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This is a personal response to strategy review.

I am a University of Limerick academic, and this is not sanctioned or to my knowledge reflect its views.

Pillar 1 Investment in STI and key goals/targets

REPLY:

- (i) Ireland should maintain its highest ambition regarding STI. However it is influenced by a small group of academic advisors with vested interests. Academics only ambition is achieving funding for 'pet' projects. Most have no industrial experience or understand 'cost of goods' (COG), industry or export targets and making money for Ireland
- (ii) Ireland is presently marginally below the 0.52% OECD-GBAORD %-GNP/GDP 2013 values for state investment in R & D at 0.49% and not substantially behind the EU 27 average of 0.64% Ireland was the first in the EU to officially enter a recession related to the Financial crisis of 2008 and now coming out of a crippling recession, we are at a stronger level, just. However, ambition comes from innovative and entrepreneurial people and Ireland exported 408,000 young people through emigrating since 2010 (CSO 2014), this leaves a void of talented and the best young people leaves Ireland at a disadvantage. Two thirds of all new jobs came from businesses in their first five years. A new trend of 'in Ireland' trade shows is good and brings new industry to Ireland to see talent and opportunities on home ground. However, regionalisation must be prioritised.
- (iii) The report outlined Ireland as being 1st for available skilled labour. Can the government define skilled labour?
- (iv) Can the government itemise the ideas from innovative sectors that reached the market and communicate them to the people?
- (v) Ireland is targeting 'call centre' jobs, with a weak language skills population, thereby promoting immigration into Ireland while the UK is targeting engineering specialist jobs. Similarly in the medical fields. The mechanism of success in R&D cannot be measured by Thomson Reuters citations index, which are meaningless in an industrial/manufacturing environments. How does 1st in immunology relate to industry or jobs or 3rd in nanotechnology which is a 'non' subject, but a terminology created to apply to an old science and that has little reference to industry. The government needs to divert itself away for ivory tower thinkers.

Reference CSO 2014

<http://www.cso.ie/en/releasesandpublications/er/pme/populationandmigrationestimatesapril2014/#.VQXBU9KsUYE>

Pillar 2 Prioritised Approach to Public Research Funding

REPLY:

- (i) The industry that has the most exports in Ireland is bio-pharma (heterocyclic compounds and packaged medicaments) depending on multi-nations. What we

import includes e.g. petroleum, planes, helicopters, cars and computers, some of which we had a significant presence in the past. Should we consider rebuilding these industries and developing Irish home grown based industry based on these import commodities?

- (i) Ireland can not sustain seven large scale SFI research centers with a further five to be funded, they are not top class research centres. In addition to six platform technologies, again based in Universities. These need revisiting.
- (ii) The research priorities have been set for five years to 2017, change them now.
- (iii) The allocation of funding to Universities needs to be based on teaching alone. We are creating a generation of poorly educated third level graduates as the educational funds to Universities are channelled to research which is now the only priority for Universities as an income generator and for 'ranking' purposes. In addition research should be removed for Institute of Technology and no new Technical Universities should be created. It cannot be sustained economically.
- (iv) What are young people buying? Supplements, communication devices, image commodity items e.g. clothes, beauty products (both male and female). We need to focus in these areas for job development and in manufacturing.
- (v) Validate outputs by real independent assessment not use assessors/ reviewers named and suggested from the funding bodies or grant holders or academia for review panels e.g. old buddies system to ensure a good review with 'modest' criticisms results.

Pillar 3 Enterprise-level R&D and Innovation Performance

Strengthen the number of innovation performers in the multinational sector?

REPLY: Develop independent 'spin-outs' from the multi-nationals incorporated in Ireland. Have as a condition of IDA spending a R&D element in the Irish site.

Broaden R&DI activity in the indigenous sector and build absorptive capacity?

REPLY: as stated in the report foreign owned firms accounted for 66.6% of total R&D expenditure in 2012. Put in situ in Irish owned industries - paid consultant(s) to bring them to the next stage. Not just a mentor but an expert(s) driver with targeted deliverables for the companies.

Do we need to enhance the suite of enterprise support programmes to further drive innovation in industry and/or is there scope for consolidation of the existing range of support programmes?

REPLY: small businesses create jobs, more support is needed for SME's

How can we incentivise firms that are R&D active to scale their research efforts?

REPLY: provide support of research lead R&D within the industry with outside paid consultants supported by government (as above). Academics interested in collaboration with industry should be 'seconded' full time to the industry site.

Pillar 4 International Collaboration and Engagement

Key areas to be explored include:

1. *How can we further increase/strengthen the effectiveness of our international collaboration and engagement across all areas of STI investment in pursuit of economic and societal goals?*

REPLY: Ireland has done well and is still on track with the ‘grandmother’ effect, however, this is being diluted in the USA as emigration is stalled into the USA. We should look to the UK where, *the Fifth annual Foreign Directors in the UK report* shows 17% of all foreign directors in the country to be Irish, making Ireland by far the largest group represented². Target these people for advice.

2. *What additional measures can be taken to maximise the engagement of industry as a partner in this regard?*

REPLY: The ‘in Ireland’ trade shows to be expanded as it is a good alternative in addition to foreign trade shows.

3. *What additional measures could be taken to enhance Ireland’s participation in Horizon 2020 and other EU Programmes – industry, academia, SMEs and MNCs?*

REPLY: Professional grant application writers of the highest standards to be appointed. Having reviewed many EU grants from the EU27, the applications are high level professional applications. Industry does not have any opportunities for success in this regard as they do not have the time, the expertise, they are surviving.

4. *Are there research policies or programme developments taking place at EU level where enhanced engagement by Ireland could provide opportunities for research collaboration and ultimate economic or societal benefit?*

REPLY: No Ireland has a strong present in Brussels, with office space, national contact points personell but lacks high level professionals for report/grant writing. MG Quinn did not, unfortunately, additionally advance Ireland position while European Commissioner for Research, Innovation and Science.

5. ²REF: <http://www.businessandleadership.com/leadership/item/49873-irish-directors-top-list-of>

Additional comments

- (i) What were the deliverables from the 19 north-south Ireland US partnership? This needs to be evaluated fully.
- (ii) Is there monitoring of the balance between Irish and non national supported researchers funded by state grants (SFI in particular) and their value to Ireland in the future?
- (iii) Gender equality committees in Universities is a smoke screen for progress in this area. Some improvement have been made in parachuting foreign female specialists and not through upward promotion.
- (iv) The target of €1.25b for Ireland drawdown of funding from H2020 is not realistic. The EU is funding the same consortia again and again, although in some cases this is good for continuation, it is detrimental to new entrants as older consortia are mostly closed and have overheads generated from previous grant to employ high level consultants to write proposals
- (v) A review of the benefits gained from membership of bodies such as ESA, EMBL, EMBC, EUREKA and COST needs to be evaluated and if just paying single project costs for a individual member to engage in a specific project is a cost saving. In addition new international organisations membership may need to be subscribed to. There are equivalent international agencies that can be used e.g why use ESRF in Genoble when ‘Diamond’ in Manchester is used by most researchers on a pay as you go basis. Determine the national usage relative to membership costs.

Pillar 5 Organisational/Institutional arrangements to enhance research excellence and deliver jobs

REPLY:

- (i) Successful participants in HRB, Dept of Agriculture, EPA, Teagash and Marine Institute funded project are all repeat customers . They are closed shops for select collaborators. What acutal jobs were created?
- (ii) The government funding of IDA sponsered multinationals is again repeated through additional SFI and Enterprise Ireland grants.
- (iii) The research support centers are strategically placed due to political favouritism.
- (iv) The SFI consolodiation of research centers is possible good but they should be independently sited centers and 'academics' should take secondment to these centers, in the same way political give up their jobs when elected to government.
- (v) The same 'academic' cannot direct 2-3 three centers in any realistic successful manner. The actual reseacher (generally a post doctoral fellow) receives 2 year funding and then must go on to some other totally difference project there-by wasting the invested training and funds.
- (vi) In addition to the 12 reserach center there are 5 additional centers often overlapping in their remit (e.g NIBER and SSPC; INSIGHT and high end computing; Teagasc and APC)

Pillar 6 World class IP regime and dynamic systems to transfer knowledge and technology into jobs

REPLY:

- (i) Academia and IP do not marry. Publish or perist for advancement in Academia is a priority. That is why the funding model for universities must be seperated from researach funding. Ring fince University funding for student education and have a seperate funding model for research, focused on independent research centers where academics diversity themselves from academia through secondment.
- (ii) 37 new spin outs is a small numbe for the return of investment. Every grant application states they intend to have a start up/spinout but it does not happen.
- (iii) The Technology Gateway programme is poor value for money. The Institues of Technology should be the education forum for apprentices their original remit e.g in construction, plumbers, scaffolding, metal worklers, pipe fitters, instillation engineers e.g electricians , aircraft maintenance, communication and computer engineers. Care nurses and workers, police , catering, transport engineers- train and bus drivers, farmers, social media technicians and educting for careers of the future and not for academica. Everyone can have a PhD, but what is its value to that person. Industry 'shy's away from employing PhD as they 'train up' their own. See ESRI report on Strategic teansion for youth labour in Europe report about tobe published and reporte4din The Sunday Times (22/03/2015)
- (iv) Proved separte evening courses for the public on developing their inventions and developing prototypes.

- (v) Most inventions come from every day products e.g look at NEST.com- taking what is familiar and making it differently.

Pillar 7 Government-wide goals on innovation in key sectors for job creation and societal benefit

REPLY:

- (i) In high cost and expensive to deliver courses, e.g medicine, dentistry etc., or courses where 'the need and demand' is in Ireland, graduates should pay back to the system in internships as part of their education courses.
- (ii) A complete disrupter of the health system is needed from pay structures to providing front line staff. To providing community care centers. Still no childrens hospital!!!
- (iii) Food Harvest 2020, Agri Food and Fisheries and Marine projects should be advanced, as these are core Irish available resources and exports. The dairy industry with development of new dairy products of which there is a wealth of 'artisan' producers, who should be upscaled.
- (iv) Subsidies on householders for alternative energy to be removed as project funded to date have been demonstrated to be not cost effective.
- (v) The EPA is out of date with modern environment developments and needs a root and branch overhauled. What has €74m in projects since 2007 delivered to Ireland?
- (vi) Reports from National Bodies on their progress and successes e.g. SFI, EPA etc., will ensure that they have excellent progress reports. However demonstrable economic driven outcomes for monies spent by the taxpayer have not been forthcoming.

Pillar 8 Research for knowledge and developing human capital

REPLY: This section of the report is fanciful and depressing. It demonstrates the government to be out 'out of tune' with the people, to be developing and funding known failed strategies i.e.. everyone must be educated to university level, more PhD, (no jobs for same). Pet projects funded. The continued funding of what is generally recognised as an inverted system.

Some very good initiatives have been undertaken. However due to Ireland's small size and everyone knows some one.

The Irish times letter re basic science

Basic research does have a role but the government has for many years funded basic research to small groups of scientists with little or no outcome. As the industry reply letter stated- with secure high paid jobs/pensions, and mouth watering grants -for no return of investment.