

LCQ7: Advancing research and development of aerospace science and technology

Following is a question by the Hon Martin Liao and a written reply by the Secretary for Innovation, Technology and Industry, Professor Sun Dong, in the Legislative Council today (January 8):

Question:

Our country attaches great importance to the space industry, and the Chief Executive has proposed in the 2024 Policy Address to advance research and development (R&D) of aerospace science and technology. In this connection, will the Government inform this Council:

(1) given that the Government will set up a research centre under the InnoHK research cluster to participate in the Chang'E-8 mission, and that according to a paper of the China National Space Administration, the Chang'E-8 mission, scheduled to be launched in 2028, will take on five tasks with a plan to carry 14 science payloads, whether the Government has assessed the specific tasks under the Chang'E-8 mission to which contribution can be made by the research centre within a span of three-odd years; if so, of the details; if not, the reasons for that;

(2) as it has been reported that the "Hong Kong Youth Scientific Innovation" satellite jointly developed by the Chinese University of Hong Kong and ADA SPACE was successfully launched in Shandong in September last year, and that the "HKUST-FYBB#1" satellite developed by the Hong Kong University of Science and Technology was also successfully launched in 2023, there are views that while Hong Kong possesses strong scientific research capabilities, a comprehensive industry chain blueprint has yet to be formulated, and given the Mainland's rich aerospace resources, whether the Government has measures in place to promote co-operation between Hong Kong and aerospace cities in the Mainland, so as to give full play to Hong Kong's strengths in scientific research and contribute to the country's space industry through the transformation of co-operation results; if so, of the details; if not, the reasons for that; and

(3) as it has been reported that the country's first commercial aerospace industrial base with whole industry chain in Nansha of Guangzhou was completed in 2023 to help drive various industries involving R&D of aerospace power, R&D of satellite, rocket satellite measurement, etc, and that the Nansha New District has also promulgated measures known in short as the "nine principles for space exploration" focusing on promoting the high-quality development of the commercial space industry, whether the Government will introduce similar measures to promote the development of R&D of aerospace in Hong Kong; if so, of the details; if not, the reasons for that?

Reply:

President,

The consolidated reply in response to the questions raised by the Hon Martin Liao is as follows:

The Government has established the Hong Kong Space Robotics and Energy Centre (HKSREC) under the InnoHK Research Clusters to complete an international collaboration project appointed by the China National Space Administration's (CNSA) Lunar Exploration and Space Engineering Center (LESEC) and develop a multi-functional lunar surface operation robot (Multi-Functional Robot) with precise operation and wireless charging capability, which will play an important role in the Chang'E-8 mission.

The Multi-Functional Robot developed by the HKSREC will carry out tasks such as scientific exploration, instrument deployment and installation under extreme lunar environments. Equipped with a mobile wireless charger to charge various lunar surface equipment, the Multi-Functional Robot will enhance the capability of lunar exploration and co-operative operation, promote technological development in the field of deep space exploration and support the future construction of the International Lunar Research Station on the lunar surface to conduct scientific research. The CNSA will adjust the relevant details of the mission as necessary according to the actual situation.

The HKSREC is established by the Hong Kong University of Science and Technology (HKUST) in collaboration with the University of Hong Kong, the Chinese University of Hong Kong, the Hong Kong Polytechnic University and the City University of Hong Kong. The HKSREC will also collaborate with Mainland and overseas institutions, including the Shanghai Academy of Spaceflight Technology.

The CNSA's LESEC and the HKUST will co-lead a joint management team to review the technical programmes and the implementation plans and assess whether the research projects have achieved their respective technical milestones at each phase.

Moreover, in order to promote the development of Hong Kong's innovation and technology (I&T) industry, the Government encourages enterprises to set up new smart production facilities in Hong Kong, including making use of Hong Kong's advantageous I&T resources to develop innovative products and businesses. Deemed as one of the strategic emerging industries, the Hong Kong Special Administrative Region Government (HKSAR Government) has engaged with a number of Mainland enterprises in the aerospace industry, encouraging them to collaborate with Hong Kong's scientific research institutions to set up research and development centres in Hong Kong and to provide innovative services in the areas of data services and applications. We also welcome those enterprises to make good use of the relevant HKSAR Government support measures to assist them in developing business operations such as setting up production facilities and conducting testing in Hong Kong so as to inject new impetus into the development of Hong Kong's I&T industry.