Partnering with China, Partnering with Innovation

Voice of the World

By LI Linxu

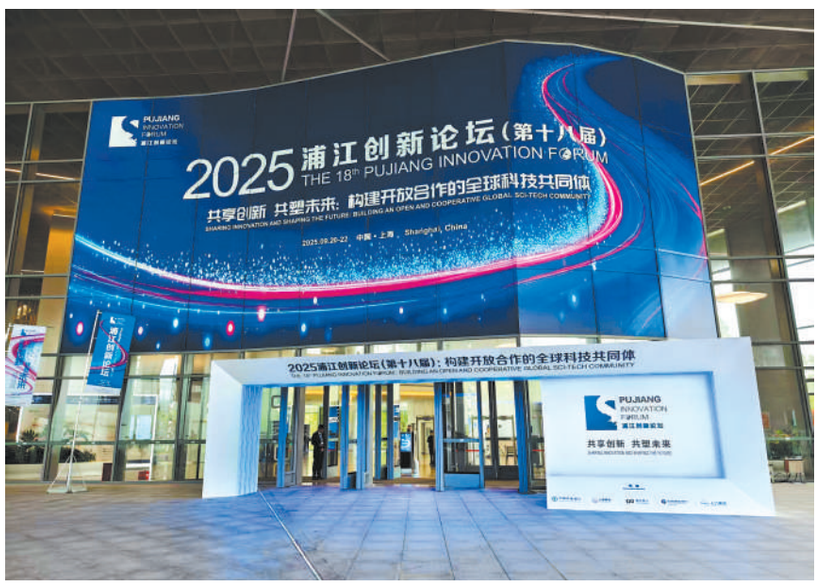
China stands ready to work with all countries to jointly build a global community of science and technology and create a better future together, Chinese Vice Premier Liu Guozhong said at the opening ceremony of the 2025 Pujiang Innovation Forum (PIF) in Shanghai on September 20.

The theme of this year's forum, "Sharing Innovation and Shaping the Future: Building an Open and Cooperative Global Sci- tech Community," were applauded by the participants.

Co-hosted by China's Ministry of Science and Technology and the Shanghai municipal government, this year's PIF, held from September 20 to 22, brought together more than 500 guests from 45 countries and regions. PIF, now in its 18th year, reached a new record both in scale and the number of attendees.

This year's agenda encompassed the opening ceremony, the main forum and 30 thematic forums, alongside five key events: the InnoMatch Expo, the We-Start 2025 Entrepreneurial Capital Conference, a young scientists' symposium, a seminar for high-end international talents, and the closing ceremony of the China-Belarus Sci-Tech Innovation Year.

"In the modern world, innovation knows no boundaries, and innovation is born out of collaboration," Belarusian First Deputy Prime Minister Nikolai Snopkov said, citing the China- Belarus Great Stone Industrial Park, the largest joint venture project between China and Belarus, as an example.



The 2025 Pujiang Innovation Forum is held in Shanghai from Sept. 20 to 22. (PHOTO: LI Linxu/Science and Technology Daily)

Belarus was the guest country of honor of this year's forum. The China-Belarus Science, Technology, and Innovation Cooperation Achievements Exhibition held during the forum showcased the outstanding results and innovative progress of bilateral sci-tech cooperation.

The list of joint projects continuously running on the electronic screens in the exhibition hall vividly demonstrated the fruitful outcomes of China- Belarus sci- tech innovation cooperation. The China- Belarus Joint Lab for Animal Disease Prevention and Control is one of the joint projects.

The joint lab's deputy director Li Tao said both China and Belarus are major agricultural countries that face threats from animal and plant diseases. Through the joint lab, the two sides are focusing on cooperation in disease prevention and control, beneficial biological resource utilization, and antimicrobial resistance management, driving breakthroughs in key technologies to enhance food security and agricultural supply.

Endorsing the concept of building an open and cooperative global sci-tech community, Sergei Shlychkov, chairman of the Belarusian State Committee for Science and Technology, expressed his anticipation of further strengthening science, technology, and innovation cooperation with China: "By the next exhibition, our collaborative achievements will be even more fruitful."

The InnoMatch Expo, a cornerstone of the forum, released 10,000 technology demand listings globally, with enterprises committing over 20 billion RMB in investment. It also announced 2,000 talent vacancies, and more than 80 cutting-edge products and experiential scenarios made their debut.

"Addressing global challenges like the energy crisis demands international collaboration to forge sustainable solutions," remarked Luo Delong, deputy director-general of the International Thermonuclear Experimental Reactor (ITER) Organization. "A thriving community is built on mutual trust and shared benefits," Luo called the ITER a microcosm of the global sci-tech community, where researchers across nations converge to propel fusion energy development.

The forum has a limited duration, but cooperation knows no bounds. Many exhibitors and visitors said partnering with China means partnering with innovation, and partnering with opportunity.

"Building an open and collaborative sci- tech community is about trust, shared growth, and long-term value creation," said Chloe Tan, Head of Asia of the Founders Forum, adding that this year's PIF theme signals a commitment to global partnerships, where investors can not only back frontier innovation but also be part of a trusted ecosystem that helps scale those technologies responsibly across borders.

"Connection, collaboration, even clash of opinions, are the essence of the PIF's charm," Mert Orhan Astam, CEO of HaptonTech, a startup in the Netherlands, said.

Opinion

China Leads in Climate Action, Green Shift

By LIANG Yilian

A recent State Council report, submitted to the Standing Committee of the National People's Congress of China for deliberation, detailed substantial progress in achieving the country's carbon peak and carbon neutrality goals. The report underscores China's rapidly expanding renewable energy capacity, sustained declines in carbon intensity, and growing role in supporting global climate action through both domestic achievements and international cooperation.

Data reveals that China has established the world's largest and fastest-growing renewable energy system, along with the most comprehensive new energy industrial chain. The total installed capacity of wind and solar power and forest stock have already met the 2030 nationally determined contributions targets ahead of schedule. From 2012 to 2023, China's carbon dioxide emissions per unit of GDP decreased by over 35 percent. These figures demonstrate the substantial progress China has made in synergizing high-quality economic development with green transformation.

Energy structure transformation is central to achieving the "dual carbon" goal. China has made consistent progress in its energy revolution, continuously increasing the share of non-fossil energy consumption, while systematically reducing the share of coal consumption.

Currently, China leads the world in installed wind and solar power capacity, with accelerating developments in hydrogen energy and new energy storage technologies. These developments have not only made a huge dent in carbon intensity but have also contributed greatly to the global scaling and cost reduction of new energy technologies.

China's national carbon emissions trading market, now the largest of its kind in the world, has become a pivotal mechanism for incentivizing emission reductions among power producers and soon to expand industrial sectors. Concordantly, large-scale afforestation and ecological conservation programs have significantly increased carbon sinks. China now accounts for one-quarter of the world's new green area, with forest stock volume exceeding earlier projections.

In addition to domestic initiatives, China has actively engaged in climate focused South- South cooperation. It has signed 53 memoranda of understanding with 42 developing countries, supporting projects that include low- carbon demonstration zones, disaster- resistant agriculture, and climate adaptation infrastructure. These initiatives highlight the fact that China is taking proactive domestic measures, while also being a cooperating partner aiding other nations.

Despite the achievements, challenges remain. Key tasks ahead include transforming energy- intensive industries, improving grid flexibility to accommodate renewable intermittency, and fostering green technological innovation. The intensive decarbonization of steel, cement, and chemical sectors will require both policy precision and market incentives.

China's "dual carbon" journey is not only integral to its own sustainable development, but also a critical practice in building a global community with a shared future. Within the multilateral process of global climate governance, China continues to demonstrate leadership and responsibility, injecting confidence and momentum into collective efforts to address global climate change.

WCBR Promotes Sustainable Future for People and Nature

By LU Zijian & LU Chengkuan

The Fifth World Congress of Biosphere Reserves (WCBR) to advance global biodiversity protection and sustainable development was held in Hangzhou, Zhejiang province in east China, from September 22 to 25. Held in Asia for the first time, it was the most widely attended gathering of UNESCO member states, bringing together nearly 4,000 representatives from more than 150 countries.

The UNESCO Man and the Biosphere (MAB) Programme, established in 1971, promotes the sustainable management of biodiversity and human- nature interactions through the World Network of Biosphere Reserves.

UNESCO convenes the WCBR every 10 years to evaluate progress, share experiences and set future directions for the MAB Programme. The last WCBR was held in Lima, Peru in 2016, where the Lima Action Plan (2016- 2025) was adopted.

China joined the MAB Programme in 1973 and established the Chinese National Committee for MAB Programme (MAB China). The Chinese Academy of Sciences (CAS) in Beijing, where the secretariat of MAB China is located, collaborates with others to advance the protection work through the Chinese Biosphere Reserves Network, achieving significant results.

The construction of national parks and national botanical gardens and implementation of wildlife protection programs has led to stable increase in a large batch of rare and endangered species populations, such as pandas, Tibetan antelopes and Yangtze finless porpoises, and their habitats have been improved.

Wang Ding, secretary general of MAB China, said strengthening biosphere protection is critical not only for global ecological security, but for the sustainable development of human beings. China has 34 nature reserves recognized as UNESCO biosphere reserves, ranking first in Asia. These nature reserves have become key platforms for frontier exploration and international cooperation in biodiversity protection, ecosystem maintenance, sustainable utilization of natural resources and coordinated development of protection zones and communities.

The construction and development of biosphere reserves not only provides crucial application scenarios for new ideas, new technologies and new products, but also establishes key platforms for countries to jointly strengthen cooperation in ecological protection and realize common sustainable development, CAS President Hou Jianguo said at the conference.

In order to deepen sci-tech cooperation and better empower the construction of biosphere reserves, Hou suggested promoting joint research in key areas, strengthening the joint construction and sharing of basic capabilities, and extending technological application scenarios unitedly.

Guo Huadong, a CAS academician, proposed establishing a theoretical framework and prediction models for the dynamic changes of the biosphere ecosystem, providing a scientific basis for protection strategies.

He also suggested using earth observation systems like satellite remote sensing for continuous monitoring of biosphere reserves.

Representatives interact during the 5th WCBR in Hangzhou, Zhejiang province. (PHOTO: XINHUA)

The photo taken on January 7, 2025, shows the offshore wind power project area of Laizhou city, Shandong province. (PHOTO: XINHUA)

China's First IPS Observation Telescope Operates

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The main station functions like a wide- spanning net, responsible for broad- area monitoring whereas the two auxiliary stations, like identical twins in appearance and capability, conduct in-depth observations of particularly active solar phenomena based on clues provided by the main station, explained Fan Jin, senior engineer at NSSC. "Through joint observations, researchers can directly calculate data such as solar wind velocity."

Exceptional performance

Unlike traditional radio telescopes that can receive signals only from specific directions, the Prairie Sky Eye can simultaneously capture signals from multiple directions. "Its detection sensitivity is extremely high, capable of detecting cosmic radio signals across multiple frequency bands that are a hundred billion times weaker than mobile phone signals," Fan said.

Engineering test results have confirmed that the telescope possesses continuous detection capabilities for IPS signals. All technical indicators for the main station and two auxiliary stations meet or exceed the design requirements. The main station's key performance metrics—including antenna aperture, noise temperature and detection sensitivity—are of internationally leading standards.

The telescope covers wide fields of view and large sky regions continuously by integrating east- west mechanical scanning with north- south electronic scanning technology and employing phased-array feed digital multi-beam reception. It can monitor most of the visible sky in the northern hemisphere, with a receiving area six percent larger than the world's largest comparable telescope's.

By telemetering interplanetary solar wind velocity daily, the telescope captures the dynamic propagation of solar wind through interplanetary space. This provides raw observational data and quantitative numerical forecast products for both China's and international space weather forecasting, so that the impact of space weather hazards on critical infrastructure such as aerospace, satellite communications, navigation systems, and power grids can be mitigated, according to Fan.

Since its commissioning, the telescope has demonstrated exceptional performance. For instance, it successfully recorded the intense solar storm in May 2025, showcasing its capability for rapid, high- precision monitoring of space weather events.

Yan said they will dedicate efforts to tracking the entire propagation of solar storms from Sun to Earth, contributing Chinese wisdom to the global effort to jointly address space weather hazards.

AI Assistive Tech a Game Changer

Hi-Tech

By LIANG Yilian & WU Yefan

The latest assistive technologies — including rehabilitation equipment, prostheses, barrier-free vehicles, and devices for the visually impaired — were recently showcased at the Care & Rehabilitation Expo China 2025 in Beijing.

This year's event drew particular attention to a new wave of AI-powered assistive products. Among the highlights was Xiaolu the Guide Dog, an intelligent electronic guide dog developed by Professor Jiang Yueqiu's team at Shenyang Ligong University. Equipped with LiDAR and a large AI model, Xiaolu helps visually impaired users navigate obstacles autonomously, while offering intelligent indoor navigation, facial recognition, AI-powered voice interactions, and scene descriptions.

"We put significant effort into both the hardware and navigation algorithms, " said Yang Wei, a teacher at the university's school of equipment engineering. He pointed to the small square on Xiaolu's head: a full-thread solid-state LiDAR with a scanning radius of 70 meters, that enhances scene recognition and route planning. A depth- sensing camera at the front enables forward-looking vision and facial recognition, while an additional LiDAR on its "chin" captures ground-level data.

If the sensors serve as Xiaolu's "eyes, " the embedded AI model acts as its "brain." "Through its algorithms, Xiaolu can identify obstacles and plan routes accordingly," said Yang. "Every step it takes is guided by this intelligent brain, making navigation safer and more flexible."

There is a pressing need for such innovations. China has more than 17 million visually impaired people, yet only about 400 guide dogs nationwide, according to the China Association of Persons with Visual Disabilities. Electronic guide dogs like Xiaolu could help close this gap and make "one guide dog per person" a realistic goal.

AI-assisted devices at this year's expo extended far beyond vision- related technologies. "The products on display not only cover a wide range of categories but also provide support for people with different needs, such as the visually impaired, hearing impaired, and physically disabled," said Zhang Hongtao, deputy director of the National Assistive Devices and Technology Center for Persons with Disabilities.

For those with hearing impairments, real- time transcription and speech- to-text conversion are becoming standard features on phones. When a call comes in, the caller's words appear instantly on-screen as text, while responses typed by the user can be converted into speech and relayed to the other party, making communication far more accessible.