Lecture by Commissioner Geoghegan-Quinn
to the Bridge Forum, Luxembourg
"Innovation and Competitiveness in Europe"
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Your Royal Highnesses,
Dr Tarrach, Mr Pelly, Ladies and gentlemen,

I am delighted to be here this evening at the Bridge Forum. As once upon a time resident of Luxembourg, I am very happy to be back.

The Bridge Forum is a dialogue, and while I'd like to present to you my ideas on how best to foster innovation and competitiveness in Europe, I hope also to hear your views and ideas in the question and answer session.

And I know that, as Chief Executive of the European Investment Fund, Richard Pelly will have expert insights on the issue.

I am especially pleased to be talking about innovation and competitiveness this evening since it is precisely one year ago today that the European Commission launched what I think is one of the most important policy boosts to innovation in Europe – Innovation Union.

Innovation Union was born against the background of Europe's deepest economic crisis in decades. The challenges are still enormous.

Europe desperately needs growth – without it, our consolidation efforts will lack credibility – and innovation is universally acknowledged to be a major – if not the major – growth driver.

At the same time, many of our competitors are investing in education, research and innovation as a response to the crisis and emerging economies such as China, India and Brazil are acting on their ambitions to transform quickly into knowledge-based economies.

It is clear that Europe is not yet closing the innovation gap with the US and Japan, while China and India are rapidly catching up. Over the last five years, China's innovation performance grew 7% faster year on year than the performance of Europe and of the United States.

Graduate numbers show the shifting tide of knowledge. China now has 12% of the graduates in the world's big economies – nearly as much as the UK, France and Germany combined. The United States, still the knowledge superpower, has 26% of graduates. South Korea is in sixth place, ahead of France and Italy; enjoying the fruits of a generation of heavy investment in education.

Without drastic action, we will fall further and further behind. It really is no exaggeration to say that we face an “innovation emergency”

At the beginning of my mandate, when my staff and I set about devising the Innovation Union, we faced a number of dilemmas.

The goal was more innovation, of course, but what could policy makers actually do to make that happen? Which types of innovation did we want to promote? How could we devise an innovation strategy which was meaningful for 27 countries, all with different economic structures?

We knew that the nature of innovation was changing. Rather than relying solely on their own employees, some companies are now choosing to put some of their data into the public realm, to leverage the talents and insights of the global research community. But to what extent should we support this trend towards greater openness? After all, firms inevitably vary in terms of how “open” they want to be, depending on the line of business they are in.

We didn’t want to compromise on excellence, but how could we reconcile that with cohesion? The US is known as an innovation powerhouse, but much of the activity is based in narrow strips on the east and west coasts. A map of Europe shows similar patterns. How could we effectively counter-act this?

Where did our comparative advantage lie? Was it in producing high end, highly sophisticated products with ever more bells and whistles? Or should we be looking to the kind of frugal innovation coming out of the emerging economies?

This results in no frills, but good quality, functional products. They are designed for the large numbers of consumers in these countries who still have very limited means, but they may produce a considerable impact in higher income countries too.

Some of these questions cannot be answered in a definitive way. But right at the start, I took some key strategic decisions.

Firstly, I wanted to develop a distinctive European approach to innovation based on our strengths – our excellence in research; our internal market of 500 million people; a big public sector with the potential to stimulate innovation via public procurement; and of course our immense cultural depth and diversity.

We have a tremendous cultural heritage in Europe which allows us to produce products which have a meaning which goes far beyond their actual function – luxury goods, designer goods, brilliantly engineered cars and so on. Despite what I have just said about frugal innovation, there is a growing demand for these things, particularly among the burgeoning Chinese middle classes

Secondly, I not only wanted to raise the level of innovation, but also to influence its direction. I decided that our policies and instruments should be driven by our commonly agreed political challenges. In other words, they should be devoted to tackling the grand societal challenges, such as climate change, energy security and the impacts of ageing.

Thirdly, while it was clear that we needed to go on investing in fundamental – or curiosity-driven – research, it seemed to me that our major challenge was to get better at bringing our inventions to market. Too many of our bright ideas are commercialised elsewhere; I wanted to change that.

At the same time, I realised that a great deal of innovation had very little to do with research. Non-technological innovation – innovation in business models, processes, and design and workplace practices – is becoming a key driver of growth and employment. So, I decided that our policies should support this too.

Indeed, I wanted to develop as balanced a view as possible. Our big firms are important. But I wanted to champion the interests of small firms too. There is a new breed of small firms which are growing at rates never seen before. Google, Facebook, Twitter – not long ago, these firms didn't even exist, but now they are worth billions and billions of dollars. I want to see more of these companies in Europe.

Services innovation is incredibly important. I decided that we should support it through both funding and regulatory mechanisms. But, even when it was fashionable in policy circles, I never believed that we should simply become a services economy. I want to support innovation in manufacturing to enable us to retain a strong industrial base, not least because it can provide the good quality blue collar jobs that we still need

Finally, I decided that the only answer to the cohesion issue was to create more excellence in Europe, including in parts of the Union where it does not currently exist. I am convinced that all regions can be excellent in something. They can't all excel in the same field of course. They have to specialise in areas where they have inherent strengths. This is known as "smart specialisation" and it is central to my approach.

So, what did we actually propose in Innovation Union, and how far have we got in implementing it?

Well, the first task was to secure adequate funding for research and innovation. Against some opposition, I fought to retain the R&D intensity target of 3% of GDP. Some felt that this target was not a good measure of innovation performance because, as I have said, innovation is not always connected to research. But I felt that, at a time of austerity, we needed to persuade governments that cutting back on investments in research would jeopardise future growth. Dropping the target at this time would have sent the wrong signal.

To give us a more rounded picture of innovation, we decided to complement the 3% target with an indicator measuring the share of fast-growing, innovation companies in the economy.

According to economists, reaching the 3% target could create nearly four million jobs in Europe and increase annual GDP by €700 billion by 2025. We are moving in the right direction, but at 2% of GDP, we are still some way away from our target.

Fiscal consolidation is a necessity. However, if the EU is to come out stronger from the current crisis, we must choose fiscal consolidation that is “smart”, and not just reductive.

By "smart", I mean that, while cutting public deficits and undergoing structural reforms, we must preserve and boost our future sources of growth and jobs. I mean that while cutting costs, we must also strengthen our ability to compete.

Those countries that have preserved their competitiveness have done relatively well recently. Technological prowess, manufacturing efficiency and high productivity have aided an export-led stabilisation of the German economy. A federal-level increase of 8.3% in public R&D during 2009-2010 speaks of their commitment.

Another example is Sweden, where investments in a knowledge-based economy have contributed to GDP growth during 2009-2010 of 5.7%. And we can also look to the past. Finland rescued its economy in the 1990s with heavy investment in research and innovation.

These arguments are equally valid for investment in research and innovation at the European level. Indeed, the argument is even more persuasive, with real added value coming from cross-border research collaboration, EU-wide competition to raise excellence, mobility of researchers and leveraging public and private finance into EU projects.

So, I am very pleased that the Commission is proposing to increase investment in research, innovation and education, in support of the EU's pro-jobs agenda. The figure we have set out for research and innovation – the new Horizon 2020 programme - is 80 billion Euro between 2014 and 2020. And this is in the context of a budget proposal where many expenditure areas are frozen or will increase only marginally.

Our proposals for Horizon 2020 will appear at the end of the year. It will be structured around three distinct, but mutually reinforcing blocks, in line with Europe 2020 priorities and supporting Innovation Union.

The first block *'Excellence in the science base'* will strengthen the EU's world-class excellence in science, particularly through a significant strengthening of the spectacularly successful European Research Council.

The second block *'Creating industrial leadership and competitive frameworks'* will support business research and innovation. Actions will cover: increasing investment in enabling and industrial technologies and support for innovation in SMEs with high growth potential.

The third block *'Tackling societal challenges'* will respond directly to challenges identified in Europe 2020. Its focus will be on the challenges of: health, demographic change and well-being; food security and the bio-based economy; energy; transport; supply of raw materials; resource efficiency and climate action; inclusive, innovative and secure societies.

I have used the word “balanced” several times this evening, but I will use it again in connection with Horizon 2020.

- There is a balance in our proposals between fundamental and applied research;
- Between a top down approach where goals are fixed in advance and a bottom up approach were research themes are not pre-determined;
- And between the second which is technology or industry-driven and the third block which is challenge-driven.

I really believe that this makes sense. There are many ways of approaching research; all will be catered for.

I said earlier on that I was determined to spread excellence to parts of the Union where it does not currently exist. To achieve this, we are improving the synergies between Horizon 2020 and the Structural Funds. We have, I think, found a rational division of labour between the two. Horizon 2020 will identify potential centres of excellence, clearly recognise them – give them a seal of approval, if you will – and offer them policy advice and support. The upgrading of infrastructure and equipment, on the other hand, will come under the remit of the Structural Funds.

Root and branch simplification of research and innovation funding under Horizon 2020 will help the less experienced regions to become fully involved in European projects. It will help SMEs as well. It is one of my major political priorities. However, as a former Member of the European Court of Auditors, I know that there are few things as complicated as simplification. I will be working closely with the European Parliament on this to strike exactly the right balance between effective control of taxpayers' money and an efficient system that is free of red tape and encourages our best scientists and entrepreneurs to apply.

Ladies and gentlemen,

I also said earlier that we wanted to help bring more of our inventions successfully to market. To achieve this, we will propose stronger support for public private partnerships in Horizon 2020. But we must also remove the barriers facing would-be innovators.

We want to speed up the development of open and affordable standards; Standardisation is one of those issues which seems dry and technical. It can be difficult to get people interested in it. But, in fact, is hugely important for competitiveness. Europe's success in mobile handsets happened in large part because we were successful in setting a single European (GSM) standard which then became the de facto world standard.

But today, many are asking whether Europe's standardisation system is still fit for purpose. I believe that it is simply too slow in agreeing new standards to keep pace with rapid technological developments.

Already, in June this year, the Commission presented a standardisation package to modernise our policies and legislation so that they better support innovation. I think that this is an excellent start, but we have also decided to commission a thorough-going independent review in 2013 to examine the possibilities for more fundamental reform.

Innovation Union emphasised the urgency of reaching agreement on the EU patent, which is so important for companies working in Europe. On 13 April 2011, the Commission adopted proposals to create a unitary European patent under enhanced cooperation.

We should also use the huge public procurement markets in a strategic way to leverage the take up of innovative products and services. There are huge advantages to this; taxpayers get better value for money and higher quality public services and infrastructure, while European companies will get a return on their investment in innovation.

Innovative procurement is not, of course, something that we can do at European level. But Horizon 2020 will contain very significant incentives to encourage contracting authorities at national and sub-national level to do more of it, and to join forces with authorities in other Member States, to pool demand and create bigger markets for innovative goods. We are already piloting this under the current Framework Programme (FP7).

But the biggest barrier of all, of course, is access to finance. If we want more fast-growing innovative companies, we have to make financing available to them. Indeed, had they been in Europe, it is doubtful whether Google or Facebook would have found the financing they needed to get off the ground.

In his State of the Union address to the European Parliament on 28 September, President Barroso underlined that we need to boost the use of venture capital in Europe to fund young, innovative companies.

He urged the Union and Member States to urgently consider how to allow the European Investment Bank to do more, exploring ways to reinforce the EIB's resources and capital base so that it can lend to the real economy. He also highlighted the alarming fact that, in 2000, there was 22 billion Euro of venture capital in Europe, falling to only 3 billion Euro, in 2010.

We are attacking the financing issue on three fronts:

First, by the end of this year, we will put forward a proposal for an EU-wide venture capital scheme, building on the capacity of the European Investment Fund (EIF), other financial institutions and national operators.

Second, during 2012, we aim to lift the remaining legal and administrative obstacles to the cross-border operation of venture capital funds. We intend to introduce a passport for Venture Capital Funds so that they can invest freely across borders.

And third, post 2013, we plan to develop a new generation of EU-level financial instruments for debt and equity to overcome market gaps and attract a major increase in private finance for research and innovation.

These new instruments will be based on an expansion in scope and scale of the Risk-Sharing Finance Facility in the current Research Framework Programme, and of the equity financing and loan guarantee schemes in the Competitiveness and Innovation programme.

As I said, Richard (Pelly) may well have comments to make on this …

As far as open innovation is concerned, I have taken a positive but nuanced approach. I believe that intellectual property rights should be protected, though not to the point where they stifle innovation. Above all, I think we must make it easier to trade and transfer these rights.

In complex industries, where innovations often build on one another, firms need to be able to combine their technologies with those of other firms. Big firms easily find arrangements for exchanging intellectual property rights with each other, but small firms are often excluded.

I want to level the playing field. That is why I am interested in the proposals by the EIF, the Caisse de dépôts and others to set up an intellectual property fund, although I should say that the Commission has not yet decided whether or not to support this initiative. We are currently studying all the options.

We are also promoting the practice of “open access” - the granting of free-of-charge access over the internet to publicly funded research results. In 2008, the Commission launched the Open Access Pilot in the Seventh Framework Programme which covers around 20% of the FP7 budget and applies to seven research areas. This will be massively expanded in Horizon 2020.

Ladies and gentlemen, this is what we have achieved so far, but what of the future. Where do we go from here?

Well, obviously a lot of my time over the next few years will be spent in the European Parliament and the Council as our proposal for Horizon 2020 makes its way through the legislative process.

That proposal sets out the overall architecture of the programme, plus the basic rules of participation. However, the more I work on it, the more I realise that, in many ways, what actually matters is the annual programming process.

After all, this determines the actual research topics that will be funded.

I am determined to revolutionise this process. I want specialists from different disciplines to work together to devise really original and cutting edge topics. I want the process to reflect political priorities and the latest economic data and analysis. This will ensure that the topics selected are really relevant.

And I want it to take account of our foresight activities which we intend to beef up. Throughout history, there have been "general purpose technologies" that dramatically affect the entire economy. Examples include the railroad, electricity or the automobile. Well, I want the research that we fund to help secure European leadership in some of the general purpose technologies of tomorrow.

Another major item in my in-tray is the European Research Area. Now more than ever, we need the best brains working together on the breakthroughs needed to tackle the grand societal challenges. ERA will allow us to achieve that critical mass and it will allow us to get better value for money by reducing unnecessary duplication in research and infrastructure financed under national systems.

As well as increasing co-operation and co-ordination, ERA will increase competition which ensures excellence. There is a strong analogy here with the single market. By exposing our businesses to more competition within the home market, the single market made them more competitive externally. ERA will do the same for universities, faculties and research teams.

As we shift towards a more open model of innovation, success will increasingly come from collaborations across borders. ERA will create exciting new opportunities for researchers to spend time working in different environments where they will be exposed to different ideas.

The good news is that, in February this year, the European Council gave exceptionally strong backing to ERA. In fact, EU leaders did something they haven't done before – they set a deadline. They clearly said that the big ticket items necessary for the completion of ERA must be in place by 2014. I hope that this will concentrate minds in the same way as the 1992 deadline did.

The European Council called for the creation of a "unified" research area, a term not used before. We are considering what that means.

Speaking practically, we need to create a European Research Area that is interconnected, structured, mobile and efficient; a unified research area that brings together people and ideas in a way that catalyses excellent science and world-leading innovation; an ERA that enables the opportunity of excellence across the European Union. So, our working definition of this unified research area focuses on five objectives:

- mobility of researchers across countries and sectors;
- joint programming and other forms of cross-border operation of research-performing organisations;
- dissemination, transfer and use of research results, including through open access to publications and data;
- construction of priority European research infrastructures and increasing access to them; and,
- speaking with one coherent voice to the existing knowledge superpowers, like the United States and Japan, and the emerging ones, like China and India.

But, to better understand what needs to be done, last month I launched a wide-ranging public consultation, until the end of November, to find out whether these are indeed the most important objectives for ERA, and what the obstacles are, that prevent us from achieving them.

Take mobility, for instance. Is it as big a problem as we think it is? If so, what is behind it? Is it related to social security and pensions? Or the fact that research grants are not easily portable between institutions let alone across borders? Or is it something else entirely? We need to understand this better.

Based on the results of the consultation, and a thorough impact assessment, we will have to determine whether anything needs to be done at EU level and, if so, what. I am keeping an open mind as to which are the best instruments to use. I hope that the Member States are doing the same.

There is a tendency, in times of crisis, to want to "batten down the hatches" and resist projects like ERA. I really hope this doesn't happen. We need to be entirely objective about the choice of instruments – based on the evidence. At times like this, we have to do what is best for research, and best for growth and jobs.

Ladies and gentlemen,

There is one issue above all others which will determine our future innovation performance. In fact, I can hardly believe that I have spoken for so long on innovation without mentioning it!

It is the quality of our human capital.

As Robert Aumann, the Nobel-prize winning economist has put it: "How do you bring about innovation? Education, education, education"! I couldn't agree more.

It is crucial to nurture the talent and creativity of all people, but especially young people, and give them the right skills for the labour market.

However, the reality is that too many of our universities are slipping down the international league tables.

We badly need to end the complacency surrounding this issue. It is time to press the emergency button!

We need to tackle urgently sensitive issues, such as the autonomy of universities, their freedom to draw in funding from the private sector, to recruit the people they want, and to determine their salaries.

Universities – like regions - need "smart specialisation" – concentrating on their strengths, rather than spreading themselves too thin in an attempt to be "excellent at everything".

I am sure that Dr Tarrach will have some interesting insights into how universities can tackle these questions, particularly in his unique position as the Rector of a university founded less than a decade ago.

But improvement will start in the classroom. Of course, we need to get more young people involved in science, leading to science and maths studies and careers in research. Business leaders complain to me constantly about the skills shortages in these fields. That is why, since 2007, FP7 has invested in a number of Europe-wide projects to promote hands-on, inquiry-based science learning in schools.

But it goes beyond that. Children must be prepared for the economy of the future. There should be less focus on the acquisition of knowledge, and more on the soft skills – creativity, critical thinking, and working in teams, working independently.

Children must be taught to go on learning and adapting throughout their lives. They need to learn to learn.

I will end my remarks on this now, although I could go on for much longer. As a former teacher, it is a subject I feel very passionately about.

Ladies and gentlemen,

I spoke near the beginning of this lecture of the difficulties of devising an innovation strategy which suits 27 very different Member States. And, of course, you can't do that.

In Innovation Union, we concentrated on what needed to be done at EU level. But we also stressed that each Member State needed to draw up its own innovation strategy – setting out its own, distinctive path towards becoming an innovation economy, based on its particular strengths and weaknesses. We even provided a "self diagnosis" tool, drawn up in conjunction with the OECD, to help them in this exercise.

And we are planning to create an observatory – funded under Horizon 2020 - which will provide them with a wide range of support and advice in drawing up their strategies. We might even make available experts who could travel to capitals to give on the spot advice, if requested.

These national strategies should ideally set out how Member States intend to use EU instruments – both Horizon 2020 and the Structural Funds – to boost their innovation performance.

I hope that, in time, these strategies will be absorbed into the National Reform Programmes which Member States prepare each year as part of the so-called 'European Semester'.

Ladies and gentlemen,

I hope that I have given you much food for thought in presenting you my vision of innovation and competitiveness in Europe.

I am optimistic because I think we have succeeded in driving innovation up the political agenda.

There is an increasing realisation that, far from being a peripheral policy area of interest only to specialists, it is a central plank of economic policy.

President Barroso is a big supporter. Indeed, he has agreed to lead the major innovation event which I am organising in Brussels on 5 & 6 December.

This event is called the Innovation Convention and it will bring together global innovation leaders, CEOs from the biggest and most innovative companies, Nobel Prize-winning scientists, policy makers and social innovators, to discuss how we bolster Europe’s innovation economy.

So I will end by extending a warm invitation to all of you to attend this exciting event.
Thank you and I look forward to hearing your questions.