Industrial Parks to Get Digital Lift

Policy Express

Edited by SUN Jin

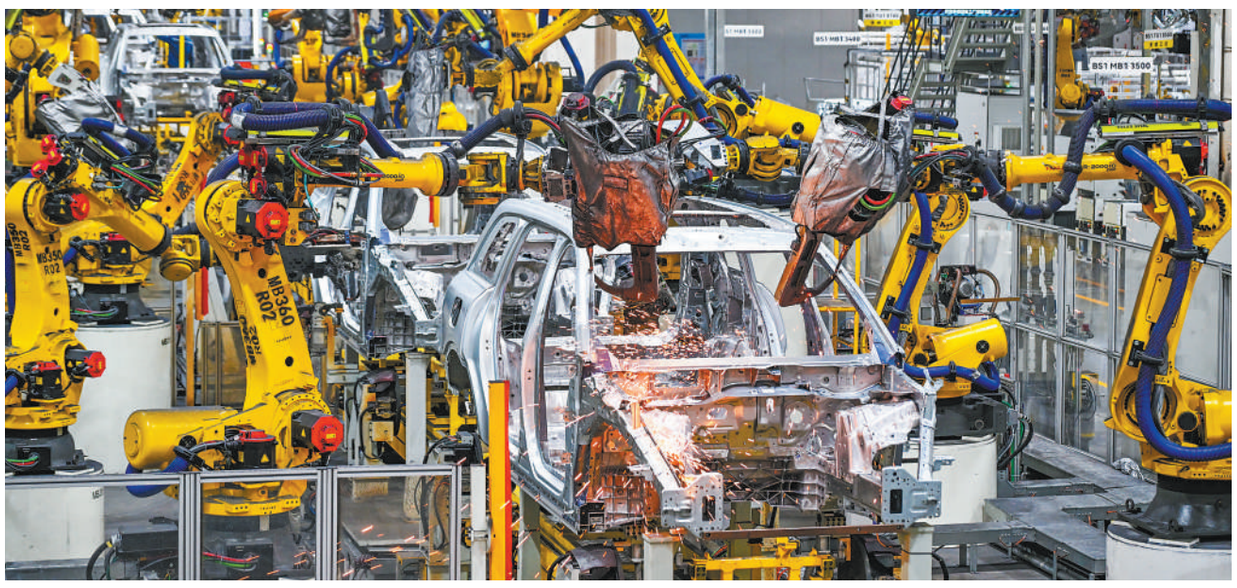
Targeting the construction of 200 high-standard digital parks nationwide by 2027, China's Ministry of Industry and Information Technology (MIIT) has released new guidelines to accelerate the process of this vision.

According to the guidelines, digital transformation of industrial enterprises and the high-quality development of industrial parks are required to meet specific criteria, including a high level of industrial digitization, high-quality professional services, and high operational management efficiency.

The guidelines specify that industrial Internet applications should cover all sectors within the parks. They also call for significantly strengthening digital infrastructure, with full coverage of dual-gigabit networks, effectively deploying and well-utilizing computing power facilities, and notable improvements in data openness, sharing and security protection.

Four principal tasks are outlined, including advancing industrial digital transformation, enhancing digital services, improving digital management systems, and strengthening foundational digital support capabilities.

Among the key tasks, there is a call to cultivate model enterprises in digital transformation and accelerate the adoption of AI + manufacturing.



The automated production at the Seres Super Factory in Liangjiang New Area, southwest China's Chongqing. (PHOTO: XINHUA)

Companies are also encouraged to build smart factories in stages and expand the large-scale deployment of industrial robots and other intelligent equipment to drive productivity gains.

The guidelines promote chain-wide digital upgrades by supporting leading enterprises in digitizing supply-chain collaboration and opening application scenarios and technological capabilities to upstream and downstream partners.

In addition, there are plans to develop new data-driven services by creating platforms for data utilization and exploring the establishment of trusted data spaces to remove barriers to data sharing among multiple stakeholders, strengthen applications of AI + trusted data space, and spur data-service innovation across the parks.

To support this transformation within the parks, MIIT will leverage policy tools such as large-scale industrial equipment upgrade programs and pilot projects focused on digitization. These initiatives aim to accelerate the digital transformation and the matching of supply and demand.

Local governments, industry regulators, and park management bodies are urged to fully leverage their resources to provide policy support and secure key factors, including strategic resources such as industry data for development, while actively guiding private capital to participate in the construction of high-standard digital industrial parks.

Low-carbon Practices Drive Green BRI

By MA Aiping & ZHONG Jianli

A clarion call for global collaboration to accelerate emission reductions and enhance climate resilience took center stage at the 30th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP30), held in Belem, Brazil from November 10 to 21.

Focusing on the Belt and Road Initiative (BRI)'s green development, and promoting global ecological cooperation, the "Belt and Road" Eco-industry Cooperation Working Committee of the All-China Environment Federation (ACEF) hosted a side event at COP30 in the UN Press Room to share low-carbon practices and Chinese successful cases in this vital area of lowering emissions.

Representatives from five leading companies spanning new materials, automotive manufacturing, energy and digital infrastructure presented their low-carbon transition roadmaps and results to provide innovative, replicable practice schemes for the BRI partner countries.

A highlight of the ACEF session was the presentation by Changzhou Power Supply Company of the State Grid Jiangsu Electric Power Co., Ltd., which unveiled its "Electric-Steam Cube" solution. Designed to address the industrial dilemma of securing steam power that is sufficient, low-cost and low-carbon, the technology offers a powerful engine for industrial green transformation.

The "Electric-Steam Cube" innovatively integrates three energy sources: photovoltaics (PV), off-peak electricity and industrial waste heat. Utilizing electrode boilers and high-temperature heat pumps, the system produces steam at temperatures between 120 and 160 degrees Celsius.

To overcome the challenge of energy intermittency, the company developed large-scale thermal storage tanks. These tanks use high pressure to condense steam into water for storage; when needed, the pressure is released to revert the water to steam. The system achieves an energy conversion efficiency of over 95 percent, ensuring a continuous, stable and flexible supply of clean steam.

Beyond the technology, the company introduced a collaborative business model combining "technology licensing and construction investment." By uniting energy service companies, equipment manufacturers, and energy consumers, the model has accelerated the large-scale adoption of clean energy technology.

To date, 118 of these models have been deployed across eight provinces in China, generating direct economic benefits of 830 million RMB. Environmental metrics are equally impressive: the system reduces carbon dioxide emissions in the steam production process by over two-thirds and completely eliminates sulfur dioxide and nitrogen oxide emissions.

Furthermore, the cost of the system is only one-sixth that of electrochemical energy storage. It functions as a flexible composite resource capable of responding within 30 seconds to absorb fluctuating PV power, thereby enhancing the stability of new power systems.

Observers said with wider promotion of the proven successful cases, the BRI green cooperation is entering a new phase. The initiative is solidifying its role as a "bond" in global climate governance, contributing Chinese wisdom and solutions to the building of a clean and beautiful world, in line with COP's vision.

G20 Summit Advances Equitable Global Governance

From page 1

They called for a more equitable, inclusive and sustainable global development framework capable of bringing greater stability to an uncertain world.

China, a prominent G20 member and the world's largest developing country, proposed the Global Governance Initiative in September, centered on five core principles: upholding sovereign equality, adhering to the international rule of law, practicing multilateralism, advocating a people-centered approach, and prioritizing concrete actions.

This initiative has garnered widespread recognition, highlighting China's constructive role in providing global public goods and advancing fairer global governance.

China-Africa cooperation illustrates how Global South partnerships can translate shared priorities into tangible development gains. Grounded in the development realities of African countries, this cooperation has strengthened their capacity and drawn greater attention to Africa's long-neglected development agenda.

It has also helped amplify the collective influence of the Global South in global governance reform.

China and Africa have amplified the voice of the Global South, enhancing its collective influence in international affairs and jointly steering the global order toward greater fairness and reasonableness.

Global governance is at a new historic turning point, and the need for multilateral cooperation and shared development has never been greater. As major forces of the Global South, China, Africa, and other developing countries should continue working together, uphold fairness and justice, and advance practical cooperation to help steer global governance toward a more just and equitable system.

Source: XINHUA

Roundtable Calls for Int'l Cooperation in Space Science

From page 1

APSCO Secretary-General Jiang Hui elaborated on this, saying the organization emphasizes resource sharing among member states to advance fundamental scientific knowledge while delivering tangible social economic benefits, particularly for developing countries in the Asia-Pacific region.

The cooperation between China and Europe has been consistent. "Twenty years ago, I was here in Beijing to sign a cooperation agreement between ESA and China National Space Administration, so I am a strong believer in the cooperation with China," Dordain said.

In 2015, SMILE, the Solar Wind Magnetosphere Ionosphere Link Explorer mission, was selected from a pool of 13 potential missions proposed to the Chinese Academy of Sciences and ESA. The mission aims to build a more complete understanding of the Sun-Earth connection by measuring solar wind and its dynamic interaction with the magnetosphere.

According to ESA, SMILE is due to launch on a European Vega-C rocket in spring 2026.

For further cooperation, Dordain said China and Europe can combine their best assets. China has a relatively large volume of activities and space technologies, and Europe has, what he called "the best understanding of what means cooperation."

Global Journal Observatory

CPL: Rapid Publication of Leading Scientific Achievements

By XIANG Tao

Chinese Physics Letters (CPL), launched in 1984, is the flagship journal of the Chinese Physical Society and the Institute of Physics, Chinese Academy of Sciences. Over the past four decades, it has evolved into a vital platform for Chinese physicists to engage with the global research community, while also chronicling the remarkable development of physics in China.

Rooted in China, influencing the world

CPL embodies the aspirations of Chinese physicists for the advancement of physics in the country, serving as a bridge for academic exchange between the Chinese and international physics communities.

The advisory editorial board consists of eminent physicists such as Chen-Ning Yang and Tsung-Dao Lee, who with their academic insight and global perspective guide the journal's positioning and development direction. This top-level design has laid a solid foundation for *CPL*'s high-quality development.

During his distinguished academic career, Professor Yang published seven papers of significant academic value in *CPL*. His contributions not only reflect how senior scientists have helped elevate the standing of Chinese physics on the global stage, but also inspire generations of young scholars to pursue academic excellence in service of the nation.

Over the years, *CPL* has published a series of influential achievements that represent China's highest level of scientific research, earning Chinese physicists international recognition. A landmark example is a breakthrough by a team led by academician Zhao Zhongxian.

In 2008, they raised the critical temperature of iron-based superconductors to 55 K, a record that remains unbroken. Following rapid publication of the feat in *CPL*, the work was selected by *Science* magazine as one of the "Top 10 Scientific Breakthroughs of the Year."

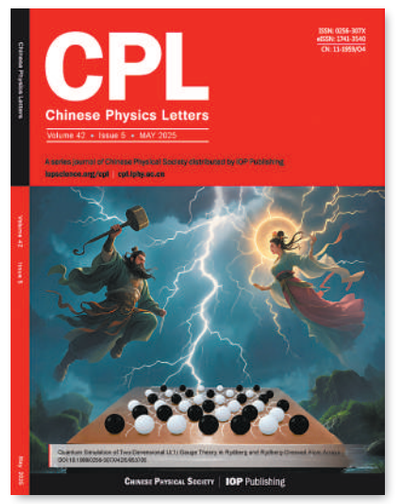
Another notable contribution came from academician Xue Qikun's team in 2012, reporting a breakthrough in interfacial high-temperature superconductivity, opening up new research directions in the field.

Strengthening academic quality and service capabilities

Since 2019, *CPL* has entered a phase of rapid development. Both its academic standards and service capabilities have been significantly enhanced.

The editorial board conducts rigorous pre-screening of all submissions and ensures precise matching of reviewers, making the peer-review process both efficient and fair. The quality of published articles has improved and the journal's impact factor quadrupled over the past six years. In 2024, *CPL* entered the JCR Q1 category.

In recent years, *CPL*, together with three other leading physics journals in China — *Physics*, *Acta Physica Sinica* and *Chinese Physics B* — has been organizing a "Special Symposium on Chinese Physics Journals" at the annual Chinese Physical Society Autumn Conference. This academic event has expanded to include more than 20 domestic journals, becoming an important platform for exchange within the Chinese physics community.



Front cover of Chinese Physics Letters, Volume 42, Issue 5. (COURTESY PHOTO)

Rapid publication of science achievements

In 2012, under the leadership of then editor-in-chief Zhu Bangfen and the associate editors, *CPL* started a special section titled "Express Letters," dedicated to the rapid publication of significant original research. This section has earned strong recognition within the Chinese physics community and plays an active role in enhancing the international visibility of China's major scientific achievements.

A notable example took place in 2019. The team of He Ke, Xue Qikun and Xu Yong from Tsinghua University experimentally discovered an intrinsic magnetic topological insulator, $MnBi_2Te_4$, which can serve as a platform for studying and regulating various topological states and effects.

They submitted their manuscript to *CPL*, which quickly published it in "Express Letters" and it subsequently featured in a research highlight by *Physics World*. The rapid publication of this achievement demonstrated *CPL*'s role as a core journal for Chinese physics, timely disseminating cutting-edge academic achievements and fostering international academic exchange.

As the editor-in-chief, I am proud of the journal's rapid growth, while also deeply aware of the heavy responsibilities that lie ahead. In the future, we will continue to uphold our strengths in rapidly publishing high-level achievements, and adhere to the principle of "relying on scientists and serving scientists."

We are committed to facilitating deeper and broader academic exchange between the Chinese and international physics communities.

The author is the editor-in-chief of Chinese Physics Letters.

Journal Review

Over the past 40 years, *CPL* has witnessed the remarkable development of Chinese physics from its rise to integration into the global scientific stage and participated in it.

Distinguished Chinese scientists such as Zhao Zhongxian and Xue Qikun have increasingly chosen to publish their landmark research findings in this journal, reflecting its growing academic appeal.

The unique value of *CPL* lies in its success in pursuing academic excellence and showcasing China to the world. It has offered a rapid publication channel for a series of influential original achievements, such as iron-based high-temperature superconductivity and topological insulators, and enhanced their international visibility.

This highlights its irreplaceable role as a platform for academic exchange between the Chinese and international physics communities.

—— *Lin Haiqing, professor, School of Physics, Zhejiang University*