

***Address by Commissioner Geoghegan-Quinn***

***"Innovation in Ocean Technologies Workshop"***

***The Marine Institute, Galway***

***22 March 2010***

Dr Heffernan, ladies and gentlemen,

I am delighted to be here at the Marine Institute, and proud that Galway is home to such a solution-oriented organisation.

This appeals to me because I am a very practical person, a 'doer', someone who wants to bring about real change on the ground, and to make a real difference to people's lives.

I am also delighted to discover that Ireland is in fact the third largest country in Europe! I will come back to that in a moment.

***2020***

Less than three weeks ago the Commission adopted a new Strategy for Europe, 'Europe 2020'. Europe 2020 recognises that the only way to deliver new sources of growth and sustainable jobs is through research and innovation.

As Research, Innovation and Science Commissioner, I will be responsible for delivering large parts of the Strategy. My job is to create the conditions for a more dynamic Europe, where innovative firms are encouraged to do business, and where talented people want to live and work. My job, in short, is to work with the Member States, business and other stakeholders to transform Europe into a really vibrant innovation economy, what I call an "i-conomy."

In doing so, I have the strong support of President Barroso. His personal commitment to the research and innovation agenda is solid. Under the Europe 2020 Strategy, we plan to turn Europe into a Flagship Innovation Union. Research and Innovation are rapidly moving to the top of the political and economic agenda.

One of my first tasks will be to draw up a new Research and Innovation Plan, setting out how we intend to drive forward the research and innovation parts of the Europe 2020 agenda.

Since innovation is a cross-cutting policy, I will work very closely with other Commission colleagues on this, such as Fisheries and Maritime Affairs Commissioner Maria Daminaki, Industry Commissioner, Antonio Tajani and the Commissioner for the Digital Agenda, Neelie Kroes.

The European Parliament will be involved at every stage along the way.

The Plan will be ready by September when a special discussion on research and innovation at the Autumn European Council is foreseen.

### ***Grand challenges & the i-economy***

Europe faces 5 grand challenges. We need to get down to fixing our problems, Europe needs to get real.

Climate change, energy security and food security must be addressed. We need to enhance the health and wellbeing of our ageing population, and we must deliver a smart economic recovery. We need to innovate to tackle these issues.

And it will be based on a broad understanding of innovation. The "i-conomy" depends on a strong science base. But we must also be able to transform our inventions into innovative products and services that the customer wants.

For each major challenge, we need to connect up and speed up innovation along the whole policy chain, from research to retail.

This is a new approach. I want to assess and address every link in the chain. I want to identify and fill the gaps. I want to find solutions to the grand challenges.

### ***Economic Value***

Our seas and oceans are essential to our wealth and well-being. The maritime economy accounts for as much as 5% of Europe's economic activity, and in Ireland has a turnover of €3 billion annually. Getting smart about our maritime economy will play a vital role in Europe's economic recovery.

The sector supports 44,000 jobs in Ireland, many of which are in less developed parts of the country. However, the potential offered by our oceans is enormous but underdeveloped.

Overfishing, pollution, and the effects of climate change have dramatically affected the marine environment, putting fragile ecosystems at great risk. Sea level rise, coastal erosion and extreme events threaten our coasts.

However, with focussed research and innovation, we can address these challenges and maximise the potential of our natural resources.

Maritime transport is vital to most EU trade and particularly for island States like Ireland. The sea is a critical source of food and energy. The deep seas in particular represent a new and exciting frontier for us, one as technologically challenging as space exploration.

### ***3<sup>rd</sup> largest country***

As I said a few moments ago, it came as a very pleasant surprise to me to learn recently that on the 'real map of Europe', Ireland is the third largest country in the EU. The Continental Shelf around this little island is one of Europe's largest sea beds.

This represents a natural extension of Ireland's land mass to beyond 200 nautical miles past our visible shores.

Although much remains undiscovered, this underwater land mass presents vast opportunities for the Irish economy and places Ireland in pole position to be at the cutting edge of marine

innovation. This value should not be underestimated – Do you know that every €1 invested in discovery yields €4 in economic benefit?<sup>1</sup>

Making the most of our natural resources in a sustainable way and turning challenges into opportunities are at the heart of Europe 2020. This is what the “smart and green economy” is all about.

We need to pursue the exploration of the seas and improve our knowledge of the natural processes that allow the rich marine biodiversity to flourish, particularly in deep sea areas.

### ***ERA***

Our secret to success and economic recovery lies in collaboration across borders and cultures. That is why we must have a single, unified research area in Europe, within which researchers and knowledge can move around freely. It is known as the **European Research Area**, and I am determined to make it a success.

For the European Research Area to work, Member States must see their own research efforts as part of a greater whole. That means, for example, setting aside sufficient resources for participation in cross-border co-operation, something I know the Marine Institute already embraces.

### ***FP7 & the bio-economy***

Meanwhile, we must make the best possible use of European funding instruments to develop the bio-economy. A number of collaborative FP7 projects are exploring marine resources to produce biologically active compounds to cure diseases, cancer in particular.

Other projects, like MABFUEL which involves two Irish organisations, are working on micro-algae to produce bio-fuel. Micro-algae grow quickly and have a high yield of oil per acre. Critically, unlike conventional first generation bio-fuels, they do not compete for land used for food production. This is a perfect example of how we can tap into the unexploited potential of the waters around us.

### ***Food Security***

Food security is another of our grand challenges, and seafood already represents 20% of global protein consumption. This proportion will continue to increase, and to meet demand, we need to further develop our aquaculture while ensuring that our fisheries are sustainable.

The EU has world-class research in all these areas but we need to do more to turn our research potential into industrial innovations. For example, the FP6 REPRODOTT project has produced a major scientific breakthrough towards blue fin tuna farming.

To bring this to fruition, investment must follow research, and transform it into commercially viable production. We will need to find sustainable ocean-based locations for the aquaculture sites, sources of feed for farmed fish and new medicines to protect them from diseases.

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<sup>1</sup> European Marine Ecosystems Seminar, 15<sup>th</sup> March 2010. Jan-Stefan Fritz, PhD German Marine Research Consortium

In order to develop the infrastructure for projects like this, we need better linkages between research and structural funds. Up to €86 billion of EU Structural Funds is available for research, and this must be used to maximum effect. I will work closely with my colleague, Regional Policy Commissioner Johannes Hahn to ensure this happens.

I want a strong focus on industry-driven, applied research in the coming years. We must strengthen the links between all sides of the knowledge triangle – higher education, business and research centres. This is a top priority for President Barroso.

### ***Single Market for Innovation***

This brings me to my next point. A strong science base is not enough on its own. We must tackle the bottlenecks that prevent bright ideas from reaching the market.

We must build a fully functioning 'Single Market for Innovation.'

That means tearing down the barriers to cross-border trade in services, and the cross-border provision of venture capital.

It means finally finding an agreement on the Community Patent.

More than this, we need to take a fresh look at our entire intellectual property framework.

Indeed, we need to ask ourselves some pretty profound questions about how best to foster innovation in the early 21<sup>st</sup> century.

It may be by promoting the growing trend towards greater openness. On the other hand, firms will inevitably vary in terms of how open they want to be, depending on their line of business. Some will want to be 'open' in some markets, but 'closed' in others. We need Intellectual Property Rights rules that reward innovation while preserving competition. We will have to get the balance right.

I will work closely with my colleague, Single Market Commissioner, Michel Barnier, on all these issues.

### ***Climate Change, Job Opportunities***

In order to tackle climate challenge, the EU intends to increase our use of renewable energy to 20% of overall consumption.

Wind energy should contribute one third of this overall objective and one third of the total wind energy to be produced will have to come from offshore wind farms. This is another huge opportunity for the marine sector.

Turning this objective into reality will require close collaboration between the renewable energy industry, marine scientists and geologists to identify the best and safest locations for wind farms. It will also require cooperation between the energy and the shipbuilding industries.

Furthermore, we will probably have to move far offshore into deeper waters. Not only will it be more challenging to install wind farms in such areas but we will have to develop new technologies based on floating platforms.

I can assure you that I will support the cross-cutting research effort needed to deliver these platforms.

When delivered, all of these new opportunities will of course bring jobs into coastal areas all over Europe.

The potential for wave and tidal energy is important in countries with Atlantic coastlines. In Ireland, wave energy could go a long way towards delivering energy security, reducing dependence on fossil fuels and creating jobs.

Developing this potential requires infrastructure in the form of test sites for new devices. I am particularly pleased that off the coast of Spiddal, Co. Galway the Marine Institute is involved in the Sustainable Energy Ireland initiative.

The Commission will support this sectoral synergy by promoting cooperation between the marine energy industry and traditional maritime industries. The "Regions for Knowledge" programme can help promote such convergence.

### ***Today's Workshop***

Ladies and Gentlemen, I would like to finish by touching on the core theme of this workshop, namely the development of **marine sensors** and **information systems** to monitor the development of marine industries.

Harnessing resources of the sea in a smart way starts with proper marine environmental monitoring.

In July 2008, the Marine Strategy Framework Directive was adopted. It provides for the definition of a Good Environmental Status for our seas by July 2012, as well as monitoring and action plans aimed at reaching targets by July 2020.

We will assess this Good Environmental Status taking into account a broad range of pressures on the marine environment such as the concentration of nutrients, contamination levels, invasive species, and even the level of noise.

Our ability to implement the Directive will require a strong scientific input to help understand the combined pressures of human activities on the marine environment.

We will also need remote sensing devices connected to smart information and modelling systems that can turn raw marine data into usable information to help policy makers make the right decisions regarding both maritime activities and their environmental impact.

Monitoring the environment is not the only driver for such developments. When human activities like energy production or aquaculture take place far offshore, they can only be accurately monitored if we develop remote sensing coupled to information systems. These developments require knowledge integration between marine science, biology, chemistry and physics, and Information Technology.

### ***Smart Bay – Smart Seas***

I wish to congratulate the Irish authorities and the Marine Institute for having developed "Smart Bay", here in Galway Bay, which offers a unique site for all scientists to test new sensors and monitoring devices in real conditions.

"Smart Bay" is a clever and valuable contribution to the i-conomy, and is a perfect example of the innovative thinking which will lead to the "**Smart Seas**" I want to develop.

It is no surprise that Ireland is pursuing largely similar objectives with its "Sea Change" strategy. After all, it was here in Galway that the EU Marine Scientific Community launched a call for a new approach to marine science and technologies in May 2004.

The Commission heard the Galway call and listened. The rest of Europe has to behave a little more like Galway Bay. By fostering demand-driven research and innovation, I look forward to delivering a cohesive and prosperous i-society, where together we will maximise the treasures of our Smart Seas.

**End**