

**Written Submission from City University of Hong Kong on “Promotion of Innovation and Technology in Hong Kong” to Legislative Council Panel on Commerce and Industry (Meeting on 15 May 2012)**

Thank you for this opportunity to provide our views on *Promotion of Innovation and Technology in Hong Kong*, in particular on the Government’s policy, commitment, strategy, direction and approach in promoting the development of innovation and technology.

Promotion of innovation and technology is a difficult, complex and dynamic issue, but is of such vital importance to the creation and nurturing of a knowledge-based economy and flourishing society here in Hong Kong that we are most appreciative that the Hong Kong government has embraced the issue.

We are grateful for the significant government efforts to date in this area that have already borne significant fruit, including:

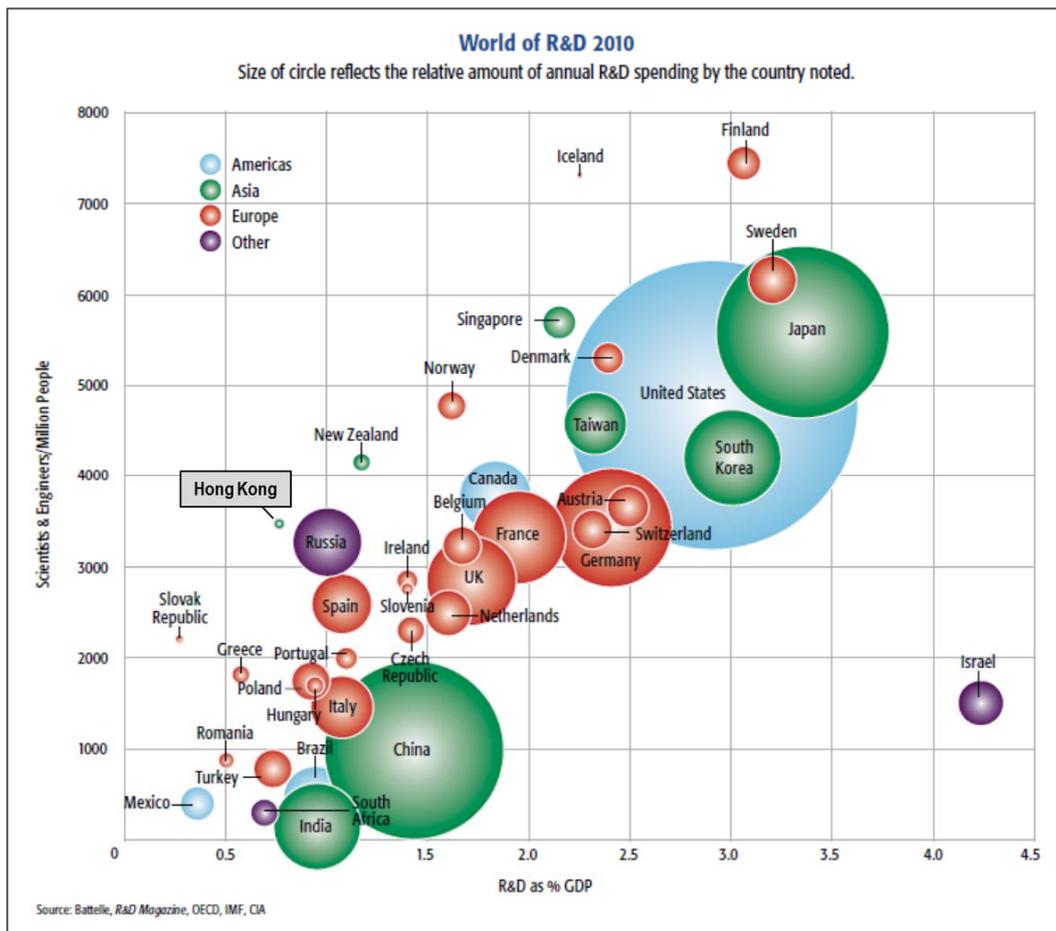
- Strong and sustained block funding for the universities to support our education and research missions
- Competitive grant programs of the Research Grants Council (RGC) that support cutting edge R&D, especially those interdisciplinary topics and larger-scale grants such as the Collaborative Research Fund (CRF) and Theme-based Research Scheme (TBRS) that are designed to catalyze significant new developments (we are especially pleased to note the large increase in CRF funding allocated to the next competition cycle)
- Competitive grant programs of the Innovation & Technology Commission (ITC) that are focused on academic-industry collaboration and leveraged funding to move new ideas and products toward commercialization
- Special earmarked Knowledge Transfer (KT) funds from the UGC to enable an expansion of the scope, scale and effectiveness of our technology/knowledge development and transition/commercialization efforts at the university
- Creation of the Hong Kong Science & Technology Park, a tremendously powerful physical asset that has attracted a large number of innovation-focused technology companies to cluster in Hong Kong

These all play a significant role in direct promotion of innovation and technology, as well as in the creation of skilled human capital to sustain and grow innovation in Hong Kong. We applaud these government efforts and hope that they can continue and grow.

At City University we believe that Hong Kong enjoys a unique “place” in the world – unique in its geographic, political, historical, and cultural heritage – and that this place can be leveraged so that Hong Kong can become a global hub for innovation and technology. However, this opportunity will not be realized without a strategic, concerted collaborative effort from government, academia and private industry. A full plan will require complete benchmarking and careful thought, but in the paragraphs that follow are key elements that we believe should be incorporated with an overarching goal to ***Make Innovation Pervasive***.

**Recommendation 1: Target a significant increase in Hong Kong’s total annual expenditure on R&D through increased public and private sector R&D expenditure.**

Hong Kong is relatively small and hence comparison of R&D spending in other countries in absolute terms is not always helpful. Instead, to make valid comparisons with other countries around the globe and to consequently determine competitive targets, it is common practice to normalize by population size and size of the economy. In particular, R&D expenditure as a percentage of Gross Domestic Product (GDP) is an internationally-recognized normalized metric for scope and scale of innovation and technology development. The chart below for the year 2010 clearly reveals the fact that R&D expenditure in Hong Kong, at only 0.76% in, is lagging all major Asian powers. Note that Singapore, arguably our most logical benchmark, is at 2.3%, has increased to 2.7% in 2011, and has a stated national goal of reaching 3.5% by 2015.



Much of the growth can and should be achieved through increased private-sector R&D; however, we must sustain our commitment to public sector use-inspired fundamental research as well as application-driven research and the development of an R&D talent pool through our universities. This commitment will create a strong value proposition for the private sector, especially those involved in long-term emerging research in areas such as the biomedical sciences, renewable energy and sustainability.

**Recommendation 2: Strengthen critical infrastructure and human capital for innovation and the commercialization of R&D advances.**

We should further leverage public sector R&D institutions and facilities to drive commercialization, including our university research centres and the ITC technology centres, by facilitating private sector access to public sector IP and to infrastructure for technology development projects.

To complement these existing centres, Hong Kong should create a select number of R&D centres focused on creating specific strategic technology platforms for targeted commercial development. Such centres would generally be academic-led cooperative efforts with formal industry consortia membership and would operate within a strategic technology plan with milestones and deliverables. Good examples of such efforts worldwide can be found in the family of National Science Foundation Engineering Research Centres in the United States (<http://www.erc-assoc.org/centers.htm>). Centre infrastructure would include pilot lines or other ‘test beds’ for piloting and prototyping innovative solutions. Preference should be given to breakthrough, transformational technologies which could differentiate Hong Kong from other players and result in creation of new innovative products, processes and software. An example of a truly transformative technology is that of flexible displays and flexible electronic systems as pursued by the Flexible Display Centre in the U.S. (<http://flexdisplay.asu.edu>).

We should also provide greater access to a range of ideas and IP from both public and private sectors so as not to limit ourselves on the development of our own indigenous technologies. There are technologies available for transfer from abroad. Licensing and acquisition of these technologies can broaden the portfolio of technologies available for use by Hong Kong companies, especially in areas in which Hong Kong does not have the expertise and experience. To facilitate a “buy and build” strategy on technology, Hong Kong should consider creation of a centralized idea bank “one-stop shop” for IP access and trading for use by all companies and universities.

We need to further develop and nurture the innovation ecosystem and support structures in Hong Kong. The ecosystem includes not just research talent but also seasoned entrepreneurs, start-up management, venture capitalists, innovators and designers, technology transfer professionals, patent agents, and mentors and role models. A specific need is in the area of incubation, where consideration should be given to attracting premier-service incubators to bring about a step change in how we incubate start-ups.

**Recommendation 3: Create and nurture a culture of innovation.**

We need to step up efforts in the education system at all levels to instill a mindset for innovation in Hong Kong students. City University of Hong Kong has launched a “Discover and Innovate” curriculum and mindset on campus to encourage every undergraduate student to think creatively, innovate and take forward their new ideas. An “Idea Incubator Grant” program provides funding support to help students turn their innovative ideas into reality. With support from the government, similar programs at a reduced scale can be introduced in high schools in Hong Kong.

We hope you find these ideas and thoughts useful, and we look forward to working with you and colleagues from sister institutions and collaborators in industry to advance our collective agenda.

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