows that this support has been instrumental in saving companies from severe cuts in investment. Instead, they have been able to proceed with investment in, for example, the digitalisation that allowed them to adapt to the crisis. Our massive financing for life sciences and health, which could hardly be more crucial right now, includes some projects backed by these instruments.

Looking ahead, we are determined to continue to use risk-sharing instruments, applying the logic of this powerful tool to other projects with high social and economic value added.

Of course, COVID-19 is hardly the only major challenge the world faces. The climate crisis becomes ever more urgent and, as the EU climate bank, we are at the forefront of Europe's efforts to become carbon neutral. We are committed to supporting €1 trillion of investment in climate action and environmental sustainability by the end of this decade. Much of that investment must be in innovation: we face an unprecedented challenge and must meet it with new commercial ideas. Our Climate Bank Roadmap went into implementation in 2021, making us the first multilateral development bank whose financing aligns fully with the goals of the Paris Agreement. This includes a complete stop to support for unabated fossil fuel energy projects, including natural gas. Our new adaptation plan, announced at COP26, includes measures that build upon the roadmap, and we introduced a framework to ensure that our counterparties take steps towards decarbonising their businesses. In climate action, we have expanded beyond our primary role of financing new and mature technologies, positioning the Bank also as a centre of knowledge upon which entire markets may draw. This is evident in our collaborations, such as the partnership with the European Commission and Bill Gates's Breakthrough Energy Catalyst, which backs green technologies for deployment around the world.

The truth of the climate crisis is that, while some nations face a graver threat than others, today we are all transition economies. Together, we must seek the innovations that will turn our economies green. And we must ensure that the transition is just. In 2021, we augmented our development work, creating a new hub in Nairobi, even as we finalised the structure of EIB Global, our new development arm, which begins operations in 2022. Uniquely among multilateral development banks, we effectively export European technology and know-how to the rest of the world. This provides an opportunity for development that leapfrogs the polluting stages of industrial growth and goes directly to a green, clean economy. Our project experts ensure that everything we finance is sustainable — and we won't change that business model. In fact, in December, when the G7 leaders identified the kind of change that is needed to modernise infrastructure and help developing countries find the trillions in finance needed to tackle future challenges, their statement highlighted more projects tied to the European Investment Bank than to any other international financial institution.





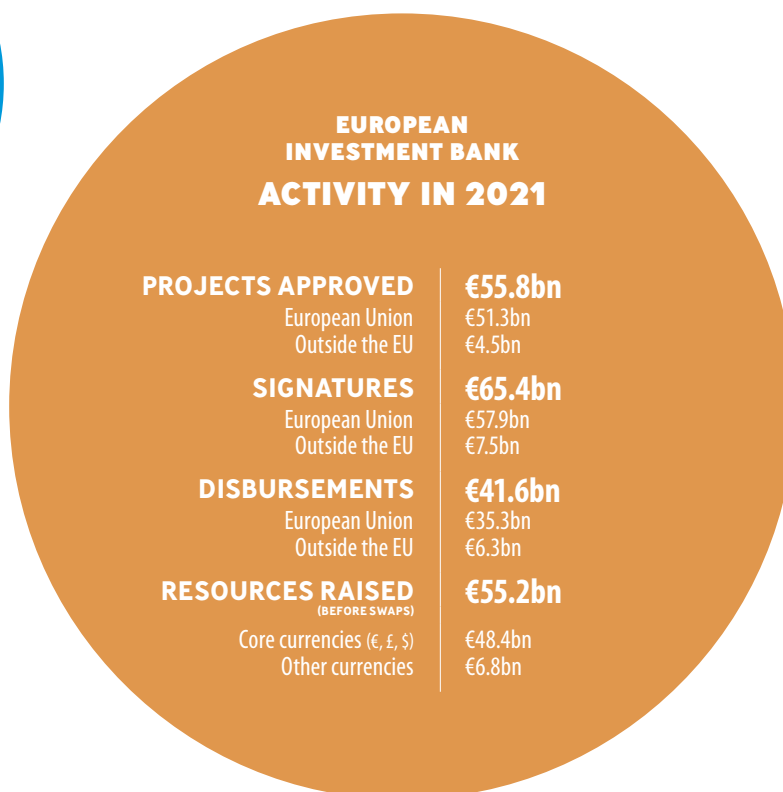
**“ The truth of the climate crisis is that, while some nations face a graver threat than others, today we are all transition economies. Together, we must seek the innovations that will turn our economies green. And we must ensure that the transition is just. ”**

Our development branch will help us improve even on this impressive performance, with more local staff to develop new projects and to implement them. As a key contributor to Team Europe, we look forward to participating in the European Commission’s €300 billion Global Gateway to promote the kind of infrastructure around the world that will secure Europe’s autonomy and independence. With 75% more patents in the field of green, digital technologies than the US and four times as many as China, the European Union is a world leader with expertise to share in areas such as renewable energy, climate adaptation, flood control, advanced weather forecasting tools, resilient infrastructure and more.

The European Investment Bank is crucial to the recasting of business and society necessary to meet our present challenges. To create a sustainable world, we must all discover our new, best selves. With every innovative deal we finance, the European Investment Bank helps make that goal attainable.

**Werner Hoyer**

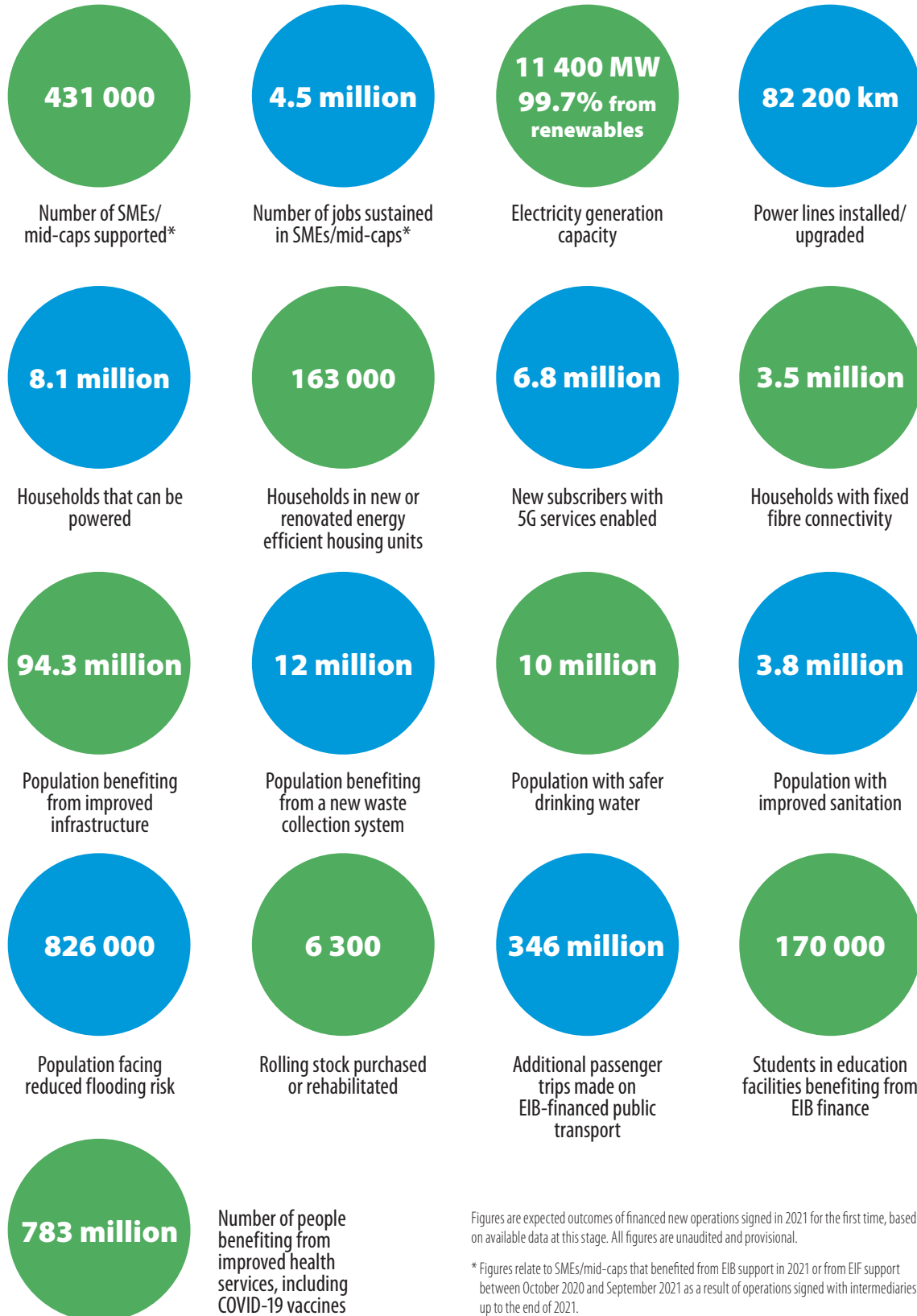
# 2021 HIGHLIGHTS



The European Investment Fund (EIF), part of the EIB Group, specialises in risk finance to support micro, small and medium-sized enterprises and stimulates growth and innovation across Europe. It provides financing and expertise for sound, sustainable investment and guarantee operations. EIF shareholders include the EIB, the European Commission, public and private banks and financial institutions.



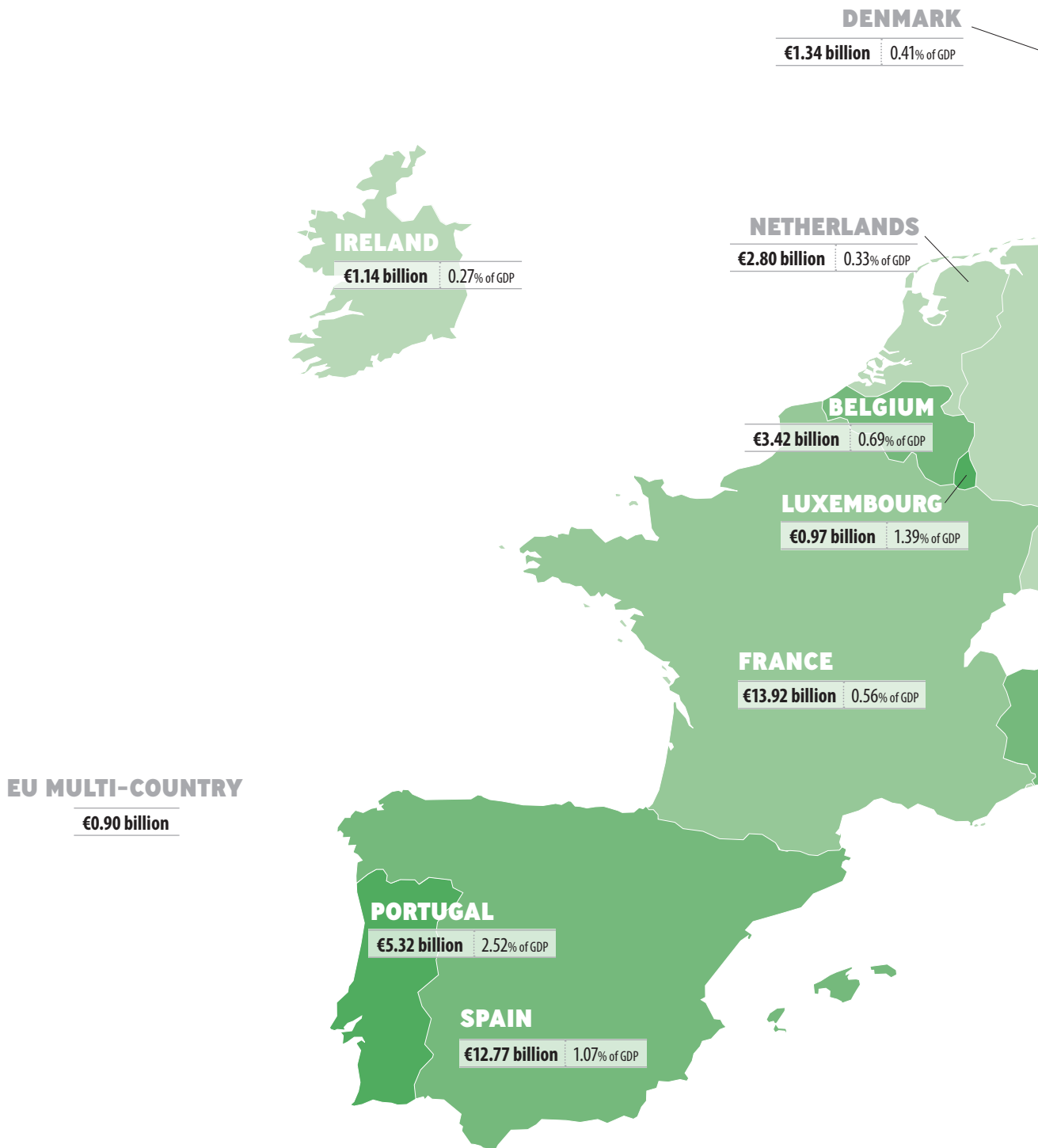
# THE EIB'S IMPACT



Figures are expected outcomes of financed new operations signed in 2021 for the first time, based on available data at this stage. All figures are unaudited and provisional.

\* Figures relate to SMEs/mid-caps that benefited from EIB support in 2021 or from EIF support between October 2020 and September 2021 as a result of operations signed with intermediaries up to the end of 2021.

# THE EIB GROUP IN YOUR COUNTRY



Darker colours signify higher investment as a percentage of GDP



# THE EIB IN YOUR WORLD

## ENLARGEMENT AND EFTA COUNTRIES

€1.37 billion

## UNITED KINGDOM

€0.37 billion

## SOUTHERN NEIGHBOURHOOD

€2.03 billion

## ACP, OCT AND SOUTH AFRICA

€2.15 billion



**EASTERN  
NEIGHBOURHOOD**  
€0.67 billion

**ASIA AND THE AMERICAS**  
€1.54 billion

EFTA: European Free Trade Association  
ACP: Africa, Caribbean and Pacific  
OCT: Overseas Countries and Territories

The European Investment Bank does not endorse, accept or judge the legal status of any territory, boundaries, colours, denominations or information depicted on this map.  
Following EU sanctions against Syria in November 2011, the EIB suspended all loan and advisory activity in the country. However, the EIB is part of the Syria core donor group monitoring the situation under EU and UN co-leadership.

# HEALTHY WORLD

“ The COVID-19 crisis is unprecedented. Likewise, the European Guarantee Fund has been more than business as usual. It has been unconventional in scope, timeline and its underlying instruments, as well as in its governance, with a Contributors Committee representing the participating member states as guarantors. Like the virus itself, COVID-19’s economic effects do not stop at national borders. Support for companies affected by the economic fallout can be more efficient when it reaches beyond individual countries. ”

Ioanna-Victoria Kyritsi, head of European Guarantee Fund implementation unit, EIB

“ Life science is a vital solution for pressing global needs. The European Investment Bank has directly supported 80 highly innovative, early-stage European biotech or medtech projects to the tune of over €2 billion, from new drugs for rare and infectious diseases and immuno-oncology treatments to the development of more accurate surgical implants and sophisticated diagnostic tools. Supporting resilient health systems, access to primary healthcare, and manufacturing capacity for essential medical goods, including vaccines, is a crucial area of our activity. ”

Felicitas Riedl, head of life sciences and health, EIB



How the European Guarantee Fund works



European Investment Bank life sciences experts have been at the heart of the effort to combat COVID-19 and build a healthier future. This section includes what a few of them say about the vaccines we financed in 2021 — and the work we are already doing to guard against future pandemics.

Outside the European Union, our development work includes projects designed to make vaccination equitable and global.

The EIB Group has backed Europe's small and medium-sized enterprises through its European Guarantee Fund. From a restaurant in Croatia to a bank in Finland, here are the stories of businesses that received vital financing during the COVID-19 crisis.

# WHY RISKY IDEAS ARE GOOD IN A CRISIS

**To get out of this pandemic and avoid future crises, we must take more risk and increase innovation in COVID-19 vaccines and all types of life sciences research**

By [Cristina Niculescu](#) and [Nadya Velikova](#)

**O**ne might say that vaccines have become victims of their own success. The COVID-19 vaccines were developed in record time, but it has been hard to gain widespread support for their use. We have become accustomed to vaccinations over many decades. But we also have grown much more concerned with vaccine safety. Many people today tend to forget or take for granted the benefits of vaccination programmes. Fake news and easy access to all kinds of information through social media are causing people not to trust their doctors and science as much as they did 50 years ago.

Vaccines and mass vaccination programmes have contributed to the eradication of certain diseases in wealthy countries. Today, many infectious diseases from the past are rare and almost forgotten. Childhood immunisations have helped eradicate smallpox and have nearly eradicated diphtheria, *Haemophilus influenzae* type B meningitis, measles, mumps, poliomyelitis, rubella and tetanus. In the developing world, the lack of vaccines still causes children to die, while in developed countries, we have the vaccines but there is growing hesitancy to get them. This resistance is jeopardising the gains achieved after decades of hard work by the medical community, researchers and governments.

Despite the threat that transmissible diseases pose to public health, the development of new vaccines has been delayed in the last few years by a shortage of investment for the developers and manufacturers involved in research and production. High development costs, low returns on investment and all the business challenges involved in the development and production of vaccines have forced some biopharmaceutical companies to leave the vaccine development field. All these problems have hurt vaccine development for many years.

## Everything in the toolbox

When it became clear that the coronavirus would be a big crisis, the European Investment Bank decided to leverage all its financing tools and all the technology that science could offer to help companies and society. We did not focus on one company or one technique. We reached out to traditional vaccine developers and new ones, such as BioNTech in Germany, which created one of the leading mRNA vaccines. mRNA is a novel technology that can pave the way for vaccines to treat many other illnesses, including cancer.

Not every project the Bank supported during this crisis was successful, but we did not have the privilege to hope that one solution would work for everyone or the comfort to invest a lot of time

**“ When it became clear that the coronavirus would be a big crisis, the European Investment Bank decided to leverage all its financing tools and all the technology that science could offer to help companies and society. ”**

choosing and supporting only the best ones. Instead, we made bold and sometimes risky decisions. We now have many vaccines that are doing a good job around the world.

We are still looking for new success stories. In October, we approved a €45 million loan to help Spain's Hipra manufacture its COVID-19 vaccine. This vaccine, still in the trial phase, is based on the traditional recombinant protein technology. It has been modified to be more effective against COVID-19 variants. It can be stored in a standard refrigerator — helpful in developing countries and remote areas, where it is hard to supply the special freezers needed for the BioNTech vaccine.

### Now or never

We are in the now-or-never moment to improve the way vaccines are produced and distributed. Solutions that the Bank could explore include stockpiling essential medicines, supporting the production of vaccines in other locations, sharing knowledge and technologies, developing flexible manufacturing units, and investing in more advanced production methods. The goal: a vast, global vaccine supply ready to ensure a rapid and efficient response to crises.

### **We are starting to shift gears at the Bank by spending more time on the distribution of vaccines and on companies that can produce stockpiles of vaccines created by other firms.**

We need to find ways to produce vaccines in more places, as this would let us help more remote locations, especially in poorer countries. We are working more closely with the European Commission, the World Health Organization, the Coalition for Epidemic Preparedness Innovations (CEPI), and other health groups to boost vaccine production.

In June 2021, we signed a €30 million global vaccine distribution deal with the Belgian biotechnology company Univercells. The company plans to expand the production of large volumes of COVID-19 vaccines at a new Belgian site and help build other plants worldwide to stockpile vaccines. Meanwhile, BioNTech and the European Union are working together on evaluating mRNA vaccine manufacturing sites in Africa. Possible locations include Rwanda and Senegal.

### Finance for promise

The EIB has a long history of supporting the life sciences sector. We invest over €800 million per year in this field. Over the past ten years, we have lent more than €1 billion annually to healthcare infrastructure. Our portfolio for COVID-19 includes more than 20 top European companies with promising vaccines, treatments and tests, representing a total investment of around €770 million.

Over the next several years, it would be great to see an explosion in investment for scientific research and innovation coming from the broader life sciences, as well as more support for medical education and healthcare. There are many health problems that need to be solved besides COVID-19. We need to support out-of-the-box thinking and take more leaps of faith. As scientists, this new appetite for risk excites us and makes our hearts beat faster. This will make the world a better place and save us from future crises that we cannot even imagine yet.

[Cristina Niculescu and Nadya Velikova are life sciences specialists at the European Investment Bank](#)

# THE PANDEMIC NEXT TIME

**Even before COVID-19 is beaten, it's time for governments, scientists, health systems and financial and development institutions to assess the lessons of the coronavirus and set new standards for pandemic preparedness**

By Dana Burduja and Anna Lynch

**I**t has to be faced: there will be another pandemic — it's just inevitable. But the natural tendency among decision makers is to act as though it will never happen. That's because preparation is costly and may not pay off for a long time. We have to ensure that policymakers back preparedness now, while the impact of COVID-19 is still fresh and before the onset of wishful forgetting.

COVID-19 is not yet gone, of course. We can look forward to the end of the pandemic, but the disease will remain with us, perhaps becoming endemic. Still, its impact on life, society and the economy has been profound. **If we want to ensure that the next pandemic has less of an epochal and catastrophic effect, scientists and policymakers need to come together to prepare for a new and different kind of health crisis. We can't foresee exactly what kind of disease may strike, but we have learnt lessons during this pandemic that can be applied to our planning for the future — now.**

## **An incubator for an emergency agency**

The European Union is commencing a major new project to plan for the next pandemic, calling it a European bio-defence preparedness plan. With its origins in a meeting of European heads of state in February, the Health Emergency and Response Authority (HERA) Incubator aims to mobilise national actors in a coordinated effort. It may develop in different ways, as it takes shape. Among its aims, it would provide strengthened coordination for threat assessment and knowledge sharing. It could also lead to a standalone authority to provide streamlining of EU initiatives and cross-border health threats. Its aim is to tackle the problem of fragmentation that affected efforts across the European Union, as well as working on anticipating future threats, risk assessment, modelling, needs monitoring and surveillance. Surveillance will be key to the next pandemic, because it will allow us to react quicker to combat the disease. HERA will also develop and finance countermeasures during emergencies.

The European Investment Bank has been in discussions with the European Commission to understand the best model for financing HERA, which may include InvestEU, customised vehicles such as the InnovFin Infectious Diseases Finance Facility and other innovative instruments. The task is more complicated than finding a project to finance and simply providing the money. It's important to identify the best way to put the financing to use, crowding in private investment. We provide financing when there is a market failure, encouraging alternative investment and ensuring additionality through the provision of social and economic impact.

“ **When we back a company, we can always see the potential for a revolutionary development.** ”

But medicines or vaccines generally take ten or 12 years to develop. There is a risk that, if we take our eye off the ball, attention — and research money — will move elsewhere, as soon as COVID-19 becomes an unpleasant memory.

### The other threats

Of course, the next pandemic isn't necessarily going to be caused by a virus.

**Antimicrobial resistance is a real looming threat that could be our next global problem. Yet, very few companies are investing in antimicrobial research or have assets in the pipeline that might lead to innovative new antibiotics.** The European Investment Bank is backing antimicrobial research through the AMR Action Fund, which the EU bank was instrumental in setting up and in which we have invested €20 million.

We worked with the International Federation of Pharmaceutical Manufacturers & Associations, pharmaceutical firms and the World Health Organization to set up the fund. It has had contributions from 20 big pharmaceutical companies, including Eli Lilly, Roche and Teva, as well as the Wellcome foundation. The aim of the fund is to bring two to four antimicrobial products to market by 2030. It's a difficult job, because this big push is all aimed at developing a product everyone hopes will never be used.

### Policy before profit

That kind of investment, of course, is where the European Investment Bank is key. When private investors see too much risk, it's our job to identify a need based on public policy, rather than profit, and to provide financial support and innovative fiscal tools for the technologies to develop — until private investors have enough proof of the likelihood of success to put their money in, too. The EU bank had invested in BioNTech before the pandemic, for example, supporting the company's cancer research. We are focused on using in-house instruments or facilities backed by the European Commission to support pioneers.

The definition of these policy priorities is an agreement between the European Investment Bank and the European Commission. Our dedicated life sciences team comes from different areas of the life sciences sector, with each member having their own interests and contacts from previous experience in industry. We follow the market and study the scientific literature to identify what should be driving our investments. Because we are supposed to be working with the pioneers, you win some, you lose some. But when we back a company, we can always see the potential for a revolutionary development.

Dana Burduja is senior health economist and Anna Lynch is a senior life sciences specialist in the life sciences and health division at the European Investment Bank

# VACCINATION IN AFRICA

## An African COVID-19 vaccine production plant in Senegal is part of a plan to boost regional healthcare and to make the continent less reliant on imported vaccines

**F**ewer than 2% of the 3 billion vaccine doses administered globally have been in Africa. A new vaccine production facility at the Institut Pasteur de Dakar in Senegal is part of a continent-wide strategy to fill this desperate gap and raise Africa's capacity to produce vaccines. "The COVID pandemic has highlighted the need to increase vaccination in Africa," says Dr Amadou Sall, director of the Institut. "If you want to stop the transmission or limit the severity of the disease, we need to vaccinate more people."

To increase vaccination rates, Africa needs to secure more doses. New manufacturing facilities on the continent are essential, as Africa currently imports 99% of its vaccines. **The new vaccine production facility at the Institut Pasteur de Dakar plans to produce as many as 25 million doses of an approved COVID-19 vaccine each month by the end of 2022.** "Africa is fully reliant on other countries to produce vaccines and make them available to African people," says Ramon Ynaraja, the European Investment Bank's representative in Senegal. "Many African countries, even those with the funds, simply cannot get access to vaccines on the market. This is why this site in Senegal, which will cover the entire production chain, is so important for the continent."

### Costly and complicated process

Vaccine manufacturing programmes are expensive and complex, even for sophisticated organisations like the Institut Pasteur de Dakar, which has over 80 years of experience developing vaccines and is currently the only facility in Africa producing a vaccine accepted by the World Health Organization. Recently the institute has also been working with the European Investment Bank and Germany's development bank KfW on the mass production of rapid COVID-19 tests for healthcare workers.

To kick-start development of the new facility, the Bank and its Team Europe partners from the European Commission, France and Germany provided grants, technical assistance and training. Another member of the team, Belgium, is working with Senegal on a plan to develop the country as a regional hub for pharmaceuticals, with the regional government of Wallonia also supporting a Belgian biotech company that will help the institute with capacity building and technology transfer. Other international partners, including the United States and the World Bank, will support the project during the development phase, when the total cost could reach as much as €200 million.

"Not only does this reinforce the health system, but also through this particular project it will create jobs, develop capacities in terms of know-how and workforce, while bringing in new technology," says Dr Sall.



[How Team Europe boosts manufacturing and access to COVID-19 vaccines in Africa](#)

# LIFE AND DEATH

**Despite the focus on COVID-19, future health is built on a wide range of innovations happening now. A Barcelona-based medical technology company has developed a revolutionary stroke treatment**

**F**rançois Salmon remembers vividly the moment he read the text message on his mobile phone: “All’s well. Clot retrieved. Patient is fine”. It was the end of 2019 and a woman at the Hospital Vall d’Hebron in Barcelona had just successfully undergone a thrombectomy a few hours after her stroke. The surgery was the first of a clinical trial by Anaconda Biomed, a medical device startup that could revolutionise stroke treatment. “I’m happy that we’ve helped healthcare professionals save lives and reduce disability after a stroke,” says Salmon, Anaconda’s chief executive since 2018.

To carry out further trials, Anaconda received venture debt financing of up to €10 million from the European Investment Bank in October. The loan also brought the liquidity the Barcelona company needed to keep going during the pandemic. “Anaconda’s system is refreshingly simple,” says Tom Andersen, the European Investment Bank engineer who worked on the loan. “This system offers a cost-effective improved treatment.”

## ‘The damage stops’

The carotid arteries, which run from the heart to the brain on each side of the neck, can thicken when a clot blocks a major blood vessel. Blood supply to vital parts of the brain is interrupted. That’s a stroke. The longer the artery is clogged, the more likely it is that there will be lasting damage, such as paralysis and speech problems. Traditional techniques of clot removal sometimes leave behind fragments of the thrombus, which might clog other arteries. **Anaconda developed a catheter that is designed to remove the whole cerebral thrombus without fragmenting it.** The funnel-shaped, self-expanding catheter reaches the diameter of the artery — up to 5 millimetres. In this way, the catheter can fully trap and remove the clot. “Once the clot is out, the damage stops,” says Salmon.

## Out of the pandemic, with the help of the European Union

Now that the clinical trials are over, Salmon takes stock of their progress: the results already validated earlier testing and fulfilled all expectations for the safety and efficacy of the first generation catheters. Unquestionably, Anaconda’s advanced system has had a dramatic, positive impact on the post-stroke life of the patients. “The results have been very good so far,” says Salmon, “but we prefer to stay cautious as we deal with a matter of life and death.”

# A PANDEMIC PRESCRIPTION FOR BANKS

**The European Guarantee Fund eases the burden on banks to keep companies afloat across Europe. Here is how this COVID-19 bank lending tool works in Finland and Sweden**

**P**etri Vartiainen has his hands full as a senior advisor in export finance. “Who knows what the future will bring or whether the pandemic will linger on and on,” says Vartiainen, who works at Finnvera, a public finance institution that provides loans and guarantees to companies and supports Finnish exports.

The pandemic is hurting all types of businesses, especially exporters linked to the global market. Companies still need cash flow to pay their expenses and make investments to stay competitive. The European Guarantee Fund, the European Investment Bank’s COVID-19 safety net, comes at the right time. “This is really helping financial institutions like Finnvera reach out to local companies deeply affected by COVID-19 and give them access to finance,” says Roxana Popescu, a loan officer at the European Investment Bank who works on loans in the Nordic region. **In April, the EU bank guaranteed a big piece of Finnvera’s future loan portfolio, enabling the firm to make up to €650 million in new financing available to medium and large companies.** With exports so important to economic growth, EIB support for Finnvera’s clients promotes internationalisation at a time when the pandemic might have otherwise made it impossible. The EIB has signed dozens of similar guarantees across Europe. These investments could mobilise as much as €200 billion for the European Union economy.

## **New pain for exporters**

Finnvera’s role as a state financier is to complement the financial markets and increase the number of new companies in Finland, while helping old companies grow. It is the official export credit agency of Finland, so it also helps its portfolio of about 26 000 clients sell more products globally. “When the pandemic began, we started preparing ways to face the challenges ahead,” says Vartiainen, the senior Finnvera adviser. “The EIB has been and is a valuable partner for Finnvera and the Finnish financial sector.”

## **COVID-19 bank lending in Sweden**

The European Investment Bank signed a similar guarantee with the Swedish Export Credit Corporation, known as SEK, which will enable it to provide €467 million in new loans for medium and large companies. **The total benefit to the Swedish economy from this deal could be as much as €1.1 billion.** The EIB invests about €2 billion a year in Swedish projects.



# DIGITAL SURVIVORS

## A Croatian restaurant and a Czech property app make it through the lockdowns and emerge ready for the future

**B**atak Grill aims to offer a fine dining experience rooted in the traditions of the local grill. “We wanted to bring something new to the market,” says Isabella Paver, finance director of Victus Group, which owns the restaurant. “The local grill, but in a more modern way, catering for business lunches and celebrations.” The restaurant was doing well.

Until COVID-19 came along. “When we went into lockdown, it was a shock for us,” Paver says. Batak Grill’s response was to offer a delivery service. But it needed a digital revamp, setting up a website. “We had delivery services before as well, but now we expanded delivery to all products and set up a dedicated platform.” It was a complicated process that included dealing with data protection regulations, ensuring the website worked on mobile phones and tablets, optimising it for search engines, investing in marketing, setting up invoicing and inventory management systems — and promoting it all on social media. But the transition was a success.

Batak (which means “drumstick” in Croatian) sought support from Erstabank Croatia, in the form of an EU-guaranteed loan backed by the European Investment Fund. **“The loan helped us implement all these changes and boost our online presence,” Paver says. “In the end, we didn’t lay off any staff.”**

### Digitising buildings

Spaceflow is a company that illustrates how the digital transformation is spreading to so many aspects of our lives — even buildings. “Our mission is to connect buildings with their tenants,” says Pavel Jiranek, chief operating officer.

Spaceflow provides digital real estate services on residential properties. It aims to help landlords attract and retain good tenants and raise profits. But, with the coronavirus pandemic, the tenant experience market has witnessed a massive shift. “Landlords are under increasing pressure to make their buildings more appealing and, above all, safe,” Jiranek says. “Our product may have been a ‘nice to have’ in the past. Now, it is becoming a ‘must have’, if you want to remain competitive.”

Spaceflow is backed by Day One Capital, a venture capital fund supported by the European Investment Fund under the European Union’s Investment Plan for Europe. That backing allows the company to work on product development, hiring around 20 new staff, and growing the business significantly.

# LET THERE BE POWER

## An Italian took his childhood love for invention and turned it into a company whose energy efficient electronics could make big cuts in carbon emissions

Instead of playing with toys like other children, Igor Spinella took apart home appliances to see how they worked. When he was eight, his parents returned from mushroom picking in the hills of Emilia Romagna, only to set off a burglar alarm little Igor had designed and installed on their home.

"I was a wacky child. I spent the afternoons in the family garage working on my inventions," says Spinella, who at 40 is founder and chief executive of power electronics firm Eggtronic. The company has filed more than 240 patents in less than a decade.

But, as for many startups, the pandemic was a "heavy blow" for Eggtronic, he says. Luckily the company received a €15 million loan from the European Investment Bank, under its pandemic safety net, the European Guarantee Fund. Eggtronic is using this financing to invest in research and development for products that are potentially important to Europe's climate goals.

The EU bank supports innovative European companies, which often have a harder time finding growth financing than counterparts in the United States or Asia. "Eggtronic has come up with very innovative products in an area with a lot of potential," says Fabrizio Morgera, the EIB investment officer who worked on the loan.

### The invisible friend

Spinella works in power electronics, which he calls "the invisible friend that makes the world work." Power electronics is the technology that regulates the flow of electricity through transistors in electric and electronic devices. However, all power electronics boards waste some power as they operate. A typical source of inefficiency comes from the transition from on to off in the transistors.

To make devices as energy efficient as possible, tech companies have replaced the conventional silicon switch in an electric circuit with faster gallium nitride transistors over the past few decades. But gallium nitride transistors are more expensive. **Eggtronic challenged the architecture of power converters to reduce switching losses even further.** In its pioneering architecture, standard silicon performs as well as gallium nitride, and gallium nitride performs three times better than the same semiconductor in the traditional architecture.

### Convenient and sustainable

More power with less wasted energy allows Eggtronic to build smaller devices. **And because of their high energy efficiency, Eggtronic devices have a much smaller carbon footprint.**

When COVID-19 ravaged the world, "we managed to hold the helm steady," says Spinella. "The EIB loan is helping us look forward to the future again."

# THE SOUND OF GLASSES

## Austrian high-tech firm USound pioneers the world's smallest loudspeakers with a digital technology that requires 80% less power

**T**eenagers often find their parents' ideas irritating or irrelevant. But since Ferruccio Bottoni launched Fauna glasses two years ago, his daughter can't stop using them. "I realised that the glasses must be really good," says Bottoni, co-founder and chief executive of USound.

The company develops and markets micro-loudspeakers based on MEMS (Micro-Electro-Mechanical System) technology. But the coronavirus pandemic was a setback. "We were hamstrung by the pandemic," he says. That's why he took a €15 million loan from the European Investment Bank. The financing is supported by the European Guarantee Fund. "The European Investment Bank has given us a breath of oxygen."

### From mechanics to microelectronics

Audio components haven't changed much since the 19<sup>th</sup> century. **USound's idea is to build micro-loudspeakers based on semiconductor technology.** By replacing the coil that moves in conventional silicon systems, these light, small speakers can be integrated into technologies requiring more minimal designs, such as audio glasses and ultrasound applications. "USound has reinvented the audio industry," says Trudpert Schelb, the European Investment Bank engineer who worked on the loan. "This is the most important development in loudspeaker technology for decades."

USound MEMS speakers have an extended bandwidth, which allows for high definition audio as well as ultrasound applications in miniature devices. They use up to 80% less energy than conventional components. In a market dominated by Asian manufacturers, they are competitively priced, even though production is in Europe, mostly in Italy.

USound's technology is based on piezoelectricity. Crystals with these characteristics extend or shrink in an electric field. To radiate sound, air must be moved. So the small MEMS structure is connected to a membrane, like a very thin plastic foil moving up and down. The result is a system working just like a standard electrodynamic speaker, but with the bulky magnetic coil replaced by integrated piezo-actuators on a MEMS chip.

The coronavirus pandemic disrupted the company's supply chain. Projects were delayed or cancelled. Electronic components are still very difficult to find, which prevents projects from starting. "The loan will help us hugely," he says, "by fixing our cash flow problems."

# TO GROW BIG, SUPPORT SMALL

## Two innovative companies get back on their feet and empower other small businesses

It is often said that small businesses are the backbone of the European economy. It's no wonder. Most EU businesses are small and medium-sized enterprises (SMEs), employing a total of more than 100 million people. And almost all of them had a serious drop in revenue during the pandemic.

Travel tech company TourRadar was no exception. "We lost 98% of our business," says co-founder and chief executive Travis Pittman. TourRadar operates an online platform that allows users to book multi-day tours in more than 200 countries. The platform brings together more than 3 000 businesses, including small tour operators who would otherwise struggle in a competitive market. But international travel restrictions put these partners "into hibernation," says Pittman. "They had to let go a significant portion of their employee base, including local guides and support staff."

The European Investment Bank is supporting TourRadar with €14 million in venture debt financing under the European Guarantee Fund, which helps European businesses survive the pandemic, retain employees and grow. Venture debt pays back like an equity investment, but it does not deprive a startup's founders of ownership. The loan will enable the company to develop machine learning capabilities to improve the ranking and searching accuracy of its platform.

### Waking up from hibernation

Tourism has been among the sectors most affected by the pandemic. The number of international passengers dropped from 1.4 billion in 2019 to 400 million in 2020. To get back on its feet, the Vienna-based company had to reinvent the way it does business. "We decided to open up our platform to travel agents. Now, they can use the platform to book some of the 50 000 tours we offer," says Pittman. "This way, agents will be able to find the best local services for their clients, while our local partners will benefit from more exposure."

**You may think travel agents are a thing of the past. But, in the United States alone, travel advisors are seeing a 76% increase in customers in 2021 compared to before the pandemic.** "We see this development as a great way to tap into this growing market, and in turn increase both our profit and the profit of our local partners," Pittman says.

### From spreadsheets to apps

Sennder, Europe's leading freight forwarder, represents this symbiotic relationship between small companies even better. It focuses on short-haul trucking and offers shippers access to its connected fleet of 12 500 trucks, operated by small independent carriers. The pandemic caused widespread disruption to the sector, but Sennder proved resilient. "When EU countries started imposing travel restrictions, many small carrier companies suffered. But thanks to Sennder's long-term contract with big shippers, their carriers didn't take such big hits," says Aleksandar Mihajlovic, the EIB investment officer who worked on this project, as well as the TourRadar deal.

**“ Venture debt pays back like an equity investment, but it does not deprive a startup’s founders of ownership. ”**

The European Investment Bank is providing Sennder with venture debt funding of €35 million to support the development of the company’s freight software, which connects shippers and carriers. Strengthening companies like Sennder is vital, considering the impact COVID-19 has had on supply chains around the world. “The transport sector is far from digitalised. Many small companies still use spreadsheets to organise shipping. Sennder’s software is a step into the future for a very traditional industry,” says Mihajlovic. “By focusing on digitalisation and automation, they are making the system more efficient as well as reducing carbon emissions.”

## EASING OFF THE BRAKES

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Pedro Oliveira started his trucking business with his father in 1991. “Today we have a fleet of 30 trucks travelling all over Europe and we employ 40 people.” The company mostly transports construction materials, such as heavy metal, cement, iron and wood from the Iberian peninsula all over Europe. “It’s good value for money,” he says, “since the material is less expensive in Spain and Portugal.”

COVID-19 was quite a bump in the road. “We had a few difficult months,” says Oliveira, who runs Transoliveira from Oliveira do Hospital in Portugal. “We applied the brakes and our trucks stopped for three months.”

The family business had grown steadily over the years and Oliveira’s first concern was to ensure he didn’t suffer major losses or, even worse, close down. “The situation created a lot of instability and uncertainty. We didn’t know what to expect,” he explains.

To manage the situation, Oliveira took an EU-guaranteed loan from Caixa Geral de Depósitos, backed by the European Investment Fund under the European Union’s Investment Plan for Europe. The loan enabled Oliveira to deal with unexpected shortfalls in finances, cover his bills and most importantly keep his staff, despite the major worldwide economic shock. “The future looks uncertain so it’s best to play it safe,” he says.

# GREEN WORLD

“ Climate change is the most pressing issue the world faces today. But the most innovative climate action projects face funding challenges, because they are considered risky, especially in developing countries. The European Investment Bank helps build partnerships with public donors to de-risk private investment in climate action and environmental sustainability. Only by acting together we can make a difference. ”

Milena Messori, head of non-EU equity and microfinance, EIB

The EU climate bank added further dimension to its Climate Bank Roadmap with an adaptation plan and a framework to ensure that its borrowers meet the goals of the Paris Agreement.

Investments and advisory work in space, the circular economy and urban transport help build a sustainable future.

# A TRUE CLIMATE BANK

## In 2021, we focused on Climate Bank Roadmap implementation, including new approaches to help hit climate targets

“// The EIB is a true climate bank now,” said Executive Vice-President of the European Commission Frans Timmermans during the launch of the European Investment Bank’s Adaptation Plan. “That happened in less than three years, and in the financial sector, that’s a revolution.” The European Investment Bank’s **Climate Bank Roadmap is a five-year plan** that details how we will meet our climate and environmental sustainability commitments. Publication of the Roadmap in 2020 was a milestone. The focus is now on implementation and developing the array of new approaches foreseen in it.

### This year, our Roadmap work focused on:

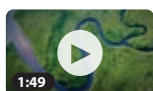
- Launch of the **EIB Adaptation Plan**, supporting the objectives of the European Union Adaptation Strategy inside and outside the EU. We pledged to increase the share of adaptation support to 15% of the bank’s overall finance for climate action by 2025. This represents an almost threefold increase compared with adaptation finance over the past five years. Focus areas range from flood risk and coastal management, protecting cities and resilient infrastructure to research and development in innovation for adaptation. EU clients will have access to an advisory service platform to support planning and investment for adaptation. As for clients outside the European Union, our support will focus on the most vulnerable places, particularly in the least-developed countries and in small island developing states.
- Launch of the **Paris Alignment for Counterparties framework**, which makes the EIB Group the first multilateral bank to consider not just the climate impact of the projects it finances, but also the wider activity of borrowers. The framework will ensure that projects financed by the EIB are Paris-aligned, and that the counterparty is taking steps towards decarbonising business activity and strengthening resilience to climate change. Under the new initiative, we will offer technical support to higher-emitting corporate borrowers and financial intermediaries to help them meet the goals of the Paris Agreement.
- Adoption of the **comprehensive proposal of the EIB Group in support of the Just Transition Mechanism**, which demonstrates how our lending, our financial instruments, and also our technical assistance and advisory services can support the regions and people with furthest to go. Inside the European Union, the EIB Group will support all pillars of the Just Transition Mechanism. Outside the European Union, we will support the just transition in the context of a broader development mandate.



“ The EIB is a true climate bank. ”

### We also made substantial progress on the following:

- **Revision of the EIB Group Environmental and Social Sustainability Framework** to ensure stronger and more systematic integration of environmental, climate and social actions into our policies and standards, including monitoring and reporting on impact and development outcomes. A public consultation took place in 2021 and the new framework is expected to be operational in the first quarter of 2022.
- **Review of the Transport Lending Policy** redefining priorities for EIB support within the Climate Bank Roadmap framework and strengthening the impact of its future transport investment. A public consultation took place between July and October 2021. The new policy is expected to be approved in the first quarter of 2022.



Vice President Ambroise Fayolle on how the Climate Bank Roadmap contributes to a green recovery from COVID-19 and underpins the objectives of the European Green Deal

# SILICON VALLEY ON THE ISAR

## A Bavarian venture capital fund backs growth companies like OroraTech, which aims to slow global warming by helping snuff out wildfires

**T**homas Grübler was 26 when he and his friends made a cube satellite for their research project at the Technical University of Munich and realised it had a future beyond academia. They envisioned a company that would send these shoe box-sized devices into space to carry out thermal monitoring of the entire globe, protecting against the impact of the wildfires caused by global warming. So they founded OroraTech. “Many companies and investors think you have lower profits when you do something good to counter climate change,” says Grübler, who is now 30 and chief executive of OroraTech. “This is not true. You can build a company to have more profit when you do something beneficial for the earth, instead of something bad.”

“**You can build a company to have more profit when you do something beneficial for the earth, instead of something bad.**”

**Innovative technologies like OroraTech’s are key to meeting the climate targets set by international bodies and to helping communities adapt to the effects of climate change.** But it’s hard for successful startup tech companies to raise the funds needed to complete their research and expand their businesses — the so-called growth stage of a company’s life cycle. Thankfully for OroraTech, the Bavarian state’s venture capital arm, Bayern Kapital, set up a

€165 million fund to invest in growth companies. “We hope to create big Bavarian companies that might even become big German or European companies with lots of jobs and impact on the GDP,” says Monika Steger, who manages Wachstumsfonds Bayern 2 at Bayern Kapital.

Bayern Kapital’s investment capital comes from the Bavarian state and, in the case of Wachstumsfonds Bayern 2, also from the European Investment Bank. Growth companies typically turn to venture capital, which is more freely available in the United States and China than Europe. That hinders their growth or results in their purchase by bigger companies from outside Europe. That’s why the EU bank invested €50 million in Wachstumsfonds Bayern 2 in March. “This type of investment boosts the entrepreneurial spirit that is essential for a strong economy and which, in Germany, is lagging behind,” says Michael Raschke, who heads the EIB’s investment unit for German banks.

### Shoe-box satellites and Bavaria venture capital fund

OroraTech uses public data from NASA and European Space Agency satellites in its proprietary software. But, in January 2022, it will launch the first of its own CubeSats. In five to ten years, OroraTech aims to have a network of 100 to 200 satellites capable of taking a full picture of the surface of the earth every half hour. **The satellites will measure the temperature of the surface of the earth at a very high resolution. With so many wildfires caused by global warming, this has important environmental implications.** “Our company is very important to us. But we are working on something that’s very important to everyone,” says CEO Grübler. “To look after the planet.”

# SPACE FOR EVERYONE

## Bulgarian nanosatellite company EnduroSat's technology helps cut the cost of accessing space-based sensors and equipment for scientists and businesses

**E**nduroSat's journey from Earth to space began in a 25 m<sup>2</sup> attic in Sofia in 2015. Raycho Raychev, now the 38-year old founder and CEO, gathered a team of four bright, young engineers to make space more accessible to scientists and entrepreneurs around the world. "We believe that universal access to space could fundamentally improve life on Earth," says Raychev.

EnduroSat is opening opportunities in space research to businesses and scientists through its flexible, multi-purpose NanoSats, which can be reprogrammed for each mission. The company's software allows its tiny satellites to perform multiple missions without the need for hardware tweaks. "A typical satellite is tailored for just one particular sensor," Raychev explains. "We've broken this mould by building a satellite platform capable of carrying different sensors and electronics without having to change the hardware for each payload." **The company's approach also has benefits for the space environment, because it means fewer satellites and fewer launches are needed for any given number of applications. This saves on CO<sub>2</sub> launch emissions and results in less orbital debris in space.**

### Financing challenges

But the COVID-19 pandemic has been a challenging time. Faced with delayed rocket launches, component shortages and the logistical problems of moving engineers and components, the company turned to the European Investment Bank for financing. Backed by the European Guarantee Fund, the Bank provided a venture debt financing agreement of up to €10 million for EnduroSat. "It's an innovative, small company working in the strategic space sector and that's been affected by the pandemic," says Luis Cervera Lozano, an EIB investment officer.

### EU space priorities

Space industries are a strategic priority for the European Union. The sector, once dominated by state-backed entities, is undergoing considerable change as technological advancements allow new, private companies to enter the market. According to the European Space Agency, every euro invested in the space sector returns an average of six euros to the economy, making the sector essential for growth, competitiveness and high-tech employment. Moreover, space technology in orbit and applications on Earth have the potential to provide competitive advantages in a large number of industries including maritime, aviation, agriculture, natural resource management, insurance, financial trading and logistics.

"It's fantastic to see the EIB interested in the space sector," says Raychev, "because it's an area that is set to play a bigger role every year."

# SUBATOMIC CLIMATE SOLUTIONS

## A neutron source facility in Sweden seeks to bring European materials research and green innovation to unmatched levels

**O**n the beautiful outskirts of Lund, one of the largest research infrastructure projects in Europe, the European Spallation Source (ESS), is being built. Owned by 13 European countries, the ESS will be the home for the world's most powerful neutron source. By receiving researchers from all over the world, the facility aims to pave the way for pioneering scientific breakthroughs and to answer humanity's biggest questions — by going small, examining materials on a nanoscale level using subatomic particles. "There are many fields vital for all of us that the ESS will affect," says Pia Kinhult, head of host state relations. "We are part of the chain that seeks to push innovation in Europe and find solutions to climate change and other societal challenges."

But building a 700-metre facility (the size of 13 football pitches) equipped with 15 state-of-the-art instrument and support laboratories, as well as a 600-metre-long proton accelerator, is a major investment. The European Investment Bank is backing ESS with a credit facility to ensure that Europe stays at the forefront of international scientific research.

### Faster and smarter neutron experiments

Don't let their microscopic size fool you, neutrons are powerful tools for making sense of the world around us. These particles found in the nucleus of an atom have significant benefits over other technologies for the study of all kinds of matter and materials. "Neutrons are fast, smart, and 'nice', as they do not destroy the samples like, for example, X-rays," says Kinhult. "They enable the study of fragile samples, like proteins and living cells, and also the detection of hydrogen, which plays a crucial role in almost all biological processes."

### European support for innovation in Sweden

Spallation is the process of producing neutron beams by hitting a tungsten target with protons accelerated to almost the speed of light. By observing the released neutrons passing through materials, the researchers can understand how atoms and molecules in the samples interact and behave, which in turn helps to improve and create new materials.

In 1932, James Chadwick proved the existence of the neutron from the convenience of a relatively small laboratory in England. However, experiments using neutrons today require larger facilities and more sophisticated instruments. ESS is a huge endeavour that took many years to come together, with civil construction due to finish in December 2021. "Historically, the construction of such facilities has not been easy," says Kinhult. "We realised early on that we would need to secure liquidity for both construction and to support our operational capabilities, which will continue in the next few years."

// **Don't let their microscopic size fool you, neutrons are powerful tools for making sense of the world around us. //**

The European Investment Bank's €50 million financing for ESS is backed by InnovFin-EU Finance for Innovators, an initiative launched by the EIB Group in cooperation with the European Commission under Horizon 2020, the EU research and innovation programme. The credit facility is the third instalment since 2016, for a total of €200 million. **"InnovFin provides financing in support of research and innovation projects, such as research infrastructure," says Aristomenis Pofantis, lead engineer for sustainable and digital industries at the European Investment Bank. "With this line of credit, the EIB wanted to make sure that this highly ambitious project can be completed without costly delays, despite the ongoing difficulties caused by the COVID-19 pandemic."**

### Greener research and innovation in Europe

Europe has always been at the forefront of neutron research, but ESS is much more than just a neutron source. Once finished, the research infrastructure will reshape the way we perceive research in Europe and the rest of the world. Every year, the facility will welcome up to 3 000 visiting researchers from universities, institutes and companies around the world who will carry out about 800 experiments. "Collaboration is at the core of ESS," says Kinhult. "We will have a broad range of instruments that researchers can use to carry out experiments and obtain the higher-quality research data necessary to find solutions to modern problems."

The research facility has a green dimension, enabling unique research possibilities within sustainability and climate, as well as heating thousands of homes and other properties in surrounding areas with its surplus energy. "Today, everything is based on research data, including the fight against climate change," says Kinhult. "With the experiments at our facility, we will contribute to the development of innovative and more sustainable materials and more environmentally-friendly energy and transport solutions."

# BACK IN FASHION

**Renewcell's textile recycling plant will shred old clothes and transform them into new threads. The Swedish company aims to use its patented technology to make the fashion industry more sustainable**

It all started with a simple yellow dress created from old, discarded blue jeans. It was the first garment made entirely from recycled clothing seven years ago by what was then a new company, Renewcell. "The dress shook up everything," says Tahani Kaldéus, the head of research and development at Renewcell. "This changed the equation of consumption in the fashion industry."

When the Stockholm textile recycling company introduced its yellow dress to the fashion industry on a catwalk in June 2014, it received widespread praise, because the dress looks no different from one purchased at a leading retailer. The difference, however, is the technology. Renewcell is one of the first industrial-scale companies to turn old clothes into new textiles using an eco-friendly chemical recycling process. **The company wants to show the world that recycled clothing works. It uses patented technology to shred and break down clothes into a pulp that is then processed into a fibre and turned into thread.** "Clothes made from recycled materials have been around for a while," says Harald Cavalli-Björkman, chief marketing officer at Renewcell. "You can find many recycled garments made of polyester from recycled bottles. We are pioneers in textile-to-textile recycling. We use old garments to produce new ones with the same quality."

## Keeping clothes out of the landfill

The European Investment Bank signed a loan of up to SEK 311 million, or about €30 million, with Renewcell in June. The loan, which received a guarantee from the European Commission, will help build the first full-scale commercial clothing recycling plant. The plant will be located in Sundsvall, Sweden, with a capacity to produce 60 000 tonnes of pulp per year.

Renewcell has already worked with well-known fashion companies to launch thousands of garments made from recycled clothes. "These pieces sold out quickly and looked and felt exactly like normal clothes," says Kaldéus. "We make it easier for customers to choose the more circular option, by offering nice clothes at a reasonable price."

Renewcell's process also helps the climate and the environment. Like other clothmakers, it uses cellulose to make textile fibres. By harvesting cellulose from textile waste, instead of extracting it from wood, the company helps reduce deforestation, preserves habitats and prevents biodiversity loss. "The circular economy is a key element of the European Green Deal," says Darragh Mac Neill, senior industry specialist at the European Investment Bank. "In particular, there is a rising concern about textile waste. More than half of all discarded garments in Europe end up in a landfill or are incinerated, while only 1% are recycled. So we are faced with a compelling need to change how we deal with valuable natural resources."

**// We make it easier for customers to choose the more circular option, by offering nice clothes at a reasonable price. //**

The production of natural textiles such as linen and cotton also consumes a lot of water. “The world population is growing and everyone needs clothes,” says Celine Rottier, a loan officer at the European Investment Bank who worked on the Renewcell deal. “But the fashion industry needs to become more sustainable and resilient for the future. Re-using and recycling are the only way to make the transition to a circular production model.”

### A COVID-19 step change

The COVID-19 crisis is an opportunity to speed up this transition. Lockdowns and other health restrictions have caused major disruptions in the clothing supply chain and accelerated the shift towards online distribution. Customers are increasingly aware of the environmental impact of their shopping choices and expect companies to meet higher ethical and environmental standards. Many fashion brands are emerging from the crisis with a greater emphasis on sustainability.

Innovation is also speeding up the sustainability transition. “That’s where we step in,” says Elsa Lopez Formoso, another loan officer at the European Investment Bank. “We bridge the gap caused by the innovation Death Valley.”

The valley of death is a term used by entrepreneurs to describe the tricky phase between research and development and the successful implementation of an innovation. Companies often receive grants and various types of limited financing during the early stages of product development. However, when companies are ready to move to full-scale production, they often find it difficult to raise large amounts of money from private investors, because of the risk inherent in new technologies. “That’s where the European Investment Bank’s finance and stamp of approval can allow the private sector to feel confident enough to invest in scaling up circular innovation,” says Cavalli-Björkman of Renewcell. “This way, we can get everyone involved in a sustainable future.”



Watch how Renewcell is greening the fashion industry

# CUT EMISSIONS, CUT RATES

**To discourage pollution, a climate finance loan offers Enel a lower interest rate — if it cuts more CO<sub>2</sub> emissions**

**H**ow can a bank encourage companies to cut emissions? Here is an idea we are pursuing: link a loan's interest rate to lower emissions. We used this method for the first time in July when we signed a €300 million loan to the giant Italian electric utility Enel, the first half of a €600 million deal.

The terms reward the company if it reduces its CO<sub>2</sub> emissions to a specified level — and charge it more if it fails. "Structures like this introduce an incentive to decarbonise," says Giulio Horvath, an EIB loan officer who worked on the deal. "It's something we wanted to do and which we hope will be replicated with other clients in other markets."

// **Sustainable companies are less risky and more valuable over the long term.** //

Enel, the largest private sector operator of renewable power in the world, is a pioneer in target-based financing. In 2019, it issued a \$1.5 billion bond with payment terms linked to a renewable energy target, the first bond of its kind on the market. The company has since developed a strategy to link its financing activities to the UN Sustainable Development Goals.

**One advantage of linking financing to specific targets, rather than individual projects, is that it helps to ensure greater company-wide commitment.** "If you finance on a project basis, you cannot be 100% sure that all the different parts of a business are working towards the same goal," says Alessandro Canta, Enel's head of finance and insurance. "But if you change the logic and you finance the strategy, then you can be surer that a company will be committed to achieving its goal."

The amount of interest Enel will pay for the EIB loan will depend on its ability to cut the average amount of CO<sub>2</sub> emitted by all its power stations to no more than 148 g per kilowatt-hour by the end of 2023. The cuts will be independently verified. The EIB loan will finance projects to strengthen the resilience and sophistication of electricity networks in Italy, helping to accommodate more renewable electricity and to withstand the higher average temperatures and more frequent heatwaves expected as a result of climate change. Most projects will be carried out in poorer parts of Italy, particularly in the south, where the infrastructure is older.

To meet its CO<sub>2</sub> target, Enel also plans to bring forward the closing date of some coal-fired power plants and has a three-year plan to install 20 GW of renewable electricity projects across the more than 30 countries where it operates. Financial instruments linked to sustainability targets accounted for almost one-third of the group's debt last year and the company hopes to see this rise to almost 50% by 2023 and as high as 70% by 2030. "When some people hear 'sustainability,' they think solidarity, but sustainability for a company is value," says Enel's Canta. "Sustainable companies are less risky and more valuable over the long term."



# GREEN HEAT

## A Dublin-based group foresees that the internet of things can help to reduce emissions from household heating

**T**he best way to cut greenhouse gas emissions is to avoid using energy in the first place. Glen Dimplex aims to create intelligent and energy efficient systems which run on clean electricity, rather than oil or gas. “We see the challenge of decarbonisation as an opportunity and obligation for us to effect lasting change,” says Chief Executive Fergal Leamy. Glen Dimplex, whose Europe-wide range of heating and ventilation brands include Nobo, Noirot and Xpelair, is researching ways to make them more efficient through smart devices connected to the internet of things.

### Digitalisation to drive energy efficiency

In the European Union, the majority of residential heating is based around fossil fuels. The move to electricity automatically reduces carbon dioxide emissions; improved connectivity along with smart electronic controls within, say, a single home, then cuts the amount of electricity that’s used. This can bring energy efficiency improvements of over 15%, according to Aris Pofantis, lead engineer for sustainable and digital industries at the European Investment Bank. The EU bank made a loan to Glen Dimplex in 2021 to help finance the company’s research and development. “Sometimes the term digitalisation is used too broadly,” says Pofantis. “But Glen Dimplex is really incorporating connected and smart solutions to their products and systems. The benefits are important.”

Glen Dimplex’s internet of things innovation has provided new benefits to customers who can now control their heating appliances remotely through an app, meaning that they can turn on their heaters just in time for their arrival home from work, and never need to unnecessarily heat an empty house. Appliances are more intelligent and can operate more efficiently thanks to functionalities such as room temperature sensors, weather forecasting and open-window detection.

Glen Dimplex has also been involved in trials and early commercial partnerships with utility companies and energy management platform providers in which the internet of things has been used to manage individual heating appliances in multiple homes to unlock further flexibility and energy efficiency without compromising consumer comfort. When this is done at scale, it can potentially have a major impact on emissions. **“The technology is there today and is robust,” says Rowena McCappin, group external affairs director. “The issue is to build offerings which are scalable and allow us to deliver tangible benefits to consumers.”**

The Bank’s financing supports the company’s research in France, Ireland, Germany and the Netherlands. Throughout the pandemic, Glen Dimplex has kept its laboratories and research teams working. That, says CEO Leamy, puts it in a strong position to contribute to the solutions needed for tackling climate change. “Throughout the European Union, COVID-19 recovery plans are intrinsically linked with green growth,” he says, “and the just transition to a more sustainable world.”

# ANCIENT MONUMENTS, MODERN METRO

**Egyptian green transport projects transform travel in two of Africa's biggest cities. Here is how Egypt plans to make its big cities sustainable**

**N**oura Saad works as a librarian in Giza, near the famous Sphinx and the Great Pyramid. For years, she used a car or bus to get to work, battling traffic jams and delays. Today, her commute is different. Over the past year, she started using a new metro line extension that is part of a large Egyptian transport project to modernise and expand a metro that, in places, has fallen into disrepair. "I save more than an hour when I take the metro to work," says Saad. "It is to escape from Cairo's transport congestion and avoid using buses or taxis."

The metro project and a related programme to convert railways to metro or tram lines allow people to find better jobs in new locations and help them easily reach better colleges. The transport changes are also good for the climate, because it's an alternative to cars and buses. Cairo is one of most congested cities in the world, where air pollution is often higher than the World Health Organization's recommendations.

## The fastest way in and out of town

Egypt has big plans to improve transport and make it more sustainable. **In May, the European Investment Bank and Egypt signed the second tranche of a €1.1 billion loan to finance metro and tram projects in Alexandria and Cairo, the two biggest Egyptian cities.** These

metropolitan areas have grown rapidly over the last few decades, while the transport network has not kept up with new demand. Another big transport project expected to start soon is the work to improve the Tanta-El Mansoura-Damietta rail line. This will upgrade 119 km of railway along the important link connecting Tanta, a city about 100 km north of Cairo, with Damietta, a major port on the Mediterranean.

“ **Egypt has big plans to improve transport and make it more sustainable.** ”

The European Investment Bank has loaned money to Egypt for all three of its current metro lines in Cairo, since the early 1990s. The EU bank has invested more than €2 billion over the last eight years to help Egypt improve transport and make getting around less harmful for the environment.

## More time at work and with family

The Cairo Metro carries several million people a day on three lines in a city that has a population of over 20 million. Lines built in the 1980s are in dire need of rehabilitation. Ahead of its time in Africa, it was one of the first city-wide metros on the continent. It is still the largest metro in Africa and the Middle East. But maintenance and upgrades have fallen behind schedule. "The Bank financing will increase productivity and improve lives in the city, because people will spend less time in traffic and

more time at work and with family,” says Boris Stein von Kamienski, a loan officer at the European Investment Bank. The loan also increases the quality of railways in the country and encourages green and sustainable transport.

### Reaching out for global partners

New financing is key to the necessary renovations. “The cooperation between Egypt and the European Union is very important to help us develop and advance construction work and upgrade the signalling systems of the metro lines,” says Essam Waly, head of the National Authority for Tunnels in Egypt. “The financing partnership helps us cut commuting time, reduces traffic congestion and decreases carbon dioxide emissions by many millions of tonnes.”

## HOW TO FACE THE CLIMATE

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Everyone knows that climate change is a big, long-term challenge. The EIB’s Advisory Services’ climate action technical assistance helps institutions around the world figure out what the future holds and how they should respond. Here are some of the programmes at work outside the European Union.

### Through the green gateways

The Climate Action Support Facility develops support for climate finance for banks and financial institutions outside the European Union. “Climate action is a field developing at a very fast pace,” says Michael Steidl, a senior advisor at the EIB. “Banks in countries like Georgia, in the Southern Neighbourhood, the Western Balkans and sub-Saharan Africa need help when it comes to knowledge transfer and best practice, so they can have a better understanding of the financial risks and opportunities that climate action brings.” These initiatives aim to develop green gateways that stimulate green growth and strengthen the EU presence in these countries.

There is also a need for strategies related to the impact of climate risks and opportunities on banks’ and financial institutions’ business and financial planning. We started this work with the Bank of Georgia, thanks to a technical assistance programme financed under our Eastern Partnership Technical Assistance Trust Fund. We will be able to extend this support to banks in more countries, because of a recent €20 million contribution from the German Ministry of the Environment, Nature Conservation and Nuclear Safety to our International Climate Initiative Fund.

### Financial inclusion across African, Caribbean, Pacific and Southern Neighbourhood countries

As a consequence of the pandemic lockdowns, many microfinance institutions halted loan disbursements and had to grant moratoriums to clients unable to repay their loans. The European Investment Bank and the government of Luxembourg realised that microfinance institutions and the microfinance sector in general would need support during this challenging time. That’s why we made COVID-19 crisis support central to the work of our Financial Inclusion Fund. The fund is a technical assistance grant programme that offers microfinance service providers and other inclusive finance sector stakeholders in Africa, the Caribbean and Pacific, and the Southern Neighbourhood the chance to apply for grants to improve their capacity in a range of key areas. We have been helping applicants deal with the fallout of COVID-19 or accelerating their digitalisation process to help them weather the crisis better.

# INCLUSIVE WORLD

“ For a long time, ground-breaking innovation was considered possible only in the economically developed regions. Today we see a fundamental shift in this perception. The more we support people’s ingenuity and ability to create and innovate, the more our Union fulfils its capacity to produce added value. In cohesion regions, we have supported ground-breaking innovation by young, talented, diverse teams pushing the boundaries of science and business. ”

Hristo Stoykov, head of growth finance and venture debt, EIB

“ Inclusivity is about putting people at the heart of everything that we do. Our starting point is to ask ourselves how we can best uphold human rights through our projects, include and reach those less able to access opportunities, and build strong and resilient communities better prepared to withstand global challenges, such as climate change. ”

Yasmine Pagni, head of social policy unit, EIB

Our cohesion investments help redress imbalances between countries and regions in the European Union. Because we invest in sustainable projects, they also contribute to a just transition towards our climate targets.

Outside the European Union, we back all kinds of sustainable sectors right around the world.

# PICKING POLAND

## E-commerce grew during the pandemic, setting up a Polish robotics company for a success that could foster a Warsaw innovation hub

**K**acper Nowicki worked in California during the dot-com boom and was at Google when it first joined the machine learning revolution. But in 2016 he read a research paper about using deep neural networks to control robots and decided that real-world applications of this aspect of artificial intelligence could be the next big thing in technology. With Marek Cygan, who had won algorithmic and machine learning competitions, and Tristan d’Orgeval, an experienced startup executive, he founded Nomagic, a Warsaw robotics company.

Building AI software and integrating it with industrial robots does not come cheap. “You need significant R&D investment to be able to develop a product that is efficient and reliable enough to meet operational warehouse requirements,” says d’Orgeval, Nomagic’s chief operating officer.

But startups lack financing options for growth investment — difficulties that have increased with the pandemic. “Quickly, we realised we needed help,” says Nowicki. “The EIB was able to support the R&D required to build an innovative product in Europe. It is a great addition to the private capital invested in Nomagic.” **In November, Nomagic became the first European Investment Bank venture debt project in Poland under the European Guarantee Fund.**

The Fund aims to use up to €25 billion in guarantees provided by contributing EU Member States to spur as much as €200 billion in financing. It “allows the Bank to increase its risk-taking capacity and to lend to companies affected by COVID-19,” says Philippe Hoett, an EIB investment officer, on the Nomagic deal.

### Polish robotics to replace picking

Most human-hand tasks in modern warehouses involve picking — collecting products from one box and putting them into another box. This has to be done by humans, because most modern robots lack the ability to identify items in a container when hundreds of thousands of potentially different items are involved. Nomagic tackles this issue by providing AI-based software for standard robotic arms that allow these robots to handle a wide range of products.

Deep neural networks set Nomagic’s software apart. Nomagic robots can pick, inspect, analyse and place products, reproducing repetitive and tedious tasks traditionally performed by warehouse operators. “We combine our proprietary neural networks for autonomous actions, our cloud robotics platform for remote monitoring and control, and our hardware, which is adapted to a large set of products and actions,” says Cygan, who is Nomagic’s chief technology officer. “This combination gives the project a powerful impact.”

**“The pandemic has sped up consumer’s appetite for e-commerce and the market potential is huge.”**

### E-commerce and the pandemic

The pandemic highlighted the need for more innovation and digitalisation in Europe in general — and brought new growth to the very market in which Nomagic operates. “The pandemic has sped up consumers' appetite for e-commerce and the market potential is huge,” says Fouad Bitar, a senior industry advisor at the EIB. “This is a huge opportunity for warehouse automation companies like Nomagic.”

Nomagic sees the opportunity too. “Quickly after the beginning of the pandemic, people switched to e-commerce, but getting people to work safely in the warehouses became more and more complicated,” says Nomagic’s d’Orgeval. “So, companies got interested in our product.”

The project is a pioneer for European technology. “We got used to getting technology from the United States and other countries outside the European Union,” says Nowicki. “What we are doing is building a product that does not exist and which will yield its benefits first in Europe.”

With its loan from the guarantee fund, Nomagic can focus on research and development and scale up its project. “With the EIB, we can continue to fund our research and build this innovative technology in Europe,” says Nowicki.

There is regional potential, too. Nomagic could spur employment, highly specialised research and development jobs, and digital cohesion in Poland. Nomagic already sponsors a robot-learning lab at the University of Warsaw and chief technology officer Cygan supports the robotics curriculum in the Master’s programme. “The company’s presence will help Warsaw and Poland promote their credentials as a European hub for tech companies,” says Iwona Biernat, an EIB investment officer, “and attract new investors in Central Europe.”

# DARE TO CONNECT

## Two Polish fibre projects aim at digital transformation in less densely populated areas, for a boost to the regional economy and a positive environmental effect

**T**he crystal-clear rivers and scenic towns of central and north-eastern Poland are favourite travel destinations. But the deep woods, the winding valleys and the lakes hinder access to robust internet services. That's a problem at a time when teleworking is increasingly important and other vital digital services require high connection speeds. A few Polish companies are working to correct this lack of connectivity with new rural fibre networks. "We are inventing a unique product that did not exist on the Polish market," says Jacek Wiśniewski, whose company Nexera is bringing fast digital connections to places where no one else has dared before to do so.

Another Polish company, Światłowód Inwestycje (S.I.), is also preparing less densely populated areas of Poland for a digital future. By 2025, the two companies will deploy so-called fibre-to-the-home access networks to over 3.1 million addresses (2.4 million for S.I. and 0.7 m for Nexera), including households, businesses and schools. "We aim to further contribute to the digitalisation of the Polish economy and to help tackle the existing digital divide," says Magdalena Russyan, S.I.'s chief executive.

“ **Fibre is future-proof.** ”

But building a fibre network is costly. It requires attaching each house to a physical strand of fibre. **The European Investment Bank is backing both companies with two separate loans that aim to boost the spread of a technology that's important to Europe's future in regions where it's risky to invest in it.**

### Fast and green rural connections

Fibre-to-the-home (FTTH) technology connects optical fibre directly to individual buildings, such as residences and offices. This dramatically increases the connection speeds and quality of connectivity available to users, compared with typical cable modem or digital subscriber connections. Its signal isn't slowed down by physical barriers common in rural areas, such as hills or thick woodland. Fibre offers up to 100 times faster broadband speed than older technologies.

Fibre is also a greener internet solution. The FTTH technology helps customers reduce their energy consumption and carbon footprint. "It is about five times more energy efficient per gigabyte than older, copper-based technologies," says Monika Tenerowicz, who works at Orange Polska, one of S.I.'s co-owners. The networks can also be upgraded without having to replace the fibre and their maintenance costs are minimal, because the optical fibre cables do not degrade. "Fibre is future-proof," says Tenerowicz.



### // **Fibre attracts people to commute and telecommute to rural areas.** //

#### **European support for Polish fibre projects**

Installing fibre networks on a large scale requires enormous investment, however. Operating in rural areas, where there are fewer customers per mile, companies can't spread their network costs across millions of customers. "You need capital investment to extend your footprint and connect end-users," says Nexera's Wiśniewski.

The European Investment Bank's €76 million financing for Nexera is backed by the European Fund for Strategic Investments, a guarantee from the EU budget which "allows the EIB to increase its support for risky projects that go beyond the EIB's typical own-risk capacity," says Pawel Lewandowski, a European Investment Bank loan officer for Poland. The EU bank's loan will help Nexera connect around 530 000 households and 1 400 schools by 2023.

The European Investment Bank also provided a loan of €130 million to S.I. in August. With the EIB financing, the company will be able to reach its ambitious goal of 2.4 million households and offer faster internet in bigger cities, as well as small towns.

#### **Digitalisation and cohesion through Polish fibre projects**

Poland is among the least digitally advanced countries in Europe. This has severe implications for people living in rural areas. They cannot, for example, take advantage of telehealth facilities and teleworking options. It is also a problem for kids and students, who have limited access to online learning. "The COVID-19 pandemic increased the demand for high-speed internet inside and outside the cities," says S.I. CEO Russyan. "We felt that it would be the best option for us to grow our fibre footprint."

Both projects have huge regional potential. They could cater to the growing data transfer needs of rural areas for entertainment, education, communication, and professional purposes. "Fibre will have a positive impact on the healthcare and education of the citizens of these regions," says Anders Bohlin, a senior sector specialist at the European Investment Bank. "It will lead to a regional digital shift."

The projects have the potential to boost regional economic development, contributing to the European Investment Bank's cohesion mission, which is intended to reduce disparities between EU regions. "Fibre attracts people to commute and telecommute to rural areas," says Bohlin. "It also enables citizens to access new job opportunities, job training, and start new enterprises targeting local communities in local areas. It will make rural areas more attractive and competitive."

# HOW ROMANIA ROLLS

## Romanian infrastructure financing gets a boost from an advisory programme designed to help make the most of EU funds

**R**omania is the eighth-largest country in the European Union, but its 900 km motorway network is one of the shortest and the average speed on its railways is just 15 km/h for freight trains and 40 km/h for passenger trains. Romania manages to build little more than 45 km of new motorway per year and some trains run slower than they did 100 years ago.

That's because Romania's public authorities struggle to manage the complexity of planning and implementing large infrastructure projects with the significant EU funding available. With €17 billion from the European Union budgeted for transport infrastructure by 2027, the challenge is to put the money to work.

This is where Alexis Gressier and his European Investment Bank team comes in. On site in Bucharest at the Ministry of Investment and European Projects since 2014, Alexis and his team of seven work alongside the Romanian authorities as part of the European Investment Bank's Project Advisory Support Service Agreement to prepare, evaluate and implement projects to the European Union's demanding standards. "We like to say that we boost EU-funded projects with our support," he says.

### Advisory aid for Romanian infrastructure

The work is varied but mainly covers large projects in the transport, waste, water and energy sectors. "We are involved in various phases of the project cycle, from preparation when there is a concept to be clarified, to planning and tendering, as well as managing contracts and project implementation," explains Gressier.

The team has also played an important role in helping authorities deal with contract modifications and cost-overrun claims from contractors, triggered by a manpower shortage in the construction sector. By analysing years of claims, as well as a large volume of supporting documents that include contractual correspondence, technical and financial reports, detailed time programmes, construction logs and thousands of invoices, the EIB's experts have helped the Romanian authorities lower the contractors' financial claims by 39%, on average.

### Added value for Romania

As outsiders, it took some time for the Bank's experts to win the trust and acceptance of their Romanian counterparts, but the team's success has earned them high praise. **"Perhaps the biggest added value that the EIB has brought to us is that they've been able to provide teams with different backgrounds who have experience with operators and transport authorities," says Stefan Roseanu, president of Romania's Railway Reform Authority.** "This has helped us to conduct very good feasibility studies and other types of documents. The feasibility study they helped us to prepare is now used as a reference example for the Ministry of Transport and the Ministry of European Funds to think about new, further investments in rolling stock."

The Railway Reform Authority has also been impressed by the team's technical expertise. "Some of the investments we are working on involve reforms, as well as new technologies and market concepts," says Roseanu. "Without the EIB's help, our experts would have had to spend a lot of time learning and incorporating these new ideas into their work. It would have delayed the process a lot."

### All aboard for Dresden

One of the biggest projects the EIB team worked on in 2021 is the modernisation of a 144 km stretch of railway track that is part of an EU transport corridor running from Athens all the way to Dresden, via Sofia, Budapest, Vienna, Prague and Nuremberg. Valued at over €2 billion, the rail upgrade, which is part-funded by the European Commission, as well as the EIB, is the largest transport infrastructure project in Romania in 30 years.

The upgraded rail lines will allow a maximum speed of 160 km/h for passenger trains and 120 km/h for freight. This will reduce travel times, lower the risk of accidents, and cut CO<sub>2</sub> emissions by an estimated 1.5 million tonnes over the track's 30-year lifespan.

Gressier and his team's support also involves the purchase of new trains that will be able to run on a number of different national rail networks. The Romanian authorities had not purchased new rolling stock in 20 years and had no experience buying trains that operate on different systems. "We were missing this kind of experience and analytical expertise," says the Railway Reform Authority's Roseanu, "but the EIB was able to produce the first functional terms of reference public procurement document and was able to adapt the templates and information to the rolling stock procurement process."

## PROJECT DEVELOPMENT FOR COVID-19 CRISIS MANAGEMENT

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COVID-19 strained healthcare systems and business liquidity. In response, the European Commission launched two packages designed to use European Structural and Investment Funds to mitigate the impact of the pandemic. The Coronavirus Response Investment Initiative and the Coronavirus Response Investment Initiative Plus answer the needs of the most exposed sectors — healthcare, SMEs and labour markets. In Romania, about €900 million of cohesion funding went to the healthcare system and the economy during the first year of COVID-19.

The Ministry of National Defence asked our Joint Assistance to Support Projects in Europe, JASPERS, to help prepare projects for EU financing. The projects initially focused on medical protection supplies and medical equipment. Later, JASPERS advice turned to the information needed for an EU funds application, as well as topics important for projects funded by the European Regional Development Fund. "The assignment was a very challenging one," says Ana Maria Lupascu, task manager for the JASPERS assignment. "The situation during COVID was evolving very fast and not much was known about the mechanism to combat the spread of this disease. Ultimately, the JASPERS assignment contributed to improving the country's preparedness and responsiveness to the pandemic."

# WORLDWIDE ACTION, LOCAL CHANGE

## Global sustainable investment funds back clean energy, sustainable farming and gender-balanced workplaces in Asia and Latin America

**S**ujay Malve remembers the nightly frustration when the power went out while he did homework or prepared for exams as a university student in India. “You are studying late at night for a test the next day and the power just shuts off,” says Malve, who is 40 and grew up in Pune, about 150 km southeast of Mumbai. “Having no light is really not nice, especially before a big exam. I looked at what was happening around me with electricity and kept asking why, but there was nothing I could do. I think that is what led to my career today.”

Malve runs Canopy Power, a company in Singapore that specialises in the electrification of businesses and communities that are not connected to the power grid. Canopy designs and builds microgrids across Southeast Asia that combine solar panels, wind energy, battery storage and smart controls to offer reliable electricity on remote islands in places like the Philippines and Indonesia. On some islands, even people who have a good income and understand the impact of climate change are forced to run diesel generators day and night, because their businesses have no other energy source.

“In Southeast Asia, there are thousands of islands where businesses are not connected to electricity grids,” Malve says. “They have to burn diesel for electricity, and this is expensive, dirty and unreliable. You have no idea what it is like to carry big diesel tanks on small boats to get more fuel two times a week. It’s a big pain. My team believes that electricity can change lives, and it can empower people. Especially in this region.”

To expand his company’s business, Sujay is considering an investment from the Jasmine Private Market Fund, a financing vehicle set up in 2021 to help innovative companies fight climate change while supporting the circular economy and sustainable agribusinesses. In September, the European Investment Bank approved an investment of up to \$30 million for the fund, which is raising a total of \$200 million. This investment is among dozens of funds the EIB Group selects each year for investments that foster social innovation and climate action around the world.

### Understanding climate change

“Southeast Asia needs this support,” says Melissa Kang, the founder of JI Capital Partners, the private equity firm in Singapore that runs the Jasmine fund. “The region has 650 million people and a young demographic, which is good for long-term economic development. However, its rapid economic growth has increased carbon emissions significantly. Unfortunately, big wind and solar farms are of limited use because of a weak and fragmented power grid.”

“ Southeast Asia has a lot of potential. But not enough climate action is happening quickly to increase sustainability and inclusion. ”

Kang and her team work with many entrepreneurs who have new ideas to help the region reduce carbon emissions and adapt to climate change. “Southeast Asia has a lot of potential,” she says. “But not enough climate action is happening quickly to increase sustainability and inclusion.”

**The European Investment Bank Group finds and supports new investment funds that in turn help hundreds of small companies around the world in sectors such as sustainable coffee growing in the Amazon, affordable and efficient homes in Namibia, and sustainable fishing in Mexico.** “We think of investment funds as a good source of money to attract more capital and mobilise more capabilities to address market failures in a financially sustainable way,” says Gergely Horvath, a climate funds investment officer at the European Investment Bank.

### Top women

By selecting the right investment funds, the European Investment Bank can also do more work in areas where it’s hard to find finance, such as climate change, social welfare and gender equality. The Southeast Asia investment with JI Capital Partners is a good example. The fund is run by a woman, it has many women in top management, and it is dedicated to investing in companies making society sustainable and giving women equal chances in the workforce.

The Bank is supporting a similar venture capital vehicle in Latin America called the EcoEnterprises Fund. This fund, which is run by women and received \$20 million from the European Investment Bank, backs growing nature-based companies in sustainable agriculture, agroforestry systems, ecotourism and other areas that support sustainable livelihoods, the conservation of biodiversity and a circular use of natural resources. The fund also looks for businesses led by women and encourages companies to hire women at all levels of management. “Women have always been sort of the silent majority, but they are the social glue in communities in Latin America,” says Julia Santander, a fund manager working out of Colombia for EcoEnterprises.

# A REAL STRESS TEST

**It doesn't get much harder than bringing bank accounts to poor people and small companies in the remotest parts of sub-Saharan Africa's biggest country. But Trust Merchant Bank loan officers battle through bad roads, insurrections and pandemics to sign up 3 million new customers**

It's not easy to open a bank account in the Democratic Republic of Congo. It's even harder to get a loan on good terms. Millions of people can't even reach a bank branch in Congo. This lack of banking makes it difficult to raise a family, hold a job, start a business, send kids to school or buy necessities. The European Investment Bank signed a €20 million loan deal in 2021 with a bank that has been trying hard for more than a decade and a half to expand banking to every corner of Congo. Trust Merchant Bank is located in Lubumbashi in southeastern Congo and was created to offer retail banking to anyone of any income. It has grown quickly by operating in all financial sectors, including mobile banking and micro-loans for tiny companies.

"Congo is one of the poorest countries in the world, so there is an enormous need to support economic development," says David McEvoy, a management advisor at Trust Merchant. His firm's philosophy — to be a bank for everyone — will "ensure that Congo transitions out of an unstable period by offering a secure economy and a good livelihood for the people."

The second-biggest African country, Congo has only 1 200 km of good, paved roads, about a quarter of the number of good roads in the tiny country of Luxembourg. Millions of people in Congo have no access to transport, electricity or telephones. To sign up new clients, Trust Merchant loan officers cross the country, offering financing advice and opening accounts. They use four-wheel-drive trucks and sometimes take armed guards, because they also distribute state workers' salaries. This outreach is worth it. Trust Merchant is now represented in all provinces, in many rural areas and cities, with dozens of branches. Its initial capital of \$1.5 million in 2004 has grown to more than \$100 million in equity today. **It has 2.7 million bank accounts, and added 400 000 accounts during the pandemic. When the bank began, there were only about 40 000 bank accounts in the country.**

The European Investment Bank's loan will enable Trust Merchant Bank to give several thousand loans of around \$4 000 to \$5 000 each to small businesses during the pandemic. These companies will get loans with a fair interest rate, rather than the 30% to 40% interest per month they would pay to an informal lender in Congo. These businesses, says McEvoy, "are a big help to the livelihood of the communities where people live."

## PRIVATE EQUITY 2.0

**Private equity fled Egypt after the 2011 revolution. Now a new generation of investment firms is helping promising companies to expand and professionalise**

**A**hmed El Guindy worked for one of the largest conglomerates in Egypt and the Middle East after graduation. He rose to become general manager of a subsidiary, but he had bigger plans. "I always had the dream of working somewhere I could actually have a stake in as a partner and shareholder," he says. In 2015, he spotted his chance. The siblings who inherited control of a family-owned company, AluNile, wanted to move on. "I believed I could grow this company, but I needed a strong financial partner, and preferably one with experience in managing and growing an industrial company."

That's when he came across Ezdehar, an Egyptian private equity firm backed by the European Investment Bank. "When I came up with the plan, I met with seven or eight different investors, but the chemistry with Ezdehar was different," says El Guindy, now AluNile's chief executive. "We clicked from the first moment and I felt we understood each other."

“ We clicked from the first moment and I felt we understood each other. ”

Ezdehar was the first of a new generation of independent private equity firms to emerge in Egypt after the revolution of 2011, which all but eradicated the local private equity industry. Founded in 2014, the company wanted to have a positive impact on the local business environment and to contribute to the re-establishment of private equity in the region. "The private equity industry in Egypt was transforming," says Emad Barsoum, a founding partner at Ezdehar. Attracting investors to the firm's first fund, however, was challenging. "Few investors saw the transformation underway in Egypt and most of the old players had not done well," he says. "We were also a new firm with no institutional track record."

One of the first investors to work with Ezdehar (which means "prosperity" in Arabic) on its fund was the European Investment Bank. "At the time, very few international investors were considering investing in Egypt," says Marius Chirila, an equity investment officer at the European Investment Bank. "Even many development finance institutions had restrictions on investing in Egypt, because of the country risk. **The EIB was the first institutional investor to work with Ezdehar on shaping its proposal, essentially contributing to the re-emergence of the Egyptian private equity industry. Since then, Ezdehar's progress has been remarkable.**"

The European Investment Bank invested in Ezdehar's inaugural fund with capital from the Risk Capital Facility for the Southern Neighbourhood, set up by the European Commission and the EIB. Thanks to that success, Ezdehar is now raising a second investment fund. The firm is seeking to reach a fund size of over \$100 million, beyond the \$84 million in its first fund.

Meanwhile, El Guindy's sales have tripled in five years and the number of employees has increased from 700 to over 1 000. "We are still expanding," he says, "and have very ambitious plans."

# A TRUE BY WOMEN, FOR WOMEN FUND

**An African gender-lens equity fund proves that traditional investors are leaving money on the table, because investing in women brings superior performance**

**C**hika Russell left her home in Nigeria for the United Kingdom at the age of six. But those early years of family cooking and traditional recipes inspired her career, because she fell in love with the street food made by Nigerian women — “dodo” fried plantain, roasted yam, and the small, more intense variety of peanuts grown in the country, called “epa.” In 2014, after seven years working in finance, she created her own snack company. CHIKA’S sources unique ingredients from across Africa and works directly with communities in Nigeria to offer healthy, hand-made snacks to British consumers. “I wanted to do something impactful for other people,” says Chika, who also set up a charitable partnership to provide education to 38 000 girls and build schools in Africa, “and have the most successful business possible.”

One of CHIKA’S investors is Alitheia IDF, a gender-lens African investment fund led by two female founding partners, Tokunboh Ishmael and Polo Leteka. The European Investment Bank signed a \$24.6 million investment in the pioneering fund in November, enabling Alitheia to reach its target size of \$100 million. It’s the EU bank’s first investment in a private equity fund that focuses on small and medium-sized enterprises with a gender lens in Africa.

## **Championing dreams**

The growth capital from Alitheia has allowed Chika to set up a manufacturing facility in Nigeria, which is expected to open early in the year, employing 320 people, 70% of them female. The facility will produce snacks for the Nigerian and West African markets. All the products will be exported to neighbouring countries, creating jobs there too. “Chika’s impact story was really great, the market was evident, the size of the opportunity was clear,” says Leteka. “Chika is a great entrepreneur, very dynamic. She understands what she is doing. She is hungry.”

Alitheia IDF invests in and grows small and medium-sized enterprises led by gender-diverse teams to achieve solid financial returns and tangible social impact in Africa. The fund invests in sectors that engage a significant percentage of women, as entrepreneurs, producers, distributors or consumers. These sectors include agribusiness, consumer goods, health, education, creative industries, and financial and business services. Located in Lagos and Johannesburg, Alitheia invests in six countries: Nigeria, South Africa, Ghana, Zambia, Zimbabwe and Lesotho. In 2008, when Ishmael and Leteka started Alitheia IDF, which is a joint venture between Alitheia Capital in Nigeria and IDF Capital in South Africa, they were determined to back women-owned businesses, because they knew that there were many women on the continent whose businesses could grow with the right funding. About 40% of businesses in sub-Saharan Africa are women-owned, but less than 10% of these businesses are able to raise funding from traditional financiers. “We often say that traditional



“Traditional investors are leaving money on the table, because they are much more comfortable backing people that look like them, work like them, talk like them, and hang out in the same places.”

investors are leaving money on the table, because they are much more comfortable backing people that look like them, work like them, talk like them, and hang out in the same places,” says Leteka.

### A 2X Flagship fund

Alitheia is a 2X Flagship Fund, meaning that it’s part of the 2X Challenge, a multilateral initiative launched by the development finance institutions of the G7 countries with the aim of mobilizing \$15 billion by the end of 2022 to support projects that empower women and enhance their economic participation. The European Investment Bank was the first multilateral development bank to adopt and use the 2X criteria, joining the 2X Challenge as a member in June 2021. The Bank was attracted by the opportunity to invest in Alitheia’s female-only team, which stands out in a private equity world dominated by men. “This is a true by women, for women fund,” says Déborah Vouche, a member of the Bank’s team that worked on the deal. “They were pioneers in this segment and really the first team to propose a gender-focused fund in sub-Saharan Africa.”

The investment in Alitheia IDF also contributes to the **SheInvest** initiative, under which the European Investment Bank aims to mobilise €2 billion of gender-responsive investment across the continent.

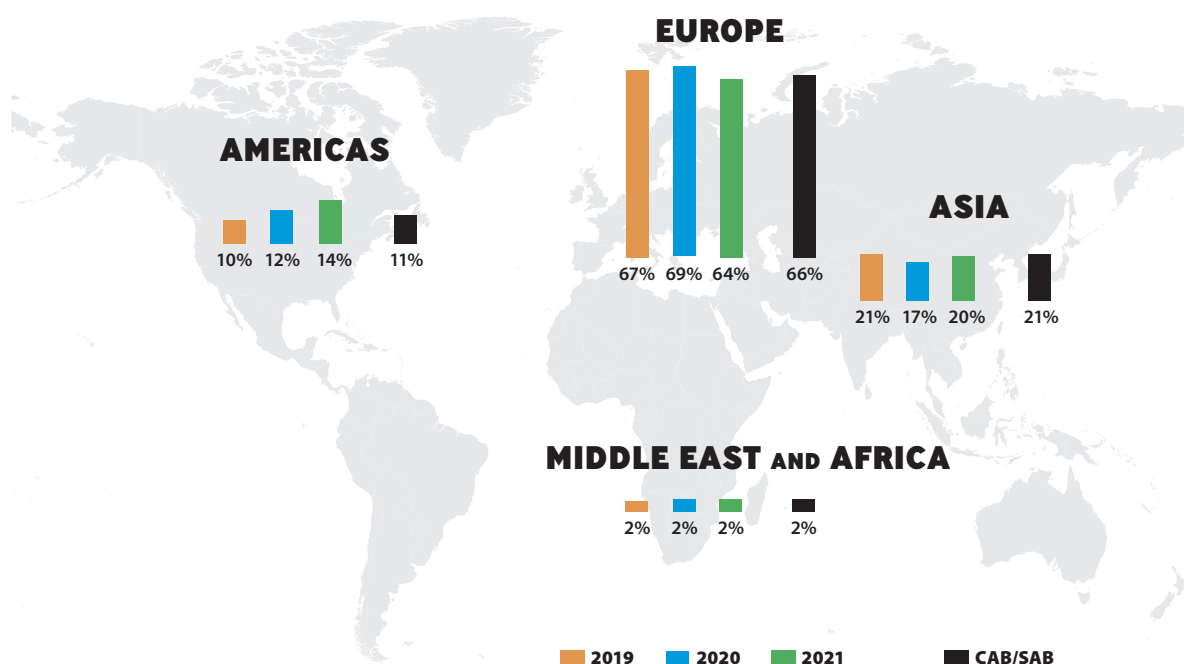
Over the past five years, Leteka and Ishmael have witnessed a shift in mentality regarding diversity. Investors have either embraced diversity, become educated about it, or are curious. “I suspect in the next year or two,” says Leteka, “every investor will ask, ‘What is your gender-lens investing strategy?’”



Women who have benefited from SheInvest explain what it means to them

# WHERE THE MONEY COMES FROM

The European Investment Bank, the world's largest multilateral borrower and lender, raised €55 billion on the international capital markets in 2021, with €10 billion of that in green bonds or sustainability bonds. The Bank's issuance reaches investors who might not typically invest in Europe and who contribute indirectly to European projects by investing in EIB bonds.



**T**he Bank issued bonds in 21 currencies, with the majority raised in the core currencies of euros, US dollars and British pounds. Diversified sources and tenors give flexibility to the Bank's funding strategy. The multi-currency approach also enables the EIB to access some local currencies for disbursements.

## ISSUANCE BY CURRENCY

EUR

48.10%

## BONDS ON THE BLOCKCHAIN

### First EIB bond sale using a digital currency signals investors are eager to start using this new technology

John Whelan works for a big international bank, but he thinks of himself as an engineer. His latest engineering passions are cryptocurrencies and blockchains. "I'm a true believer in the power of technology to change finance for the better of all of us," says Whelan, who founded a digital lab at Banco Santander in Spain to study how blockchains and cryptocurrency can improve banking.

Banco Santander is one of three private banks that helped the European Investment Bank issue its first digital bond using blockchain technology. The €100 million bond was launched in April on the Ethereum platform. This platform has the second-largest digital currency in the world after the leader, Bitcoin. The other two banks involved are France's Société Générale and Goldman Sachs of the United States.

**This is the first time a public bank has worked with a group of private banks to sell bonds using a blockchain.** The European Investment Bank insisted on using a group of banks for its first digital bond, because it wanted this to resemble a traditional bond sale. The expectation now is that more public and private banks will follow the EIB into this market and that bond sales, including green ones, will reach more investors.

### Low costs, high transparency

Organising a bond sale is complicated. Blockchains allow banks to streamline a lot of the work. Most of the documents related to underwriting, subscription and the distribution of bonds can be stored on a blockchain, speeding up every part of the process. Digitalisation can reduce the fixed costs and increase transparency because it is easier to track trading flows and secondary market transactions. "Many people are not aware of the benefits of blockchain technology," says Richard Teichmeister, head of funding at the European Investment Bank. "The truth is that this has the potential to change the financial industry and may improve many people's lives."

// **This has the potential to change the financial industry.** //

Speed is certainly an advantage. Some of the administrative jobs involved in issuing bonds, such as preparing the documentation and the settlement in the primary market, could be done within hours, instead of the days required today.

### What is a decentralised system?

Cryptocurrencies are just one of many ways that blockchain technology is used to store transaction-related information in the form of a distributed ledger. A distributed ledger is the database that shares and synchronises information across multiple sites and with many people.

Blockchains are kept online and replicated over many computers in many locations. This replication prevents false changes or hacking. A blockchain contains a list of records, called blocks, which record transactions and are linked in a chain using cryptography. Each block contains a timestamp and transaction data. Blockchains are also known as "decentralised" systems, because they are stored and verified on many computers.

USD	GBP	OTHERS
30.80%	8.90%	12.20%

# GROUP OPERATIONAL PLAN 2022-24 HIGHLIGHTS

- **EIB Global, the EIB's new development arm to boost projects outside the European Union**
- **COVID-19 response and green recovery**
- **More impact and risk-taking for investments**
- **Climate Bank Roadmap**
- **Technology and innovation**
- **Cohesion to bring Europe closer together**
- **Flexibility as to whether staff work at home or in the office**

We are launching EIB Global, our new **development arm**, so that we can work more closely with governments and businesses outside Europe. This will help create more partnerships to tackle the climate crisis and support a green and digital transition. We will increase the number of staff on the ground in our offices around the world. We have already set up a new regional hub in Africa to better address local needs.

The **European Guarantee Fund** is offering loan guarantees and other financing to help companies stay afloat, pay bills and make investments. This fund, which received contributions from many European Union countries, is part of a broad European Union package to put the economy back on track. The fund started operations in 2020 and will be completed at the end of 2021, but the Bank may finalise some of these deals in 2022.

We will do everything we can to achieve the goals of our **Climate Bank Roadmap**. The Roadmap outlines how the Bank will dedicate at least 50% of its annual lending to climate and environmental sustainability by 2025. It explains how we will take more risk when investing, support the European Green Deal, and make Europe carbon-neutral by 2050. We will do more to help clients adapt to climate change that is already happening now and mitigate problems to come.

By 2025, the EIB plans to dedicate 45% of annual lending in the European Union to **cohesion regions** that need more help. The extra financing will help these parts of Europe compete equally and reach the same standards of living as more developed regions.

Bank employees shifted to a **hybrid way of working** during the pandemic, frequently working from the office and home in the same week. We will monitor and adapt the workplace to make sure staff can do their jobs safely and effectively. The crisis has brought many challenges in the field of mental health and wellbeing. We will offer more training and workshops to managers to make sure we are taking care of employees. We will continue a programme that assesses the stress levels of staff members and makes sure we take action.

**Read the full Operational Plan for 2022-24 at [www.eib.org/en/publications](http://www.eib.org/en/publications)**

## GOVERNANCE

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The EIB is an EU body, accountable to the Member States, and a bank following applicable best banking practice in decision-making, management and controls.

**The Board of Governors** is made up of government ministers from each of the then 27 Member States, usually ministers of finance. The governors set out the Bank's credit policy guidelines and once a year approve the annual accounts. They decide on capital increases and the Bank's participation in financing operations outside the European Union. They also appoint the Board of Directors, the Management Committee and the Audit Committee.

**The Board of Directors** takes decisions on loans, borrowing programmes and other financing matters. It meets ten times a year to ensure that the Bank runs in accordance with EU Treaties, the Bank's own Statute, and general directives laid down by the Board of Governors. There are 28 directors, one nominated by each Member State and one by the European Commission. There are also 31 alternate directors. To broaden the Board of Directors' professional expertise, six experts may be co-opted to participate in board meetings as non-voting advisers. Decisions are taken by a majority representing at least 50% of the capital subscribed by the Member States and one-third of board members entitled to vote, unless otherwise provided for in the Statute. The board is chaired by the president, in a non-voting capacity.

**The Management Committee** is the Bank's resident decision-making body. It oversees the day-to-day running of the Bank, prepares decisions for the Board of Directors and ensures that these are implemented. It meets once a week. The Management Committee works under the authority of the president and the supervision of the Board of Directors. The other eight members are the EIB's vice-presidents. Members are appointed for a renewable period of up to six years and are responsible solely to the Bank.

The Bank has an independent **Audit Committee** answerable directly to the Board of Governors. It is responsible for the audit of the Bank's accounts and for verifying that the activities of the Bank conform to best banking practice. The statement of the Audit Committee is submitted to the Board of Governors with the annual report of the Board of Directors. The Audit Committee is composed of six members appointed for a non-renewable term of six consecutive financial years.

**TO READ MORE ABOUT THE EIB GROUP'S  
COVID-19 CRISIS FINANCING**

[www.eib.org/covid-19](http://www.eib.org/covid-19)



# THE INNOVATION RESPONSE

**2021 ACTIVITY REPORT**



**European  
Investment  
Bank Group**

The EIB Group consists of  
the European Investment Bank and  
the European Investment Fund.

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