> These retreats are so frequent that investors should rationally expect them
>
> ANALYST PAUL DONOVAN ON U.S. PRESIDENT DONALD TRUMP'S FITFUL STYLE OF NEGOTIATING OVER TARIFFS, WHICH HAS GIVEN RISE TO THE ACRONYM TACO – TRUMP ALWAYS CHICKENS OUT > CHINA A8

CHINA

SCIENCE

Tianwen-2 lifts off on key mission to bring asteroid samples back to Earth

Ling Xin
ling.xin@scmp.com

China has launched an ambitious mission to bring asteroid samples back to Earth – part of broader efforts to explore the solar system and make advances in planetary science, resource utilisation and defence.

The Tianwen-2 spacecraft lifted off aboard a Long March 3B rocket from the Xichang Satellite Launch Centre in southwest China at 1.31am Beijing time yesterday, according to the China National Space Administration.

> [It marked] the complete success of the launch mission
>
> CHINA NATIONAL SPACE ADMINISTRATION

"About 18 minutes after lift-off, the rocket placed the spacecraft into a transfer orbit from Earth to asteroid 2016 HO3. The spacecraft's solar panels deployed successfully, marking the complete success of the launch mission," the agency said on its website.

The spacecraft's first planned visit is asteroid 469219 Kamo'oalewa (2016 HO3) – a small quasi-satellite of Earth that scientists believe may be a fragment of the moon.

Tianwen-2 is expected to collect samples from its fast-spinning surface and return them to Earth in late 2027 via a re-entry capsule.

After that, the main spacecraft will use the Earth's gravity for a slingshot manoeuvre and begin a seven-year journey to comet 311P/PANSTARRS – an object in the solar system's asteroid belt, known for shedding dust in multiple tails.

Tianwen-2 will investigate the comet's orbit, shape, rotation, surface composition and dust activity.

If successful, the mission will make China the third country – after Japan and the United States – to return samples from an asteroid.

While China has previously returned moon samples during two Chang'e missions, an asteroid poses different challenges.

Given its microgravity environment, landing on 2016 HO3 would be more like approaching and docking – an operation that demanded entirely distinct engineering capabilities, said planetary scientist Dante Lauretta of the University of Arizona.

Lauretta is leading an international team of about 200 researchers studying samples returned by Nasa's OSIRIS-REx mission from asteroid Bennu, which landed back on Earth in September 2023.

He said Tianwen-2 would also need to ensure that pristine material was securely collected and returned.

When Lauretta's team discovered that Bennu's surface was extremely porous and fragile, they had to adapt their sampling approach in real time.

"If 2016 HO3 has a more consolidated or cohesive surface, it may present a different set of challenges in anchoring or in ensuring material is adequately captured and retained," he said.



The Tianwen-2 probe, atop a Long March 3B rocket, lifts off from the Xichang Satellite Launch Centre in Sichuan province. Photo: Xinhua

MILITARY

ROBOTS 'CONTINUE TO TRANSFORM NATURE OF WAR'

China's robotics sector is powering advantages on battlefield, combining tactical flexibility and strategic deterrence, PLA newspaper says

Yuanyue Dang
yuanyue.dang@scmp.com

Humanoid robots could "continue to transform humanity's perception of the future of warfare", according to an article in the official newspaper of China's military, which examined the advantages of cutting-edge technology on the battlefield.

The article, titled "What are the combat advantages of humanoid robots?", published yesterday in the People's Liberation Army Daily, said humanoid robots could "combine tactical flexibility and strategic deterrence in the era of intelligent warfare".

Referring to previous breakthroughs in robotics in the civilian sector, the commentary added that their bionic structure could adapt to "complex battlefield environments".

The article, published under the name Li Qi, did not disclose the author's title or credentials.

The commentary pointed to China's Tien Kung Ultra – a 1.8-metre robot that won the world's first half-marathon for humanoid robots in Beijing in March. It said the performance of the robot, developed by the state-backed Beijing Humanoid Robot Innovation Centre, also known as X-Humanoid, had proven the "advantages of a bipedal design in navigating battlefield environments such as ruins and staircases".

The article also mentioned an unnamed Russian robot that could shoot guns.

The author emphasised the "intelligent decision-making and autonomous combat capabilities based on artificial intelligence (AI) algorithms" of humanoid robots, praising their ability to assess the battlefield environment and thus "autonomously complete combat missions".

Humanoid robots could change "the formation and application of combat forces", for example by forming "intelligent formations" consisting of soldiers, humanoid robots and autonomous equipment, the article said, adding that such robots could also help soldiers move and shoot, or even act as "decoys" to draw enemy fire.

It also said the "humanlike appearance, autonomous movement capabilities and combat advantages far exceeding human physical limits" of humanoid robots could trigger "strong psychological deterrence".

Over the past two years, the PLA Daily has published several articles discussing the military applications of humanoid robots. A commentary last month suggested the robots could perform logistical tasks on the battlefield, such as delivering supplies, treating the wounded, and repairing equipment.

Humanoid robots sit at the intersection of AI, advanced manufacturing and embodied intelligence – areas critical to China's efforts to gain an edge in its competition with the United States.

Several Chinese companies have recently showcased highly flexible robots, boosting confidence in the technology, and Beijing is keen to consolidate China's early lead in the field.

Aside from the robotic half-marathon this year, China has also hosted a humanoid robot kickboxing competition with similar events planned in the future.

Currently, most humanoid robots deployed in real-world environments are found in industrial settings, such as logistics and manufacturing. Countries are competing to develop humanoid robots for military use, although large-scale deployment remains a distant prospect.

Beyond robotics, the Chinese military is also exploring the potential applications of AI on the battlefield. Articles in the PLA Daily have repeatedly emphasised the potential of AI to enhance the military's combat capabilities, including in decision-making, aircraft design, situational awareness and combat coordination.

Military equipment suppliers have begun promoting products that incorporate AI large language models.

In partnership with: DBS Foundation

How DBS drives changes with lasting impact for Hong Kong's ageing population

DBS bank and its Foundation work with local partners to offer under-privileged improved long-term health and financial resilience

Hong Kong officially became a "super-aged society" last year – a designation by the World Health Organization for places where more than 20 per cent of the population is aged 65 or older. The city crossed that threshold with 22 per cent of its residents over 65.

By 2050, the United Nations predicts this figure will climb to 40.6 per cent – giving Hong Kong the world's highest proportion of people over 65, ahead of South Korea and Japan.

This demographic shift presents challenges, from a shrinking workforce to pressure on healthcare and social systems. But Singapore-headquartered DBS Bank sees these changes not only as challenges but also as opportunities to support solutions that meet urgent social needs.

"At DBS, we manage our business in a balanced and responsible way," says Sebastian Paredes, DBS' head of North Asia and CEO of DBS Bank (Hong Kong). "In addition to supporting businesses, we aim to support and create long-term value for local communities and people – for their lives and livelihoods. This is more critical than ever, given the growing uncertainty the world is facing.

"I believe businesses here have a crucial role in reshaping societal mindsets around ageing, hence we look to realise opportunities that increase health spans in tandem with lifespans."

At the heart of these efforts is the DBS Foundation, the bank's social impact arm. Over the past decade in Hong Kong, the Foundation has awarded more than HK$75 million (US$10 million) in grants to 35 social enterprises and NGOs, and launched seven multi-year community programmes reaching over 430,000 underprivileged individuals. It has also encouraged DBS staff to contribute more than 170,000 volunteer hours through its People of Purpose initiative.



Sebastian Paredes, DBS' head of North Asia and CEO of DBS Bank (Hong Kong), says businesses must help to change the way society thinks about ageing as populations grow older. Photo: SCMP



Business and social enterprise leaders explore collaborative solutions to challenges posed by ageing populations at the DBS Foundation's GBA Impact Beyond Dialogue 2025 forum last month. Photo: DBS

Supporting an ageing population

As the Foundation marks its 10th anniversary, it is strengthening its support for Hong Kong's ageing population. Its Impact Beyond Award launched across the region last year with a prize pool of S$3 million (US$2.3 million) and a focus on "The Future of Ageing in Asia", spotlighting business-led solutions to ageing-related challenges including health, nutrition, digital literacy and financial resilience.

In Hong Kong, the Foundation partnered with the Hong Kong Council of Social Service to launch two programmes for vulnerable communities. SilverConnect helps older adults access digital healthcare and social services from their homes or residential facilities. The programme aims to improve the long-term health of more than 52,000 people, including carers. In the Treasure Wealth, Treasure Love programme, DBS volunteers work alongside social workers to deliver workshops, group activities and personalised coaching to build lasting financial resilience.

"Treasure Wealth, Treasure Love is a family financial education initiative that we believe is much needed for low-income families," Paredes says. "As the market and economy become more volatile, access to financial literacy is increasingly important for many families. We estimate that about 46,000 people will benefit; it's something we're very excited about."



DBS volunteers help students improve their financial knowledge so they can avoid risks, such as scams, as part of a DBS Foundation programme. Photo: DBS

Driving opportunity for the 'silver' economy

DBS also sees potential in the "silver" economy – the growing market shaped by people over 50 and their evolving needs. Through its wealth management services, the bank offers products to support financial security in later life.

Paredes notes the importance of adjusting financial strategies over time, explaining that banks need to evaluate each investor's risk appetite and stage of life. As individuals age, a more conservative approach becomes important to safeguard their assets. This creates significant opportunities for businesses operating in the silver economy.

Local social enterprises supported by DBS Foundation Grants are contributing to this initiative. The Project Futurus promotes "dignified dining" with "soft meal" solutions for seniors, while Motive Force is transforming rehabilitation and exercise for all ages and abilities. Both were among 22 Asian businesses that received a DBS Foundation Grant in 2024, totalling S$4.5 million.

> As Hong Kong continues to evolve, DBS remains steadfast in its mission to build a better world where every individual, regardless of age, can thrive
>
> **Sebastian Paredes, DBS' head of North Asia and CEO of DBS Bank (Hong Kong)**

Knowledge helps navigate investment risks

DBS also prioritises equipping the public, especially the elderly, with the knowledge to navigate financial risks. The bank continues to upgrade its technologies to protect customers against scams.

"Financial scams are a serious concern," Paredes says. "We play a major role in helping our customers and the community protect themselves. At DBS, we invest substantial resources and systems to detect and track fraud, and we raise awareness through campaigns – not just among our customers, but also the public and beneficiaries of our community programmes."

Through these efforts, DBS is addressing the immediate challenges of an ageing population and fostering a more inclusive, resilient future for Hong Kong.

"As the city continues to evolve, DBS remains steadfast in its mission to build a better world where every individual, regardless of age, can thrive," Paredes says.

MorningStudio

Printed and distributed by NewspaperDirect
Copyright© 2023, South China Morning Post Publishers Limited
COPYRIGHT AND PROTECTED BY APPLICABLE LAW