The 2025 Sino-European Green Building Industrialization Forum / Engineering Days China Concludes successfully, gathering over thousands of participants to chart a blueprint for the “Dual Carbon” transition in the construction industry

The 2025 Sino-European Green Building Industrialization Forum successfully concluded on September 19-20 at the Beijing New Century Hotel. As a premier international event in the construction industry focused on green innovation and building and infrastructure industrial development, this year's forum centered on the theme of "Fostering Green Innovation, Seizing Investment Opportunities, and Building Third-Party Markets." It attracted over 320 industry leaders on-site and more than 3,000 participants online, bringing together Chinese and European policymakers, academic experts, representatives of international authoritative institutions, and leading enterprises. Through a comprehensive exchange model featuring "policy interpretation, technical sharing, case studies, and resource matchmaking," the forum provided solutions for the construction industry's "dual-carbon" transition, integrating global perspectives with local practices.

From multiple perspectives such as technological innovation, model transformation, and social demand, the speakers provided cutting-edge ideas and practical references for industry transformation.

The forum was jointly organized by China Construction Technology Group, National Building Green and Low-Carbon Technology Innovation Center, China Architecture Design and Research Institute, Engineering Day Organizing Committee, Fraunhofer-Gesellschaft, German Sustainable Building Council (DGNB), China Association of Building Energy Efficiency(CABEE), Beijing Space View Technology Co., Ltd., Prilhofer Consulting Co. Ltd,, RIB SAA Software Engineering Co., Ltd., Liebherr, and Beijing Partners Management

Consulting Service Co., Ltd., and Agora Energy China

It was co-organized by authoritative institutions from China and abroad, including the German Chamber of Commerce in China, Landesbank Baden-Württemberg, JUMO, Hainan Huasheng Concrete Co., Ltd., SCHNELL, Drees & Sommer Engineering Consulting (Shanghai) Co., Ltd., Flender, German Topwerk Group, CNEUCN, Zhongou Decarbonization Technology (Chengdu) Co., Ltd., Wuxi Tongfang Artificial Environment Co., Ltd., National Housing and Human Settlements Engineering Consulting Co., Ltd., and Asia-Pacific Construction Science and Technology Information Research Institute Co., Ltd.

The forum also received strong support from the China Building Industry Association, Federation of German Industries (BDI), German Chambers of Commerce Worldwide Greater China (AHK Greater China), Germany Trade and Invest (GTAI), German Mechanical Engineering Association (VDMA), and the German State Representatives in China.

The forum featured a diverse lineup of speakers from various sectors, creating a multidimensional dialogue platform integrating policy, academia, industry, and capital. It established a high-level international exchange platform that pooled Chinese and European expertise, led industry innovation, and promoted practical cooperation, providing critical guidance for industry development.

The event was honored by the presence and addressed of notable figures including:

- H.E. Dr. Patricia Flor, Ambassador of the Federal Republic of Germany to China;
- Mr. Bai Zhengsheng, First-Level Inspector of the Department of Standards and Quotas, Ministry of Housing and Urban-Rural Development;
- SUN Ying, National Center of Technology Innovation for Green and Low-Carbon Building (NCTI-GB), Board Director of China Construction Technology Consulting Co., Ltd.;
- CHAI Wenzhong, Vice President, China Association of Building Energy Efficiency

01 Opening Speech

It aims to establish a high-end international exchange platform that brings together Chinese and European wisdom, leads the industry frontier, and promotes pragmatic cooperation, providing crucial guidance for industry development.

H.E. Dr. Patricia Flor, Ambassador of the Federal Republic of Germany to China;, delivered a first opening speech at the forum. She pointed out that both China and Germany attach high importance to climate and environmental cooperation. Given that the building sector accounts for approximately 32% of global energy usage and about one-third of carbon emissions, she emphasized that collaborative action between the two countries is crucial. She cited examples such as the 65,000-square-meter passive house project in the Qingdao Sino-German Ecopark as evidence of the tangible outcomes achieved through Sino-German collaboration.

Ambassador Flor stated that Germany, with its engineering expertise, top-tier control capabilities, and the implementation of international standards by institutions like the German Sustainable Building Council (DGNB), remains a reliable partner. She stressed that standards are not merely technical details but are fundamental for building trust and scaling up innovation.

She expressed confidence that German and Chinese companies would progress together in a fair environment. She believes this forum will serve to deepen dialogue, develop partnerships, and jointly advance towards a sustainable green future.

BAI Zhengsheng, First-Level Inspector of the Department of Standards and Quotas under the Ministry of Housing and Urban-Rural Development, reviewed the achievements of China's urban and rural development over the past 40-plus years in his address. He highlighted the formation of two key technological clusters.

The first is the New City and District Construction technology cluster. This represents a systematic framework encompassing technology, industry, management, and policy, characterized by high efficiency and quality. It offers mature experience for developing countries with low urbanization levels and serves as a vital component of the "China Solution." The second is the Prefabricated Interior Finishing technology cluster. China possesses a complete industrial chain capable of providing personalized services, offering significant advantages. These include green and low-carbon attributes, minimal material waste, near-zero emissions of harmful gases, short construction periods, high quality and durability, and flexible application, making it suitable for both new construction and renovation projects. Inspector Bai noted that the forum showcases a wealth of related technologies and achievements, which are highly promising.

SUN Ying, National Center of Technology Innovation for Green and Low-Carbon Building (NCTI-GB), Board Director of China Construction Technology Consulting Co., Ltd in her keynote speech at the main forum, profoundly elaborated on the pivotal role of the building sector within the national "Dual Carbon" strategy. She emphasized the contemporary significance of the forum's theme: " Together- Green Innovation, Digital Integration, Investment Opportunities, Third-Party Market Cooperation.."

She also highlighted that the National Center, as the sole national technology innovation center in China dedicated to the "Dual Carbon" agenda, was established under the leadership of China Construction Technology Group in collaboration with five other central state-owned enterprises and two universities. It focuses on six core technological R&D areas: digitalization and intelligentization of design methods; zero-carbon building energy; low-carbon green building materials; intelligent building operations and maintenance; systematization of carbon emission data; and standardization of green and low-carbon practices. The Center has already achieved a series of pioneering innovations.

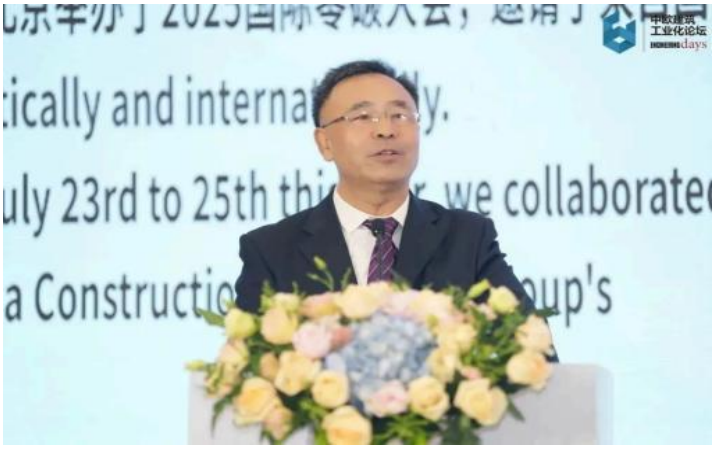
Since its inception, the National Center has actively participated in the United Nations Climate Change Conference (COP) for two consecutive years and has engaged in cooperation with over ten international institutions. It is establishing a "International Demonstration Center (Singapore)" with Singapore as a strategic hub. Furthermore, it has co-founded the "International Alliance for Green and Low-Carbon

Building Technology Cooperation" with research institutes, international organizations, and enterprises from 11 countries, including Germany, Austria, Slovenia, Bulgaria, Italy, Belgium, Singapore, and Canada.

Ms. Brigitte Zypries, former German Federal Minister for Economic Affairs and Energy, delivered a video address in which she highlighted that the building and engineering industry is currently undergoing a dual transformation: the integration of digital technologies across the entire value chain and the accelerated investment in sustainable building materials. Technologies such as 5D-BIM and AI are being applied throughout the entire process, from planning and design to operation and maintenance, while new materials like low-carbon concrete and timber hybrid structures are becoming the strategic core of the industry's transformation.

She particularly emphasized the value of third-party market collaboration, noting that synergy among enterprises, research institutions, and start-ups can create development opportunities for emerging markets in Asia and Africa. Citing examples such as Finland's Betolar (innovative cementitious materials), the Netherlands' Neolithic (3D-printed sustainable façade materials), and Chinese companies specializing in 3D-printed modular construction, she affirmed the vital contribution of start-ups to industry innovation. Ms. Zypries stressed that "innovation stems not only from the laboratories of large corporations but also from the dynamism and creativity brought by courageous entrepreneurs."

Furthermore, she called for China and Europe to promote the efficiency and sustainable development of the building industry through technology sharing and market collaboration.



Mr. Chai Wenzhong, Vice President of the China Association of Building Energy Efficiency (CABEE), stated in his address that given the severe challenges of global climate change, green and low-carbon development has become an international consensus. As a key sector for energy consumption and carbon emissions, the building industry bears the mission of achieving the "Dual Carbon" goals.

He noted that China's construction industry has been continuously transforming and upgrading in recent years, with significant improvements in its level of green development, industrialization, and digitalization. Europe, particularly Germany, possesses extensive experience in construction industrialization and green building technologies, which offers valuable lessons. The timing of this forum is highly opportune, and he expressed hope that it would strengthen Sino-European cooperation and exchange in areas such as technical standards, industrial development, and talent cultivation.

Mr. Chai also sincerely invited attendees to focus on and participate in next year's International Zero-Carbon Conference. He looks forward to establishing a long-term synergy between that conference and this forum, jointly building an international platform for exchange and cooperation to drive new breakthroughs in the green, industrialized, and intelligent development of the global building industry.

Mr. Christoph Mitterer Fraunhofer-Gesellschaft Groupe Leider Innovation Markets, addressed the common topic of "The Future of Green Building." He emphasized that the shared goal of the gathering is to transform the way innovative buildings are designed, constructed, and inhabited, ensuring that buildings serve not only as shelters but also contribute positively to planetary health.

He introduced the Fraunhofer-Gesellschaft as Europe's largest organization for applied research, operating over 75 institutes across Germany, with a core mission of bridging the gap between cutting-edge science and practical market applications. Its innovation efforts are firmly focused on sustainability, encompassing resource utilization, healthy building models, and process optimization, with research spanning energy, information and communication technologies, materials, and more.

Mr. Mitterer pointed out that the construction industry is often perceived as low-tech due to multiple innovation barriers: projects are constrained by time and cost, the industry is fragmented and project-oriented, and it relies heavily on manual labor. He stressed the need to push innovation into the supply chain and noted that awareness of innovation potential among engineers and architects still requires enhancement.

He stated that the Fraunhofer-Gesellschaft advocates for building innovation alliances to foster institutional synergy. By bringing scientists together to develop innovative construction technologies, it aims to address challenges such as planning software selection and building material recycling. Concurrently, through collaboration with various enterprises, it pilots and refines technologies, providing scientific toolkits and solutions to advance the clean construction revolution and implement climate goals.

He expressed his anticipation that, through applied research and close collaboration, a sustainable, efficient, and regenerative built future can be jointly created.

02 Main Forum

From multiple perspectives such as technological innovation, model transformation, and social demand, speakers provided cutting-edge ideas and practical references for industry transformation

Li Xing Gang The chief Scientist of China Construction Science and Technology Corporation, the chief Architect of China Architecture Design and Research Institute Co., Ltd. He focused on the industrialization of future housing, elucidating its necessity from multiple perspectives.

From a data dimension, he highlighted that when China's urbanization rate rises from 67% to 70%, it will generate over 40 million new urban residents. This corresponds to a demand for at least 10.6 billion square meters of new housing and 1.89 billion square meters for renovation. Concurrently, the average household size has decreased to 2.62 persons, and the proportion of empty-nest elderly families is rising, indicating a shift in housing demand from mere "availability" to "quality."

From a dual-carbon dimension, Academician Li pointed out that in 2022, the whole-process carbon emissions of China's building sector accounted for 48.3% of the national total, with residential buildings alone contributing 43.7%. However, only 6.5% of existing residential buildings have obtained green building certification. This makes the transformation of residential buildings into "coordinated hubs aligned with the new energy system and industrial restructuring" extremely urgent.

Regarding development trends, Academician Li noted that the housing industry is deeply intertwined with demographic and economic cycles, driven by both policy and technology. The Well-off Housing Project during the 9th Five-Year Plan period demonstrated policy's role in promoting technology implementation. Currently, the industrialization transformation of the construction sector requires further policy refinement

to establish standards.

Looking ahead, he emphasized that industrialization must overcome the "fragmentation" bottleneck. This requires strategic guidance at the national level, potentially learning from the strategic planning of Japan's Ministry of Land, Infrastructure, Transport and Tourism. The design end must integrate considerations for aging populations and smart scenarios, such as creating flexible and adaptable spaces. The standard system needs to emulate the whole-chain collaboration seen in the automotive industry, while establishing a full-process data platform similar to the BIM standards of the Hong Kong Housing Authority to resolve challenges in industrial chain coordination.

Johannes Kreissig, CEO of the German Sustainable Building Council (DGNB), interpreted new trends in sustainable asset management and carbon neutrality roadmap planning from a whole-lifecycle perspective through the lens of international standards.

He began by analyzing sustainable asset management from the dual perspectives of "Risk and Response." He pointed out that losses from climate disasters are rising exponentially, having increased from nearly zero to tens of billions of US dollars over the past two decades. Notably, from 2022 to 2023, ocean surface temperatures consistently exceeded the 1982-2011 average, intensifying disasters like typhoons and directly impacting the security of building investments. More critically, global carbon emissions are not on track to meet reduction targets, and a "policy implementation gap" persists in current actions.

From the response perspective, Kreissig explained that DGNB, guided by the core logic that "only what gets measured gets managed," has established a three-part toolkit system:

1. Collaboration Mechanisms to break down international barriers.
2. Measurability, using its certification system to translate "sustainability" into quantifiable data indicators.
3. Knowledge Dissemination, relying on training to equip practitioners with carbon neutrality tools.

A key outcome is the "Carbon Neutral Building Toolkit," which contains detailed guidelines. Its updated 2025 Carbon Neutral Building Framework enhances practicality. It not only covers the three core elements of energy/carbon performance assessment, climate action planning, and impact measurement but also introduces three new building classifications: "Carbon Neutral Certified," "Carbon Neutral Ready (pending external conditions)," and "Carbon Neutral Planned (with roadmap, not yet implemented)." This advancement increases market transparency and provides precise data support for urban carbon neutrality planning.

Mr. Ye Haowen, National Distinguished Engineer and Chief Expert of China State Construction Engineering Corporation (CSCEC), identified the core of the construction industry's new productive forces as the synergy of "industrialization, intelligent construction, and green construction." However, he pointed out that its development is constrained by multiple deep-seated issues: the traditional "manual labor-dominated" approach leads to low efficiency and significant quality variations; the disconnect between design and construction creates difficulties for industrialized production of complex elements like intricate steel structures or segmented prefabricated stairs; the proliferation of non-standardized components means some factories merely relocate on-site manual work, failing to achieve cost competitiveness despite prefabrication; and broken information chains cause wasteful data re-entry across design, construction, and operation phases.

As solutions, he proposed a dual-path approach focusing on "Demand Creation + Technological Breakthroughs." On the demand side, he advocated moving beyond the "excess housing" mindset. By emulating the upgrade logic of smartphones and automobiles, residential buildings should be transformed into integrated smart entities functioning as "health managers, energy factories, and medical monitoring centers." This aligns with urban renewal opportunities and the development requirements for "innovative, resilient, and smart cities."

On the technological front, he emphasized "System Integration": achieving design-construction integration by planning for component production early, not splitting designs later; promoting standardized design with "fewer specifications, more combinations"; and implementing intelligent construction technologies encompassing "digital design, intelligent production, and smart construction," such as using automated wall panel lines and "building construction robots" which can boost super high-rise construction efficiency by 30%. Concurrently, advancing the "China Construction" Industrial Internet is crucial to solving industry chain collaboration challenges.

Mr. Ye stressed that digitalization is not an add-on but the "core engine" for cost control and quality enhancement, requiring a fundamental shift in mindset across the entire industry.

Mr. Christian Prilhofer, CEO, Prilhofer Consulting Co. Ltd, asserted in his report that the post-pandemic era requires the construction industry to move beyond the misconception of "partial improvement" and achieve a "revolutionary transformation of the entire chain."

He emphasized three critical areas: First, the industry must master the knowledge and capabilities of industrial production—this is not merely about following regulations but developing a core competency for business operations. Second, enhancing business collaboration is vital, focusing on implementing mobile work solutions and ensuring the deep involvement of technical teams to streamline multi-party cooperation. Third, advancing industrialization requires exploring pathways to integrate building systems with reform cases, while simultaneously strengthening the cultivation of engineers, empowering them to innovate beyond past experiences.

Mr. Prilhofer leads his team in making sustained efforts across various domains, including architectural design, optimizing industrialized production, and integrating fragmented resources. Their work ranges from detailed design of internal building elements like electrical and plumbing fixtures—where a 10% design improvement can yield 30% savings in production costs—to establishing platforms centered on coordinated communication that consolidate previously dispersed specialized investments.

However, the process faces challenges, such as complex and slow workflows due to excessive stakeholders, insufficient staff motivation for new projects, and conflicts between traditional practices and modern industrialization demands. Adhering to the principle of 'incremental progress and systems thinking,' Mr. Prilhofer advocates for a phased approach focused on overall planning and long-term value rather than seeking immediate, comprehensive change. The goal is to achieve efficient savings in cost and manpower, alongside modernizing teams, through optimized design and enhanced production efficiency.

Looking ahead, he expressed his commitment to deepening efforts in this field, working with all parties to solve industry challenges and drive the high-quality development of the construction sector.

Mr. Li Ting National Master of Engineering Investigation and Design, he articulated in his presentation that the essence of intelligent construction is the transition "from human labor to machine-intelligent labor," with its core embodiment being the "Construction Intelligent Entity." This entity is founded on a data infrastructure comprising PLM (Product Lifecycle Management) and BIM, supported by an architectural framework of SDX (Software-Defined Everything) and Cloud-Native technologies, and powered by intelligent engines such as large-scale models and vertical-specific models, ultimately forming a closed-loop system of "Data-Software-Machinery."

He provided a profound analysis of a fundamental industry contradiction: the conflict between the demand for an integrated digital system required for intelligent construction and the current reality of fragmented data. Data processing confronts four major technical challenges: the immense pressure from large-scale data generated by over ten thousand machinery units; interoperability issues arising from equipment supplied by diverse vendors; the need to manage high-concurrency data transmission during peak construction periods; and the requirement for millisecond-level low-latency responses from construction robots in motion.

Master Li asserted that the solution necessitates a focus on technical restructuring. This includes adopting an SDX architecture characterized by "centralized control and distributed resources"—drawing lessons from the automotive industry to similarly integrate equipment control logic within the construction sector. Additionally, a Cloud-Native architecture, which employs microservices to decompose software, containerization to ensure environmental consistency, and dynamic orchestration to optimize resources, can effectively address data processing difficulties.

He highlighted that the traditional "file-driven" model of BIM software (exemplified by Revit) is obsolete, incapable of meeting the demands of multi-user concurrency and global collaboration. A transition towards the "single source of truth + cloud-native" approach utilized in industrial software (such as Dassault Systèmes' CATIA) is imperative.

From a practical standpoint, Master Li noted that his team's collaboration with Dassault Systèmes on projects like the Hubei Provincial CDC Branch Center has successfully realized the concept of "a single model throughout, drawing-free construction." Leveraging a cloud-native platform, all stakeholders share a model, utilizing digital prototypes to validate designs and simulate construction processes. This model directly drives smart manufacturing terminals, completely eliminating the reliance on traditional blueprints and providing the industry with a replicable pathway for transformation.

Mr. Massimo Bagnasco, CEO, CNEUCN
He focused on the synergistic effects between China's "Good Housing" policy and the "Family Village" concept within the context of an aging society.

In his report, he elaborated that planning must be grounded in the reality of China entering a "super-aged society within 10-15 years," and address the current "dual disconnect" in elderly care housing: facilities are disconnected from families (nursing homes only provide basic lodging but lack spaces for family interaction) and from communities (unable to share community medical and cultural resources). This leads to a situation where "physiological care is met, but emotional needs are neglected."

Consequently, he proposed the "Family Village" concept. This is not a simple combination of "elderly care + housing," but rather a functional integration catering to the "entire family life cycle." Spatially, it involves selecting sites in suburbs within a one-hour drive of the city, equipped with parks and leisure trails, creating a livable environment while facilitating weekend gatherings for children and grandchildren. Functionally, it integrates residential options (independent townhouses, senior apartments, vacation apartments), medical care (community clinics with 24/7 support), education (senior universities + parent-child institutions), and commerce (convenience stores) to meet the needs of grandparents engaging in activities with their grandchildren. In terms of services, it incorporates European elderly care experience by providing rehabilitation training and domestic care, alongside organizing festival celebrations and interest groups to alleviate loneliness.

These measures create "two-way value" by synergizing with the "Good Housing" policy. At the policy level, the green, low-carbon, and age-friendly design emphasized by "Good Housing" can be implemented through "Family Village" projects, setting a benchmark for policy practice. At the market level, such projects meet elderly care demands while attracting families planning for future care, thereby stimulating the development of surrounding medical and educational industries. Socially, they can alleviate pressure on public elderly services and promote intergenerational harmony.

He suggested leveraging Sino-European cooperation to introduce European elderly service standards while promoting international mutual recognition of the "Good Housing" standards. This would enhance the international recognition of such projects and facilitate the transition of elderly care architecture from "single-function" to "integrated communities."

03 Four Sub Forums

Four major topics address pain points, delivering transformation solutions across the entire chain Provide reproducible solutions for the industry based on "problem-oriented approach + case demonstration".

Sub-Forum 1：Intelligent Production in PC industry

experts focused on the practical application of digital and automation technologies.

Dr. Christian Hanser, President of RIB SAA Software Engineering Ltd., elaborated on the implementation of 5D-BIM models and AI technology across the design-construction lifecycle. By establishing a single source of truth for data transmission, he demonstrated how digitalization can eliminate efficiency bottlenecks in the construction process.

Ms. Yao Jing, Co-founder of Space View (Beijing) Technology Co., Ltd., shared insights on building an ecosystem platform for the spatial assembly industry and the innovative application of the X-Panels modular housing system. The initiative is dedicated to creating future-oriented prefabricated spaces. By leveraging the dual drivers of "Art + Technology," the approach ensures that architectural spaces achieve the efficiency of industrial manufacturing while retaining the warmth of human-centric design,

truly realizing the vision of "technology empowering life, and spaces bearing a better living experience."

Mr. Thomas Friedrich- CEO Innogration GmbH, focused on the integrated innovation of renewable energy and building materials, presenting the technical achievements of "multi-functional concrete building components as renewable energy carriers."

His presentation covered key aspects including the processing of thermal energy from renewable sources, the critical role of ambient thermal energy, and the significance of heating transition. He also elaborated on the collection, storage, and distribution of thermal energy, the heat transfer performance of concrete components, construction guidelines, and the establishment of localized residential energy networks.

Mr. Zhnag Hui Jun, Representative in China, Schnell Group Italy, he demonstrated the application of digital reinforcement processing technology in precast concrete (PC) intelligent manufacturing, effectively enhancing the precision and efficiency of prefabricated component production.

Mr. Su Lei Chief Structural Engineer of Beijing Building Industrialization Group Corp.Ltd.
He introduced the group's independently developed fully prefabricated building system. This system offers advantages such as material efficiency, high lateral stiffness, rapid assembly, and effectively addresses common issues in traditional steel structures like cracking and water leakage in exterior enclosures. It provides a new approach for affordable housing projects, contributing to the development of "Good Housing."

Shao Yimeng, Director of Solution Architecture, China Design Digital Technology Co., LTD shared practical achievements under the theme "Building Productization Digital-Intelligent Platform: From Engineering to Product, Creating a New Industry Paradigm." The company's Seven-Star XBOM platform, designed for construction industrialization, integrates supply chains, reduces the proportion of non-standard products, and enhances efficiency. Furthermore, the group has developed a software architecture with open ecosystem interfaces, promoting the research and development of green building standards and the construction of a carbon sink platform.

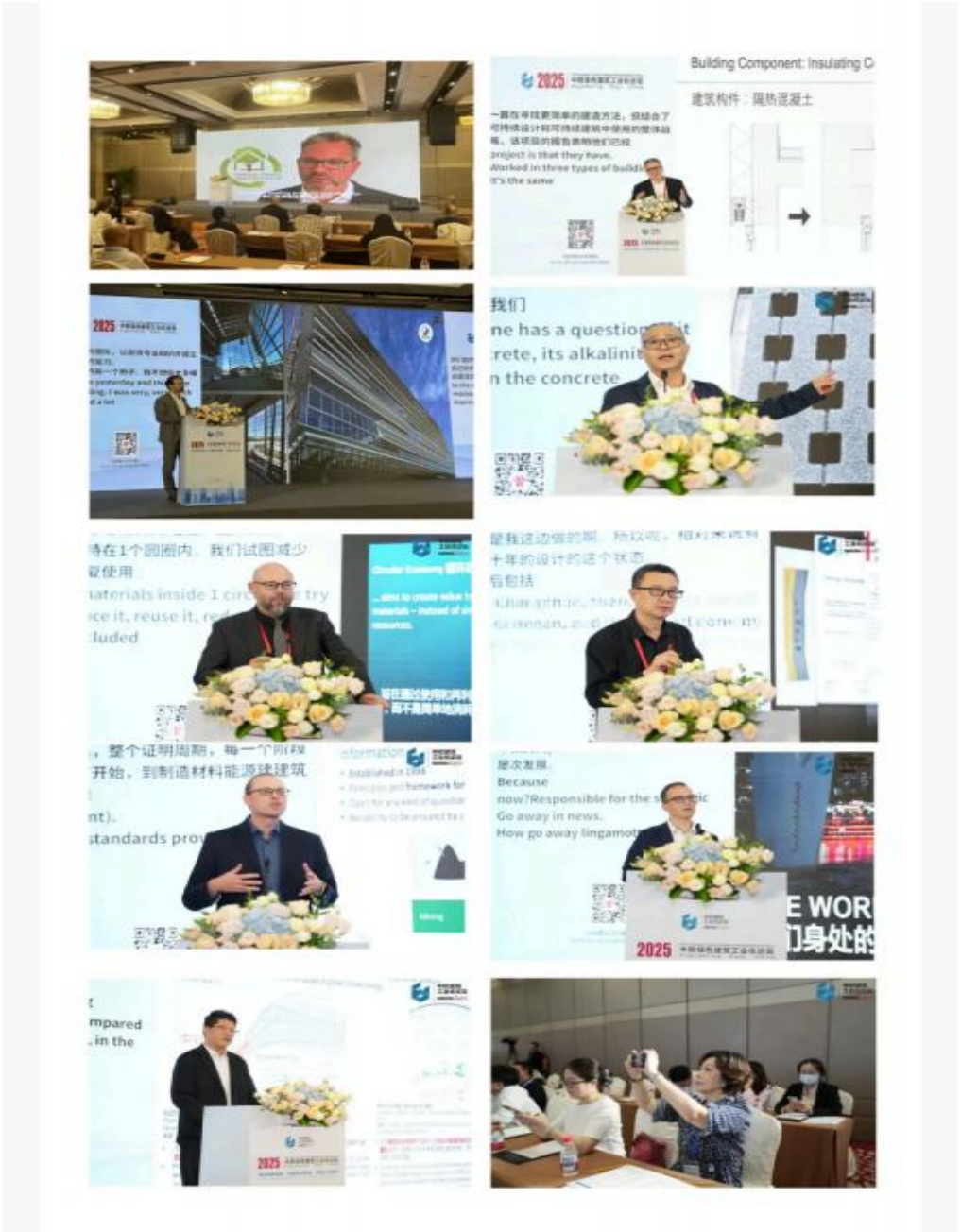
Mr. Tan Xi Feng Vice General Manager, Building Div. Glodon Technology Co. Ltd.
focused on how "Industrial AI Empowers High-Quality Development in the Construction Sector." He presented Glodon's integrated four-part closed-loop AI model system for the construction industry, its key success factors, and solutions for building corporate AI capabilities, supported by practical case studies. He proposed implementing three high-value scenarios, including integrated design, through the application of BIM + AI + Data to drive high-quality development in intelligent construction.

Mr. Li Zhiwu, Design Director of CSCEC Construction Integration Technology Co., Ltd.,

addressed the topic "Case Studies and Developmental Reflections on Steel Structure Modular Buildings in China." Starting from the historical development and application scenarios of prefabricated steel structure modular buildings, he outlined the core content of relevant technical standards at China's current stage and provided recommendations for selecting structural system solutions based on different building heights

Sub-Forum 2: Green Low Carbon and Building

Addressing the core challenge of achieving both "carbon reduction and profitability" in green building under the "Dual Carbon" goals, this thematic forum provided solutions from dual perspectives: international case studies and local practical experiences.



Dr. Florian Pronold, CEO of IBU(Institut Bauen und Umwelt e.V) Parliamentary State Secretary in the Federal Ministry of Building and Environment. delivered a video address for this thematic

forum.

Johannes Kreissig, Chief Executive Officer of the German Sustainable Building Council (DGNB), and Mr. Rolf Demmler, Founding Director of SoftGrid, DGNB China Ambassador, jointly delivered a presentation titled "Future-Oriented Sustainable Projects Lead New Investments." Using Germany's Einfach Bauen (Simple Building) project as a case study, along with multiple project examples from China, they deconstructed the cost-saving pathways of green projects driven by investor initiatives. Notably, it was highlighted that foundational research projects in Germany can achieve up to 40% savings in total project costs compared to conventional projects.

KONG Wenyi, Prof. Senior Engineer, Independent Board Member of Cheng Du Construction Group No. 3/No. 8 Company, shared research and practices on using recycled ecological concrete to build substrate carriers and create a three-dimensional greening system throughout the entire life cycle. The content covered the technical system for the "three highs and one conversion" utilization of solid waste, the development of fully solid-waste recycled aggregate and ecological concrete, plant selection and alkaline environment maintenance techniques, full life-cycle operation and maintenance with practical cases, and comparisons with foreign systems alongside promotion strategies.

Dennis Schulz, General Manager of Drees & Sommer (Shanghai), explained the "Cradle to Cradle" concept and principles, focusing on the Building Circularity Passport. He provided industry insights through European case studies of projects driven by the "Cradle to Cradle" approach, aiding the construction industry in achieving a resource-closed loop where every unit achieves zero waste.

JING Quan, Vice GM, China Architecture Design & Research Group, proposed a building solution of "Adaptive Symbiosis, Local Growth" for harmonious coexistence between architecture and nature. Using several real cases, he demonstrated the integration of traditional architectural memory with modern localized growth techniques, designing buildings that align with both historical context and contemporary culture, enabling people to dwell more poetically in their places of belonging

Dr. Daniel Wehner, Director of S-Tec Center for Climate-Neutral Production and Life Cycle Assessment - Fraunhofer Institute for Building Physics, starting from Life Cycle Assessment (LCA) to Environmental Product Declarations (EPD), delivered a presentation in clear and fluent Chinese on the importance of "Building a Digital Infrastructure for Effective International Cooperation in the Exchange of Green Innovative Building Product Information."

Oliver Berghofer, Director of New Ventures Schüco China, interpreted China's green building transformation path from a broad macro "system integration perspective." He introduced holistic systemic carbon emission control tools—such as early design intervention, system efficiency improvement in construction, thermal performance optimization in operation, and circular use—to systematically address carbon emissions, ultimately creating new value in a competitive market.

Guo Sheng, Vice President, Industry Research Youlv (Beijing) Digital Technology Co., Ltd., discussed the fundamental framework for the future shift from zero-carbon to carbon-negative buildings, moving from 'passive endurance' to 'active regulation.' He delved into the evolutionary logic of climate-positive buildings, the significance and future prospects of their four pillars and foundational standards, offering innovative viewpoints.

Sub-Forum 3: Distributed Energy + Buildings – Creating an "Energy Self-Sufficient" Ecosystem

The integration of distributed energy and building industrialization has become a key breakthrough for zero-carbon community development. Following the opening remarks by **Mr. Markus**

Steigenberger, Managing Director, Agora Energiewende, ZOU Yining, Research Associate of China Power, Agora Energy China, further shared Germany's experience in distributed energy development, offering valuable insights for China's community and rural energy revolution.

Dr. CHANG Sheng, Tong Fang Energy Co. Ltd, Party Committee Member, and General Manager of the Integrated Energy Business Division, explored the technological pathways for energy distribution in zero-carbon sustainable communities, outlining a comprehensive "energy blueprint" spanning from solar and geothermal energy to storage systems.

Stefan Reith, Project Manager, JUMO Group revealed the "smart systems" within green buildings through the practice of building a self-sufficient zero-carbon factory. Relying on smart energy monitoring and optimized regulation, combined with micro heat pumps, photovoltaic systems, and carbon-neutral grid electricity, stable energy supply is achieved, significantly improving overall energy efficiency.

XUE Shiwei, General Manager, CSCEC Dual Carbon Research Institute, shared innovative practices and future scenarios for corporate systematic carbon emission management systems based on his extensive practical experience in energy smart management, identifying feasible paths for energy management systems in practice.

Dr. Yang Lingyan, Chief Engineer of the Heat Pump Center at the China Academy of Building Research's Institute of Building Environment and Energy, analyzed the synergies between distributed energy and the rural energy revolution to promote the coordinated development of green buildings in both urban and rural areas. Ms. Xu Xinyun, Director of the German Federal Foreign Trade and Investment Agency, shared insights on "Trends in Germany's Green and Sustainable Building Transformation," as well as policy adjustments in response to the country's housing shortage.

Ms. Xu Xinyun, Director of Investment Promotion at Germany Trade & Invest (GTAI), in her presentation on "Trends and Opportunities in Germany's Sustainable Building Sector," highlighted two major trends currently shaping the German construction industry: a growing demand for residential buildings and the imperative to achieve climate neutrality by 2045. To address these dual objectives, the German government has established a comprehensive policy framework. This includes enacting relevant laws on sustainable construction, launching a "Building Accelerator" initiative (which shortens planning cycles to just two months), and setting up dedicated funding programs. Market opportunities, she noted, are emerging in areas such as modular/prefabricated construction, low-emission building materials like timber, and the application of renewable energy in the building sector.

The forum also featured a roundtable discussion moderated by **Dr. YIN Ming, Programme Leader of China Power, Agora Energy China, participants included FU Yu, Deputy Secretary-General, China Association of Building Energy Efficiency, WANG Shui, Deputy Secretary-General of the Heat Pump Committee, China Energy Conservation Association, LI Yuxuan, Secretary-General of Green Development Industrial Educational Integration Community and**

Secretary-General of Green Committee and Standards Committee, China Association of Senior Professor, Thomas Friedrich, CEO, Innogration GmbH, and Dr. Yang Lingyan, **Chief Engineer of the Heat Pump Center at the China Academy of Building Research's Institute of Building Environment and Energy** among other distinguished guests. The discussion centered on policy, technology, and market dynamics.

During the roundtable, experts engaged in in-depth exchanges on topics including green building development, distributed energy applications, digital and intelligent technologies, and institutional innovation. They highlighted that buildings and construction materials account for nearly half of total carbon emissions, underscoring the urgency of optimizing the energy structure within the building sector. For urban renewal and retrofitting of existing buildings, promoting smart and digital applications is essential to achieving energy savings and emission reductions at scale.

While acknowledging initial successes in clean heating and distributed energy applications in rural areas—where building energy consumption remains high—experts pointed out that economic viability and accessibility continue to pose challenges. Several participants emphasized that heat pumps, as a key energy conversion technology, are seeing growing adoption in households and industrial parks. When integrated with comprehensive energy systems incorporating photovoltaics and energy storage, heat pumps can significantly improve energy efficiency and contribute to carbon neutrality.

The roundtable also explored the concept of buildings serving as distributed energy nodes. By utilizing structures such as roofs, ceilings, façades, and foundations to generate and manage energy, buildings can achieve self-power generation and systematic energy management. There was broad consensus on the crucial role of policy and market mechanisms in driving the energy transition in buildings. Improving fiscal support, electricity pricing and feed-in tariff mechanisms, as well as establishing more predictable power market expectations, would enhance participation from both enterprises and residents.

Innovations such as virtual power plants, new contract models, and market-based settlement methods were noted as important enablers for renewable energy integration. The need for interdisciplinary training programs and customized learning materials was also raised to accelerate talent development and technology deployment, ensuring effective integration of theory and practice. Additionally, experts stressed the importance of addressing spatiotemporal matching of renewable energy, accounting for regional differences between northern and southern China. Technological innovation, market mechanism refinement, and digital intelligence are set to collectively advance the low-carbon transition in the building sector.

Prof. Kevin Tu, Managing Director, Agora Energy China, pointed out that the transition in the building and energy sectors is not only policy-driven but also contains enormous market potential. He noted that while Europe's stringent regulations provide valuable lessons, China's extensive production capacity offers a solid foundation for implementation. Looking ahead, he emphasized that identifying new models of international cooperation that are politically feasible and mutually beneficial is crucial.

The transition pathways highlighted include the electrification of heating through heat pumps, building energy efficiency retrofits, material upgrades, and smart technology applications, with a focus on urban building renewal, district heating networks, and industrial parks. Mr. Tu suggested that future China-Europe collaboration on green buildings could advance in three key areas: mutual recognition of standards and policy coordination, technological innovation and industrial upgrading, and the deep integration of European regulatory frameworks with China's delivery models. Such cooperation would accelerate the practical implementation of green buildings and distributed energy systems.

Sub-Forum 4: Urban Renewal + Construction Industrialization – Revitalizing the "Vitality" of Existing Buildings

Facing the demands for green and smart urban renewal, this thematic forum focused on lightweight and modular renovation solutions. **Wang Wei, General Manager, Beijing Building Industrialization Group Corp.,Ltd.**, delivered a keynote report titled "From 'Shelter' to 'Livability': The Warmth of 'Good Houses' in Affordable Housing," concentrating on creating "good houses" for affordable housing that balance efficiency, cost-effectiveness, and quality. Starting from the initial development of vertical rib composite shear wall structures and supporting intelligent equipment to address pain points related to safety, cost, and efficiency; to the subsequent development of a prefabricated interior finishing 3.0 technical system to improve living quality; and now continuously iterating ultra-thin walls, UHPC bathrooms, and other innovations to enable efficient construction – these efforts collectively drive affordable housing from merely providing "shelter" toward true "livability." This continuous deepening of construction industrialization, practiced through the three stages of the "New Three Boards" system, has formed a flexible, rapid, and low-cost construction model.

Stephan Rewolle, Partner, Head of Beijing Office, gmp Architecten, using examples like the renovation of old buildings in Berlin and existing buildings in Beijing, emphasized that buildings are also vessels of human memory. "Building renewal is a continuous transformation and upgrade." He believes that long-term protection of existing buildings requires transformative innovation, driven by evolving social, political, economic, and ecological needs. With over half of the global grey energy in buildings stored in their structures, design and planning should preserve this energy. Value-added development of buildings can contribute to climate and resource protection, and renewal is an ongoing process of cross-generational collaboration.

LIU Jing, Chief Technical Officer, Beijing City Construction Design and Development Group, presented a report titled "Technology Empowerment: Activating the City's 'Inner Vitality'." Through real-world cases spanning spatial optimization, industrial upgrading, and operational management, she analyzed how design can unlock the potential of urban elements and inject sustained momentum into urban renewal.

Dr. WANG Haishan, Chairman, JCC Certification Centre, shared insights on "The Practice and Future Prospects of Systematic Building Inspection in Urban Renewal." From the perspective of building "health checks," he provided a professional viewpoint on quality control, long-term development, and full life-cycle safety management for urban renewal, helping construction enterprises seize opportunities in the wave of urban renewal and contributing to high-quality industry development.

LI Yiran, Chief Representative China, Berlin Business Desk China, introduced Berlin's overall urban renewal transformation plan and used the green transformation of Tegel Airport as a case study to explore advanced European experiences in integrated community planning and sustainable building transformation, offering international references for China's urban renewal.

CHAI Peigen, Executive Chief Architect, China Architecture Design & Research Group, speaking on the theme "Green Renewal: Lightweight Prefabricated Practices for Urban Public Spaces," pointed out that a new aesthetic for green buildings under the concept of local design is gradually gaining consensus. Green is a driver for technological and design innovation. Advocating green concepts in old city renewal is both about preserving tradition and looking toward the future.

GUO Tao, Chief of Product Development, National Human Living Consulting Co. Ltd., presented steel structure modular building technology. As an early adopter of this technology, the company's design advantage is its core competency, covering the entire process. In urban renewal, the Beijing Xicheng Hutong emergency school building project addressed challenges like narrow construction sites and minimizing disturbance to residents. The Nyingchi, Tibet hotel project was completed in a very short time despite harsh cold conditions, demonstrating how construction industrialization and its applications are continuously empowered.

WANG Zhaodong, Board Director, Nanjing Chooshine Technology Group Co., Ltd., interpreted art through technology, sharing explorations and practices in metal cultural architecture. Starting from the "Five Systems" – personalization, parametrization, standardization, intellectualization, and modularization – and utilizing the "Digital Design and Resource Collaboration Platform," "Intelligent

Manufacturing Platform," and "Visual Process Control Platform," he explained, with specific cases, how metal cultural buildings use technological methods to achieve artistic effects and shared future prospects.

Wu Gang, Chairman and Founding Principal Designer of WSP Architects, delivered a keynote speech titled "Industrial-City Renewal and New-Quality Communities with Mixed Functions." He deeply analyzed how, under the background of industry-city integration, the model of new-quality communities with diverse mixed functions can promote the synergistic advancement of urban renewal and industrial development, opening new pathways for the application of construction industrialization in the industry-city domain.

04 Technology Cooperation Alliance

Initiate the International Green and Low-Carbon Technology Cooperation Alliance for Architecture to build a global collaborative innovation ecosystem

As a key outcome of this forum, the National Building Green and Low-Carbon Technology Innovation Center, together with European partners, launched the "International Alliance for Green and Low-Carbon Building Technology Cooperation" during the event.

Against the backdrop of intensifying global climate change, achieving the UN 2030 Sustainable Development Agenda and the Paris Agreement requires cross-regional collaborative innovation in the building sector. With the mission of "gathering global expertise, accelerating technology application, and driving industrial transformation," the alliance aims to integrate global innovation resources for interdisciplinary collaboration, deepen cooperation with international authoritative institutions to develop global technical standards, connect industrial resources to build a full-industry-chain cooperation platform, and partner with top academic institutions to establish a global

talent exchange network — all to facilitate the worldwide adoption of green and low-carbon technologies.

05. Closed-door dialogue

Closed-door dialogue among three-party investors, precisely matching global resources

On the afternoon of September 20, the "China-Europe Construction Industrialization Forum Trilateral Investment Roundtable (Closed-Door)" was held at the Beijing German Centre, hosted by the German Chamber of Commerce North China Chapter and the China-Europe Construction Industrialization Forum Organizing Committee. This closed-door roundtable aimed to discuss how to promote the cross-border integration of "technology + capital + market" and lay the foundation for trilateral market cooperation.

The 2025 China-Europe Green Building Industrialization Forum has injected new momentum into the transformation of the construction industry through "top-level dialogue + mechanism establishment + capital connection".