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## China, U.S. Set Out New Vision for Ties

In a meeting closely watched by the world, Chinese President Xi Jinping and U.S. President Donald Trump on Thursday agreed on a new vision of building a constructive bilateral relationship of strategic stability.

The new vision will provide strategic guidance for China-U.S. relations over the next three years and beyond, Xi said when holding talks in Beijing with Trump.

Xi defined the nature of "constructive strategic stability" as a positive stability with cooperation as the mainstay, a sound stability with moderate competition, a constant stability with manageable differences, and an enduring stability with promises of peace.

Trump said he will work with Xi to strengthen communication and cooperation, properly handle differences, and make bilateral relations better than ever before.

Both leaders agreed that China-U.S. relations are the most important bilateral relationship in the world today.

"Looking back at the course of China-U.S. relations, whether or not we could have mutual respect, peaceful coexistence, and win-win cooperation is the key to whether the relationship can advance steadily," Xi said at Thursday's welcome banquet for Trump.

"We must make it work, and never mess it up," Xi said, adding that both China and the U.S. stand to gain from cooperation and lose from confrontation.

### New impetus for cooperation

During the two leaders' formal talks, Xi spoke of the latest round of trade talks between Chinese and U.S. officials, lauding the "generally balanced and positive outcomes."

"This is good news for the people of the two countries and the world," he said, calling on the two sides to sustain the good momentum that they have worked hard to create.

The Ministry of Commerce said on Thursday that China is ready to work with the U.S. to continuously expand the list of cooperation and shorten the list of problems.

In his trip, Trump was accompanied by top U.S. executives, including Apple's Tim Cook, Nvidia's Jensen Huang and Tesla's Elon Musk, whom he called outstanding representatives from the U.S. business community.

"They all respect and value China. I strongly encourage them to expand cooperation with China," Trump said. The business leaders said that the successful meeting between Xi and Trump has injected new impetus into bilateral economic and trade cooperation and provided certainty for the world economy.

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China's first offshore mobile multi-function operations platform, Offshore Oil 283, departed Qingdao on May 14 under the escort of multiple tugboats, heading for the Bohai oilfield in north China. (PHOTO: XINHUA)

## STI Frontier

# Smart Auto Manufacturing Driven by 'Data+AI'

By LU Zijian & YANG Lun

Data and AI-driven reform now spans the entire auto operation process of industry giant China FAW Group Co., Ltd. This was made abundantly clear at the 9th Digital China Summit held in Fuzhou, southeast China's Fujian province in late April, when the company displayed its latest achievements in the digital and intelligent transformation of auto manufacturing.

In a traditional auto manufacturing system, a large amount of data is separated into isolated information silos. To deal with such sophisticated data issues, FAW developed an Enterprise Operation Agent (EOA).

Men Xin, assistant to the general manager of FAW and manager of the system digitalization department, said the EOA aims to build an intelligent opera-

tion hub that independently perceives, makes decisions, executes and evolves. The hub utilizes data, models and agents to optimize the enterprise's full value chain administration dynamically.

In the Fanrong plant area of the FAW Hongqi Manufacturing Center in Changchun, northeast China's Jilin province, orders for customized automobiles enter the production scheduling process according to production orders automatically generated by the system. Driven by data, production organization, process control and quality management operate in a highly efficient and coordinated manner.

The credit for such smooth operation should be given to "digital staff." Driven by the intelligent operation hub, manual approval steps have been reduced by 60 percent, the R&D and production cycles have been significantly

shortened by 50 percent, and manufacturing costs have dropped by 40 percent.

The production plan administrator is the enterprise's "digital staff No.001," and there are 20 such "digital staff" members now. The enterprise has realized the intelligentization of 23 key decisions with the help of these "digital staff."

AI has also been integrated into the entire process of FAW's auto R&D and production. The company has compiled a methodology of digital and intelligent transformation that reorganizes the business logic via "data+AI."

On the R&D side, FAW developed GPT-Code, a code generation AI application that can assist tasks like functional testing, code commenting, and the automatic generation of front-end code from prototypes, cutting the coding time by 50 percent.

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# Physical AI Moves from Simulation to Reality

By Staff Reporters

For a humanoid robot, trying to sink a basketball shot is not as simple as it seems to a human athlete. It requires countless hours of fine-tunings and calculations by engineers before the mechanical arm can drop the ball through a hoop.

Fortunately, the wide gap between virtual simulation and real-world execution is closing fast, driven by the advancement of homegrown technology. This breakthrough arrives as China's 15th Five-Year Plan (2026-2030) prioritizes foundational AI research and technology transfer.

### First differentiable physics engine

In this case, the innovation comes

from Fysics, China's first differentiable physics engine, developed by Fysics AI in collaboration with Fudan University.

Unlike traditional physics engines that only simulate forward motion, Fysics is differentiable — meaning it can calculate errors and backpropagate corrections.

"Traditional physics engines are like one-way streets," said Zhang Lihua, former key contributor to NVIDIA's PhysX engine and now head of the team behind Fysics. "They can simulate movement but cannot tell you where the errors came from."

If a robot misses a basketball shot, Fysics analyzes whether the force was

too strong, the angle was off, or the timing wrong. The robot then adjusts autonomously, without tedious real-world trial and error.

### Solving the 'sim-to-real' bottleneck

Zhang calls physical AI "the only path for AI to move from the virtual to the real world."

Fysics combines a unified multi-material solving framework with high-precision contact resolution. This allows robots to learn precise manipulation with minimal trial and error, overcoming the sim-to-real transfer challenge that has long plagued embodied AI, humanoid robotics, autonomous driving, and industrial digital twins.

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## International Cooperation

# China's Icebreaker Xuelong 2 Bolsters Sci-tech Exchanges

By WANG Xiaoxia & BI Wenting

China's 42nd Antarctic scientific expedition, using the icebreaker Xuelong 2 (Snow Dragon 2), includes an autumn joint voyage in Prydz Bay to explore the mysteries of Antarctic ecology and global climate change. The joint voyage consists of international scientists from five other countries, such as India, South Korea and Australia. They shared their insights with the *Science and Technology Daily* reporter onboard.

### A precious opportunity

"As an oceanographer, I had always wished to board Xuelong 2," said Youngju Lee, a senior researcher from the Korea Polar Research Institute (KOPRI). Lee was aiming to clarify the community structure and biomass of phytoplankton in the Prydz Bay during the transition from autumn to winter.

Generally, Antarctic scientific research activities are conducted in summer. Consequently, there is a knowledge gap about the ecosystem during the transition from autumn to winter.

Millie Goddard-Dwyer, a researcher from the Institute for Marine and Antarctic Studies at the University of Tasmania, Australia, said this expedition offered a rare opportunity to conduct experiments in autumn, when historically, sampling data is severely insufficient.

Dwyer worked closely with Chinese expedition member Ying Yiping, sharing live samples of Antarctic krill, which are extremely difficult to catch. She called on young scientists to seek cooperation with countries like China that have advanced platforms.

### A collaborative research platform

In Xuelong 2's mobile international laboratory, scientists of different nationalities and backgrounds worked in close collaboration, building an efficient "cooperation chain."

Lee said under the guidance of Professor Zhou Meng, chief scientific advisor of the joint voyage, and with the assistance of experts from multiple countries, she successfully observed the large-scale ice algae bloom in Prydz Bay. Chinese scientists were always ready to help make the research proceed smoothly, she said.

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## WEEKLY REVIEW

### China Leverages Space Tech to Meet Climate Goals

China sent a greenhouse gas monitoring payload to the Chinese space station by the Tianzhou-10 cargo spacecraft on May 11. The device can measure carbon dioxide and methane concentrations at key emission sources across the globe's mid- to low latitudes. This will provide reliable, accurate, and high-frequency data to support greenhouse gas monitoring, reporting and verification.

### Chang'e-6 Samples Reveal Asteroid Bombardment Secrets

Chinese scientists studying Chang'e-6 lunar samples have discovered a major shift in asteroid impacts on the Earth-moon system 4.3-2.8 billion years ago, from non-carbonaceous to carbonaceous asteroid dominance.

### New Mars Helicopter Exceeds Speed of Sound

NASA's next-generation Mars helicopters have broken the sound barrier. During recent tests, the rotor blades for the upcoming SkyFall mission (to send next-generation helicopters to Mars) reached the speed of Mach 1.08 in a simulated Martian atmosphere.

### Antarctic Sea Ice Decline May Accelerate Global Warming

A cascade of ocean and atmospheric changes has driven a rapid decline in Antarctic sea ice since 2015, which could accelerate global warming, new research has revealed. The study found a "triple whammy" of interacting climate processes tipped the Southern Ocean into a new state, according to a statement from Australia's University of New South Wales released on Monday.

## New Graphic

IN Q1 2026

### China's smartphone output

298 million units  
▲ 6.9% y-o-y

### Service robots output

4.4 million units  
▲ 2.6% y-o-y

Source: Ministry of Industry and Information Technology  
Designed by SONG Ziyao / Science and Technology Daily

WECHAT ACCOUNT



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