

LCQ15: Promoting research and development activities

Following is a question by the Hon Jimmy Ng and a written reply by the Secretary for Innovation and Technology, Mr Alfred Sit, in the Legislative Council today (April 29):

Question:

The Chief Executive stated in the 2017 Policy Address that the Government had set a goal to double the gross domestic expenditure on research and development (R&D) (GERD) to about \$45 billion a year, i.e. to increase the ratio of such expenditure to the Gross Domestic Product (R&D expenditure ratio) from 0.73 per cent to 1.5 per cent, by the end of the current Government's term of office. According to the Report on Hong Kong Innovation Activities Statistics 2018 (the Report), the GERD in 2018 was \$24,497 million, and the R&D expenditure ratio was 0.86 per cent, which was still quite a distance from the goal of 1.5 per cent set by the Government. Quite a number of members of the industry have pointed out that to achieve the goal, the Government needs to expeditiously introduce new measures to encourage more enterprises to conduct R&D activities. In this connection, will the Government inform this Council:

(1) whether, in order to achieve the aforesaid goal of R&D expenditure ratio, the Government will (i) introduce new measures to encourage more enterprises to conduct R&D activities, and (ii) set specific indicators in respect of the field of R&D activities, the source of funds (i.e. from the Government, business sector, and parties outside Hong Kong and other local parties) and the number of R&D personnel; if so, of the details; if not, the reasons for that;

(2) whether it will examine the setting of a more aggressive long-term goal on the R&D expenditure ratio; if so, of the details; if not, the reasons for that;

(3) as the Report pointed out that while small and medium enterprises (SMEs) accounted for 94.1 per cent of the enterprises which had conducted R&D activities in 2018, their expenditure on in-house R&D activities accounted for less than 50 per cent of the relevant total expenditure incurred by all enterprises, whether the Government will introduce more measures to subsidise SMEs for conducting R&D activities; if so, of the details; if not, the reasons for that; and

(4) as the Report showed that while enterprises' expenditure on R&D activities contracted out to parties outside Hong Kong was \$3,395 million (accounting for 75 per cent of the total expenditure on contracted-out R&D) in 2018, such expenditure was not eligible for the enhanced tax deduction for "qualifying R&D activities" provided by the Government since April 1, 2018,

whether the Government will study the inclusion of such expenditure in the scope of application of the tax deduction measures; if so, of the details; if not, the reasons for that?

Reply:

President,

Research and development (R&D) is the foundation of innovation and technology (I&T). The current term Government has been committed to increasing resources for R&D, and have set a goal to increase the Gross Domestic Expenditure on R&D (GERD) as a percentage of the Gross Domestic Product (GDP) to 1.5 per cent. To achieve this goal, a number of new initiatives have been introduced to support R&D work by universities and public research institutes, encourage R&D investment by the private sector, provide R&D infrastructure to the industry, as well as proactively attract and retain talent for R&D work.

According to the Hong Kong Innovation Activities Statistics 2018 released recently by the Census and Statistics Department, the GERD of Hong Kong in 2018 amounted to \$24,497 million, representing an increase of 10 per cent when compared to the corresponding figure of 2017. The overall number of R&D personnel has also continued to increase steadily.

The reply to the various parts of the question is as follows:

(1) to (3) The Government hopes to increase the overall R&D expenditure in Hong Kong, and to gradually reverse the ratio of public sector versus private sector expenditure on R&D from government-led to public-private participation, which is more sustainable. To this end, we have launched various initiatives in respects of R&D investment, talent and infrastructure to attract enterprises to invest more in R&D activities.

For R&D investment, we have provided a two-tiered enhanced tax deduction for qualifying R&D expenditures incurred by enterprises since April 1, 2018. The deduction is 300 per cent for the first \$2 million of the aggregate amount of payment made to "designated local research institutions" for "qualifying R&D activities" and qualifying R&D expenditures incurred by enterprises, and 200 per cent for the remaining amount. There is no cap on the amount of the relevant enhanced tax deduction which applies to all enterprises. This initiative provides incentive to encourage more enterprises to conduct R&D work in Hong Kong.

Among the tax returns received for the 2018-19 assessment year, the Inland Revenue Department received 110 claims for tax deduction relating to R&D expenditures, involving an expenditure for tax deduction of over \$1.8 billion. Although the concerned amendment bill to the Inland Revenue Ordinance was only passed in October 2018, and therefore may not have an immediate effect on the year of assessment, the total expenditure of tax deduction for the year of assessment 2018-19 has already been higher than that in 2017-18. Since enterprises' enhancing R&D investment would mostly

require detailed planning and even business adjustments, it usually takes longer time for effects to be seen. Various factors, including last year's social incidents, the COVID-19 epidemic, the global economic downturn, etc., may also affect companies' resource investments in commencing R&D work. We expect that it may take longer to show the actual effect of the enhanced tax deduction.

The various schemes under the Innovation and Technology Fund (ITF) finance projects that can contribute to I&T upgrading and industry development in Hong Kong, encourage private enterprises (including small and medium enterprises (SMEs)) to invest in R&D and applied technology, and commercialise outstanding local R&D achievements. From 2016 to 2019, the ITF had funded around 8 500 projects with a total funding commitment of about \$7.73 billion. Compared to the previous four-year period (2012 to 2015), the number of projects funded and total funding commitment have increased by two and 1.4 times respectively. Also, the funding commitment for R&D projects has increased by 70 per cent. Generally speaking, a significant share (over 80 per cent) of the ITF funding is used to fund enterprise-led projects. Specifically, the Enterprise Support Scheme provides dollar-for-dollar matching funding of up to \$10 million for each approved project for private companies to carry out in-house R&D work. As at end February 2020, 134 applications involving 116 private companies have been supported, with private companies contributing about \$507 million and the ITF contributing about \$433 million. We provide 40 per cent cash rebate to designated applied R&D projects of eligible enterprises through the R&D Cash Rebate Scheme. As at end February 2020, 1 390 companies have been granted cash rebates of about \$602 million. Moreover, the Partnership Research Programme was launched in January 2019 to consolidate the previous University-Industry Collaboration Programme and the collaborative stream of the Innovation and Technology Support Programme to fund collaborative R&D projects jointly conducted by private companies with local R&D Centres, universities and other designated public research institutes. As at end February 2020, 35 projects have been funded involving funding of about \$61.5 million.

In respect of R&D talent, the Government subsidises eligible enterprises/organisations in recruiting research personnel to engage in R&D work through the Researcher Programme (RP) and Postdoctoral Hub (PH). Currently, the maximum monthly allowances for researchers holding bachelor's and master's degrees are \$18,000 and \$21,000 respectively, and that for each postdoctoral talent is \$32,000. As at end February 2020, the RP has approved nearly 4 800 applications with total funding of about \$1.28 billion, and the PH has approved nearly 920 applications with total funding of about \$530 million. Starting from March 9, 2020, the funding scope of the two programmes has been expanded from enterprises/organisations undertaking ITF-funded R&D projects, incubatees and I&T tenants of the Hong Kong Science and Technology Parks Corporation (HKSTPC) and the Cyberport as well as start-ups selected for investment under the Innovation and Technology Venture Fund to all technology companies conducting R&D activities in Hong Kong.

In addition, the Government launched in mid-2018 the Technology Talent Admission Scheme to provide a fast-track arrangement to admit technology

talent to conduct R&D work in Hong Kong. As at end March 2020, the Innovation and Technology Commission has allotted 334 quotas and the Immigration Department has approved 110 employment visa/entry permit applications in accordance with the relevant quotas. To support Hong Kong's technological development, we have, starting from late January 2020, extended the applicable technology areas of the scheme from seven (i.e. biotechnology, artificial intelligence, cybersecurity, robotics, data analytics, financial technologies and material science) to 13 (the six new areas are 5G communications, Internet of Things, integrated circuit design, microelectronics, digital entertainment and green technology), and broadened the scheme's coverage to all companies undertaking R&D activities in these 13 areas in Hong Kong. The enhancements will allow more companies to benefit from the certainty and streamlined procedures offered by the scheme, thus expediting the admission of technology talent from different parts of the world to undertake R&D work in Hong Kong.

The Government will also launch the STEM Internship Scheme within this year to subsidise undergraduates and postgraduates of STEM-related programmes in local universities to undertake short-term internships. We welcome participation by private enterprises to provide short-term R&D internship positions to students.

In respect of R&D infrastructure, through the Hong Kong Science Park (Science Park) and the Cyberport, the Government provides incubation and support services to technology-based companies and start-ups. In recent years, the Government has supported various development projects of the HKSTPC and the Cyberport with a view to providing more scientific research and laboratory space for the I&T sector, including local enterprises. These development items include the Science Park Expansion Programme Stage 1, the development of R&D-related facilities by HKSTPC with an allocation of \$3 billion, the expansion of Cyberport with \$5.5 billion earmarked, and Phase 2 of the Science Park Expansion Programme with \$3 billion reserved. The Government is also actively developing the 87-hectare Lok Ma Chau Loop area into the Hong Kong-Shenzhen Innovation and Technology Park as a key base for co-operation in scientific research.

Apart from the above measures that are directly related to private enterprises undertaking R&D work, the current Government also aims to create a vibrant I&T ecosystem by introducing different measures, for example establishing the InnoHK research clusters, co-investing with venture capital funds in local I&T start-ups through the Innovation and Technology Venture Fund, injecting funding into the Research Endowment Fund to substantially increase research funding for post-secondary institutions, etc. We believe that the increasingly sophisticated local I&T ecosystem will be highly conducive to encouraging companies to conduct more R&D activities in Hong Kong.

The Government expects the effect of these measures to be realised gradually, contributing to a further increase in the GERD. We will keep a close watch on the relevant situation, and introduce suitable measures as and when appropriate for encouraging R&D investment by private enterprises

(including SMEs), or consider whether to set other indicators or longer-term goals as needed.

(4) The objectives of providing enterprises with enhanced tax deduction for qualifying R&D expenditures are to attract enterprises to invest more in R&D projects in Hong Kong, promote local R&D work, and groom local R&D talent. To this end, enterprises are eligible for up to 300 per cent enhanced tax deduction for payment made to "designated local research institutions". For payment on R&D activities outsourced to research institutions outside Hong Kong, enterprises can still qualify for 100 per cent tax deduction.

Permitting enterprises to claim enhanced tax deduction for R&D activities outsourced to non-local research institutions goes against the policy to promote local R&D activities. The Hong Kong Special Administrative Region Government is also not empowered to verify the R&D competency of institutions outside Hong Kong, and whether the claimed R&D work and expenditure are true.