



# Science and Technology Daily

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## Observer

### U.S. Tariff Tactics Draw Strong Criticism

By Staff Reporters

U.S. President Donald Trump's declaration of "reciprocal tariffs" has threatened the very foundations of the post-World War II global trade system. Ostensibly designed to rectify "trade imbalances," this announcement has emerged as a textbook case of economic self-sabotage. It has plunged U.S. businesses and consumers as well as the global economy into turmoil. From Wall Street to households, multinational corporations to small businesses, the costs of this trade war are becoming increasingly apparent.

#### Flawed logic at heart of announcement

The Trump administration's tariff methodology has drawn sharp criticism, with financial and economic experts pointing out that the "reciprocal tariffs" formula — dividing the U.S. trade deficit with a country by its exports to the U.S., and then halving the result — simplifies trade imbalances.

In fact, the United States Trade Representative's report explicitly stated at the outset that its methodology calculation "assumes that persistent trade deficits are due to a combination of tariff and non-tariff factors that prevent trade from balancing." The U.S. think tank Peterson Institute for International Economics commented that this represents a fundamentally flawed assumption, suggesting that the Trump administration did not make a genuine effort to quantify the actual magnitude of existing trade restrictions.

As American billionaire businessman Kenneth Langone, bluntly stated in a *Financial Times* interview: "I believe [Trump's] been poorly advised by his advisers about this trade situation — and the formula they're applying."

#### Corporate collateral damage and supply chain disruptions

The tariff has struck U.S. enterprises and caused upstream costs to surge and downstream demand to diminish, disrupting the production chain.

Take Apple as an example. Morgan Stanley estimates that the tariffs could add approximately 8.5 billion USD annually to Apple's costs. Reuters reported analysts warning that the U.S. retail price of Apple's latest phone model, the iPhone 16 ProMax, might jump from the current 1,599 USD to 2,300 USD if Apple shifts all tariff costs to consumers.

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## New Graphic



WECHAT ACCOUNT



E-PAPER



China's icebreaker Xuelong has completed its 41st Antarctic expedition, marking the end of a mission that involved the construction of the Qinling research station and climate change research. (PHOTO: XINHUA)

## Innovation Frontier

### Innovation Advances Marine Power Development

By LIN Yuchen

China's energy law attaches great importance to the development of marine energy, such as tidal, wave and ocean thermal energy. The country is poised to promote the large-scale development and utilization of marine energy.

What is the current status of marine energy development? How to overcome the bottlenecks in developing marine energy? To explore these issues, *Science and Technology Daily* visited the Zhoushan archipelago, the region with the richest tidal current energy resources in China.

#### Energy with greater efficacy

"Marine energy is a crucial component of the renewable energy landscape," said Wang Ji, a staff at the National Ocean Technology Center. "It is clean, highly predictable, and can be locally

consumed, making it ideal for coastal and island regions."

Wang gave the example of tidal current energy, which is generated by the horizontal movement of seawater under the gravitational influence of the moon and sun. Devices can be submerged directly into the water channels with strong currents due to their coastal geography, making them ideal for high-yield power generation.

Compared with new energy sources such as wind power and solar energy, tidal current energy has stronger stability and predictability. Wang said this characteristic also facilitates the deployment and construction of tidal current energy facilities, improving resource utilization.

Marine energy is not only an essential supplementary energy source, but also an important alternative energy

source for island regions with limited land resources. "Developing marine energy will help address power shortages in the eastern coastal areas, remote islands and offshore facilities, while also supporting the broader transition to a new energy system," Wang said.

#### Technological breakthroughs at the forefront

Today, many enterprises are developing advanced systems in the waters between Zhoushan's Putuoshan Island and Huludao Island.

The offshore tidal energy generation and testing platform established in this sea area is China's first public, open national-level tidal energy test site with both testing and demonstration functions. It integrates tidal energy generation and testing, offshore boosting, maintenance and other functions.

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### China's Blueprint to Build Lunar Base

By WANG Xiaoxia

China will launch the Chang'e-8 probe around 2028 to carry out experiments on lunar resource utilization and by 2035, along with the Chang'e-7, the probe will constitute the basic model of an international lunar research station, according to the China National Space Administration (CNSA).

In the herculean task of building a lunar base, selecting the site and getting building materials are the key factors. Generally, the site has to meet four basic criteria: It should be as flat as possible to facilitate safe landing of spacecraft; it has to be convenient for direct communication with Earth; it should be

comparatively less affected by the alternation of day and night on the moon, enjoying sufficient sunshine for a long time; and finally, there should be abundant water and ice resources nearby.

Considering all these conditions, it is ideal to build the base near the poles of the moon.

To minimize transportation and maintenance costs, construction materials should be developed from in-situ lunar resources and ensured that they are reliable and durable. Energy consumption and operating costs while preparing the materials should be kept low. In short, breakthroughs in energy supply and material performance are needed.

Accordingly, China plans to launch

the Chang'e-7 mission around 2026 to explore the environment and resources of the south pole of the moon. The Chang'e-8 mission will conduct experiments for in-situ utilization of lunar resources.

China has developed the world's first lunar soil brick-making machine using in-situ resources, or lunar regolith, said Wu Weiren, the chief designer of China's lunar exploration program. The machine can gather solar energy and transmit it to the lunar soil through optical fibers. Under strong sunlight, the lunar soil can melt at a temperature of 1400-1500 degrees Celsius, and then be used to 3D print bricks of various sizes.

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### Chinese Tech Boosts Gambia's Rice Yield

## International Cooperation

By Staff Reporters

Last year, Musa Darboe, a Gambian farmer, delivered the rice he had grown to the Longping Rice Museum. Thanks to China's hybrid rice technology, Darboe's community has overcome hunger.

For a long time, due to outdated agricultural techniques, low mechanization levels, and small-scale rice farming, the Gambia relied heavily on rice imports.

"In the Gambia, you cannot live without rice," said Darboe. Originally an engineer in the U.S., Darboe returned to the Gambia in 2018 to manage the farm left by his father.

With no formal training, Darboe planted three hectares of rice in his first year, but when harvest season arrived, it was accompanied by heavy rains. His farm still used traditional methods like threshing rice manually using an oil barrel. Many rice grains sprouted due to prolonged soaking in rainwater, leading to significant losses.

At this critical moment, he met Huang Zhi, country manager of Longping High-Tech, a Chinese agricultural company. Huang and his team were in the Gambia for agricultural cooperation. They provided hands-on training, introducing modern farming techniques and specialized machinery such as rice transplanters and harvesters.

Darboe's farm continues to see annual improvements in both production and management. Huang's team now plans to introduce even more advanced machinery, including drone sprayers and grain dryers. Inspired by Darboe's progress, other private farm owners are also shifting toward mechanized farming.

Looking ahead, Huang and his team aim to expand hybrid rice breeding and trial planting in the Gambia. They plan to extend skill training beyond agricultural technicians to include university students and young professionals. Additionally, they are developing an online platform to integrate local training with Chinese expertise, making education more accessible.

In 2024, the Gambia's rice production surpassed 48,000 tonnes. "We have never achieved such a yield before, which shows that Gambian agriculture is improving. Development partners like China have played a crucial role," said Gambian Minister of Agriculture Demba Sabally.

He emphasized that innovations in infrastructure and the introduction of high-yield agricultural technologies by Chinese teams were instrumental in reaching this milestone.

## WEEKLY REVIEW

#### Shenzhou-19 Crew to Return to Earth

China's Shenzhou-19 crew, after spending over 150 days aboard the China Space Station, is set to return to Earth around May 1. The crew, including astronauts Cai Xuzhe, Song Lingdong, and Wang Haoze, conducted a series of scientific experiments during their mission.

#### Quantum AI Model Achieves Milestone

The Anhui Quantum Computing Engineering Research Center announced the successful global first run of a billion-parameter AI model fine-tuning task on China's superconducting quantum computer "Benyuan Wukong" on April 7. The experiment demonstrated an 8.4 percent improvement in training results.

#### World's Smallest Pacemaker Developed

A groundbreaking pacemaker, smaller than a grain of rice, has been developed by scientists of Northwestern University, the U.S. This tiny, wireless device requires no external power and can effectively regulate heartbeats in animal models and human heart tissue.

#### 'Moon Dust' Powers Solar Cells for Space Probes

A team from Potsdam University in Germany has created a new type of solar cell using simulated moon dust, addressing the energy supply challenges of space exploration. The new solar cells are not only highly efficient but also more resistant to radiation than their Earth-made counterparts.