SPECIAL REPORT | 4 - 8 April 2016

WHAT'S DRIVING EUROPE'S DIGITAL TRANSFORMATION?

Contents

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Stockholm, Sweden. [Tommie Hansen]

Nordic countries lead EU in digital entrepreneurship

The Nordic countries lead the rest of the EU in fostering new digital startups and helping businesses go digital, according to a European Commission report.

The Commission has listed five 'dimensions' in its Digital Entrepreneurship Scoreboard 2015 which measures and ranks member states.

The dimensions include how competitive countries are in making ICT-related products and how well their infrastructure supports digital. They also cover access to finance and the efforts companies make in teaching employees digital skills or the possibility of acquiring those skills at an educational institution.

The Commission has also measured the overall 'entrepreneurial mindset' of the member states.

The thinking behind the scoreboard is to ensure that traditional industry and services companies can "fully capture the opportunity and value of digitalisation," according to Elżbieta Bieńkowska, the Commissioner for the Internal Market, Industry, Entrepreneurship and SMEs.

"European businesses are lagging behind in the uptake of advanced digital technologies, with companies slow to adopt new digital technologies. This is a challenge for business and necessitates action at local, national and European level," she said in a statement.

Sweden, Denmark and Finland, outperform other EU countries because they succeeded to put in place a "virtuous circle," the Commission said. All three lack an 'entrepreneurial mindset', but they have high levels of investment in education, research and development.

This investment helps innovation, which together with easy access to finance, directly boosts companies' performance.

The case of Sweden

Sweden, the top performer, has proved that it is possible for Europe to lead when it comes to digital entrepreneurship.

Stockholm is emerging as a big player on the global tech stage, being the home of ventures such as the music streaming application Spotify, and video games Candy Crush and Minecraft.

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As the American financial news magazine Forbes pointed out, the small Scandinavian country currently has almost as many tech startups as Silicon Valley.

In 2011, the Swedish government set the goal that "Sweden should become the best in the world exploiting the opportunities of digitisation".

In one of its working programmes, it said school children must, and teachers should, have access to modern learning tools that are required for up-to-date education. Every primary and lower secondary school pupil must be able to use digital technology as a tool for knowledge-seeking, communication, creation and learning.

In higher education, the number of masters students in digital programmes has increased. The Royal Institute of Technology (KTH) is also now collaborating with the EIT Digital.

Great differences

The UK, Ireland, Luxembourg, the Netherlands, Belgium, France, Germany, Austria and Cyprus rank below the Nordic countries.

The scoreboard categories them as a 'good enabling environment', which means it is easy to do business there and to access the appropriate technological infrastructure.

But digital training and knowledge is sometimes lacking, according to the Commission. This makes the return of the research and development investment smaller and makes it more challenging to access fresh financial resources.

The majority of member states fall into the 'moderate enabling environment' category. Digital entrepreneurs in these countries are faced with less business-friendly environments, difficulties in accessing finance and are lacking basic innovation knowledge.

But this group can be divided into two sub-groups, the Commission underlines.

In Italy, Spain, Portugal, Croatia, Bulgaria, Romania, Poland, Lithuania and Latvia, there is a strong entrepreneurial mindset, even though these countries score poorly for almost all the over dimensions.

Hungary, Czech Republic, Slovakia, Slovenia and Estonia on the other hand lack the so-called 'entrepreneurial mindset', but are much stronger when it comes to digital skills, e-leadership and financial environment.

New skills agenda in May

The scoreboard will be followed up by a New Skills Agenda for Europe initiative to be published in May, the EU executive revealed at a high-level conference in The Hague recently.

The Commission believes removing barriers to the digital economy could create a 4% growth in GDP, worth €500 billion, over the next decade.

The Commission is also expected to publish proposals for a new European framework for ICT professionalism next year.

"In today's economies, new technologies are a major engine for growth and modernisation of industry," said Sławomir Tokarski, director for Innovation and Advanced Manufacturing at the Commission's DG GROWTH.

"There is a need to strengthen Europe's position as a centre of educational excellence, research and innovation. The Commission will support member states' efforts and help raise the recognition and the level of digital and key enabling technologies skills."

More than money, Europe needs entrepreneurial culture change

Europe faces an uphill battle to make the fourth industrial revolution a reality. While the investment needed will be a challenge, the main obstacle to complete the transition towards the new digitalised future may be the sluggish entrepreneurial culture in Europe.

"We need to create what comes after Google," said Commissioner for Innovation, Carlos Moedas, on 16 February. On the occasion of the announcement of the upcoming European Innovation Council, the Portuguese Commissioner described a future where the digital, physical and biological worlds come together.

As companies, experts and decision-makers have insisted, the fourth industrial revolution is already here.

But Europe is lagging behind in progressing towards 'Industry 4.0', which will be fuelled mainly by data.

The reasons are many, including the fact that most of the tech giants are US-based companies.

Investment challenges

Experts and policymakers also cite the investment effort required to complete the digitalisation of industry and to implement all the cutting-edge technologies of this new wave of changes, such as virtual reality, 3D printing and artificial intelligence.

According to a report published by the European Parliament Research Centre, Germany alone would need to invest an estimated €40 billion per year to make this industrial revolution real. For Europe, the figure could be €140 billion.

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Industry 4.0's proponents emphasise its economic benefits, including faster manufacturing processes, integrated value chains and improved quality systems.

But some observers are more cautious. Deutsche Bank pointed out that the investment needed would be "challenging" for small and medium-sized companies, and the total savings for numerous firms could be "negligible".

Even more, the bank emphasised that "there is even the danger that the economic efficiency may decline overall, at least in the short term".

Meanwhile, the Gartner Group warned in a report that many of the new technologies are still five to ten years away from a viable payoff, while business models remain unclear.

A new spirit

For a majority of business involved in the digitalisation of Europe, the main challenge to complete this transition will not be the money, but the spirit. Europe lacks a solid entrepreneurial culture.

The reason is that the 'Old Continent', the land of numerous political revolutions and industrial transformations, became risk-averse after the Second World War. According to an analysis of the world's 500 biggest publicly-listed firms by Nicolas Véron and Thomas Philippon of the Bruegel think tank, Europe gave birth to just 12 new big companies between 1950 and 2007.

As Moedas highlighted in his speech, Europe is good at improving existing technologies but "so far, Europe has missed out on market-creating innovation", the same kind of innovation that firms like Google, Airbnb and Uber represent.

"I think we will be in real trouble if this does not change," the Commissioner said.

Portuguese MP Francisca Almeida summarized the view shared by many

One of the success stories in Europe is the carpooling company blablacar. In the picture, the founders Nicolas Brusson and Frederic Mazzella. [Leweb/Flickr]

in the European startup scene. "The difference lies with the acceptance of failure and risk-taking," she wrote in a blog post in 2014. "While Europeans regard failure as a burden, Americans see it as a badge of honour that proves they tried and learned from their mistakes".

But rebuilding the entrepreneurial culture will not happen overnight. In order to build the foundations of this new era, the Commission put forward an action plan for "reigniting the entrepreneurial spirit in Europe" by 2020.

"Europe needs more entrepreneurs," urged the document.

"Not only is the environment challenging, but there is also a widespread culture that does not recognise or reward entrepreneurial endeavours enough and does not celebrate successful entrepreneurs, as role models who create jobs and income. To make entrepreneurship the growth engine of our economy Europe needs a thorough, far-reaching cultural change," the plan said.

The strategy is based on three pillars: developing entrepreneurial education and training; creating the right business environment; and role models and reaching out to specific groups.

As the European Commission acknowledged, aspiring entrepreneurs in the EU generally find themselves in a tough environment. Education does not offer the right foundation for an entrepreneurial career, it is difficult to access credit and markets, there are difficulties in transferring businesses, a fear of punitive sanctions in the event of failure, and burdensome administrative procedures.

But the lack of entrepreneurship not only affects the setting up of new companies. It also discourages the transformation of existing ones.

Jim Moffat, Managing Director and Global Consulting Business Leader at Deloitte Consulting, told Euractiv.com during the 2016 World Economic Forum in Davos that "Europe has been slower to embrace the digital transformation."

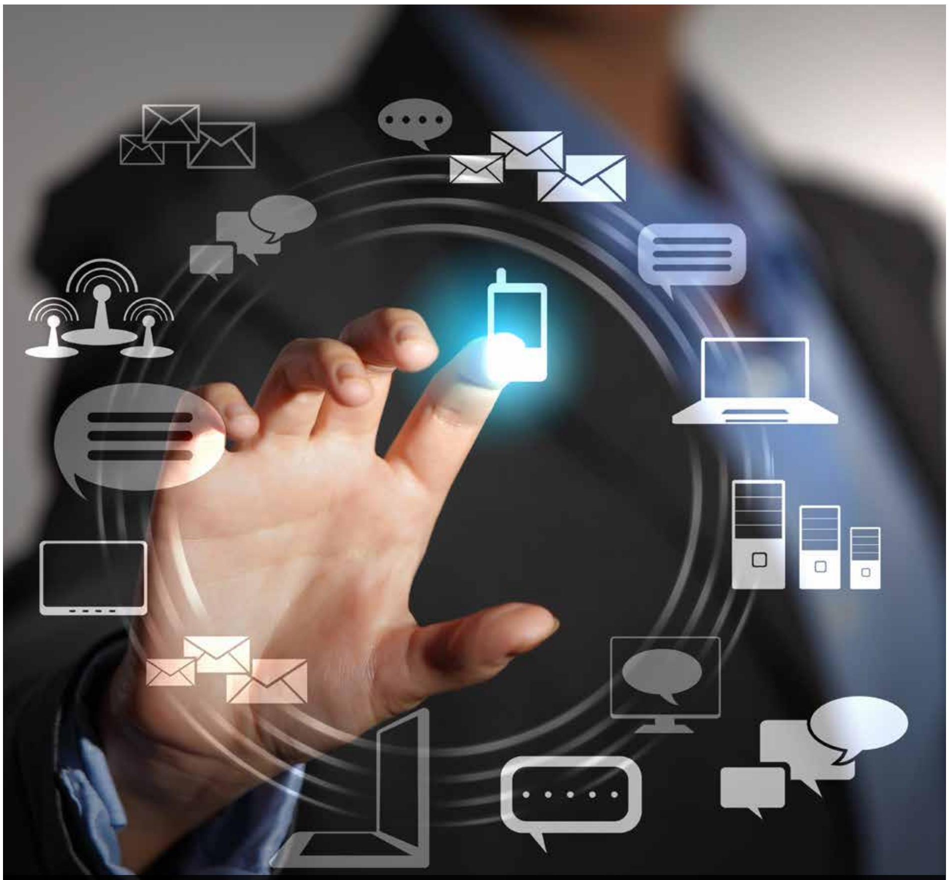
He said that "what is needed in Europe is to create the entrepreneurial culture that spurs innovation within companies", similar to what's happening in the US.

He noted that only a few companies have started to realise in Europe the "profound impact" that Industry 4.0 will have on their business. "I've seen more of that embracement in Asia-Pacific than in Europe," he warned.

Quoting social entrepreneur Jen Hyatt, Moedas said that "instead of asking how we provide more for less, we need to ask how we do things differently and better". It is high time for Europe to start thinking 'out of the box'. As the African proverb says, "it does not matter whether you are the lion or a gazelle- when the sun comes up, you would better be running".

WHO pushes digital technology in EU healthcare

The World Health Organisation (WHO) wants EU member states to focus more resources on e-Health, saying it can empower patients and spark innovation.



Pushing symbols on a touch screen interface. [Shutterstock]

More investment in e-Health is necessary if Europe is to achieve its policy objectives, which include reduced health inequalities and more people-centred health systems, according to a new report by the global health organisation.

E-Health involves the use of electronic technology to deliver services and information related to health. It covers a wide range of areas such as electronic records, social media, mobile health apps (m-Health) and the collection of big data for analytics.

"E-Health saves lives and money; yet, despite many inspiring examples of progress, this report makes it clear that e-Health is not being adopted evenly across the region," said Zsuzsanna Jakab, the WHO's regional director for Europe.

"Stronger investment in e-Health is needed in order to achieve the Health 2020 policy objectives," she added.

In Eindhoven, the Netherlands, many new digital startups focused on health are emerging after the Dutch technology company Philips, Eindhoven University of Technology and other occupational health companies have started collaborating, said Patrick Essers from EIT Digital Eindhoven.

Essers told euractiv.com that startups want to invent solutions that can decrease healthcare costs while keeping the same quality of life for individuals. One challenge they face is to identify solutions that are acceptable to the users from the usability and data privacy perspective.

Strong privacy protection

While the WHO would like to see more investment in digital health, it also calls for strong governance and legal protection for users. Weak legislation could lead to not only missed opportunities for health authorities, but also "put lives at risk and leave e-Health open to commercial exploitation", it warns.

The global health organisation is for example worried that only six countries have a national policy on how to regulate big data in the health sector and its use by private companies.

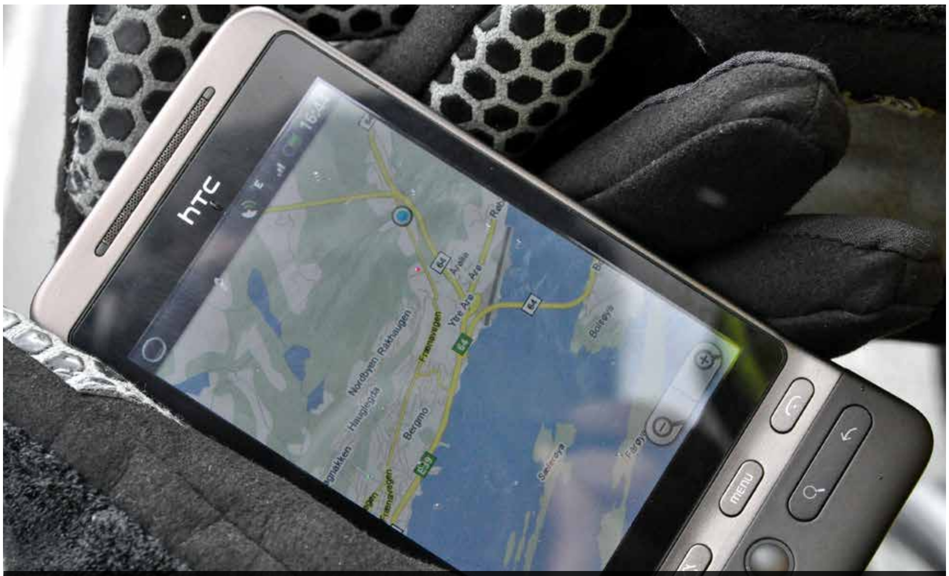
93% of European countries have made public funding available for e-Health programmes, but 80% have legislation to protect the privacy of individual data in electronic health records.

While 81% of European countries allow healthcare organisations to use social media to promote messages as part of their health campaigns, none of them have a national policy on how to govern the use of social media in healthcare.

Meanwhile, 33 countries in Europe do not have a regulatory entity responsible for overseeing the quality, safety or reliability of mobile health apps.

"This presents a potential risk for countries and is an area in need of incentives, guidance and oversight," the WHO emphasises in its report.

'Netflix-like' city transport app could mean people buy less cars



The founder of MaaS, the mobility-as-a-service app, wants it to expand to cities around Europe. [Flickr/Daniel Flathagen]

The European Commission is pushing local authorities to digitise cities and make them more efficient—one radical plan bubbling up could minimise the number of cars on city streets.

The EU executive has funded research projects and set up a working group to pin down strategies that will help boost so-called smart cities in Europe, a term used to describe the move towards digital city infrastructure.

The Commission is especially encouraging cities to use technology to make energy and transport services more efficient.

A project slated to start later this year in Finland could create an app that would help Helsinki residents to map out routes using multiple modes of transport, including walking, public transport, taxis and bicycle and car sharing programmes. The app will also sell flat-rate subscriptions so that people can travel in the city with whatever combination of transport means they choose—and only pay once.

Sampo Hietanen, CEO of the MaaS app, or mobility as a service, calls the idea a kind of Netflix for transport and says it "could give a true alternative to owning a car".

Hietanen wants the app to eventually work in cities across Europe so people can use it when they travel. The next cities he's eyeing to get on the app include Manchester, Berlin, Antwerp and Ghent.

Legislation set to go into effect next year to slash roaming charges for mobile phone users within the EU could help the app draw users as it expands.

"I think that was one of the best decisions the EU ever did. So now you can start planning new types of services," Hietanen said of the roaming regulation.

The idea has already garnered support for going Europe-wide.

Jacob Bangsgaard, director general of consumer group Federation Internationale de l'Automobile's Europe office, praised the idea and told EurActiv.com that "citizens are underserved when it comes to mobility".

"In smart cities, we should be able to get from A to B by using convenient, bundled transport packages," Bangsgaard said.

If the mobility as a service app gets people in cities to stop buying and using their own cars, it could relieve traffic congestion and even cut emissions from cars, lining up with the Commission's plan to use technology to make cities more sustainable.

In a blog post published Monday (4 April), the World Economic Forum wrote that cities "allow for a use of fewer resources like cars, greater sustainability of public transport and of course pricing".

The European Parliament's Transport Committee approved a report last November that called for cleaner transport in cities and included measures to cap emissions and introduce digital features that could make transport more efficient.

French Green MEP Karima Delli (Europe Écologie), rapporteur on the report, told Euractiv.com that mobility as a service projects "must get all our attention because it challenges the traditional model of private cars."

"Platforms have already demonstrated that they lower transaction costs, but they can also be useful to lower congestion and pollution," Delli added.

The Commission is brokering talks between public authorities and transport operators to work out details of how platforms can gain access to data and pass it along to users.

For mobility as a service and other platforms that want to advise users on how to travel in cities, gaining access to companies' data is key.

Eurocities, an organisation representing cities in the EU, is pressing for local authorities to make transport data public and to use it to make traffic run more smoothly.

Peter Staelens, project coordinator for digital mobility at Eurocities, said cities are wary of making data public

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that could be useful for traffic routing because it could be swept up by giant companies like Google.

"Cities want to use open data to allow local SMEs to create employment at the local level," Staelens said.

Hietanen says that despite disputes over data, there is growing receptiveness towards the mobility as a service idea.

"I think Europe is waking up to the idea that transportation is going through a big disruption caused by different types of digitalisation. It's a big market disruption and a big opportunity," he said.

Hietanen is in talks with companies and public transport operators and is pushing for the green light to sell subscriptions to their services. He insists the app will also benefit taxi drivers by bringing them more business.

With ride sharing service Uber banned and under increasing legal pressure in parts of Europe, the mobility as a service idea could face resistance for its plan to combine different modes of transport to complete one route, potentially shortening some taxi rides.

But Hietanen insists that companies and city governments should help the app get off the ground.

"If Europe wants to take charge and be the first area where this is done and beat the US and Asia then the market has to be opened up," he said.

To make the model work, Hietanen says he needs to convince people they're saving money but aren't compromising convenience. He estimates Europeans spend most of their transport fees on buying and using a car.

"Can we provide something that has the same service guarantee as owning a car? People are willing to ridiculously overpay for the guarantee of having the car around and they use it about four percent of the time because it's a guarantee for their freedom of mobility," Hietanen said.

Europe looks for digital growth recipe to revive ailing economy

More investment in skills, and the completion of the digital single market, are among the top priorities in order to relaunch economic growth in Europe, analysts and policymakers agreed during a European Commission conference on Wednesday (6 April).

Jyrki Katainen: "The world around us is changing and we have to change accordingly." [European Commission]

European decision-makers are in search of the next growth recipe. The three-pillar strategy championed by the EU authorities, based on fiscal responsibility, structural reforms and more investment is not bearing fruit.

Despite the tailwinds of cheap oil, and the European Central Bank's extraordinary monetary stimulus, the EU economy is expected to grow only by 1.9% this year, while inflation remains at record low levels and unemployment refuses to dip below the 10% threshold.

The consensus on the need to review Europe's growth strategy is not matched with a common view on how to fix the economy.

For many, the key is to bring the economy into the digital era, experts, politicians and business leaders said during a conference organised by the European Political Strategy Centre, the European Commission's in-house think tank, on 6 April.

Carl Bildt, the former Prime Minister of Sweden, and Chairman of the Global Commission on Internet Governance, said that if the recipe is not working, it is because "Europe is lagging behind" in investment in the digital sector, "and the gap with the US is widening".

Fifteen years ago, European investment in the digital sector represented 80% of the level reached in the US, while today is only 60%. "This has an impact on productivity," Bildt warned.

The world is on the cusp of a fourth industrial revolution, powered by cutting-edge technologies such as 3D printing, advanced robotics and others that will bring productivity gains, said

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James Manyika, Director of the McKinsey Global Institute.

Investing in the digitalisation of the economy offers good sufficient returns and also productivity growth, he noted.

"But what we are seeing is unevenness in the digitalisation process and how sectors are taking part in it," he told the audience.

Later this month, the European Commission will present a package to support the digitalisation of the European industry. The roadmap aims at mobilising €23 billion from EU funds (€5 billion) and private money (€18 billion) to complete the transition towards Industry 4.0

Although the plan was expected to be unveiled on 6 April, it was postponed a couple of times. Commission officials told EurActiv that the announcement will take place on the third week of April.

So far, the new EU tools to revive ailing investment in Europe have missed the digital target. Half of the projects financed under the European Fund for Strategic Investments, the EU's guarantee scheme aimed at mobilising €315 billion, are linked to renewables or energy savings.

This new digital era will rely primarily on talent and data, not on expensive infrastructure. The investment related to the fourth industrial revolution will be "less capital intensive", commented Pail Sheard, Chief Economist of Standard & Poor's rating agency.

Against this backdrop, Alexander de Croo, the deputy prime minister of Belgium, argued that public investment should focus on education, as it is brings the highest multiplier effect. However, "today a big part of public investment still goes to infrastructure instead of skills", he lamented.

The Head of EPSC, Ann Mettler and Bildt agreed with the need to focus investment on skills.

But Europe's main Achilles heel is not a lack of talent, but the fragmentation of its market.

Therefore, many of the participants highlighted the importance of streamlining the regulatory environment by completing the digital single market.

Bildt emphasised that not having a digital single market today was "a greater impediment" than not having a single market for goods and services a decade ago.

"Europe needs to have an homogeneous back office" by bringing down regulatory barriers, said Catherine Mann, the chief economist of the Organisation for Economic Co-Operation and Development.

The Global Head of Research at the Abu Dhabi Investment Authority, Christof Rühl, prioritised these reforms on the regulatory front, which he said is "more unsexy" than other proposals but "ultimately is what investors are looking for".

Broadband internet set to win dedicated EU investment funding

The Juncker Plan has only earmarked 8% of loans to broadband infrastructure so far. [Sean MacEntee/Flickr]

The European Investment Bank (EIB) will set aside a dedicated part of the Juncker Plan to target broadband funding in rural areas, according to EU sources.

The EIB is crafting financial instruments dedicated to boosting broadband investment in rural areas, where companies often do not want to build networks because they're not profitable.

The programme could be up and running in around a year and would be used with the European Fund for Strategic Investment (EFSI), the official name for the Juncker Plan.

The Commission's new flagship investment scheme has been promoted as a way to pump €315 billion into the EU's struggling economy by 2018. The plan started last summer and is dealing out EIB loans to leverage private investment in high-risk infrastructure projects.

A new method of awarding loans

A financing strategy dedicated to broadband would mark a turn in the method of awarding Juncker Plan loans.

EIB officials insist they depend on the loan applications that are sent to them and don't seek out projects on their own. But carving out a specific

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track for broadband funding within the Juncker Plan will mean more money flows to new internet infrastructure projects, officials argue.

EurActiv.com reported last month that so far only 8% of loans awarded through the Juncker Plan have provided funding for new broadband internet infrastructure. The Commission named broadband networks as one of the focus areas for the investment programme, along with energy and transport infrastructure.

Officials involved in the Juncker Plan seem eager to bump up the share of loans going into broadband.

"By the end of 2018 or mid-2018 we can be very sure that we will see much much larger, not only numbers of broadband projects but also larger volume," one source told EurActiv on the condition of anonymity because they were not authorised to comment on the programme.

The Juncker Plan is set to expire in 2018 and Commission Vice-President Jyrki Katainen has not said whether it will be renewed.

Katainen said in an interview with EurActiv last month that he was surprised the Juncker Plan had approved so few loans for new broadband projects.

"Some people say that in many countries rural areas are quite difficult for the private sector to invest in broadband," Katainen said.

One of the three broadband projects that have so far received Juncker Plan loans will be run by large operator Telecom Italia in southern Italy, including in rural areas. But many large telecoms companies aren't interested in building networks in those areas.

"The smaller ones, the local cooperatives, this is an issue where they need one million or two million euros. This is something where we need a financial instrument, a dedicated one. This is where we are struggling at the moment because the market is not offering a solution," an official with knowledge of the Juncker Plan's broadband investment said.

Data volume 'exploding' in Europe

There's a need for more broadband infrastructure because data volume is "exploding" in Europe at a growth rate of about 30% annually, according to the official, who cited a €50-70 billion investment gap left to fill in broadband access around the EU.

For now, video and game use are the main reasons for the hike in data volume. But an increase in connected devices is heralding a new surge.

"What we are seeing now is the strong increase in data flows related to connected devices outside of entertainment and the consumer electronic sector. It's now moving to industry and retail. So the data traffic that is not consumer-related is exploding," the official said.

While only a small fraction of earmarked Juncker Plan loans have so far been put towards broadband networks, 26% of the loans have gone into funding energy projects, according to Commission figures published in mid-March.

Many of those were already awaiting approval for EIB loans before EFSI was started up and were then fast-tracked through the programme last year.

EIB sources say there could be more Juncker Plan loans earmarked for broadband as the programme progresses, partly because broadband projects are faster to approve and don't require the same licensing and environmental clearances as energy or transport infrastructure.

The European Commission has its own separate funding programmes for broadband infrastructure. A new Commission-run programme is expected to be set up this spring to fund less expensive broadband networks that cover smaller areas.

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