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Future Internet – the way forward

*Check Against Delivery
Seul le texte prononcé fait foi
Es gilt das gesprochene Wort*

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EU2020 context

The four "Public Private Partnerships" (PPP's) discussed here give us a snapshot of what an innovation-based future could look like. These four investments - in sectors accounting for more than a quarter of Europe's added value and 50 million jobs - will lay some of the foundations of the new growth the EU is seeking in the Europe 2020 strategy. They not only can help us move from "recovery to sustainability", they show us yet again that only by working together can we exploit Europe's full potential.

The need for a European View

Let me share with you a number of observations about why I think working together is so important in our economic future.

First, European level co-ordination is the antidote to fragmentation. Fragmentation of research funding and effort is a recipe for disaster in this global economy. To prevent this from happening we created a Single Market and the European Commission. So do not be surprised when Commissioners like myself urge Europeans to avoid nationalistic tendencies. We do so because looking after one's own backyard never works in a global economy; this is the opposite of the spirit of partnership.

Second, innovation is the only way to remain a global player. While existing European research is excellent, we often don't convert this intellectual advantage into competitive advantage. We need to bridge that gap with clever partnerships like those showcased today. Public-private partnerships must act as a bridge between the technology and its eventual application areas.

Third, we have to do more than simply lip-service to small and medium-sized enterprises (SMEs). More than most countries, Spain relies on strong SMEs. There are 58 SMEs for every 1000 residents of Spain, well above the EU average. Such businesses make up **99.9%** of all businesses in Spain. So there can no doubt that SMEs will be a driver of job creation. While it may take more effort to include them in funding processes, and to prevent misuse of SME incentives, the price of not taking on this challenge is far greater.

Fourth, Information and Communication Technologies (ICTs) must be fully integrated into our efforts to create new growth. ICTs are responsible for 50% of Europe's productivity growth. But much more could be achieved. For example, the top 40% of households in South Korea have access to internet 100 times faster than the top 40% of European households. We under-invest in these networks and ICT is at our peril.

Making better use of PPPs

What brings these points together is that we can address them through PPPs. And to make the case for more PPPs we must show they add more value than traditional research. Please let me share why I believe PPPs add such value.

1. These projects involve high-risk research which, through large scale demonstrations and a focus on getting innovations to market, will allow industry to make long-term investment plans.

2. I am impressed by the innovative financing mechanisms in partnerships like the **European Green Cars Initiative**. This is 'out of the box' thinking and we could apply it well beyond the car industry in my opinion.
3. The **Factories of the Future Initiative** does what many manufacturing plans do not – it encourages adapting to competitive pressure rather than running away from it; it supports the co-operation and co-ordination I mentioned earlier.
4. It is very clear that the **Energy-efficient Buildings PPP** is focused on an area where a clear consensus is possible. We cannot afford to waste any resources in the coming years, especially not energy. And as Tom Friedman and many others have noted, energy technology is going to be “the next great global industry”.

What role does the internet play?

I hope it is no surprise that I now wish to mention the PPP closest to my own portfolio: the Future Internet PPP.

Internet pioneer Vint Cerf says that **"A year in the Internet business is like a dog year, equivalent to seven years in a regular person's life."** That is only one side of the story.

The internet ecosystem is indeed changing quickly. But those changes - especially to the complex network infrastructures and standards that support this ecosystem - can only happen after a lot of deep research. Research like that is envisaged in the Future Internet PPP.

Here we are investing to help create the new network, sensor and services platforms that will take the Internet to a whole new level.

On the surface changes in the Internet ecosystem are being driven by factors such as massive growth in **video content** and increasing use of **mobile internet**. But that is only the beginning – the real transformation will be with a future Internet connecting billions of objects, sensors and devices.

When we speak of the umbrella concept of the Future Internet, we are talking about the possibility that in the future every person and every thing could be connected to each other wirelessly, from virtually any position on earth. Think about that for one moment. Isn't it extraordinary?

But what does this mean in our daily lives? In some senses the real limits are not technological, but what we are prepared to allow as a society; and rightly so. But at the basic level of this new internet, it means using networked information to ensure for example fewer traffic jams, cheaper energy bills and better healthcare.

Such progress is not certain, however. It will involve a great deal of effort and acceptance that we don't know exactly where we will end up.

To support that effort we need:

- a rounded vision that ensures the Future Internet is available to all,
- and coordinated research which makes the leap from the lab to the market in record time.

In the medium term we also need to clarify a coherent governance framework to keep us on track towards those first two objectives

Because the Future Internet PPP is at the very heart of the next set of changes to business and our daily lives, we are aiming high.

Strengthening the European footprint on Future Internet

By asserting a role for the public sector in this area the European Commission is protecting several important public interests. Firstly, we need to protect taxpayers by ensuring efficient use of their money – both in research spending and when governments purchase their own IT. Governments therefore have a legitimate voice in the development of individual applications and the shaping of standards which might improve public service delivery.

Secondly, the EU's level playing field and single market is its core asset. This applies to technology standards as much as anything else. The EU must be there to ensure the Future Internet is a highly innovative environment where all companies and individuals can freely develop applications that work in a range of computing environments.

Standards do not cost much to develop, but failing to agree standards can cost us greatly. Where we lack standards, as in mobile TV, the market is a flop. But with good standards, like GSM or our 3G standards, 100 million euros of initial investment can generate billions of euros in revenues for business and new services for consumers. So we know that European level research offers a great return on investment. To make sure we can exploit the next stages of the internet's development, we must get the standards right once again.

We have put in a lot of ground work – there is already around 100 projects receiving €200m of European funding each year. But with the leadership of this PPP we must obtain more leverage from this early work, just as European funding catalysed 3G mobile networks.

What do we gain from pulling together to meet this challenge? Aside from the obvious economies of scale, pulling together will help us test and validate these advances in real, demanding scenarios. It will mean more productive exchanges between visionary researchers, applications developers and entrepreneurs. And when we strike success we will be able to amplify that success more quickly.

A vision for the open service sphere /base/shop

What will the PPP deliver as tangible output?

The World Wide Web is the original and best internet application. But the current internet is not sufficient to deliver the sorts of complex applications users are now demanding. We need new networks, better use of spectrum, improved business models, common standards and applications that make better use of the infrastructure we do have.

We also know that the most recent Internet successes are based on open service platforms that can be globally used to develop any application of user interest. "**Application stores**" developed for mobile uses and **cloud computing platforms** used to develop business applications in the Internet are setting the trend. It is therefore logical that this model of open service platforms will drive the PPP implementation. Our innovation will be to focus on public applications for European citizens.

We anticipate that such a platform will integrate sensor networks with web-based services as the next Internet revolution. What I am describing here is an open system where innovation is central. This will lead to thousands of services delivered via an enhanced broadband network and supported by a shared European framework. This could be described as an "**Open Service Sphere**". As such, the target is not to invent the Internet of tomorrow, but to provide the sophisticated open framework that will lead innovators to invent it themselves.

Healthcare is a good example: researchers have shown that little sensors placed on your ankle can analyse five classes of gait abnormalities. Further data analysis of these abnormalities can predict more than twenty potential diseases and improve prevention. Fewer hospital visits; better health; doctors focussed where they need to focussed.

In my vision different health institutions, using the same open platform would be able to use the clinical data differently according to the specific application they want to develop.

In the domain of urban mobility, experiments show we can guide city travellers towards the best route and the best means of transport, including systems like city bikes or car pools. Some cities have already trialled systems where citizens contribute their information and resources for tourist or transportation purposes.

There are endless examples of Internet-enabled smart applications. Their point in common is that all transform huge amounts of physical world information into new internet services. These services give their users a competitive and social advantage.

Our proposal is to have a more systematic European approach to this phenomenon; to create a Europe wide market for associated technologies and services.

Conclusions

At the end of this process, my goal is to have both sides of future internet R&D - technology supply and application demand - working as one to build this open platform.

Failing to achieve this would lead to more than a benign fragmentation. It would, in fact, be a tragic mistake for Europe. It would lead to reduced competitiveness and difficulty in meeting the social aspirations of our citizens, on a scale similar to the GDP reductions we have experienced in this crisis.

So today I am issuing a challenge to industry and Member States: we need to pick up the pace in the future internet race. We need to do this to avoid economic irrelevance and diminished social outcomes.

By showing you the potential problems if don't succeed in this one PPP, I hope also to illustrate why it is so important for all of them to succeed.

We need to apply the innovations of these PPPs across our research portfolio. We need to keep investing. Let us use these, and other, PPPs to reach the objectives of the Europe 2020: new forms of growth and inclusion that improve the daily lives of all.