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**Interdepartmental Committee on Science, Technology and Innovation**

**Department of Jobs, Enterprise and Innovation**

**Kildare Street**

**Dublin 2**

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**(By email)**

**March 23rd, 2015.**

**Attention: Mr Dermot Curran, Chairman**

***Subject: Exploration Station – Submission to* "Consultation Paper For Successor to Strategy for Science, Technology and Innovation"**

Dear Chairman,

Firstly we would like to thank you for affording us the opportunity to contribute to this important piece of national work. We believe that it is extremely important at this point in the development of the national economy that we focus on strengthening the supports for Science and Technology as we go forward. Our submission will concentrate on the positive impact which a National Interactive Science Centre can make to the S&T development in the Economy.

By way of background I would at the outset like to set out some of the background and history to Exploration Station.

*Exploration Station was established in 1990s to promote the development, in collaboration with Government, of a National Interactive Science Centre (the Centre) in Dublin. For both Government and all those concerned with Ireland's performance in science, a major obstacle to our future economic performance is the continuing lack of general public interest in things scientific. Since we recognise that our future depends critically on science and technology, we need to stimulate interest in science so that more young people will choose to study it and make their careers in it; there is also the important matter of moving away from the rote learning of science and the encouragement of creative thinking and innovation in our young generation. While there is much done at school and university level, there is also a need to address this issue on a broader basis. At a national level we need a mechanism that will highlight awareness of science, excite young people with its possibilities, and provide an opportunity for hands-on involvement with practical scientific projects. One such a mechanism is a National Interactive Science Centre of the kind that exists in all other developed countries. Ireland is the only modern economy without such a Centre while many developing countries have at least one.*

*This shortcoming was recognised by Government and the project to develop a National Interactive Science Centre had its genesis in a report prepared by the Irish Council for Science Technology and Innovation in 2000. This was accepted by Government at the time as the blueprint for the provision of this [1]key element of science infrastructure. In October 2003 Exploration Station reached an agreement with Government to design, build and run the Centre in a purpose built facility at a site near Heuston Station. Unfortunately, the economic downturn caught up with the plan to develop this site and the project was put on hold for some time.*

*In November 2013, however, Government agreed to provide Exploration Station with the North Wing of the Earlsfort Terrace Building which houses the National Concert Hall (and some associated structures) and this was announced by Mr Brian Hayes, TD, Minister with responsibility for the Office of Public Works who were designated to carry out the refurbishment of the [2]under the terms of a formal agreement with Exploration Station.*

1 **https://dl.dropboxusercontent.com/u/8771812/ICSTIES.pdf**
2 **http://www.opw.ie/en/pressreleases2013/title,26730,en.html**

*Exploration Station will be a Centre for informal hands-on learning where children's curiosity and imagination are stimulated and encouraged through scientific exploration. It will help young people realise their full learning potential by encouraging them to explore at their own pace and in their own style and by appealing to their sense of fun and adventure. It will also become an educational resource for parents and teachers by involving them in their children's learning experiences. Exemplars in this space, include the Boston Museum of Science, Exploratorium in San Francisco and the Ontario Science Centre in Toronto.*

*Though it will be a resource visited by school groups in the same way they now go to museums and art galleries, this Centre will offer a different and (hopefully) a much more exciting experience. It will be a real laboratory for learning about all science disciplines, maths and engineering, with workshop spaces to provide opportunities for hands-on experimentation and investigation. Interactivity is at the very heart of the concept, and each gallery in the Centre will be staffed by people trained to engage the visitor in learning and understanding.*

*The Centre will occupy an area of over 7,000 sq meters. Permanent galleries will occupy nearly half of this area, with flexible programme spaces built into each so there are always new experiences to discover with every visit. A major feature will be a Planetarium incorporating a 15 meter dome and seating for some 200 people.*

*Though located in Dublin, the Centre is intended emphatically as a national resource that will benefit all the people of Ireland. We will regularly bring traveling exhibits to other areas and we will use modern communication tools to interact with teachers and young people and to be an active and lively communications' hub.*

The development of an awareness in science in the young (and not so young!) is crucial to the development of our economy through these difficult times. National Interactive Science Centres play a key role in fostering and stimulating this awareness and are a feature of the infrastructure of large cities in all developed economies. *"Rebuilding Ireland's international reputation for excellence in science and technology will be crucial to achieving growth and getting people back to work"* as Minister Bruton said at the launch of the call for proposals for bright ideas for the Dublin

City of Science 2012 Event on April 6th. It will also contribute significantly to the achievement of two immediate objectives in the "Government for National Recovery 2011-2016" *(Reprioritising capital expenditure to smaller science related projects Page 16 and improving outcomes in maths and science teaching on page 40).*

The economic impacts of science, technology, and innovation, as clearly enunciated in the Government's "Smart Economy" policy include the resulting contributions to long-term, sustainable economic growth and increased overall welfare. But the economic impacts of science and innovation are much more extensive than what can be captured by data on economic growth and productivity. The welfare and quality of life for consumers may be enhanced in a number of ways, including improved health and longevity; improved social outcomes; a clean, green and safe environment which supports the essentials of life: air, land, water and food; a safe and stable political environment and the maintenance of national security.

Science is for all of us - not just for those who make their living directly from working within its hallowed environs. Yet, these days, we often overlook the huge impact that science and technology have on the shape of our society. Exploration Station will be a clear manifestation of the importance we place nationally on science and will celebrate science in this country in the same way that we have always celebrated art and literature as part of our culture. It is a key project within the Programme for Government and we believe that it will herald a new era in our appreciation of science and technology and demonstrate the optimism of the Government and the people of Ireland to overcome present difficulties and work together to build a *Smart Future*.

The economic impacts of science and innovation include the resulting contributions to long-term, sustainable economic growth and increased overall welfare. Exploration Station will be a clear manifestation of this importance and will celebrate science in this country in the same way that we have always celebrated art and literature as part of our culture. It is a flagship project and we believe that it will herald a new era in our appreciation of science and technology and will provide for the nation and its citizens a permanent Young Scientist and Technology Exhibition not just one which captures the imagination of the nation for a week every year. [It is important to note that Ireland is the only EC or OECD member country[3] without this key piece of science infrastructure

3 **http://en.wikipedia.org/wiki/List_of_science_museums**

As William Reville put it in 2001: *"(Ireland) is the only member-state of the European Union EU not to have a major science centre. This is sending the wrong message to the wider world, which is used to viewing our culture as typically defined by archaeological, mythical, musical and literary heritage. Granted, all of these things are a very important part of what we are, and have been, but Ireland also has a fine scientific heritage that is largely unknown and unappreciated by the general public."]*

Exploration Station aims to:

- To stimulate curiosity and motivate learning through interactive exhibits and programmes with a prominent theme of science, engineering and/or technological development with ties to the National Curriculum
- Cater to children up to 15 years through exhibits, programmes, and transition year volunteer and work programmes for teens
- To provide an education centre for teachers related to the subject matter of our exhibits and programmes and to complement the work of the Discover Science and Engineering Programme
- To work collaboratively with schools and develop outreach programmes such as kits that may enable teachers to demonstrate aspects of the centre's exhibits in the classroom
- To build a reputation of international excellence

In this it will seek, inter alia, to make a significant input into the development of young people in developing their skills to be numerate literate manipulate and communicate in the areas of Science and Technology, within its current meaning, nowadays, the totality of activities in a nation that lead to innovations *[*– often categorized as:

- Scientific and technological research. This is the whole of the process - study, experimentation, conceptualization a theory-testing involved in making new discoveries in the field of science and technology;
- Experimental development which consists in the processes of adaptation, testing and refinement which lead to practical applicability. Included in R&D activities is the training of scientists and engineers to make them more proficient in their respective fields;

- Scientific and technological services , which represent a mixed group of activities crucial to the progress of research and to the practical application of science and technology. These services collect, process and disseminate the scientific and technological information needed for such purposes.
- Innovation, or the development of a new product or process with a view to ensuring that fresh ideas and inventions are used effectively in the national economy. In effect, innovation also includes the 'transfer of technology' which enables the introduction of products or processes into areas in which they were previously unknown.*]*

The impact of Science Centres is particularity well illustrated in *Inspiration, Engagement and Learning: The Value of Science & Discovery Centres in the UK Working towards a Benchmarking Framework*[4] carried out in 2007 to evaluate the impact of Science Centres in the UK. This is cemented in more recent times by the 2014 Mechelen Declaration at the World Summit of Science Centres[5] which suggested the widening of the role of Science centres to include, inter alia,

- *Endeavour to leverage the position of science centres as "trusted" places to introduce the public to new technological solutions and sustainable technologies, and to broaden the potential use of these solutions.*
- *Take the lead in developing the best methods for engaging learners and optimizing their education in both formal and informal settings using appropriate technologies in widely varying contexts.*
- *Engage the public more directly with research, using this engagement to help empower people, broaden attitudes and ensure that the work of universities and research institutions is relevant to society and to wider social concerns on a global scale.*

This we feel is a role which Exploration Station has always aspired to and will contribute significantly to the develop the development of S&T policy and focus on the enhancement of human, knowledge, social and economic capital of the nation.

We had a number of broad comments to make on the consultation document itself in that we feel it can be enhanced by the addition of Sections covering (but realise that this work is at an ealy stage).:

1. *Institutional Arrangements*

4 ***http://sciencecentres.org.uk/reports/downloads/inspiration-engagement-learning-the-value-of-science-discovery-centres-in-the-uk.pdf***

5 **http://www.scws2014.org/home/mechelen-declaration**

2. *Policy implementation and monitoring and*
3. *Evaluation*

We would be more than willing to present an overview of our project to the group if you see that is appropriate and wish to thank you again for the opportunity of contributing to this important work.

Yours sincerely,

*Seamus Bannon*

**Seamus Bannon**

**Executive Director**

CC Exploration Board of Trustees