

## LCQ5: Promoting development of innovation and technology

Following is a question by the Hon Tang Fei and a reply by the Secretary for Innovation and Technology, Mr Alfred Sit, in the Legislative Council today (May 25):

Question:

The National 14th Five-Year Plan has expressed clear support for Hong Kong to develop into an international innovation and technology (I&T) hub. On promoting I&T development, will the Government inform this Council:

(1) of the latest plans and measures put in place by the Government to achieve the goal of developing Hong Kong into an international I&T hub, and whether clear performance indicators have been formulated for the relevant work;

(2) in respect of nurturing I&T talents, as there are views that currently STEM education (i.e. courses relating to science, technology, engineering and mathematics) is not an independent subject in local primary and secondary schools, which has resulted in problems of insufficient lesson time and difficulties in articulation into university programmes, whether the Government will improve the planning for STEM education in primary and secondary schools; if so, of the details and timetable; and

(3) of the measures put in place by the Government in the past two years to deepen the I&T co-operation between the Mainland and Hong Kong (including facilitating Hong Kong's young people to go to the Mainland for participating in I&T development), and the effectiveness of such measures?

Reply:

President:

Thank you very much for the Hon Tang's question. Our reply to the Hon Tang's question, having consulted the Education Bureau (EDB), is as follows:

(1) Promulgated last year, the 14th Five-Year Plan (the 14-5 Plan) supported Hong Kong to develop into an international innovation and technology (I&T) hub. The Government has been attaching great importance to the development of I&T, and set out eight major areas in the 2017 Policy Address to develop I&T, formulated clear policies and put forward respective measures. In the same year, the Government has also adopted the recommendations of the Advisory Committee on Innovation and Technology to establish well-defined key performance indicators (KPIs).

In the past five years, the current-term Government has unprecedentedly

invested over \$150 billion to support I&T development. Various initiatives are gradually taking effect, and the overall I&T ecosystem is becoming more vibrant. For example, the gross domestic expenditure on research and development (R&D) has increased by more than 45 per cent in the past five years; the number of start-ups rose from around 1 500 in 2015 to around 4 000 in 2021; the venture capital investment substantially increased from \$3.4 billion to over \$40 billion during the period. We have also witnessed the birth of more than 10 unicorns in the same period. The flagship project, InnoHK research clusters, has successfully attracted over 30 world-renowned universities and research institutes to collaborate with local partners in setting up 28 research laboratories. Hong Kong also ranked first in Asia and second worldwide in the World Digital Competitiveness Ranking 2021.

In the 2021 Policy Address and 2022-23 Budget, the Government has put forward a number of forward-looking and ground breaking initiatives. In terms of land supply, having regard to the continuous increase in Hong Kong's demand for land dedicated to scientific research and advance industries, the Government is continuing to increase infrastructure, including consolidating the Hong Kong-Shenzhen Innovation and Technology Park (HSITP) in the Lok Ma Chau Loop and the areas around Lok Ma Chau/San Tin to form the San Tin Technopole, building landmark I&T facilities with a scale comparable to Cyberport in Lau Fau Shan, reviving the Ma Liu Shui reclamation project, planning for the construction of the second Advanced Manufacturing Centre, etc.

As for talent, the Government has been adopting a multi-pronged approach to enlarging the I&T talent pool through attracting, nurturing and retaining talents with a series of initiatives. For example, the Global STEM Professorship Scheme has supported over 60 outstanding scholars and their teams to conduct research and teaching activities in Hong Kong so far.

In terms of R&D, to complement the country's development of frontier scientific research fields such as life and health disciplines, the Government has earmarked \$10 billion to provide more comprehensive support in the longer run for the development of life and health scientific research, including setting up an InnoLife Healthtech Hub in the HSITP. The Government will also double the maximum annual funding support under the Innovation and Technology Fund for the 16 State Key Laboratories in Hong Kong and 6 Hong Kong Branches of Chinese National Engineering Research Centres, and set up a dedicated fund to finance local universities or research institutes to participate in national R&D projects.

The Government will update the KPIs timely, as well as review the policies, enhance and introduce more measures in line with the country's plan and society's development, so as to continue to promote I&T development.

(2) According to the information provided by the EDB, the Government has been committed to promoting STEM education in primary and secondary schools for all students (i.e. STEM for ALL) through ongoing renewal of curriculum, enhancement of teacher training, providing resource support and life-wide learning activities to cultivate students' creativity, scientific investigation and problem-solving skills from an early age, and enhance their

interest and learning motivation in I&T. In addition to learning in the Science, Technology, Mathematics and primary General Studies curricula, students also participate in STEM-related cross-curricular hands-on and minds-on activities both inside and outside the classroom. These activities help them lay a solid foundation in learning, and strengthen their ability in integrating and applying STEM-related knowledge and skills. Schools are now implementing STEM education progressively and have achieved considerable results. In respect of senior secondary electives, STEM-related subjects have all along been popular among the students. More Applied Learning courses on applied science and technology have also been provided. The Government will continue to follow up on the recommendations put forward by the Standing Committee on STEM Education to enhance the strategies for promoting STEM education and provide schools with various support measures.

Moreover, starting from the 2019/20 school year, the EDB has provided a recurrent Life-wide Learning Grant with an annual provision of \$900 million for public sector and Direct Subsidy Scheme schools to support them in taking forward more life-wide learning activities, including STEM education related activities. Furthermore, the Quality Education Fund has included STEM education as one of the priority themes and, from the 2018/19 to 2020/21 school years, approved over \$800 million for around 840 projects related to information technology in education and STEM education through the Priority Themes Funding Programme and the Dedicated Funding Programme for Publicly-funded Schools.

(3) Thanks to the country's staunch support for I&T in Hong Kong, the 14-5 Plan, for the first time, incorporated the Shenzhen-Hong Kong Innovation and Technology Co-operation Zone (Co-operation Zone), comprising the HSITP and Shenzhen Innovation and Technology Zone, as one of the four major platforms of co-operation in the Greater Bay Area (GBA). Hong Kong will continue to make good use of the GBA platform and seek to strengthen the co-operation with various provinces and municipalities. Last year, Hong Kong signed Memorandum of Co-operation with the governments of Sichuan Province, Hubei Province and Shanghai Municipality respectively to deepen the co-operation between Hong Kong and relevant provinces and municipalities in various fields including I&T, such as promoting the commercialisation of R&D results, exploring the establishment of mechanism for jointly nurturing I&T talents, etc.

To better leverage on the complementary advantages among different cities in the GBA, the Government is actively facilitating the effective flow of innovative elements with the Mainland. On talent front, the Government has encouraged young people in Hong Kong to seize the I&T opportunities in the GBA through the Greater Bay Area Youth Employment Scheme. So far, over 250 enterprises have provided I&T jobs, benefiting more than 300 graduates. The Government will also explore the extension of the Immigration Arrangement for Non-local Graduates to cover those Hong Kong universities' campuses in the GBA. As for funding, over \$760 million from Mainland were approved for local universities and R&D institutions so far. The Government has also implemented joint funding schemes with the Central Government and various provinces and municipalities. In terms of resources, so far, four Mainland branches

established by Hong Kong's universities were approved by the Ministry of Science and Technology as pilot units which were able to lodge applications independently for exporting human genetic resources to Hong Kong for research purpose.

The delegation for introducing the 14-5 Plan suggested at a seminar last year to make good of use of Hong Kong's unique advantages to jointly develop the international I&T hub, and subsequently announced a number of measures benefitting Hong Kong. For instance, regarding opening up more national-level science and technology programmes to Hong Kong, the National Key Research and Development Programme and the Sci-Tech Innovation 2030 –"Brain Science and Brain-like Research" Major Project were opened up to the designated R&D institutions in Hong Kong for applications.

Besides, the government of Hong Kong and Shenzhen have signed a co-operation agreement on developing the Co-operation Zone and putting forward a joint policy package last year. The Hong Kong Science and Technology Parks Corporation will also launch the GBA InnoAcademy and GBA InnoExpress at its branch in Shenzhen in July this year, and work with the local universities which have campuses in the GBA to establish incubator networks in those campuses, so as to support start-ups to develop in the GBA.

President, once again I am grateful for the Hon Tang's question, and am looking forward to continuing co-operation with LegCo Members in promoting the I&T development of Hong Kong. Thank you, President.