



Accelerating innovation for smart growth in Europe

**Innovative infrastructure
scheme** right on track

Backing the next generation
of **start-up companies**

INFO

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The EIB – The EU bank

July 2012

Editorial

Financing the real economy and especially innovation is a key ingredient in driving the European recovery and ensuring longer-term economic growth. This is where the EIB comes into play. The Bank helps secure ongoing investment in infrastructure, education and innovation to sustain a comparative advantage and continue creating high-value jobs in Europe.

Many experts believe that innovation is a question of culture, rather than a policy choice. But the seed of ground-breaking ideas needs nourishment to thrive. An education system that stimulates excellence is the basis for an economy built on high-skilled jobs; risk finance can help Europe continue to lead in eco-technologies; an innovative internet start-up needs the right investors to reach its full potential; and pioneering products flourish with the necessary financial backing to bring them to market. This edition of EIB INFO puts the spotlight on innovation in a broader sense, from research and development to new technologies and production processes, from pioneering internet start-ups to established corporates that continue to reinvent their products. In order to keep its competitive edge on a global scale, Europe needs to create the right conditions to allow innovators to develop the future.

Using our European financing instruments wisely and joining forces to attract further sources of funding can play a key role in ensuring that innovative ideas turn into reality. The EIB is a major partner in supporting projects to develop the knowledge economy, from financing ambitious research to attracting funding for digital networks. In 2011 alone, the EIB invested some EUR 10bn in the EU's knowledge economy. Backing investments that are geared towards innovation is part of the EIB's mission to secure Europe's growth and jobs potential.

As this edition of the INFO went to press a possible increase of the EIB's capital was still under negotiation. Please visit our website for the latest news on this issue at www.eib.org.



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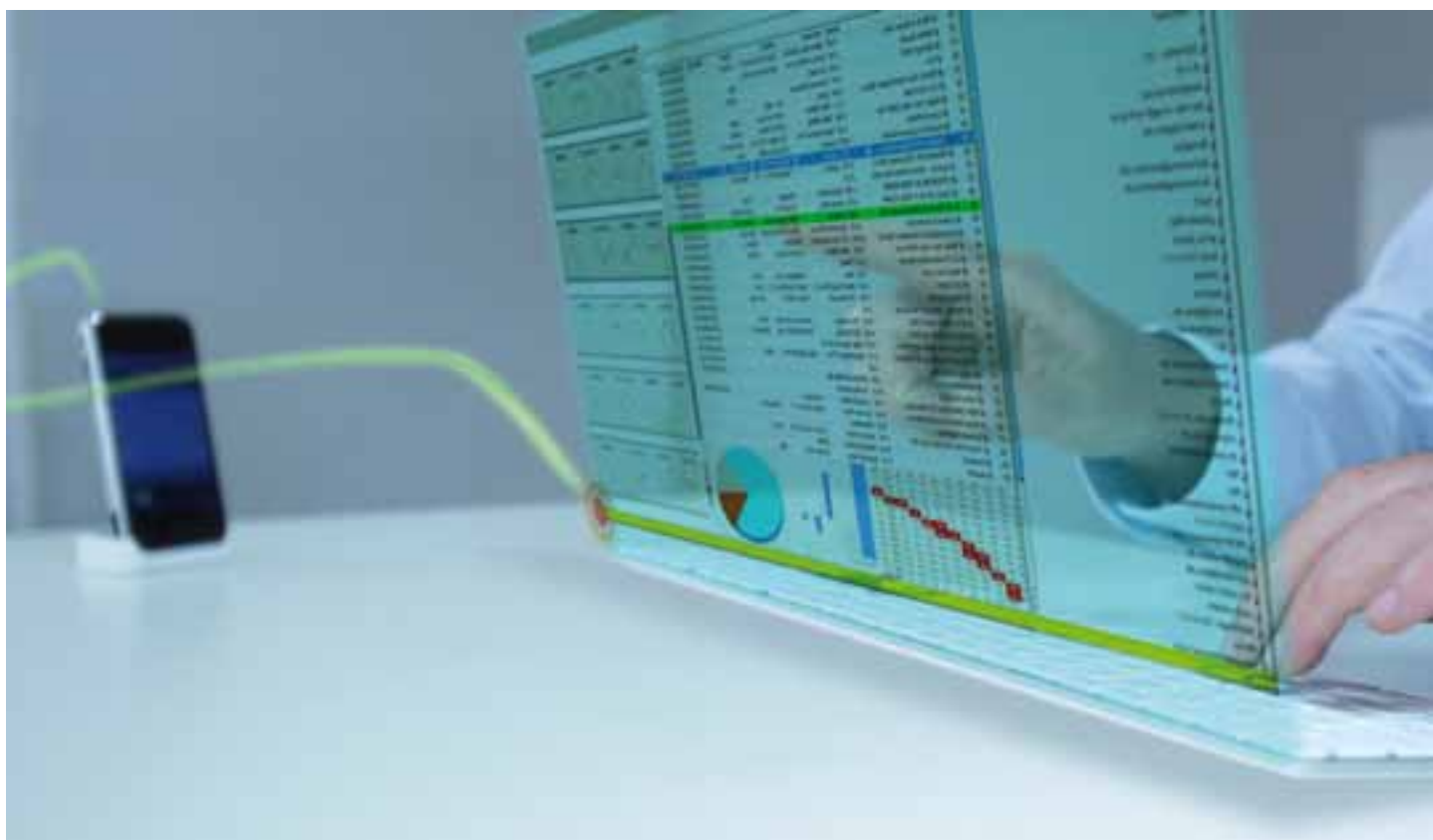
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Accelerating innovation for smart growth in Europe



With talk of re-starting Europe's growth engine high on the agenda, EU policymakers argue it is innovation that is needed to make pro-growth spending and austerity work hand-in-hand. This means Europe needs to be both more innovative in the way it uses its resources, but also target investments in research, education and information and communication technologies. The EIB does both: supporting investment in Europe's knowledge economy and helping to develop new ways of funding projects to make sure priority investments go ahead.

As European Commission President José Manuel Barroso said recently, Europe's renewed drive for growth is not 'mission impossible', but 'mission unstoppable'. This requires more focus on competitiveness and innovation, as well as on key elements that can help achieve the 'growth mission', such as investments in skills, cutting-edge research,

the digital economy and dynamic small businesses.

Faced with the grim reality of a moderate economic outlook, policymakers and business leaders are turning to Europe's innovators to revive much-needed growth. Innovation is one of the main drivers of productivity, competitiveness, long-term

"Research, innovation and education are absolutely essential for creating a modern economy and key elements of any growth strategy."

EIB President Werner Hoyer



Targeting high value added investments

The Bank is focusing its lending on higher value added projects in priority technologies that warrant support at EU level. A flagship initiative in this area is the Risk Sharing Finance Facility (RSFF). This joint initiative of the EIB and the European Commission helps to ensure funding for RDI projects that would otherwise struggle to secure finance on acceptable terms due to their risk profile.

Since its creation in 2007, the Facility has helped to turn good ideas into real business by providing loans worth over EUR 7bn to some 75 companies. Under a renewed commitment, the RSFF places particular emphasis on providing finance for research infrastructure and smaller businesses' RDI, for which the EIF makes available loans and financial leases to SMEs and mid-caps through selected financial intermediaries.

Increased use of such joint initiatives can help restore the link between pure and applied research. Since access to finance is often an issue, the EU needs to make an effort to leverage existing funds and catalyse private investment. Gedeon Richter's pharmaceutical research is an example of the EIB supporting research in order to accelerate the speed of investment.

The role of the EIB is also to attract private money to added-value projects, either by supporting anchor investment, backing public-private partnerships or using its financial and technical expertise to boost private financing of key infrastructure projects. Under the proposed project bond initiative (see next article) the EIB would help attract additional capital to ICT/broadband infrastructure, as well as transport and energy projects.



economic growth and employment in advanced economies. In an increasingly competitive global environment, investment and policies focused on research and education are becoming more important. Economic growth and breakthrough innovation require adequate financing at reasonable costs. In 2011 alone, the EIB provided more than EUR 10bn for innovation, new technologies and education in the EU.

Driving smart growth

High-end research is important but Europe also needs more applied research that can have positive knock-on benefits for industry and manufacturing. Too often, Europe's good ideas have been developed and exploited in other parts of the world.

Technological advances from life sciences to environmental improvements ensure that the EU's research and development sector is leading-edge, and also bring added value by helping to improve people's lives. The EIB not only contributes to funding RDI in academic institutions under research programmes, but also places strong emphasis on private sector innovation and knowledge transfer across sectors.

Clean technologies, from energy-efficient engines to innovative renewables, such as hydrogen, solar and wind, are among the areas in which Europe is leading the way. Whilst a large part of the renewables industry is suffering from sharp cuts in subsidies as a result of austerity measures taken, pioneer manufacturers such as Spain's Ingleteam are working hard to keep up with demand for their highly specialised components for renewable installations. The financing of RDI projects in this sector complements the Bank's established role in supporting renewable energy generation projects, thus contributing to the achievement of the EU decarbonisation targets and to preserving Europe's leading role in the sector.

Investments in prototyping and demonstration plants up to first commercialisation, as well as in education and information and communication technology (ICT) are key drivers of smart growth, as these foster the move towards an economy based on knowledge and innovation.

The main channel through which innovations act on economic growth is through advances in productivity. Keeping up with the technological leaders is the best way for advanced countries to maintain their shares in world markets and to attain full employment in the long run.

Improving the quality of education

Any type of innovation requires skills, and high-quality education is a key ingredient for striving knowledge economies. Investment is needed in people, in knowledge and in physical assets.

Keeping up with the increasing demand for skills is important to avoid structural unemployment. As workers are today more likely to be required to change sectors over the course of their professional lives than was the case in the past, general skills transmitted through initial education as well as the capacity for life-long learning have increasingly taken priority over job-specific skills. Returns to higher education have trended up during the past 10-20 years, reflecting an increase in demand for skilled workers. From an EIB perspective, this means that support for human-capital investment is needed as a pre-condition for meeting EU innovation targets.

The EIB supports investments that improve the quality of education on offer, especially through the upgrading of educational infrastructure and research facilities. It also promotes the European Higher Education Area and the European Research Area, which is helping to integrate scientific resources. This involves providing financial backing for investments in schools and university facilities as well as for reforms targeting the quality and competitiveness of tertiary education. Moreover, the Bank encourages mobility among students, researchers and academic staff by supporting relevant national programmes and demand-side measures through tailored student loan schemes.

Investment is also necessary to bridge the gap between academia and business to promote innovation via technology transfer initiatives. The technology-transfer platform at the Université Catholique

de Louvain, which received financial backing from the European Investment Fund, is but one example. One of the successful companies that grew out of the academic initiative, Ion Beam Applications, a cancer research spin-off that has benefited from an EIB loan, is another.

Digital economy key to long-term growth

Internet-based information and communications technologies (ICT) are recognised drivers of EU productivity growth. Broadband networks enabling high-speed internet access have a strong positive impact on long-term GDP growth and will contribute an estimated 2.1 million additional jobs in the EU between 2006 and 2015. This trend is likely to accelerate as widespread availability of broadband is considered to be a prerequisite for reaping the full benefits of the knowledge economy. Providing access to superfast internet is necessary to make the EU fit for growth based on digital innovation. Making available ICT infrastructure such as high-speed internet coverage and financing projects that enable ICT-based product innovation are therefore important objectives for the Bank. ■



EIF support for innovative SMEs

Large corporates have the potential to introduce step-change technologies with major spill-overs within the EU's innovation system. Supporting such projects is obviously in the best interests of the whole of Europe. Accelerating the technological deployment and the commercialisation of new breakthrough innovations is important. But so is the financing of smaller innovative companies.

Many of the stars of the internet economy began not long ago as start-ups and grew very fast. Europe leaves a large growth and employment potential untapped by focusing too little of its efforts on the growth of start-ups. To the extent that the problem is supply of funds, the European Investment Fund – the EIB Group's specialised arm for innovative SME funding – plays an important role in fostering capital supply through venture capital operations.

This is even more essential as the crisis has reduced the willingness of private venture capital funds to take risks on early-stage innovative enterprises. The EIF in particular seeks to support young innovative companies fostering productivity and employment in the EU, back cutting-edge R&D projects and develop financing instruments for knowledge-intensive companies. The online music streaming provider Spotify is a successful example of an internet start-up that received backing from a venture capital fund that the EIF partnered with. This is the kind of groundbreaking high-tech innovation the EIF aims to help develop into globally leading businesses with a view to raising Europe's competitiveness.

Innovative infrastructure scheme

right on track

A pilot scheme to finance large European infrastructure projects in the fields of transport, energy and information technology is set to go ahead in July, after EU policymakers reached political agreement in May.



EUR 4.6bn

With an expected multiplier ratio of between 15 and 20, EUR 200m of guarantees could mobilise up to EUR 4.6bn in overall investment.

Strategic investment in infrastructure, such as transport, energy and broadband, is seen as an important element in Europe's plans to kick-start growth in Europe. But needs are huge and public money is scarce. Hence the project bonds scheme seeks to attract institutional investors such as pension funds and insurance companies – which typically limit their investments to highly-rated debt instruments – to the capital market financing of long-term infrastructure projects.

Mobilising private investment

Project bonds aim to enable project companies themselves to issue investment-grade bonds. An EU/EIB risk-sharing mechanism would enhance the credit rating of senior bonds to a sufficiently high level to attract such investors. This would be done by separating the debt of the project company into tranches: a senior and a subordinated tranche. The provision of the subordinated tranche increases the

credit quality of the senior tranche to a level where most institutional investors are comfortable holding the bond for a long period. The subordinated tranche can take the form of a loan which is given to the project company from the outset, or a contingent credit line which can be drawn upon in case the revenues generated by the project are not sufficient to ensure senior debt service.

The intention is to support capital market financing of projects as a form of finance to complement loans, not to replace other sources of financing. In this way EU budget resources would be used more effectively and valuable projects could be implemented more quickly than would otherwise be the case.

Under the pilot, the EU budget will provide EUR 200m in guarantees for transport infrastructure, EUR 20m for information and communication technology networks and EUR 10m for energy links. With an expected multiplier ratio of between 15 and 20, these guarantees could mobilise up to EUR 4.6bn in overall investment. The pilot phase in 2012-2013 will be managed by the EIB, prior to a possible full roll-out of the instrument from 2014 onwards. Investment needs for transport, energy and ICT infrastructure projects in Europe are estimated at EUR 1.5tr for 2010-2020.

Modern and efficient infrastructure vital for growth

The European Council welcomed the political agreement and underlined the initiative's important role in the bid "to step up our efforts to finance the economy through investments". Members of the European Parliament stressed that modern and efficient infrastructure was vital to achieving the so-called Europe 2020 growth targets. "Project bonds should make investing in important infrastructure projects more attractive to capital market investors, without excessive risks for taxpayers. This new scheme could play a key role in the growth strategy now being called for by many EU Member States", said Göran Färm, the MEP who was rapporteur on the proposal and steered the legislation through Parliament.

Formal approval is pending a vote in the Parliament's plenary session scheduled for July, allowing the Bank to go ahead with operations as soon as this summer. The pilot phase will make it possible to test the instrument in the financial markets and use the practical experience gained in the coming 18 months to fine-tune the initiative for a possible roll-out on a broader scale. ■

In brief

Sustainable energy for all

This new initiative brought together Ban Ki Moon, José Manuel Barroso and Werner Hoyer in Brussels in April. The Bank is supporting the new push to provide access to sustainable energy for an additional 500 million people in developing countries by 2030 using technical and financial instruments. "Securing a reliable and affordable supply of energy is a key pre-condition for human welfare. Let us together help the developing world exploit renewable energies, adopt cleaner technologies and improve access to modern, affordable energy for all," EIB President Werner Hoyer said.



Framework Agreement between EIB and Nepalese Government

In May, the EIB and the Government of Nepal signed a Framework Agreement under which the Bank can start financing capital investments in the country, one of the world's poorest. The EIB finances projects in countries which have concluded cooperation agreements with the European Union. In Asia, the Bank has so far signed Framework Agreements with Bangladesh, China, India, Indonesia, Laos, Maldives, Mongolia, Pakistan, the Philippines, Sri Lanka, Thailand, Vietnam and Yemen.

EIB Board of Governors:

continued support for Europe's growth and innovation



At the annual meeting of the EIB's shareholders, the 27 EU Member States, in May, President Werner Hoyer underlined the Bank's important role in supporting sustainable growth, innovation and jobs in Europe and beyond. In 2011, the EIB provided its highest-ever financial contribution to the real economy with EUR 60bn disbursed to its clients. At the end of last year, the Bank's outstanding loans amounted to around EUR 395bn, more than the loan portfolio of all the other multilateral financial institutions combined.

With around EUR 10bn the EIB supported the so-called "knowledge triangle" of research, innovation and education. "These areas are absolutely essential for creating a modern economy and key elements of any growth strategy", said EIB President Werner Hoyer. Around EUR 13bn went to SMEs while some EUR 18bn was invested in projects aimed at supporting the EU's global role in fighting climate change. The EIB continues to focus on projects and sectors that make a significant contribution to Europe's competitiveness.

Leading global long-term investors commit to greening the economy

Ahead of the "Rio + 20 Summit", leading financial institutions, represented by the Long Term Investors' Club, have confirmed their shared commitment to contribute to financing the transition to a green economy. The 14 leading global financial institutions and institutional investors, with a combined balance sheet total of USD 3.2tr, recognise the scale and challenge of the investment needed for a green economy. For more information, visit www.ltic.org.





Innovation

in numbers

Over the last five years, the EIB has supported **400 projects** with some **EUR 68bn** in loans to foster the Knowledge Economy:

- More than **EUR 35bn** for research and development
- **EUR 10bn** to support innovation
- more than **EUR 12bn** for education and training, supporting more than **120 projects** in universities and schools



More than **EUR 8bn** to develop clean technologies, supporting more than **30 projects**



Loans worth over **EUR 7bn** have helped to turn good ideas into real business by providing finance to 75 companies under the Risk Sharing Finance Facility



EUR 10bn for broadband rollout information and telecommunication networks



'Current environment good for young, innovative firms to grow'

Professor Marco Da Rin teaches finance at Tilburg University in the Netherlands. His research is focused on entrepreneurial finance, venture capital and private equity, and on public policy for entrepreneurship. As part of the EIB University Research Sponsorship Programme, he has gathered and analysed systematic evidence on how finance affects the growth of entrepreneurial, innovative firms into large businesses.

Why are young, innovative firms important for growth in Europe?

These are the companies that can generate a lot of new jobs and wealth for the founders and those who invest in them, such as European pension funds. These investments are good for employment, for the company itself and for the investors, such as pensioners.

What are the key determining factors that enable young, innovative firms to grow into large businesses?

Actually, the current environment is not as bad as it may appear. Many successful companies were created during an economic downturn, partly because it's easier for investors to get good deals so they may find it easier to invest in companies. Good ideas don't have a particular timing, but if they appear at the peak of an economic cycle the companies in question become more expensive to invest in as there are too many companies looking for finance so

investors are overburdened. In that sense a recession is not a bad time, but rather an opportunity for young, innovative firms.

How important is the role of finance?

I would say that finance is not the main problem, especially in Europe, in the sense that a lot of money is available for investment, in the form of loans but also from business angels. What is clearly lacking, however, is a profusion of good ideas. For example, Europe underinvests in science and many investments are made trying to set up big university networks instead of just giving money to top scientists to create breakthrough innovations.

There is a lot of research that suggests that Europe is lagging behind not just in commercialisation but also in basic science. Compared to the US and Asia, Europe does not show the self-confidence and boldness to take big steps. This is often due to bureaucratic, administrative and legal obstacles, but also boils down to a lack of support for entrepreneurship at a cul-

tural level, where we are lacking in role models. These days, young people think about becoming a successful investment banker or bureaucrat, rather than a successful entrepreneur.

Finance is important and so is the role of the Bank or the European Investment Fund (EIF), which is part of the EIB Group, but it's only one element. By providing more public funds, we won't automatically get more innovation. In fact, I have done research to show that more money does not simply by itself translate into more innovation in early-stage companies. It is important, but you need to create the right environment at the same time, so you need a whole range of coherent and consistent elements to support innovation.

What role can the EIB/EIF play?

The EIB is providing a lot of funding for young, innovative companies and is allocating this in a very smart way, because its people know the market, the incentives and what is needed to make it work. Ulti-

Interview



Professor
Marco Da Rin,
Tilburg University,
the Netherlands

New EIB Institute in action

The EIB University Research sponsorship programme is part of the new EIB Institute's Knowledge Programme. Officially launched in June, the EIB Institute harnesses the social, philanthropic, cultural, educational and research activities of the EIB Group. The research sponsorship programme provides support to EU University Research Centres working on topics and themes of major interest to the Bank. The grant for Financing Young Innovative Firms in Europe aims to gather and analyse systematic evidence on how finance affects the growth of entrepreneurial, innovative firms into large businesses. For more information, visit <http://institute.eib.org/>.



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mately, I hope that there will be a political process to give an impetus to move towards the goal of financing young, innovative entrepreneurs.

For example, in venture capital the generation of investment bankers that helped to finance the 'dotcom bubble' is going out of business and being replaced largely by people who have been successful entrepreneurs and are starting up their own funds. This is a big generational change, because it will dramatically alter the way that people do business and this is something difficult to plan from a policy perspective, but you have to create the conditions that make it attractive for these people to invest.

What is the role of private equity for small, innovative firms?

One issue is that of mid-market buyouts of companies that need funds to grow. We are talking a lot about SMEs, but when looking at mature markets, such as in the US, the UK or Germany, you find the ratio of SMEs to companies generally is lower

than the EU average. This leads us to believe that we need to allow SMEs to either dissolve or grow into larger companies. To do that, you also need to have a good private equity market, because it helps this aggregation and provides companies with the financial firepower to make either large investments or large acquisitions.

Would you say that high-growth SMEs are more innovative?

Innovative in a broader sense. For example, Amazon is a very innovative company, without being high-tech, but rather because of its business model, which has revolutionised distribution in general. It uses technology, but is not a high-tech company itself. So you may have innovation that is not itself based on technological innovation. Nowadays our economies are increasingly based on services, which is becoming the biggest sector. Here, innovation is often achieved not through a new technology, but rather the application of a specific technology. That's why innovation should be seen in a broad sense.

What could be improved to enable small, innovative firms to grow better?

Some major European problems are the relative fragmentation of the internal market due to different regulations across countries and overprotected national markets. If you can resolve this, it will lead to more innovation. We need to create the conditions for good entrepreneurial ideas to be located in Europe with competitive markets, simple legislation, the ability to move between markets easily, and good legal and enforcement systems. This is where Europe still needs to do a lot. ■

Backing the next generation of start-up companies



Spotify has attracted more than 20 million online users since it was set up just a few years ago and it keeps growing. With its music streaming services the former start-up company has changed the dynamics of the music industry. One of the first investors to see its potential was a small venture capital fund, backed by the European Investment Fund.

Listen to your favourite music anytime anywhere, instantly and without having to download tracks. This is the Spotify user offering. The Swedish music streaming service is open to anyone with a smartphone or tablet computer and a Facebook account. With its new business model, it went from being a small Swedish start-up to a global company with more than 20 million users.

“Compared to today, it was only a very small company when we first invested,” Fredrik Cassel, General Partner at Creandum, recalls. “We invest in venture companies that have zero to EUR 10m in turnover. We’re often the first institutional investor and help the companies expand their business.”

Fast forward to high growth

A venture capital firm investing in leading innovative and fast-growing technology companies from the Nordic region, Creandum was the first institutional investor to fund the Swedish start-up company. With a small team of experts, it supports small dynamic companies at an early stage. It has started some 15 companies as entrepreneurs, invested in close on 50 technology companies as investors and angels, and has operational experience from holding leading positions in all areas of a growing

international technology company. The European Investment Fund first partnered with Creandum in 2007.

“The EIF has played a critical role in our ability to raise funds and through its commitment has proven to be a very valuable partner for us. The strength of the EIF that we have seen was that it was very transparent and predictable, which has helped us to catalyse the process of getting other investors on board as well,” he adds.

The EIF’s support for Creandum comes under the Competitiveness and Innovation Framework Programme, which is aimed amongst other things at boosting European productivity, innovation capacity and sustainable growth. More than just providing funding, the EIF is helping to shape Creandum’s strategy of backing in particular the new creative industries.

“We focus on the tech sector, and more specifically internet communications technology. These are industries that we know, we’ve worked in and we know the business rules of,” Cassel explains. “But today a lot of companies are tech enabled, so the sector ranges from hardware companies that produce chips that are needed for operator networks to online consumer services like Spotify.”

“This is exactly the kind of start-up that the EIF seeks to support. Together

with our partners, we aim to turn more ground-breaking high-tech innovations into globally leading businesses to raise Europe’s competitiveness,” says Matthias Ummenhofer, Head of Venture Capital at the EIF.

Social music made simple

“The user experience – which is now left, right and centre in any kind of company building – is an area where they have excelled. Every new product release that they have done on every new platform from PC to Mac, to Android to iPhone to Blackberry to iPad, they’ve all been super attractive user experiences,” Cassel points out.

Spotify is a new way to listen to music. At the click of a mouse, it allows users to listen to a library of millions of songs streamed online to their computers and smartphones. The music platform makes it easy to create and share playlists through social media networks.

“We’ve tried to assist them in choosing a good road to the different markets and in recruiting as the company grew a lot – especially in the first few years,” Cassel says. “We’ve also been actively involved in the following funding processes, attracting important investors.”



"The most important elements for a successful start-up are the team and the corporate culture".

Innovative start-up talent scout

Spotify is only one example of a business that has gone from start-up to internet star and Fredrik Cassel is very upbeat about the current possibilities for internet technology companies to grow.

"It's because the ecosystem is improving all the time. Ten years ago angel investors were primarily traditional industrialists, who had great success and achieved great things in building traditional companies. It's only in the last few years that we have seen the internet generation of entrepreneurs, who have completed their first journeys and who are returning to angel invest with us or in other instances start their next business. We have a reflow of entrepreneurs who have done similar things, innovating within the internet domain, that are investing alongside us," Cassel argues.

Of course there is no magic recipe for the success of an innovative start-up, but there are certain ingredients that seem to make a difference.

"The most important elements for a successful start-up are the team and the corporate culture. In the end it's all about the team's ability to build a healthy, hard-working and cost-effective culture in the organisation," he concludes. ■

Partnering for competitiveness and innovation

The Competitiveness and Innovation Framework Programme is a key EU initiative for fostering SMEs. It is managed by the EIF on behalf of the European Commission and has already supported more than 170 000 small businesses since 2007. By working in partnership with financial intermediaries such as commercial banks and funds, it mobilises a significant multiple of its budgetary allocation to reach out to SMEs in up to 35 countries. The SMEs then get access to loans and equity on better terms – which helps them to start, expand and develop their businesses.



The Université catholique de Louvain's infrastructure gets a new look



Built 40 years ago, the educational and research infrastructure and student accommodation of the Université catholique de Louvain (UCL), one of Belgium's most prestigious universities, are being modernised with the aid of an EIB loan.

“It's all very well to teach, but how can we do the job properly if we don't have the appropriate infrastructure? Today UCL has nearly 30 000 students. Considerable renovation work is becoming necessary but we also have new requirements”, explained Dominique Opfergelt, UCL's Chief Executive.

Some of the University's infrastructure, which was built 40 years ago, needs a makeover. In view of the shortage of accommodation at Louvain-la-Neuve, the University is also having to build new “kots”, as student accommodation is known here. A total of 600 additional units are planned by 2014, more than a hundred of which have already been built.

“Our students are our leading clients”, added Dominique Opfergelt. “Offering accommodation ourselves enables us to keep the prices affordable for them. Year in, year out, rents range between EUR 280 and EUR 300 a month including charges, which is at least 10-20% cheaper than in the private sector”, he pointed out.

Investing in innovation, education and research

The UCL authorities have come up with a total of 20 or so priority real estate projects. The plan provides for the renovation of a number of buildings for lectures and practical work for architecture stu-

dents in Brussels and Tournai, as well as the agronomy greenhouses and the science and technology library, the Lavoisier chemical laboratories, Place des sciences, the construction of student accommodation, an auditorium for the medical students and a new tower block for health sciences in Woluwé. The total cost of this ambitious investment programme is estimated at EUR 170m.

“What's more, it needs to be done in the context of the institution's responsibility for its environment in the wider sense”, the Chief Executive continued. In practical terms, the University is committed to reducing its CO₂ emissions. In addition, a new combined heat and power plant



Cutting-edge technology for the treatment of cancer

One of the spin-offs that has been very successful is IBA (Ion Beam Applications), which was a customer of the EIB in 2009 via a EUR 50m loan for its research and development projects in the fields of cancer diagnostics and treatment. Ion Beam Applications is developing and commercialising cutting-edge technologies and pharmaceutical and customised solutions in the field of oncology. Today, some 3 000 hospitals worldwide use oncological solutions developed by IBA.



“Our students are our leading clients”.

and the insulation of some roofs and façades will improve energy performances. “For instance, the Mercator 1 building (125 rooms), which opened last October, almost meets the ‘passive’ standard, with very low energy consumption”, he explained.

The loan granted to UCL will help the EIB meet the European Union objectives of establishing a knowledge economy in Europe, which is vital for stimulating growth. From that point of view UCL’s construction and renovation programme is ultimately intended to improve research and teaching. Over the past five years the EIB has earmarked more than EUR 70bn for the knowledge economy, of which more than EUR 10bn for education.

“For us, it is a big advantage to be able to diversify our sources of finance and have a partner such as the EIB”, said Dominique Opfergelt. “We already knew the EIB Group through the European Investment Fund (EIF) in connection with innovation and business start-ups.”

Knowledge as the engine of growth

In order to exploit the results of the research and contribute to economic development, the University has established a fund for the transfer of technology. “We were fortunate enough to be eligible for support from the EIF”, as the Chief Executive pointed out, “the important thing being to finance actual research right through to the final process – the transfer and creation of spin-offs to complete the chain.”

The EIF is involved in the Vives I and Vives II Funds, which are managed by

Sopartec, the University’s technology transfer company. The purpose of these Funds is to invest in young high-tech companies, particularly those involved in eco-innovation. UCL – not only because of the number of students and researchers it has but also because of the quality of its research and the amount of resources devoted to it – is a very important source of knowledge and innovation.

“Our role in society is also to start up businesses”, pointed out Dominique Opfergelt. “Our ambition is to exploit the investment in research undertaken by the public authorities in universities and to make the most of the results of the research for the general well-being, both economic and social”. Since its inception the University’s technology transfer business has directly and indirectly created several thousand jobs through its spin-offs. ■

Putting e-waste to work

Electrical and electronic products are increasingly part of our everyday lives. At the same time, the raw materials needed to produce them are becoming scarce. Recycling makes environmental and economic sense. Swedish metals expert Boliden is extending its recycling business with a little help from an EIB loan.



You've just ditched your old device for a new smartphone or tablet computer? Then you might be contributing to the fastest-growing waste stream in the world. In the EU alone, some 10 million tonnes of electronic waste is tossed out each year. The average EU citizen's electronic product purchases currently equate to 24 kg of e-scrap per year. With new EU rules being put in place, the collection and recycling of e-scrap is expected to increase across Europe.

"A growing share of metal production will originate from recycling," says Roger Sundqvist, General Manager of Rönnskär. The demand and resulting use for products that contain electronics, such as computers, TVs, audio, video, mobile phones, is constantly increasing and the lifespan of electronic products is becoming progres-

sively shorter. "That's why we see enormous potential for environmental and economic benefits from increased recycling," Roger Sundqvist adds.

A world leader in e-scrap recycling

A EUR 85m loan is helping Boliden, one of Europe's leading metals companies, expand its electronic scrap recycling facility at the Rönnskär smelter in northern Sweden, which employs some 800 people. This complements lending from the Nordic Investment Bank, which is supporting the project with a EUR 60m loan.

"This investment means that we can process three times as much electronic scrap, bringing the total annual capacity to 120 000 tonnes. This will enable the

production of some additional 2 tonnes of gold, 30 tonnes of silver and 15 000 tonnes of copper, as well as other metals," Roger Sundqvist explains.

Almost all precious metals in electronic products can be recovered and reused, and Boliden has developed a special technique for this. Extracting metals from scrap only requires 10-15% of the energy required to extract metals from ore. Even what remains of the waste after the metals have been extracted is put to use. Boliden has over time increased the sophistication of the processes.

Volumes of electronic scrap are increasing globally, but only a few smelters can process it. Boliden's Rönnskär smelter technology is leading-edge and the company is now the world's biggest player in the field. The increased electronic scrap processing capacity boosts raw materials' availability while at the same time helping to build a sustainable eco-cycle in which as much metal as possible is repeatedly recycled.

"Metals can be recycled over and over again without losing their quality. The metals we recycle are used to produce new products like copper wires in electronic devices, for example. Our increased recycling capacity combines high environmental performance with good business returns," Roger Sundqvist concludes. ■



Financing energy efficiency

in the home

Energy efficiency is the easiest way to reduce energy consumption and CO₂ emissions and save on energy bills. Washing machines, driers and refrigerators offer considerable potential for these savings. BSH Bosch und Siemens Hausgeräte GmbH, with its expertise in domestic appliances, promotes pioneering industrial research and development in this area. Backed by an EIB loan, the company's innovative strength helps improve the quality of life of both individuals and society at large whilst fostering sustainable growth.



“With our superefficient domestic appliances we can make a significant contribution towards climate protection. Energy efficiency is the simplest and quickest lever for achieving climate protection, given that the best electricity is the kind that is not consumed”, says Kurt-Ludwig Gutberlet, BSH's Chairman and CEO.

Think superefficient

Currently leading on resource-saving domestic appliances in Europe, BSH is undertaking an extensive development project to reduce both electricity and water consumption in the home. The EIB is supporting the R&D activities carried out in five locations in Germany with a EUR 300m loan. Here, the further savings potential

of small household appliances as well as larger ones such as refrigerators, washing machines and driers is being explored.

“Thanks to intelligent water management, we have reduced the water consumption of our appliances considerably in the last 15 years, by as much as two thirds in the case of dishwashers. Today our most efficient dishwashers only need 6.5 litres of water per cycle,” he adds.

Innovative products that are part of our everyday lives

“Across Europe, 30% of all household electrical appliances are over 10 years old. If all these appliances were replaced with highly efficient ones, an annual saving of 44 billion kWh could be achieved – the

equivalent of Portugal's annual energy consumption,” Gutberlet points out.

The innovative track record of BSH comprises revolutionary concepts, such as data communications that allow remote managing of appliances. The R&D will not only help contribute to technological advances, but also drive innovation in household management and construction design. More than ever, today's domestic appliances need to be ready for integration into the smart grid.

The EIB and BSH have already worked together on two previous projects to support R&D and capacity expansion. The EIB's involvement has enabled BSH to maintain its innovative capacity in Europe, thereby helping to safeguard high-skill jobs. ■

Developing **healthcare innovation capacity**

Innovative treatments can help improve quality of life. But this often requires a large amount of upfront investment before a new pharmaceutical product can be brought to market. The EIB is backing Richter's research activities for a new generation of treatments.



“We have 111 years of history to look back on. That is very rare in this region of Europe due to the historical changes we have gone through. Innovation and added value were among the reasons why the company was well prepared for these changes but also a reason for us to be optimistic about the future,” Zsolt Szombathelyi, Head of R&D at Gedeon Richter explained.

The company has renewed its strategic emphasis on R&D since the turn of the century, when it was still a medium-sized company, thus reinforcing its in-house research capacities. Today, with an annual budget of more than EUR 100m, Richter is the largest industrial R&D spender in Hungary and the wider Central and Eastern European region. More than 1 000 people, around 10% of its total labour force, work in research and development. It also maintains strong links with public research organisations in both Budapest and Debrecen.

Funding new therapies for chronic diseases

“The EIB funds will help to develop Hungary's capacity for innovation in the area of human health research, which will have positive implications for improving people's quality of life and strengthening the

competitiveness of the European pharmaceutical industries,” said EIB Vice-President Anton Rop.

The EUR 150m loan from the EIB will support Gedeon Richter's original research activities on compounds active in diseases of the central nervous system, together with the development of biosimilar products. The research being funded is intended to address unmet medical needs and will also impact the quality of life of certain patients, by providing them with access to otherwise expensive therapies.

“We see a significant medical need for life-long diseases linked to the central nervous system. The drugs currently available are nowhere near good enough to restore the quality of life to our patients, such as those suffering from dementia. Our intention is to produce something better than the existing products”, Mr Szombathelyi pointed out.

Driving biotech innovation

Since 2007, Richter's research has moved into the biotechnology niche. Biosimilar medicines are officially approved subsequent versions of a biological medicine that has gone off-patent. A biological medicine is a medicine whose active substance is made by or derived from a living

“Assistance from the EIB means that we can invest more dynamically and launch our research programmes faster.”

organism, as in the case of insulin production from bacteria or yeast, for example. As the patents for many of the first wave of biopharmaceuticals have expired or are about to expire, this paves the way for marketing non-innovative versions of these products. The generic approach cannot, however, be applied to biologicals because they are much more complex and therefore more difficult to replicate than chemically-synthesised small molecule drugs. Whilst most traditional pharmaceuticals are composed of small organic molecules containing 20 to 100 atoms in well-defined structures, most protein-based biological treatments involve highly complex molecules with 5 000 to 50 000 atoms and thus require sufficient R&D.

“Biosimilars are extremely demanding to produce. To develop such a product, you need very specific facilities, including biotechnology manufacturing capabilities, and to undertake large-scale clinical studies proving therapeutic equivalence. This means very significant upfront investment, and we have decided to do that but asked for some help,” Mr Szombathelyi added.



The EIB supports healthcare research as part of its commitment to strengthening RDI and building Europe's knowledge economy. As this is a research for human health project, eligible under the EU's FP7, the EIB loan comes under the so-called Risk Sharing Finance Facility – a joint EIB/ European Commission initiative, aimed at providing funding for RDI projects that would otherwise struggle to secure finance on acceptable terms due to their risk profile.

Delivering cost-efficient treatment solutions

With national healthcare systems increasingly coming under pressure from the demographic shift societies are facing and the tightening of budgets in times of austerity, cost-efficient treatment solutions

play an important part in securing a high quality of care in the future. "The big advantage of such a product is the price, which is somewhat lower than the original drugs," said Mr Szombathelyi.

Biosimilars are essentially used in cancer and immunology, but as therapies develop the field is widening. Such treatment is of particular value where traditional therapy does not work. However, it does not work for all patients and can only be used in a very targeted way.

"Using these biotech therapies, the survival rate and survival time has increased. If you select the right patient you can have 100% results. In cases of aggressive cancers, where the patient only has a little time left after the diagnosis, even extending the life expectancy with such a novel treatment for a few months is a great re-

sult. In other cases, the survival period may be as much as five years," Mr Szombathelyi commented.

Maintaining a competitive edge

Accelerating research in innovative treatments also helps Europe maintain its competitive edge. Especially in the area of healthcare, being the first to bring a new product to market can be crucial.

"Biosimilars are an increasingly competitive area on a global level. That's why the speed of investment and project development is crucial. Thus any addition to our in-house resources, such as assistance from the EIB, is very important. This means that we can invest more dynamically and launch our research programmes faster," Mr Szombathelyi concluded. ■



Supporting innovation in renewable technology



The renewables sector is rapidly changing, with global competition speeding up developments. Here, investment in innovation is crucial to make sure Europe's renewables industry remains leading-edge. In Spain, the EIB is backing a highly specialised mid-cap producing electrical equipment used in the generation of electricity from renewables.

The EIB is supporting the company's RDI in renewables manufacturing with a EUR 45m loan. This is the Bank's first operation with Ingeteam and is notably helping to finance the company's investment in research, development and product innovation related to electrical equipment for renewable energy generation by means of wind turbine generators, photovoltaic installations, thermo and hydroelectric plants, electric vehicle charging stations, braking energy recovery in railways, and smart grids. Part of the loan will also cover RDI activities related to power distribution systems, industrial process control systems and electrical equipment for power control in specific industrial, marine and rail transport applications. The financing covers RDI activities carried out until 2013 in the company's existing R&D centres in Spain, including four different research facilities in the regions of Bizkaia, Gipuzkoa and Navarra.

A true renewable engineering expert

"Our in-house technology and R&D have allowed us to offer our clients high-value products and successfully address their specific needs. Not being a huge company, we have to be much closer to our clients to meet our commitments and always be a step ahead. In this way today's research helps secure our market position of tomorrow," he adds.

Thanks to its commitment to innovation, Ingeteam is a market leader specialising in electrical engineering and the development of electrical equipment, motors, generators and frequency converters. Ingeteam currently offers electronic power and automation products and advanced electric rotary machines in the sectors in which it operates: energy, industry, marine, and rail traction. The company employs more than 3 000 people spread

Spain's Ingeteam is working hard to keep up with demand for its highly specialised equipment by investing continuously in research, development and innovation. This allows it to deliver better-performing products and to position itself as a key supplier of equipment for the wind and photovoltaic markets. Its business is built on the foundations of R&D, with annual spending amounting to some 8% of the company's turnover and more than 13% of its staff being assigned to research and development activities.

Innovation as a growth engine

"Since the very outset, our two strategic pillars have been, and continue to be, innovation and investment in technological capacity. With a track record of more than 60 years' experience in the electrical sector and 15 years in the wind power sector, and with more than 3 000 professionals dedicated to engineering, project development and services, we are strongly committed to innovation as a growth engine," says Eduardo Giménez, marketing director at Ingeteam.

across Asia, Europe and North and South America.

Currently, around 5% of solar/photo-voltaic installations and close to 10% of wind turbines in the world are fitted with Ingeteam converters and generators, accounting for a power output capacity of more than 22 000 MW. Moreover, the company is developing applications for electronic vehicle infrastructure and smart grids to make power conversion faster and more efficient. Another innovative application uses the energy generated when trains break to feed the power back into the grid.

“Promoting the use of renewable energy, the efficient use of natural resources is at the heart of our activities. We are glad to see that the EIB is partnering with us on this commitment,” Giménez concludes.

The EIB is heavily involved in financing investment aimed at enhancing the competitiveness of the European economy, supporting projects involving RDI, education and training, the spread of new technologies and the development of renewables technologies in particular. ■

Maintaining a leading edge in renewable technologies

Europe is home to a number of leading producers of the equipment used in electricity generation from renewable energy sources, such as wind turbine generators, solar panels, inverters, power converters and generators. Despite their efforts to stay at the forefront of technological development, they are faced with shrinking public support for renewable energy in Europe, overcapacity and rising competitive pressure. In their quest to reduce the cost of energy generated from renewable sources, the manufacturers are continuing to increase their investments in new technologies in order to make generation from renewables cost competitive with traditional energy sources, notably fossil fuels.

The competitiveness of Europe’s industry rests on its technological leadership and a large home market. Four out of the ten leading wind turbine manufacturers in the world have their home base in Europe, for example. They are supported by a close supply chain formed by component suppliers and service providers.

The EIB started lending to the supply chain of equipment for renewables in 2004. Since then, the total lending volume to the sector has reached over EUR 2bn, the large majority of which went to support RDI projects. Within the same time frame, lending to energy generation from renewables amounted to some EUR 18bn.

The financing of RDI projects in the field of equipment for renewable energies in Europe complements the Bank’s established role in supporting investments in wind and solar parks, which contributes to achieving the EU decarbonisation targets and preserving Europe’s leading role in the sector.



Revolutionising the **travel industry**

IT applications need to continuously reinvent themselves in order to keep up with the latest technical and consumer requirements. This is also true for the tourism sector, which processes millions of booking transactions each day. A leading travel technology partner, Amadeus also seeks to be an innovation champion with the backing of an EIB loan financing its R&D.

// We will use this EUR 200m loan to continue developing world class IT solutions that will revolutionise the travel industry," says Luis Maroto, Chairman and CEO of Amadeus. "We feel this is further proof of our long-term commitment to developing innovative customer-focused solutions such as our airline IT platform, the Altéa Suite, which is now used by 107 of the world's leading airlines.

Developing successful IT solutions

Amadeus is a leading transaction processor for the global travel and tourism industry, providing transaction processing power and technology solutions to both travel providers (airlines, hotels, rail operators, cruise and ferry operators) and travel agencies (both online and offline). It continuously invests in innovative IT solutions, dedicating approximately EUR 2bn to R&D between 2004 and 2011. In 2011 alone, Amadeus invested EUR 364m in R&D, corresponding to 13.4% of the company's revenues. The Group is headquartered in Madrid and has 16 R&D centres, currently employing over 4 000 people, and many of these are located in European cities, including Nice, London, Antwerp, Aachen, Frankfurt, Strasbourg and Warsaw.

"This loan to Amadeus achieves our objective of making long-term finance available for sound investment in order to contribute towards EU policy goals," says Philippe de Fontaine Vive Curtaz, EIB Vice-President in charge of Innovation. "Its focus on innovation and proven track record in devel-

"Its focus on innovation and proven track record in developing successful IT solutions is a natural fit for our commitment to promoting the European knowledge economy."

oping successful IT solutions is a natural fit for our commitment to promoting the European knowledge economy."

A leading R&D investor

Amadeus ranks high on the European Commission's scoreboard of Europe's R&D investment leaders, taking the top spots in the computer services and travel and tourism categories. Its R&D efforts are particularly focused on: extremely high performance transaction processing under stringent system availability and dependability requirements; information mining from very large databases; super-responsive travel search engines; and multi-channel customer servicing applications from agent desktop to mobile and tablets. The Amadeus system processed more than 948 million billable travel transactions in 2011.

Previous examples of Amadeus' successful approach to R&D include the development of the Amadeus Altéa Suite, a community-based airline IT platform covering reservation, inventory management and departure control. It is currently used by 107 airlines and last year processed 439 million passengers. ■



People @ EIB

New EIB Vice-President takes office



Mihai Nicolae Tănăsescu has been appointed Vice-President and Member of the Management Committee, with effect from 1 August 2012, when he will succeed Plutarchos Sakellaris. Mr Tănăsescu, a Romanian national, has given up his current position as Senior Adviser to the Executive Director and member of the Board of Executive Directors of the International Monetary Fund in Washington D.C. His previous posts include Minister of Public Finance of Romania, and member of the Romanian Parliament and Chairman of the Budget and Finance Committee of the Chamber of Deputies.



Michel Grilli

Michel Grilli will become the EIB's Representative on the Board of Directors of the EBRD in London, replacing Thomas Hackett. He was previously head of the Human Resources Department.



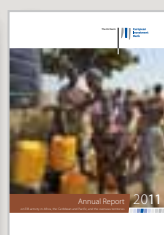
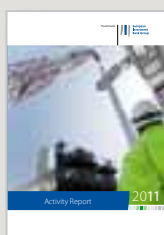
Jean-Christophe Laloux

Jean-Christophe Laloux has been appointed Director General of the new Personnel Directorate. Prior to this he headed the Department for Lending Operations in Western Europe within the Directorate for Lending Operations in the EU and Candidate Countries.

Publications

- Activity, Statistical and Financial Reports 2011
- EIB Group Report 2011 on supporting SMEs
- Annual Report on 2011 activity in ACP countries
- EIB Climate Action on the Ground
- Carbon Footprint 2011
- EIB Institute - European initiatives for the common good

Details at www.eib.org/publications



Agenda

- **14/06/2012**
Investment and Growth at a Time of Climate Change, Brussels
- **18/06/2012**
The EIB at the EU Sustainable Energy Week 2012, Brussels
- **18-19/06/2012**
The EIB at the Baltic Development Forum, Copenhagen

Details at www.eib.org/events



Banking in the Eastern Neighbourhood

This study examines the opportunities for growth in the banking sector in the Eastern Neighbourhood region and discusses the challenges involved in providing an enabling environment for the development of the private sector. The banking sector has a key role to play as faster growth and economic diversification will require more activity in the small corporate and SME sectors. This publication is available on our website: www.eib.org.



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QH-AA-12-146-EN-C
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Please consult the Bank's website for the updated list of existing offices and their contact details.

Accelerating innovation



Financing innovation is a key ingredient in driving European recovery and ensuring longer-term economic growth. The EIB helps secure ongoing investment in innovation to sustain a comparative advantage and continue creating high-value jobs in Europe.

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