

Mideast striving to become a space power

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LONDON: The recent memorandum of understanding between the Saudi Space Commission and the UK's Space Agency, which will see them develop a framework aimed at cooperation in the peaceful use of outer space, is the latest move in an ambitious regional space push.

Among those to get out in front on this is technology supplier SpaceChain, which added to operations in the UK and Asia with the March opening of an office in Abu Dhabi.

Its co-founder and Chief Commercial Officer Nick Trudgen told Arab News that the level of ambition in Saudi Arabia and the UAE was what drew the company to Abu Dhabi.

"We've always seen huge ambition in the UAE, and last year's Mars mission spoke to that, getting everyone's attention," he said.

"I was in Saudi two weeks ago when the MoU with the UK was signed, and they share this level of ambition, and it's coming from both the governments and the private sector as they look not to invest in their agencies but space itself," he added.

"We have projects in the UK and with the European Space Agency. They have more talent, more technical ability, but here (the Middle East) you feel they have more ambitious plans than what we're seeing in Europe."

The UAE became only the third country after the US and Luxembourg to lay legal foundations promoting the exploration and exploitation of what Goldman Sachs termed trillion-dollar asteroids.

The UAE's national point of contact for the Space Generation Council, Sahith Reddy Madara, told Arab News that deep-space asteroid-mining missions are in the works.

"When we talk about the UAE, it has developed an incredibly detailed near-term, medium-term and long-term strategy," Madara said.

"Mining is envisaged as a 20-year project, but before that we'll see satellite launches and further research missions."

This more immediate focus speaks to the belief of Ray Harris, emeritus professor of geography at University College London, who said those looking out to space ignore some central benefits that could be had by the region in its push for the cosmos.

"The Middle East making itself a player on the cultural side, the World Cup for instance, is part of a wider issue of education, research and training,"

he told Arab News.

“Space is a logical extension of this. Many countries around the world have had their own satellite missions, and Middle Eastern countries had been missing from this until rather recently, but now we’re seeing them make this push.”

While Harris questions the capacity to commercialize Earth observation, he does not rule out the possibility, noting one Saudi company having sought his help in monitoring whether an oil refinery was being developed in the most efficient manner.

“This is much quicker to achieve via satellite than checking on the ground,” he said. “And why isn’t remote sensing for environmental issues a mature sector? Few focus on monetizing satellites this way, but given the advances in the tech, with 31-cm pixel resolution, it can provide vital information on deforestation, river pollution, geological structures through which one can infer the location of oil, even monitoring major construction projects.”

Given the region’s financial clout, the wide range of environmental projects, and the dramatic price drops seen in satellite observation equipment and launch costs, Harris said the Middle East could be the one to make it work.

“And with their focus on the environment, this would further speak to government objectives to see their countries recognized for good global citizenship,” he added.

Trudgen concurs, saying SpaceChain already has a UAE-based partner conducting geo-data analysis on water security, and monitoring of ports and mangroves pointing to the potential benefits the region could find in targeting the remote sensing market.

But to really make a play of this, and the wider potentials offered by space, he said the region must not be complacent when it comes to the Janus-like reality of being an undeveloped market for the space industry.

This means countries can be nimbler in their approach to development, but it also means that in its burgeoning moment it is having to contend with an absence of domestic talent and the requisite levels of education.

“There aren’t the same number of high-quality universities (as in the West), so when it comes to a niche like space, it’s harder to find talent,” said Trudgen.

“I know they’re trying to upscale and build a potential workforce of engineers, and this is something they need to focus on to meet their ambitions.”

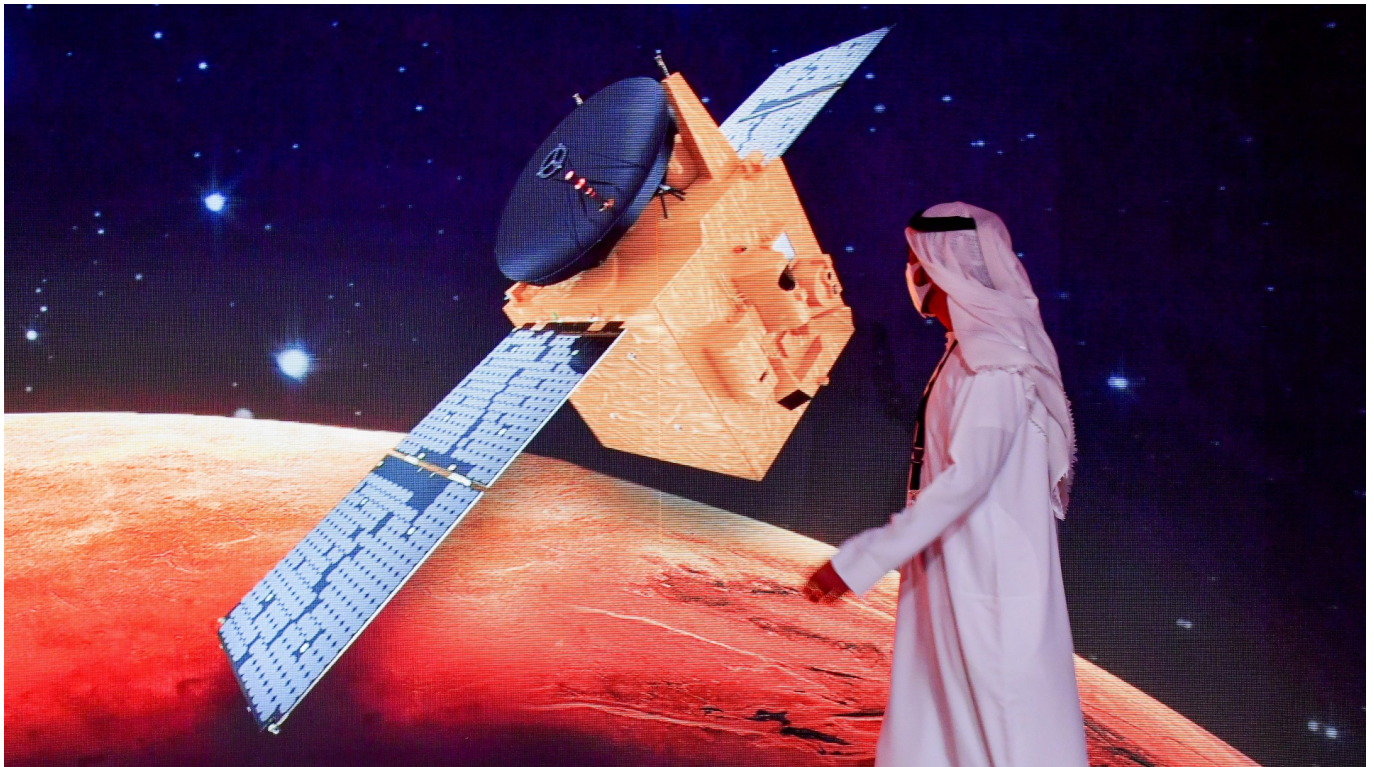
The SSC is all too aware of this, having founded scholarship programs to fund Saudi students’ attendance at the world’s best universities for space sciences and aerospace engineering.

Partnerships with the stalwarts of space are also assisting, with a NASA

spokesperson telling Arab News that it has partnered bilaterally and multilaterally with countries in the region.

Madara said: “The Middle East knows it can’t outsource everything, including education, and while the region may be sending its best and brightest to international universities, the aim is to learn from them and foster faith in domestic institutions through the production of high-quality research. They have centuries on us, but we have the ambition.”

This ambition is regionally endemic, and how far it can go will become clearer with the release of the Saudi space strategy, expected within the year, and Oman’s soon after.



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[Update on monitoring COVID-19](#)

vaccination

In the preceding week till 11.59pm on April 3, the Department of Health (DH) received 40 reports (Note 1) of adverse events following COVID-19 immunisation. No death case was reported by the Hospital Authority (HA) involving individuals who had received vaccines within 14 days before they passed away and had potential association with vaccination.

As at 8pm on April 3, around 15.25 million doses of COVID-19 vaccines had been administered for members of the public. Around 6.53 million people had received at least one dose of vaccine, including 92.2 per cent of the population aged 12 or above. The DH received 7 291 reports (Note 1) of adverse events (0.05 per cent of the total vaccine doses administered). Among the death cases concerning persons who had been vaccinated, including 94 cases (Note 2) with vaccination within 14 days before they passed away (0.0006 per cent of the total vaccine doses administered), none of the death cases was associated with vaccination.

As at April 3, the Expert Committee on Clinical Events Assessment Following COVID-19 Immunisation had concluded that 53 death cases had no causal relationship with vaccination, and preliminarily considered that 13 cases were not associated with vaccination. Twenty-eight cases are still pending further information for assessment. The Expert Committee considered that there is no unusual pattern identified so far, and will continue to closely monitor the relevant situation and collect data for assessment.

According to information from the HA, during the period from March 7 to April 3, the ratio of death cases out of those without a vaccination record was 686.2 cases for every 100 000 people, whereas the ratio of death cases for those with a vaccination record was 49.8 cases for every 100 000 people. Out of those without a vaccination record, the ratio of death cases with acute stroke or acute myocardial infarction was 16.2 cases for every 100 000 people, whereas the ratio of death cases under the same category for those with a vaccination record was 1.8 cases for every 100 000 people. Furthermore, the ratio of miscarriage cases out of those without a vaccination record was 71.8 cases for every 100 000 people, whereas the ratio of miscarriage cases for those who had a vaccination record was 9.7 cases for every 100 000 people. Based on the statistical analysis of the above figures, there is no evidence that vaccination increases the risk of death or miscarriage for recipients. The relevant reference statistics will be uploaded to the thematic website for the COVID-19 Vaccination Programme.

The majority of non-death cases of adverse events received so far are relatively minor cases. The relevant details can be found in the "Report on the Safety Monitoring of COVID-19 Vaccines in Hong Kong" (www.drugoffice.gov.hk/eps/do/en/doc/Safety_Monitoring_of_COVID-19_Vaccines_in_Hong_Kong.pdf).

"The current epidemic situation is still of grave concern, and death and severe cases involving children and elderly persons have been recorded.

Children and elderly persons are our focus of protection in vaccination. For elderly persons, the COVID-19 vaccination rate for the elderly aged 80 or above in Hong Kong is only around 58 per cent at present, meaning that 42 per cent of the elderly in that age group are in a dangerous situation, which is alarming. Among the over 8 000 death cases from COVID-19 infection cumulatively recorded in the fifth wave, nearly 90 per cent are elderly persons aged 70 or above, out of which nearly 90 per cent did not receive or only received one dose of vaccine. The Comirnaty and CoronaVac vaccines are highly effective in preventing severe cases and deaths from COVID-19. They can provide effective protection to those vaccinated in preventing serious complications and even death after infection. We call on members of the public who are not yet vaccinated, especially senior citizens, chronic patients and other immunocompromised persons who face a much higher chance of death after COVID-19 infection, to get vaccinated as early as possible for better self-protection. The latest research data from the University of Hong Kong also shows that receiving three doses of either the Comirnaty or CoronaVac vaccine is highly effective for preventing severe cases and deaths with over 90 per cent effectiveness. Members of the public who are currently eligible for a third dose should get the third dose as soon as possible. The minimum age for receiving the CoronaVac vaccine has been lowered to 3 years old, while the minimum age for receiving the Comirnaty vaccine is 5 years old. We call on parents to arrange vaccination for their children as early as possible for better protection," a Government spokesman said.

Note 1: Provisional figures. In the preceding week till 11.59pm on April 3, the DH did not receive any reports of suspected myocarditis or pericarditis involving adolescents in the age group of 3 to 15.

Note 2: In the preceding week till 11.59pm on April 3, the DH received seven death reports involving individuals who had received COVID-19 vaccination within 14 days before passing away. The cases involved five males and two females aged from 58 to 93. There is no clinical evidence that the incidents arose from vaccination.

[Update on monitoring COVID-19 vaccination](#)

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patients and other immunocompromised persons who face a much higher chance of death after COVID-19 infection, to get vaccinated as early as possible for better self-protection. The latest research data from the University of Hong Kong also shows that receiving three doses of either the Comirnaty or CoronaVac vaccine is highly effective for preventing severe cases and deaths with over 90 per cent effectiveness. Members of the public who are currently eligible for a third dose should get the third dose as soon as possible. The minimum age for receiving the CoronaVac vaccine has been lowered to 3 years old, while the minimum age for receiving the Comirnaty vaccine is 5 years old. We call on parents to arrange vaccination for their children as early as possible for better protection," a Government spokesman said.

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[LCQ17: Values education on national identity](#)

Following is a question by the Hon Tang Fei and a written reply by the Secretary for Education, Mr Kevin Yeung, in the Legislative Council today (April 6):

Question:

There are comments pointing out that the "anti-national education" incident, the illegal "Occupy Central" Movement and the illegal incidents of serious violence that took place in Hong Kong in the past all involved the participation of a large number of young students, reflecting that there was a serious problem with values education in Hong Kong. With the further implementation of "patriots administering Hong Kong" in Hong Kong, the Education Bureau (EDB) has introduced the Values Education Curriculum Framework, proposing to nurture in students 10 values, including "national identity", and encouraging schools to implement national education to help students learn about the country's Constitution, the Basic Law and the National Security Law for Hong Kong, etc. In this connection, will the Government inform this Council:

(1) of the specific measures adopted by the EDB for changing the situation

where national education cannot be fully rolled out in schools in the past; how it ensures that such measures are effective in reversing the seriously distorted values of students;

(2) whether the EDB has considered consolidating the learning elements relating to national education currently embedded in different subjects and teaching them as an independent subject, so as to resolve the problem of "fragmentation" of national education, thereby enabling students to receive national education in a more systematic manner and foster a stronger value of national identity; and

(3) how the EDB will further enhance national education, including whether it will design syllabuses and teaching contents that cater for the characteristics of students of different age groups, so as to elevate students' learning interest and sense of national identity?

Reply:

President,

Apart from school education, cultivating young people's positive values including respect for Chinese culture, national awareness and sense of belonging to the country also requires public education, family education, media education, as well as a patriotic atmosphere in society. A wide range of aspects is covered, including accurate understanding of our country's history and development, constitutional education on the Constitution and the Basic Law (BL), national security education (NSE), and media and information literacy to differentiate true information from false. Therefore, it is important that different stakeholders in our society should understand the complexity of the deviant values and behaviours displayed by some students, so that we can unite our efforts to reverse the situation. Broadly speaking, various bureaux and departments of the Hong Kong Special Administrative Region Government share the responsibility of promoting national education. In the school aspect, fostering students' sense of national identity has been a key learning goal of primary and secondary education in Hong Kong. Teaching by words and examples is important in values education. The influence of the words and deeds of teachers and parents should not be underestimated in shaping their children's values during their growing years.

Our consolidated reply to the Hon Tang Fei's question on school education is as follows:

(1) to (3) National education is an important component of values education in schools. It covers such areas as education on our country's development, Chinese history education, the Constitution and the BL, as well as NSE, which are closely interrelated. National education is integral to our school curriculum, and it is the responsibility of schools to implement it. With a "multi-pronged and co-ordinated" approach, the Education Bureau (EDB) has been adopting diversified and specific measures, including providing curriculum guides, developing learning and teaching resources, offering training for teachers, and organising life-wide learning activities for

students (e.g. Mainland exchange programmes for teachers and students) to support schools in promoting national education on all fronts. These efforts, together with holistic and systematic planning and promotion, enable schools to fully implement national education within and beyond the classroom, which helps increase teachers' and students' understanding of the country's development and foster their sense of national identity, national security awareness and positive values including law-abidingness and sense of responsibility.

Curriculum Guides

In 2021, the EDB launched the Values Education Curriculum Framework (Pilot Version), making it clear that it is necessary to nurture in students national awareness from an early age, helping them develop an accurate understanding of Chinese history, appreciate Chinese culture and traditional values, respect the national symbols and signs (including the national flag, the national emblem and the national anthem), and understand the importance of the Constitution, the BL and national security, so as to cultivate a sense of national identity among students and help them understand their responsibility to protect our country as Chinese nationals. The Framework also states that relevant learning elements are included in the key learning areas, relevant subjects, values education curriculum and life-wide learning activities, and provides specific examples for schools' reference to facilitate their planning of national education for students in a holistic and systematic manner.

In General Studies for primary schools, "National Identity and Chinese Culture" is one of the six learning strands, which helps students understand Chinese history, our nation and culture as well as the national development from an early age. As for secondary schools, the EDB has implemented the new junior secondary Chinese History curriculum, starting with Secondary 1 from the 2020/21 school year. The new curriculum, which has been implemented in Secondary 2 from the 2021/22 school year, enables students to learn about our country's history and development in a holistic and systematic manner. In parallel, learning contents on Chinese culture and Chinese geography will be continuously enriched under subjects like Chinese Language and Geography. The senior secondary Citizenship and Social Development (CS) has been implemented starting from Secondary 4 in the 2021/22 school year. The content of the CS curriculum is closely related to our country's development, enabling students to develop a comprehensive and accurate understanding of topics relating to our country's development, the Constitution, the BL and national security, thereby cultivating their sense of national identity.

In support of the implementation of NSE, a supplement on national security is incorporated into the existing standalone module on the "Constitution and the BL" at the junior secondary level. To facilitate the holistic planning of and whole-school involvement in promoting NSE in schools, the EDB issued the Curriculum Framework of National Security Education in Hong Kong and respective subject curriculum frameworks on NSE in 2021 for primary and secondary schools' reference. From the above, it can be seen that schools can promote national education through relevant subjects

and cross-subject curricula. The curriculum guides, including curriculum frameworks and teaching contents, are devised according to the characteristics and learning needs of students of different age groups. They provide reference for teachers to enhance students' interest in learning and their sense of national identity.

Learning and teaching resources

As an ongoing effort, the EDB has been providing a wider variety of learning and teaching resources on national education. These include "Teaching Resources on the Constitution of the People's Republic of China", online self-learning programmes on the BL, the audio picture book entitled "Let's Learn about National Security", online games, and the theme-based resources webpage of "Getting to Know the National Flag, the National Emblem, the National Anthem and the Regional Flag". Moreover, the newly developed "National Education One-stop Portal", which is a self-learning platform for students, incorporates themes such as the Constitution and the BL, NSE, national symbols and signs (including the national flag, the national emblem, the national anthem), Chinese history and culture, and museum learning to facilitate the use of relevant learning and teaching resources by teachers and students. Relevant learning and teaching materials are also provided for different subjects. Examples include the learning and teaching materials on Chinese classic literature and classic sayings for Chinese Language, resources webpage on the Constitution, the BL and NSE for General Studies for primary schools, a learning and teaching kit titled "China Goes Global" for Life and Society, "Learning and Teaching Materials on Guangdong-Hong Kong-Macao Greater Bay Area" for Geography, "Learning and Teaching Package on History of War in China" and "Discovering and Exploring Chinese Culture in Hong Kong – Field Trip Guide Book for Teachers and Students' Portfolio" for Chinese History, and the presentation slides and teaching exemplars on different topics for CS. All these have already been uploaded to the EDB's website to facilitate students' learning of national history and affairs.

Training for teachers

The EDB continues to arrange different modes of training activities for teachers, such as the Constitution and BL Knowledge Enrichment/Advanced Online Courses for teachers, Online Knowledge Enrichment Programmes on "Understanding Our Country" and "NSE", and workshops on national flag raising ceremony. Onsite Teacher Workshop on National Security Education, open for all teachers at all schools in the territory, was also held for all primary and secondary schools implementing the local curriculum. Starting from the 2020/21 school year, the core training programmes for newly-joined teachers, serving teachers and teachers aspiring for promotion have already covered contents pertinent to the Constitution, the BL and the National Security Law.

Life-wide learning activities

The EDB also organises diversified student activities on an ongoing basis to raise students' interest in learning about topics relating to our country, and enhance their sense of national identity. The activities include

the Inheritance & Innovation: School of the Year Award for Promoting Chinese History and Culture, Territory-wide Primary Schools Quiz Competition on Chinese History and Culture, Chinese Classic Sayings campaign, Territory-wide Inter-school BL Competition, Online Quiz Competition on the Constitution Day, Slogan and Poster Design Competition on National Security, Online Quiz Competition on National Security, as well as BL Student Ambassadors Training Scheme, under which thematic seminars, visits, and workshops on national flag raising ceremony are arranged for student ambassadors. The response to these activities was overwhelming. In addition, the EDB has compiled the "National Education – Event Planning Calendar" to facilitate schools in organising school-based national education activities on important days. Through the funding schemes under the Quality Education Fund (QEF), schools may apply for additional funding to organise school-based activities for enhancing students' sense of national identity. In November 2021, the QEF implemented enhancement measures for publicly-funded primary and secondary schools (including special schools) to apply for additional funding of not exceeding \$300,000 to conduct pertinent project activities for about 24 months for further strengthening of measures in promotion of national education and NSE.

Administration and Education Guidelines

In addition, the EDB has provided schools with detailed administration and education guidelines on safeguarding national security and promoting NSE. Schools are required to submit annual reports and work plans every year to report the implementation situations of measures on safeguarding national security and promoting NSE in their schools. The EDB continuously reviews the reports and plans submitted by schools, and monitors and provides support for implementation of relevant work through school visits and daily communication with schools. We will also hold sharing sessions to encourage professional sharing and experience exchanges among schools to enhance the effectiveness in planning and implementing measures to safeguard national security and promote NSE in schools.

All in all, the EDB has been stepping up the support to facilitate full implementation of national education in schools and the fostering of correct and positive values among students. The EDB reiterates that national education is a shared responsibility of all staff in schools and should be implemented in a holistic and integrated approach with participation of all school members. The EDB does not require schools to implement national education as an independent subject to avoid overlapping of learning contents in different subjects and giving out a wrong message that promoting national education is the sole responsibility of teachers of the subject concerned, which may discourage whole-school participation. At present, schools generally agree with the adoption of an integrated and holistic approach in the promotion of national education. Schools will also arrange diversified learning activities such as visits and exchange programmes, voluntary services and uniform groups to provide students with comprehensive and real-life learning experience to foster their positive values, attitudes and behaviours. Nevertheless, individual schools may choose to implement moral and national education as an independent subject under the current curriculum framework according to their school contexts. The EDB will share the

successful experiences of these schools for other schools' consideration.

To learn about our country, it is essential for teachers and students to gain first-hand experience, and exchange activities to the Mainland are, therefore, indispensable and important. Upon the ease of the epidemic situation and resumption of quarantine-free travel, the EDB will continue to organise Mainland exchange programmes for students, covering diverse themes and different destinations, and subsidise those organised by schools to enable students to gain first-hand experience of our country's rapid developments in such aspects as history, culture, economy, education, science and technology from multiple perspectives, deepen what they have learnt in class and enhance their sense of national identity. Schools may also restart exchange activities for their teachers and with their sister schools in the Mainland.

The EDB will continuously strengthen its support to schools in promoting national education at system level. School visits and inspections will also be conducted to shed light on and support the implementation of related work in schools, and to offer feedback for improvement. However, the implementation of national education at school level relies on holistic planning, active promotion, effectiveness evaluation and continuous refinement by school sponsoring bodies and school management. There are both empowerment and accountability in school-based management. Schools may promote patriotic education in school in ways they see fit. In parallel, the school management has the responsibility to understand and monitor its learning and teaching, the quality of the teaching materials used and the appropriateness of the student activity arrangements. The education sector in general acknowledges that teachers, as members of the teaching profession, should demonstrate professional accountability for the quality of teaching and be a role model for their students. From the above, it can be seen that national education does not only involve school education, but it also requires the consensus of all sectors, the creation of a conducive atmosphere and the concerted minds and efforts of different stakeholders to foster a strong sense of national identity among students.

Contacting ACOBA

ACOBA now operates a hybrid working model. We are contactable on our usual phone and email channels