

# LCQ15: Training of artificial intelligence talents

Following is a question by the Hon Rock Chen and a written reply by the Secretary for Education, Dr Choi Yuk-lin, in the Legislative Council today (May 14):

Question:

In September last year, the State President delivered an important speech at the National Conference on Education, following which the 2024-2035 master plan on building China into a leading country in education (the master plan) was issued, setting out a roadmap for the national education development in the next 10 years. The master plan clearly proposed to establish a mechanism for co-ordinating and promoting the integration of education, technology and talent by leveraging the support of education to technology and talent. The master plan also set out the close collaboration with the development of the innovation and technology (I&T) hub in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA) and the building of a high-calibre talent hub and platforms for talent attraction and retention, thereby enhancing the overall effectiveness of the innovation system. In this connection, will the Government inform this Council:

(1) against the background of the master plan's proposals to establish a mechanism for co-ordinating and promoting the integration of education, technology and talent as well as to closely collaborate with the development of I&T hub in the GBA, how the Government will further deepen the collaboration among the "government, industry, academic and research" sectors to promote the transformation of research and development outcomes of tertiary institutions into a driving force for innovation in the industry, with a view to enhancing Hong Kong's competitiveness in the GBA's I&T ecosystem;

(2) as there are views that universities of applied sciences (UAS) play an important role in Hong Kong in complementing the master plan's proposal to leverage the support of education to technology and talent, how the Government will further define the self-positioning of UAS and assist UAS in leveraging their unique advantages, so as to nurture more applied technology talents who suit the needs of the industries in the GBA;

(3) how the Government plans to assist tertiary institutions and scientific research institutions in increasing their expenditure on research and development (R&D) and intensifying the efforts in nurturing talents in the field of artificial intelligence (AI), so that Hong Kong can contribute to the development of the I&T hub in the GBA in the aspect of AI technology's R&D and application; and

(4) whether it has studied how the Government should further strengthen STEAM (i.e. Science, Technology, Engineering, the Arts and Mathematics) education

in primary and secondary schools (particularly focusing on AI), including teaching basic AI knowledge, methods of data processing and interdisciplinary knowledge, so as to enhance students' skills in AI, critical thinking and capacity for innovation, thereby meeting the demand for education, technology and talent arising from the GBA development?

Reply:

President,

Solid promotion of education and technological development can provide and replenish talents and manpower for various trades and industries, boost socio-economic development, and render firm support for building an international hub for high-calibre talents. The 2024-2035 master plan on building China into a leading country in education, issued earlier by the nation, clearly proposes establishing an integrated co-ordinating mechanism for education, technology and talents, and strengthen the supporting role of education for science and talents. To this end, the Government has set up the Committee on Education, Technology and Talents, which is led by the Chief Secretary for Administration, to co-ordinate and drive the integrated development of education, technology and talents, expand connections, formulate policies to attract and cultivate talents, foster the development of technologies, and also promote Hong Kong as an international hub for high-calibre talents.

The replies of the Education Bureau (EDB) and the Innovation, Technology and Industry Bureau to the Hon Rock Chen's questions are as follows:

(1) With an aim to enhance the innovation and technology (I&T) ecosystem and Hong Kong's competitiveness on the I&T front in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA), the Government has been promoting collaboration among the Government, industry, academic and research sectors through various measures, and adopting a multi-pronged approach to support commercialisation of research and development (R&D) outcomes of tertiary institutions. For example, the \$10 billion Research, Academic and Industry Sectors One-plus Scheme under the Innovation and Technology Fund (ITF) funds, on a matching basis, research teams from universities with good potential to become successful start-ups to transform and commercialise their R&D outcomes, while industry sponsorship is a mandatory requirement. Furthermore, the ITF will continue to provide annual funding to the Technology Transfer Office of each of the eight University Grants Committee (UGC)-funded universities, thereby supporting the development of innovative ideas and R&D outcomes into new products or services. The R&D centres set up by the Government have also been taking forward industry-driven applied R&D work that suits market needs and transferring technologies to the industries through contract researches, licensing arrangements, etc to commercialise their R&D outcomes. Meanwhile, the Government has facilitated the establishment of the Hong Kong New Industrialisation Development Alliance. The Alliance serves as a platform for collaboration among the Government, industry, academia, research and investment sectors, with a view to promoting new industrialisation and co-operation among enterprises and organisations.

(2) To provide an alternative pathway to success for young people who aspire to pursue careers in professional skills sectors, the Government has been promoting the establishment of universities of applied sciences (UAS), and, in February 2024, promulgated the criteria for qualifying as UAS along with the relevant mechanisms. UAS provide vocational and professional education and training (VPET) programmes with an applied focus blending theory and practice, including applied degree programmes, and closely collaborate with professional skills sectors, incorporating substantial internship and work-based learning opportunities in other degree programmes to nurture students' applied skills, demonstrating a clear division of labour with traditional academic research universities. The EDB announced in March and November 2024 respectively that Hong Kong Metropolitan University and Saint Francis University had been confirmed as the first two UAS in Hong Kong after undergoing stringent procedures and reviews.

The Government proactively supports UAS to collaborate with industries and other stakeholders in accordance with the VPET development strategy of fostering industry-institution collaboration and diversified development to respond to the keen manpower needs of different sectors and nurture more professional talent with applied skills. In this connection, the Government has allocated \$100 million to support UAS and VPET institutions to establish the Alliance of UAS (the Alliance) in November 2024. The Alliance has been actively engaging supporting organisations and stakeholders and has drawn up the future work plan and strategic direction, which include fostering collaboration and joint promotion efforts among member institutions and over 80 supporting organisations from different sectors, organising international conferences, and strengthening exchanges and co-operation with Mainland and overseas UAS. Amongst others, the Alliance has planned to visit VPET institutions in the GBA within the year to strengthen exchanges and co-operation. The EDB will continue to work closely with the Alliance to support its work.

(3) Strengthening the nurturing of local I&T talents and fostering the deep integration of technology and industry are key factors in advancing the development of the artificial intelligence (AI) industry. Taking the opportunity of the triennial planning exercise for the UGC-funded universities, the Government set out strategic directions to guide the universities to align their planning with our nation's and Hong Kong's strategic development and policy priorities, including nurturing talents for growth, transformation and future challenges.

With the advent of AI, innovative and breakthrough technology in the new era, the universities are encouraged to introduce appropriate teaching frameworks and new programmes to meet ever-changing societal needs and enhance support for academic staff and students. A number of UGC-funded universities have offered AI-related undergraduate programmes in the 2025-28 triennium in response to the strategic directions, for example, Bachelor of Science (Honours) in Artificial Intelligence and Educational Technology and Bachelor of Education (Honours) (Primary) – Mathematics of the Education University of Hong Kong, Bachelor of Engineering in Artificial Intelligence of the Hong Kong University of Science and Technology, and Bachelor of Arts

and Bachelor of Engineering in Artificial Intelligence and Data Science of the University of Hong Kong.

In addition, the Government has been developing the AI ecosystem on different fronts through various measures such as provision of infrastructure and computing power, promoting R&D and talent cultivation. The first-phase facility of Cyberport's Artificial Intelligence Supercomputing Centre (AISC) commenced operation to meet the strong local demand and enhance Hong Kong's R&D capabilities in various technological research and application fields. With a view to encouraging the industry to optimise the AISC's computing resources, the Government launched the Artificial Intelligence Subsidy Scheme to subsidise local institutions, R&D centres and enterprises, etc to leverage the AISC's computing power to achieve scientific breakthroughs and launch promotional and educational activities. As of April 2025, Cyberport has organised 35 promotional activities (including information seminars at local institutions), attracting over 6 500 participants. The Government is also nurturing local talents and gathering top-notch researchers from all around the world, through the AIR@InnoHK research cluster and its R&D laboratories focusing on AI and robotic technologies. To further promote the R&D and applications of AI in Hong Kong, the 2025-26 Budget announced the establishment of the Hong Kong Artificial Intelligence Research and Development Institute (AIRDI), which will spearhead and support Hong Kong's innovative R&D and industry applications of AI, facilitating upstream R&D, midstream and downstream transformation of R&D outcomes, and expanding application scenarios. We expect the AIRDI will help pool talents in AI-related fields, promote R&D and extensive application of AI, and facilitate exchanges on AI between Hong Kong and the Mainland (including the GBA) as well as overseas countries and regions.

The Finance Committee of the Legislative Council approved on May 9 a funding of \$3 billion for the implementation of the Frontier Technology Research Support Scheme, with a view to attracting international top-notch talents in frontier technology areas such as AI to conduct research in Hong Kong, thereby expanding Hong Kong's research capacity. The eligible applicant institutions for the Scheme are local universities funded by the UGC, and funding will be provided to the institutions concerned on a matching basis to encourage them to invest in research, promote cross-sector collaboration and enhance manpower training.

(4) To align with the national strategy of building a leading country in education, keeping pace with global development trends, and nurturing talents for the advancement of I&T in Hong Kong, the EDB has been stepping up to promote STEAM (Science, Technology, Engineering, the Arts and Mathematics) education in primary and secondary schools, further promoting the digitalisation of education. Through a range of diversified strategies, including ongoing curriculum renewal, strengthening teacher training, providing resource support to schools, and enhancing collaboration with stakeholders, the EDB seeks to integrate digital technology into learning and teaching, enhance students' creativity and problem-solving skills, and lay a solid foundation of talent for the future development of the country and society. Additionally, the EDB established the Steering Committee on

Strategic Development of Digital Education in early 2025, making reference to the latest developments on the Mainland and relevant policies and experiences from other countries, to propose recommendations on the goals, strategies and future directions for the implementation of digital education in Hong Kong.

Regarding curriculum renewal, the EDB launched the "Module on Artificial Intelligence for Junior Secondary Level" in the 2023/24 school year that covers topics such as AI basics and AI ethics. The EDB also launched the "Enriched Module on Coding Education for Upper Primary Level" to enhance computational thinking and creative thinking. At present, almost all publicly-funded primary and secondary schools have implemented enriched coding education and AI education at the upper primary and the junior secondary levels respectively. On the other hand, the newly introduced Primary Science and the updated Junior Secondary Science will be implemented starting from the 2025/26 and 2027/28 school years respectively. Both curricula emphasise inquiry-based learning and cross-disciplinary learning, with a view to cultivating students' capabilities in innovation.

As for teacher training, the EDB focuses on empowering teachers by helping them equipping with AI-related knowledge and teaching strategies. The EDB continuously organises training programmes on the aforementioned AI and coding education modules, covering fundamental AI theories, applied technologies, pedagogical practices, data security, and the use of generative AI in education. These training sessions are conducted in both online and face-to-face modes to broaden participation and coverage among teachers. Furthermore, the EDB promotes the application of AI in learning and teaching through an "AI+Subject" approach and provides relevant teacher training. Examples include the launch of the "AI for Science Education" programme in Junior Secondary Science, the integration of digital technologies (including AI elements) into mathematical modelling activities in Mathematics, and the incorporation of AI into learning and teaching activities in Visual Arts. These efforts aim to enhance teachers' confidence and competence in utilising AI to assist teaching.

The EDB also provides various resource support to schools. The EDB updated the "Information Literacy for Hong Kong Students" Learning Framework to strengthen data security and AI ethics education, and collaborated with the Hong Kong Police Force and the Journalism Education Foundation to launch teaching resources on cyber security and media and information literacy, to help students to develop critical thinking skills when using I&T. Moreover, the Quality Education Fund has allocated \$500 million for the implementation of the e-Learning Ancillary Facilities Programme, supporting 22 projects related to AI, big data and education technology. These projects cover various subjects and deploy innovative technologies to enhance learning and teaching effectiveness. As at end-March 2025, around 400 schools and 31 000 students have participated in this programme. It is expected that the deliverables of the projects will be successively released starting from mid-2025 for subscriptions and use by all local schools.

The EDB actively promotes collaboration and exchange by deepening partnerships with local, Mainland, and international stakeholders. The EDB works closely with tertiary institutions and I&T-related organisations to

conduct various projects and activities, enabling school leaders and teachers to stay abreast of the latest developments in science and I&T. Examples include the "Exchange cum Training Programme for Hong Kong STEAM Education Leaders", co-organised with the Teacher Education Centre under the United Nations Educational, Scientific and Cultural Organization, and the "Professional Development Programme on Innovation and Technology", co-organised with Cyberport. In collaboration with Hong Kong Education City, the EDB is organising the "Digital Education Week" from June 30 to July 7 this year. Key events include the "Learning & Teaching Expo", and the International Summit on the Use of AI in Learning and Teaching Languages and Other Subjects & Post-Summit Workshop Series jointly hosted with the Standing Committee on Language Education and Research and the Hong Kong Polytechnic University. The events will invite experts to share insights on I&T education (including the use of AI in teaching) to promote the integration of AI in education.

The EDB will actively align with the competencies and skills required by national and global trends. In close collaboration with stakeholders from various sectors, the EDB aims to strengthen basic education in primary and secondary schools. To dovetail the integrated development of "education, science and technology, and talent" advocated by our country, the EDB is committed to nurturing the next generation of innovators in science and technology.