Creating a knowledge-based society

An interview with Noel Treacey, Minister for Science, Technology and Commerce of the Republic of Ireland

EMBO reports (ER): Ireland recently invested 2 billion Irish pounds in research and technology. As it is a rather small country, what was Ireland's incentive to spend such a huge amount of money on research and technology?

Minister Noel Treacey (NT): Ireland is now in the fortunate position of being able to plan strategically for its future and devote considerable resources to this objective. A successful modern economy is founded on a strong scientific base that has the ability to convert scientific research and knowledge into products and services, which bring social and economic benefits. We are in the process of becoming such an advanced knowledge-driven, high-waged economy. We considered our future through the Irish Council for Science and Technology and Innovation. We engaged the 500 best scientists, academics, public service people and industrialists that we could find in our country. And they concluded that the future of the country was to make major investments in research and development, in information technology and biotechnology. In recognition of the driving role of RTDI (Research, Technological Development

for RTDI activities across all government departments and agencies—£1.2 billion of which was earmarked for RTDI for industrial development-related activities.

and leading-edge industries. We will only accept quality projects in niche areas of information and communication technology and biotechnology, and the research must be carried out in Ireland. We want to send a clear signal internationally that Ireland is taking a quantum leap regarding the funding of basic research.

The first initiative by Science Foundation Ireland has been a global call to the best in the world to come and enhance their careers in Ireland, and the response has been most encouraging. We anticipate funding of up to five teams in both information and communication technology and biotechnology. Planning is already underway to develop other new and exciting initiatives. Science Foundation Ireland cannot hope to create excellence in all areas of information and communication technology and biotechnology, so there is a need to focus

and create clusters of excellence in niche areas. We have created incentives to carry out research at a world-class level with top-class people, and we have given them a lot of flexibility and the financial support to do it—we believe that is good enough for anyone to come to Ireland.

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and Innovation) in economic development, the Irish government has provided Irish£1.95 billion (2.5 billion Euro) in the National Development Plan 2000–2006

The purpose of this is first to bring Irish industry up to value 3, to make sure we do the R&D and to make sure we embed our industries in our economy, particularly the multinational industries. More particularly, we want to create world-class research centres in Ireland. We want to attract the best and the brightest of our scientists back to our country.

ER: Ireland has only a small population so it will have to attract scientists and engineers from abroad. How do you convince these people to work in Ireland?

NT: We expect the substantial investment in the Science Foundation Ireland initiative to be hugely attractive to world-class scientists. We will offer a range of incentives in order to create a climate of opportunity to allow them to create the best facilities they require and to collaborate in Ireland with both academic institutions

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ER: Scientific results have to be turned into economic growth. Ireland has been very successful at attracting information technology companies. Do you have ideas for attracting biotech companies in the same way as you attracted IT companies?

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NT: At the outset let me say that Ireland is a small open economy and direct foreign investment has been at the heart of it for a number of decades. The Irish economy has benefited from the transfer of technological, marketing, project financing and managerial knowledge from globally competitive firms in selected high-growth sectors. We have been particularly successful in this regard because of our favourable corporation tax regime, pro-business government policies and regulatory systems, and the availability of a flexible and well-educated workforce.

It is true that Ireland has been particularly successful in attracting IT companies, but it also has a large base of biotech companies particularly in the southern region of the country. We would, therefore, also consider ourselves a key location for biotech companies in Europe. One hundred and twenty overseas companies employ ~17 000 people in the pharmaceutical and chemistry industries, and export around US\$ 18 billion annually. Nine of the top ten companies in the world have plants in Ireland. So we believe that we have the critical mass. And consequently, we believe that if we provide this further incentive, it should be very easy for them to do major research in the whole biotech area on the island of Ireland.

ER: Do you see international cooperation, not only with the EU but also with the USA, as important in reaching the goal of turning Ireland into a technology-based economy?

NT: Yes, I do. International collaboration at all levels of the innovation system is essential. We have been very fortunate over the years. We have a substantial amount of US cooperation and investment in Ireland. We are very proud to say that we are probably given the highest rate in the world of return on investment by US companies. We are able to do so due to the quality of our graduates, the quality of our workforce, their adaptability, their flexibility and their productivity. This is the base on which these companies can make their investments. European business is also crucial to our development and many flagship com-

panies have set up plants in Ireland. We believe that through international collaboration with both US and European companies, and indeed others, we can continue to achieve similar levels of growth in our economy.

ER: What is the public perception of science in Ireland? Do you have enough public support to make those huge investments?

NT: In Ireland we are very conscious of the need to improve knowledge about the contribution of science to society and economy. We are making special efforts to do this through a Science Technology and Innovation Awareness Programme.

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For example, our national science week—Science Week Ireland—takes place every November and this, along with a number of other programmes, is targeted at improving overall awareness. The target audience for such events are the general public, key decision-makers, business people, but perhaps most important of all, our young people. We need to open the minds of our young people, their educators and their parents to the positive aspects of science and technology and the career opportunities that they provide.

ER: Does this also hold true for the particular field of biotechnology and genetically modified organisms? In the USA, the public perception is already turning negative.

NT: Of course, there is an international negative atti-

tude towards GMOs. We in Ireland are not excluded from that either and we are looking into it at a government level. We have established an Inter Departmental Group on Modern Biotechnology and we expect to publish the report of this group shortly.

Our overall approach would be that the formulation of public policy should be about striking an appropriate balance between benefits and risks, long and short-term needs, and the interests of different groups such as producers and consumers. There is virtual unanimity among leading scientists and industrialists throughout the world that biotechnology will be at the forefront of advances in knowledge and innovation in the coming decades. I think that there is a feeling of the unknown about this in the population at large. I believe the responsibility, and I have said this again and again as the Minister for Science and Technology, rests with the scientists to inform the public on a continuous basis about what they are doing. If you feed this information out in a reasonable, simple, practical manner, you can win a certain amount of popular support.

ER: Do you have any practical measures for how to do this? You said you have to reach out from the scientists to the public.

NT: I think what you have to do is tap into human resources, into the enquiring

Doug Young

interview

mind. And obviously, the most enquiring mind is the young mind. So we have to start at primary school level, and carry that on. But you also have to disseminate the information to the populace at large and obviously use every organ possible to get your message across. And in that way, I think, you will bring the people to your side, as the population and the generations evolve.

ER: So the investment into research and technology goes along with investments into the educational system in Ireland.

NT: Very much so. Ireland is a very young country. We have come a long way. Our strength is based on investments in education that we have made since 1933. The

intellectual capital of the country is invested in the people who have come through our educational system. It is the intellectual talent bank of our country.

‘To reach out to the public you have to tap into the enquiring mind. And obviously, the most enquiring mind is the young mind’

They have driven our economy. But for far too long we exported our best and our brightest to build economies of other countries. We have now turned the wheel

around in that we are now employing and deploying the intellectual talent bank of our people to build our own economy. We want to absorb them in our own economy. And we want to attract the bright stars of our country, who have gone to build other economies and have succeeded in other countries, to come back to Ireland to supplement their own people at home so that we can have further economic growth to maintain and sustain our population in the future.

ER: Minister Treacey, thank you for the interview.

The interview was conducted by Holger Breithaupt.

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