

“14th Five-Year Plan”
construction industry
development plan

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This plan is prepared in accordance with the "Outline of the 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Long-term Goals for 2035", which mainly clarifies the strategic direction of the development of the construction industry during the "14th Five-Year Plan" period, clarifies the development goals and main tasks, and is a guiding document for the development of the industry.

1. General requirements

(1) Planning background.

During the "13th Five-Year Plan" period, the reform and development of our country's construction industry has achieved remarkable results, with an average annual increase of 5.1% in the added value of the national construction industry, accounting for more than 6.9% of GDP, an average annual increase of 12.5% in the amount of contracts signed by construction enterprises, and an average annual increase in operating income of survey and design enterprises 24.1%, and the average annual growth rate of operating income of engineering consulting service

enterprises such as engineering supervision, cost consulting, and bidding agency exceeded 15%. In 2020, the total output value of the national construction industry reached 26.39 trillion yuan, achieving added value

7.2 trillion yuan, accounting for 7.1% of GDP, housing construction area

14.947 billion square meters, and the number of employees in the construction industry is 53.66 million. The role of the construction industry as a pillar industry of the national economy has been continuously enhanced, and it has made important contributions to promoting economic growth, alleviating social employment pressure, promoting the construction of new urbanization, ensuring and improving people's lives, and decisively building a moderately prosperous society in an all-round way.

While making achievements, the construction industry still has problems of low development quality and efficiency, which are mainly manifested in extensive development mode, low labor productivity, high energy consumption and high emissions, irregular market order, low overall construction quality, and frequent engineering quality and safety accidents.

The "14th Five-Year Plan" period is the beginning of the new development stage, the opportunity period for implementing urban renewal actions and promoting the construction of new urbanization, and it is also a critical period for accelerating the transformation and development of the construction industry. On the one hand, the construction market, as an important part of our country's super-large-scale market, is an important position for building a new development pattern, and has great potential and development space in the deep integration and development of advanced manufacturing and new generation information technology. On the other hand, our country's urban development has shifted from large-scale incremental construction to stock quality improvement and incremental structural adjustment, and the people's demand for housing has shifted from whether it is good or not, which will provide a rare opportunity for the construction industry to transform and develop. The construction industry urgently needs to establish a new development idea, organically combine the expansion of domestic demand with the transformation of the development mode, and promote it simultaneously, from

the pursuit of high-speed growth to the pursuit of high-quality development, from the expansion of "quantity" to the improvement of "quality", and embark on a new road of intensive development.

(2) Guiding ideology.

Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, thoroughly implement the spirit of the 19th National Congress of the Communist Party of China and the 19th Plenary Session of the Communist Party of China, based on the new development stage, completely, accurately and comprehensively implement the new development concept, build a new development pattern, adhere to the general tone of seeking progress while maintaining stability, take promoting the high-quality development of the construction industry as the theme, deepen supply-side structural reform as the main line, and promote the coordinated development of intelligent construction and new construction industrialization as the driving force, accelerate the transformation and upgrading of the construction industry, and achieve green and low-carbon development. We should earnestly improve the quality and

efficiency of development, continuously meet the needs of the people for a better life, and lay a solid foundation for starting a new journey of building a modern socialist country in an all-round way .

(3) Basic principles.

— **Adhere to overall planning and systematic promotion.** Adhere to the problem-oriented, goal-oriented and result-oriented, benchmark the economic and social development goals and long-term goals of the 14th Five-Year Plan period and the long-term goals of 2035, implement the goals and tasks of carbon peaking and carbon neutrality, strengthen forward-looking research, overall planning and strategic layout, clarify the direction and goals and tasks of the reform and development of the construction industry, adhere to the combination of overall promotion and key breakthroughs, and strive to build the industry A new pattern of development.

-- **Adhere to market leadership and government guidance.** We will continue to improve the management system and mechanism of the construction industry, build a high-standard construction market system, further promote the reform of "decentralization, management and service", further optimize the business environment, give full play to the decisive role of the market in resource allocation, better play the role of the government, and effectively stimulate the vitality of

all parties in the construction market.

— —Adhere to innovation-driven and green development. Promote green, industrialized, informatized, intensive, and industrialized construction methods, promote the deep integration of a new generation of information technology and the construction industry, actively cultivate new products, new formats, and new models, reduce material and energy consumption, reduce carbon emissions during the construction process, and achieve higher quality, more efficient, fairer, and more sustainable development.

— —Adhere to quality first and safety-oriented. Coordinate development and safety, adhere to the supremacy of the people and life, resolutely take quality and safety as the lifeline of industry development, take digital empowerment as the support, credit management as the starting point, improve the project quality and safety management mechanism, strengthen the role of government supervision, prevent and resolve major quality and safety risks, focus on improving the quality of buildings, and continuously enhance the

people's sense of gain.

2. Development goals

(1) Long-term goals for 2035.

With the goal of building a world building power, we will strive to build a modern construction industry development system with effective market mechanisms, controllable quality and safety, strong standard support, and dynamic market entities. By 2035, the quality and efficiency of the development of the construction industry will be greatly improved, the construction industrialization will be fully realized, the construction quality will be significantly improved, the innovation ability of enterprises will be greatly improved, the high-quality talent team will be fully established, and the overall advantages of the industry will be significantly enhanced.

(2) Development goals during the "14th 五" period.

In line with the long-term goal of 2035, the framework of the high-quality development system of the construction industry has been initially formed, the operation mechanism of the construction market has been improved, the business environment and industrial structure have been continuously optimized, the order

of the construction market has been significantly improved, the project quality and safety guarantee system has been basically improved, the level of construction industrialization, digitalization and intelligence has been greatly improved, and the green transformation of construction methods has achieved remarkable results, accelerating the transformation of the construction industry from large to strong Provide strong support for building a strong domestic market and building a new development pattern.

-- The status of the pillar industries of the national economy has become more stable. Complete the whole society with high quality

The average annual growth rate of the total output value of the national construction industry will remain within a reasonable range, and the added value of the construction industry will remain at about 6% of GDP. The new generation of information technology and the construction industry have achieved deep integration, giving birth to a number of new products, new formats and new models, and strengthening the new engine of economic development.

-- The modernization level of the industrial chain has

been significantly improved. Intelligent construction
and new buildings

The policy system and industrial system for the coordinated development of industrialization have been basically established, and the proportion of prefabricated buildings in new buildings has reached more than 30%, a number of construction industry Internet platforms have been created, a number of landmark products of construction robots have been formed, and a number of intelligent construction and prefabricated building industry bases have been cultivated.

-- Green and low-carbon production methods have taken shape. Green construction policy, technology, The implementation system has been initially established, the green construction method has been accelerated, the intensive level of engineering construction has been continuously improved, the emission of construction waste at the construction site of new buildings has been controlled below 300 tons per 10,000 square meters, the market mechanism for construction waste treatment and reuse has been initially formed, and a number of green construction demonstration projects have been built.

-- The construction market system is more perfect. The

revision of the Construction Law has been accelerated, and the law has been accelerated. The legal system has been improved. The enterprise qualification management system has been further improved, the management of individual professional qualifications has been further strengthened, the project guarantee and credit management system has been continuously improved, and the market-oriented mechanism of project cost has been initially formed. The organization mode of engineering construction has been continuously optimized, and general contracting and whole-process engineering consulting have been widely implemented. The employment methods in line with the characteristics of the construction industry have been basically established, and the construction workers have been corporatized and professionally managed, with more than 10 million construction workers above the intermediate level level.

-- The quality and safety level of the project has been steadily improved. Build quality and use function. The situation of construction safety production has continued to improve steadily, and major safety production accidents have been effectively curbed. The

review and acceptance of fire protection design of construction projects are carried out in a stable and orderly manner. The intelligent construction of urban rail transit projects has begun to bear fruit. The earthquake and disaster prevention capabilities of the project have been steadily improved. The level of technological innovation and application of quality and safety has been continuously improved.

3. Main tasks

(1) Accelerate the coordinated development of intelligent construction and new building industrialization.

1. Improve intelligent construction policies and industrial systems.

Implement the pilot demonstration and creation of intelligent construction, develop a number of pilot cities, build a number of demonstration projects, and summarize and promote replicable policies and mechanisms. Strengthen the research and development of basic commonality and key core technologies, and build an advanced and applicable intelligent construction standard system . Release typical cases of intelligent construction new technologies and new product innovation services, compile intelligent construction white papers, and promote digital design, intelligent production and intelligent construction. Cultivate intelligent construction industry bases, accelerate the construction of talent teams, and form an intelligent construction industry system that integrates the entire industrial chain such as scientific research, design, production and processing, construction and assembly, and operation

.

2. Consolidate the foundation of standardization and digitalization.

Improve standards such as modulus coordination and component selection, establish a standardized component library, promote the standardization of building planes, facades, components, and interfaces, and promote design methods with fewer specifications and multiple combinations, so as to

achieve the unity of standardized application and BIM

diversification. BIM accelerate the integrated standard system will be basically formed.

application of building information modeling (BIM)

1. Promote the research and development of technology in the whole life cycle of the project,

improve data interaction and safety standards,

strengthen the digital collaboration of design,

production, and construction, and promote the

delivery and application of digital achievements in

the whole process of engineering construction.

2. Improve the BIM standard system. Accelerate the preparation of data interface, information exchange and other standards, and promote the integrated application of BIM with production management systems, engineering management information systems, and construction industry Internet platforms.

3. Guide enterprises to establish BIM cloud service platforms. Promote the cloud-based information transmission and realize data sharing in design, production, and construction.

4. Establish a BIM-based regional management system. Study the standards, guidelines and platform construction requirements for regional management using BIM technology,

3. Promote digital collaborative design.

Use digital means to enrich the method of creating schemes and improve the level of architectural design scheme creation. Encourage large design enterprises to establish digital collaborative design platforms, promote integrated design of buildings, structures, equipment pipelines, decoration, etc., and improve the collaborative design capabilities of various specialties. Improve the depth requirements for the preparation of construction drawing design documents, improve the level of refined design, and provide a foundation for subsequent refined

production and construction. Research and use parametric and generative design software to explore the application of artificial intelligence technology in design. Research and apply geotechnical engineering survey information mining, integration technology and methods to promote the digitalization of the survey process.

4. Vigorously develop prefabricated buildings.

Build a standardized design and production system for prefabricated buildings, promote the intelligent upgrading of production and construction, and expand the scale of use of standardized components and parts

Comprehensive benefits of prefabricated buildings. Improve the prefabricated concrete building structure system suitable for different building types, and increase the integrated application of high-performance concrete, high-strength steel bars, energy dissipation and shock absorption, and prestress technology. Improve the standard system of steel structure buildings, promote the establishment of a general technical system for steel structure housing, improve the pricing basis of steel structure building projects, and guide the coordinated development of upstream and downstream industrial chains with standardization as the main line. Actively promote the application of prefabricated decoration methods in commercial housing projects, promote pipeline separation and integrated decoration technology, promote integrated modular building parts, and promote the deep integration of prefabricated decoration and prefabricated buildings.

Vigorously promote the application of prefabricated
buildings, actively promote the construction of high-quality steel structure housing, and encourage the use

of steel structures in public buildings such as schools and hospitals. Cultivate a number of prefabricated building production bases.

5. Build an Internet platform for the construction industry.

Strengthen the research on basic common technologies of the Internet platform in the construction industry, and compile key technical standards, development guidelines, and white papers. Carry out pilot projects for the construction of Internet platforms in the construction industry, explore system solutions suitable for different application scenarios, cultivate a number

of industry-level, enterprise-level, and project-level	Column 2 Construction of Internet
Internet platforms for the construction industry, and	In 2025, a government supervision platform, and
will be initially formed, and a number of industry-level,	build a government supervision platform. Encourage
enterprise-level, project-level platforms and government	enterprise-level, project-level platforms and government
construction enterprises, Internet enterprises, and	construction enterprises, Internet enterprises, and
scientific research institutes to cooperate and	scientific research institutes to cooperate and
strengthen the integration and application of new	strengthen the integration and application of new
generation information technologies such as the Internet	generation information technologies such as the Internet
of Things, big data, cloud computing, artificial	of Things, big data, cloud computing, artificial
intelligence, and blockchain in the construction field.	intelligence, and blockchain in the construction field.

Promote the construction of industry-level construction industry Internet platforms in key areas such as equipment leasing, construction labor, and decoration, improve the level of supply chain coordination, and promote the efficient allocation of resources.

2. Actively cultivate enterprise-level platforms. Give full play to the demonstration and leading role of leading enterprises, build an enterprise-level construction industry Internet platform based on the enterprise resource planning (ERP) platform, realize intensive allocation of enterprise resources and intelligent decision-making, and improve the efficiency of enterprise operation and management.

6. Accelerate the research and development and application of construction robots.

Strengthen research on core technologies of construction robots such as new sensing, intelligent control and optimization, multi-machine collaboration, and human-machine collaboration, study and compile key technical standards, and form a number of iconic products of construction robots. Actively promote the

typical application of construction robots in production, construction, R&D, maintenance and other links, focus on promoting the application of construction robots will be formed to achieve mass application in some fields.

robots that match prefabricated buildings, and assist and replace "dangerous, complicated, dirty, and heavy" construction operations. Promote intelligent engineering equipment such as intelligent tower cranes and intelligent concrete pumping equipment, and improve the level of mechanization and intelligence in engineering construction.

Focus on key factory production processes such as material welding, partition wall panels and integrated kitchen and bathroom production, and promote the innovative application of construction robots.

2. Accelerate the research and development of construction robots. Accelerate the research and development and application of construction robots with a focus on on-site construction links

7. Promote green construction methods.

Continue to deepen the pilot work of green construction and refine replicable and promotion experience. Carry out the creation of green construction demonstration projects, improve the intensive level of engineering construction, and realize refined design and construction. Cultivate green construction innovation centers, and accelerate the research and industrial application of key core technologies. Research and establish green construction policies, technologies, and

implementation systems, Issue green construction

technical guidelines and pricing basis, and build a green waste in various regions will be further improved, and the construction standard system covering the whole process emission of construction waste (excluding engineering muck of project construction. Fully implement green and engineering mud) at the construction site of new construction in government-invested projects and large-buildings will not be higher than 300 tons per 10,000 square scale public buildings. Actively promote the reduction

of construction waste at construction sites, promote the efficient treatment and reuse of construction waste, and explore the establishment of an integrated and coordinated green construction industry chain such as R&D, design, production of building materials and parts, construction, and resource recycling and reuse.

Establish a publicity system for construction waste emissions at construction sites, and study the access and guarantee mechanism of construction waste resource products.

2. Promote technological and management innovation. Support the development of construction waste reduction technology and management innovation research, create a number of technology transformation platforms, and form an innovative ecological chain for the whole process of construction waste management with basic

(2) Improve the operation mechanism of the construction market.

1.Strengthen the construction of the credit system in the construction market.

Improve the credit management policy system of the construction market, and build a new credit-based construction market supervision mechanism.

Improve the national construction market supervision public service platform, strengthen the collection and sharing of information on administrative licenses, administrative penalties, project performance, quality and safety accidents, supervision and inspection, awards and evaluations, and comprehensively record the credit behavior of all parties in the construction market. Promote the sharing of credit information between departments,

encourage social organizations and third-party institutions to participate in credit information aggregation, and enrich and improve the credit files of construction market entities. Implement hierarchical and classified management of credit information, strengthen the application of credit information in government procurement, bidding and bidding, administrative approval, market access, and other matters, and implement differentiated supervision based on the credit status of market entities. Strengthen the investigation and punishment of illegal contracting, subcontracting, illegal subcontracting, qualification affiliation, and other violations of laws and regulations, improve and implement the "blacklist" system for construction market entities, carry out punishment for dishonesty, and continue to standardize the order of the construction market.

Column 5 Construction of a public service platform for national construction market supervision
<p>In 2025 , the "Internet + government services" and "Internet + supervision" systems covering the construction industry will be basically formed, and the Internet platform will be connected to support the construction industry.</p> <p>1. Promote the interconnection and sharing of industry data. Unify data standards and break down data barriers. Actively apply advanced information technologies such as BIM, Internet of Things, and blockchain, strengthen the collection and sharing of government supervision data and market entity behavior data, and basically build a basic database for the construction industry.</p> <p>2. Improve the quality of government services. Comprehensively implement electronic licenses for construction permits and electronic licenses for fire design review and acceptance, and accelerate the promotion and application of electronic licenses for enterprise qualification certificates and personnel registration and practice certificates. Promote the collection and sharing of various electronic license information nationwide, provide technical support for relevant government service matters, and promote the realization of "more data and less errands for the masses".</p> <p>3. Innovate the credit supervision model. Improve the construction market credit information database, strengthen the collection and sharing of administrative licenses, administrative penalties, project performance, awards and other information, and</p>

establish and improve the credit files of construction market entities. Implement hierarchical and classified management of credit information, increase the disclosure of credit information, and promote the scientific and standardized application of credit information. Explore the establishment of a mechanism for big data to assist supervision and decision-making, and improve the government's digital supervision capabilities.

2. Deepen the reform of the bidding and bidding system.

Improve the bidding and bidding system, further expand the autonomy of the bidder, and strengthen the primary responsibility of the bidder. Encourage qualified regional governments to implement relatively centralized and specialized management of investment projects in accordance with the principle of separation of construction and use. Optimize the bid evaluation method, take the bidder's credit and project quality and safety as important indicators for bid evaluation, and give priority to bidding plans that meet the requirements of green development. Actively promote the use of the "evaluation separation" method to determine the winning bidder. Improve the entrustment and billing mode of design consulting services, promote the selection of design units by team bidding, explore the

market-oriented labor time pricing mode of design services, and design services according to the content, depth and quality of design services

Determine the price of design services reasonably and promote the realization of "selecting the best according to quality, high quality and high price". Comprehensively implement the electronic and remote evaluation of the whole process of bidding and bidding transactions, increase the disclosure of information on bidding and bidding activities, and accelerate the interconnection and sharing of transaction and regulatory data. Standardize the handling of bidding objections and complaints, strengthen supervision during and after the event, seriously investigate and deal with violations of laws and regulations such as evading bidding, collusion in bidding, and fraud in accordance with the law, and promptly correct the practice of restricting or excluding foreign enterprises from contracting business through the establishment of unreasonable conditions, so as to form a unified, open, competitive and orderly market environment.

3. Improve the enterprise qualification management system.

Deepen the reform of the qualification management system of construction engineering enterprises, revise

and promulgate regulations and standards for enterprise qualification management, greatly reduce the categories and levels of enterprise qualifications, and relax restrictions on access to the construction market. Decentralize the authority of enterprise qualification approval, implement the enterprise qualification approval notification and commitment system and the electronic certificate of enterprise qualification certificates, simplify all kinds of certification items , and realize the "one-stop service" of enterprise qualification approval. Strengthen the linkage management of enterprise qualifications and quality and safety, implement the "one-vote veto" system, severely punish enterprises that have quality and safety accidents in accordance with the law, and not approve their qualification applications within a certain period of time . Make full use of information technology to strengthen dynamic supervision after qualification approval, and list enterprises with violations of laws and regulations, frequent quality and safety problems, or major quality and safety hazards as key verification objects, and withdraw those that do not meet the

requirements of qualification standards in accordance with the law.

4. Strengthen the management of individual practice qualifications.

Improve the management system for registered architects, survey and design registered engineers, registered builders, registered supervision engineers and registered cost engineers, and further clarify the rights, obligations and responsibilities of registered personnel. Promote vocational qualification examinations, registration, practice,

Continuing education and other system reforms, and the implementation of electronic licenses for registered practice certificates. Improve the practice ability of registered personnel, strictly implement the practice signature system, explore the establishment of an individual practice insurance system, and standardize professional behavior. In some areas, explore the implementation of a deduction system for the practice of registered personnel, and restrict practice and receive continuing education after the deduction reaches a certain number. Promote professionalism and enhance the professionalism and social responsibility of registered personnel .

5. Implement the project guarantee system.

Accelerate the implementation of bidding guarantees, performance guarantees, project quality assurance guarantees, and migrant workers' wage payment guarantees, and increase the replacement rate of guarantees for various types of deposits. Accelerate the implementation of the bank guarantee system, and explore the guarantee of engineering guarantee companies and project guarantee insurance. Implement

the construction unit project payment guarantee system. Vigorously promote electronic guarantees, study and formulate model texts of guarantees and electronic guarantee data standards, and increase the disclosure of guarantee information.

6. Improve the project supervision system.

Further consolidate the responsibility of supervision, clarify the scope of responsibilities, improve the ability of supervision, rectify and standardize the supervision market, and optimize the market environment. Encourage supervision enterprises to participate in urban renewal actions, new urbanization construction, and high-quality green building construction. Encourage supervision enterprises to participate in project quality and safety supervision and inspection through government procurement services, and strengthen the role of project supervision in quality and safety management. Promote the supervision of major engineering construction projects in railway engineering and other fields, and report to the government. Promote the standardization and informatization of the supervision industry, organize

industry associations and supervision enterprises to study and formulate group standards, enterprise standards, and model texts related to engineering supervision, and promote BIM

The integration and application of modern information technology such as technology, Internet of Things, and artificial intelligence in engineering supervision .

7. Deepen the reform of project costs.

Improve the project pricing basis system, proceed from national conditions, learn from international practices, improve project measurement and pricing rules, optimize the preparation, release and dynamic management mechanism of pricing basis, and better adapt to the needs of marketization. Build a platform for publishing market price information , encourage enterprises, institutions and industry associations to release market price information such as labor, materials, and machinery through the platform, and further improve the mechanism for the formation of the project cost market. Accelerate the establishment of a project cost database invested by state-owned funds, strengthen the accumulation of project cost data, and provide a basis for the preparation of relevant project budgets. Strengthen the cost control responsibility of construction units, strictly manage the performance of construction contracts, and comprehensively implement

the settlement and payment of prices during the construction process . Improve the regulatory system of the cost consulting industry, and build a new pattern of collaborative supervision led by the government, enterprise autonomy, industry self-discipline, and social supervision.

(3) Improve the organization model of project construction.

1. Promote the general contracting model of projects.

Accelerate the improvement of the system regulations on bidding, project pricing, and contract management related to general contracting, and implement the main responsibility of the general contractor for engineering design and construction. Focusing on prefabricated buildings, we should encourage and guide engineering projects with clear construction content and mature technical solutions to give priority to the general contracting model. Support the general contractor to become better and stronger, the professional contractor to refine and specialize, improve the comprehensive service capabilities of the general contractor in project management, resource allocation, risk control

and other comprehensive services, and further extend financing, operation and maintenance services. Promote in the general contracting project

The application of BIM technology in the whole process promotes the deep integration of technology and management, design and construction. Encourage construction units to reward general contractors according to the implementation benefits.

2. Develop whole-process engineering consulting services.

Accelerate the establishment of whole-process engineering consulting service delivery standards, work processes, contract systems and management systems, clarify the relationship between rights and responsibilities, and improve the calculation method of service remuneration. Develop a whole-process engineering consulting service model covering investment decision-making, project construction, operation and other links, and encourage government investment projects and state-owned enterprise investment projects to take the lead in implementation. Cultivate a group of internationally competitive whole-process engineering consulting enterprises and leading talents.

3. Implement the architect responsibility system.

The architect responsibility system should be implemented in civil construction projects, and on the basis of coordinating all specialties and links in the design stage, architects should be responsible for the management and service of the whole process of engineering construction. Guidance on the implementation of the architect responsibility system has been promulgated, and supporting systems such as commissioning and contracting methods, service standards, contract model texts, and personal practice insurance have been improved. According to the contract, the architect is given the right to issue instructions and approve the project on behalf of the construction unit, clarify the architect's corresponding design main responsibility and consulting management responsibility, and better play the architect's role in building quality control. Expand the design consulting service chain, and promote the extension of engineering design consulting services to specialization and high-end value chains. Explore the establishment of a pre-construction planning and post-evaluation system, optimize the technical planning of the project in the

early stage, conduct a comprehensive evaluation of the functions, benefits, and environmental impact of the used buildings, and strengthen the leading role of design.

(4) Cultivate a team of workers in the construction industry.

1. Reform the construction labor employment system.

Encourage construction enterprises to establish a relatively stable team of core skilled workers by cultivating their own construction workers and absorbing high-skilled technical workers and vocational college graduates. Guide the transformation and development of small and micro labor service enterprises into professional operation enterprises, and further specialize and refine. Formulate vocational skills standards and evaluation standards for construction workers, and implement a lifelong vocational skills training system. Promote the cooperation between large central enterprises in the construction industry and higher vocational colleges to run schools, build a training base for construction industry workers, and strengthen skills training. Promote the formulation of basic allocation standards for skilled workers at construction sites, and promote special types of work such as prefabricated building grouters,

component assemblers, and steel structure hoisters to hold certificates. Improve the market-oriented information release mechanism for labor prices in construction occupations (types of work), and guide construction enterprises to link the salary of construction workers with their skill levels. Fully implement the labor contract system for construction workers.

2. Strengthen the real-name management of construction workers.

Improve the national construction worker management service information platform, make full use of the Internet of Things, biometrics, blockchain and other new generation information technologies to realize the real-name system of construction workers, labor contracts, training records and assessment evaluation, operation performance and evaluation, etc. Formulate unified data standards, strengthen data docking and mutual recognition between various system platforms, and realize national data interconnection and sharing. Combine construction worker management data with daily supervision, strengthen the application of data analysis, and improve supervision efficiency. On

the basis of the real-name management of construction workers, strengthen the supervision of management personnel to perform their duties, strictly implement the real-name employment of special operators, and press on-site management and technology

Personnel responsibility.

3. Protect the legitimate rights and interests of construction workers.

Improve the long-term mechanism for ensuring the payment of construction workers' wages, implement systems such as wage guarantees and special wage account management, and implement a system for subcontracting units to entrust the general contractor to pay the wages of migrant workers. Improve the social insurance payment mechanism for construction workers to protect occupational safety and health rights. Implement the basic configuration of the living environment, labor protection and working environment of the construction site, and continue to improve the production and living environment of construction workers. Enterprises with conditions are encouraged to conduct occupational health examinations before, during and after employment in accordance with national regulations.

(☒) Improve the project quality and safety assurance system.

1. Improve the level of engineering construction standards.

Improve the construction project quality

standard system, improve safety standards, and strengthen standardization measures for project quality assurance. Further improve building performance standards, and reasonably determine building quality indicators such as energy saving, indoor and outdoor environmental quality, barrier-free, and age-friendly. Research and formulate a standard system for green building design, construction, operation and maintenance, improve the green transformation technology and evaluation standards of existing buildings, and compile relevant standards for ultra-low energy consumption and near-zero energy consumption buildings.

2. Implement project quality and safety responsibilities.

Fully implement the quality and safety responsibilities of all parties involved in project construction and project leaders , further clarify the boundaries of responsibility, and build a quality and safety main responsibility system with the construction unit as the primary responsibility. Improve the responsibility traceability mechanism, increase the intensity of quality and safety accountability, and

seriously investigate and deal with accidents in accordance with laws and regulations. Strictly implement the quality of the project

The personal responsibility system implements the power of attorney of the legal representative, the commitment letter of lifelong responsibility for quality, and the permanent signage system. Research and formulate standards for construction safety risk prevention and control and major hidden danger investigation and management, and establish and improve the dual prevention working mechanism. Improve the safety production permit system, and explore the implementation of the "national one certificate, provincial management" method.

3. Comprehensively improve the level of project quality and safety supervision.

Improve the supervision mechanism of project quality and safety, improve the supervision system at the provincial, municipal and county levels, clarify the responsibilities of supervision at all levels, and strictly implement the supervision responsibilities. Relying on the national project quality and safety supervision platform and local supervision platforms at all levels, we will vigorously promote "Internet + supervision", and make full use of big data, cloud computing and other information means and

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In 2025 , the management laws and regulations of ready-

differentiated supervision methods to achieve "smart" supervision. Improve the connection mechanism between quality and safety supervision and law enforcement , and improve the level of precise law enforcement and service. Strengthen the construction of project quality and safety supervision teams, increase the training of professionals, strengthen the hierarchical supervision and assessment mechanism, and improve the standardization and specialization of the supervision team. Organize and carry out special governance actions for the national engineering quality inspection industry, standardize the order of the testing market, and severely crack down on fraud and other violations of laws and regulations in accordance with the law.

Technical specifications for the application of sand making concrete, and revision of ready-mixed concrete product standards.

4. Organize and carry out illegal sand investigation

Column 7 Special treatment of sub-

In 2025, the management and control mechanism of major safety risks and the investigation and management of hidden dangers will be more sound, the safety production responsibility system will be more perfect, the support capacity of safety science and technology will be significantly enhanced, and construction safety accidents will be effectively curbed.

1. Formulate the "Guidelines for the Preparation of Special Construction Plans for Dangerous Sub-projects", strengthen the rectification of outstanding problems in the

4. Build a new situation of project quality and safety governance.

Accelerate the construction of a project quality and safety credit system, further improve the system for collecting and disclosing quality and safety credit information, and increase incentives for trustworthiness and punishment for untrustworthiness. Improve the penalty mechanism for production safety, and strictly implement the "one-vote veto" system for production safety accidents . Vigorously

develop engineering quality insurance, actively carry out top-level design research on quality insurance, launch a new round of quality insurance pilots on a city-by-city basis, and accelerate the construction of the national engineering quality insurance information system. Formulate implementation measures for construction safety production liability insurance, and establish and improve the prevention mechanism for insurance claims accidents. Promote the establishment of a construction project quality evaluation system, and form quantifiable evaluation indicators and evaluation machines

Encourage the government to purchase services and entrust qualified third-party institutions to independently carry out quality evaluation. Promote the implementation of the quality information publicity system of residential projects, and give full play to the role of social supervision and restraint. Promote the marketization of fire protection technical services in construction projects and standardize technical service behavior.

5. Strengthen the quality management of survey and design.

Improve and improve the survey and design quality management system, revise the survey quality management method, and formulate design quality management methods. Strengthen the role of construction drawing review, comprehensively promote digital review, and explore the promotion of BIM review and artificial intelligence review. Promote the establishment of a survey and design quality supervision information system, strengthen the information supervision of the whole process of survey and design quality, increase the investigation and punishment of violations of laws and regulations and mandatory standards for engineering construction, and

establish a system for the disclosure of key information in the review of construction drawings. Strengthen and improve the management of fire design review, explore and promote the separation of technical review and administrative approval, and promote the development of third-party services for fire protection design technical review. Promote the simultaneous review of fire design technology and construction drawings to improve the quality and efficiency of review.

6. Optimize the project completion acceptance system.

Improve the residential sub-household acceptance system, encourage home buyers to participate in the sub-household acceptance, and retain image data for each household as residential delivery files. Refine the "Residential Quality Assurance Certificate" and "Residential Instruction Manual", formulate and publish model texts, and clarify the format and basic content of the "two books". The trial construction unit will issue residential quality certificate documents according to the set. Standardize the management of fire acceptance, promote the inclusion of fire acceptance in the

joint acceptance of completion, and issue acceptance opinions in a unified manner.

7. Promote the standardization and informatization of engineering quality and safety management.

Comprehensively implement the engineering quality and safety manual system, accelerate the improvement of the manual system, and improve the safety production standardization evaluation system of construction enterprises and engineering projects. Research and formulate the quality and safety management system of prefabricated buildings, use information technology to realize the traceability management of the production quality of parts and components, and

strengthen the quality and safety control of key

construction links such as vertical node connections. In 2025, the quality and safety response mechanism and risk prevention and control system of urban rail transit projects will be more sound, and the level of licenses" in the field of construction safety, promote standardization, informatization, and intelligence will be the digitization of enterprise-related and person-related licenses, and realize the networking and one-stop query of qualification certificates for special

of construction units, and improve multi-stage acceptance operations in construction construction. Formulate a management countermeasures. Promote the construction and list of encouraged applications and restricted application of urban rail transit engineering quality and safety

elimination of construction engineering materials, processes, and equipment, promote safe, advanced and applicable construction technologies, and limit the elimination of backward processes.

(6) Steadily improve the earthquake and disaster prevention capabilities of the project.

1. Improve the engineering earthquake disaster prevention system and standard system.

Implement the relevant provisions of the "Regulations on the Management of Seismic Resistance of Construction Projects", comprehensively sort out the current system, and speed up the formulation and revision of supporting rules and regulations. Continuously improve the earthquake resistance of the project

The disaster prevention technical standard system should increase the intensity of preliminary research on standards, accelerate the formulation of engineering seismic appraisal and reinforcement standards, and formulate and revise the application standards for new seismic technologies such as engineering seismic absorption and seismic isolation, so as to provide support for improving the level of engineering seismic and disaster prevention.

2. Strictly supervise the seismic fortification of construction projects.

Strengthen the supervision of the implementation of seismic standards for construction projects and the supervision of the quality of seismic fortification, establish a special compilation system for seismic fortification of major construction projects in key areas, and improve the approval system for seismic fortification of high-rise building projects and the special demonstration system for seismic fortification of municipal projects. Fully implement the seismic fortification requirements for buildings located in high-intensity fortified areas and key earthquake monitoring and defense areas, and ensure that new

schools, kindergartens, hospitals, elderly care institutions, child welfare institutions, emergency command centers, emergency shelters, radio and television buildings, and other buildings meet the requirements for normal use under fortified earthquakes. Implement the credit record system for enterprises and employees responsible for seismic resistance of projects, and increase the disclosure of credit information.

3. Promote the development of engineering earthquake and disaster prevention industry and technology.

Promote the development of engineering earthquake resistance and disaster prevention industry, and support the transformation of technological achievements such as rapid seismic reinforcement of the new economy, new seismic reduction and isolation, and integration of active and passive structures. Establish a traceability management mechanism for the whole process of quality information of seismic isolation and damping devices, explore the quality information publicity system of seismic isolation and damping devices, give full play to the role of social supervision and restraint, and ensure

the healthy development of the industry. Strengthen the basic theory and application research of earthquake resistance and disaster prevention, and gradually realize the basic independence and control of key core technologies such as project seismic calculation software and large-scale equipment.

4. Improve the level of earthquake and disaster prevention management and the earthquake resistance of projects.

The first national comprehensive risk census of natural disasters has been fully completed, and a unified national housing construction and municipal infrastructure has been established

The basic database of engineering earthquake and disaster prevention uses information technology to improve the modernization level of engineering earthquake and disaster prevention management, and provides basic data for the construction of urban information model (CIM) platform and digital supervision of engineering construction. Strengthen the appraisal of the seismic performance of housing buildings and municipal infrastructure, promote the implementation of housing facilities reinforcement projects in earthquake-prone areas, and improve the seismic capacity of existing buildings.

(7) Accelerate the pace of "going global" in the construction industry.

1. Promote the internationalization of engineering construction standards.

Strengthen exchanges and cooperation with relevant international standardization organizations, and participate in the formulation of international standardization strategies, policies and rules. Actively participate in the preparation and management of international standards, and actively lead the formulation of international standards. Accelerate the

compilation of foreign language versions of our country's engineering construction standards , and encourage the simultaneous translation of important standards. Strengthen exchanges and cooperation with countries and regions along the "Belt and Road" on multilateral and bilateral project construction standards, and promote the transformation of our country's standards into international or regional standards. Strengthen the promotion and application of our country's standards in foreign aid projects and the construction of the "Belt and Road".

2. Improve the external contracting ability of enterprises.

Encourage our country's construction enterprises, engineering design and other consulting service enterprises to participate in the joint construction of the "Belt and Road", and actively carry out international engineering contracting and labor service cooperation. Support enterprises to carry out general contracting and whole-process engineering consulting business, promote the expansion of foreign contracting business to high value-added fields such as project financing, design consulting, operation and maintenance

management, and gradually improve the voice and competitiveness of our country enterprises in the international market. Strengthen the supervision and management of foreign contracted projects, and standardize the overseas business behavior of enterprises.

3. Strengthen international exchanges and cooperation.

Accelerate the signing of bilateral memorandums of cooperation in engineering construction with countries and regions along the "Belt and Road" , strengthen communication and coordination and information sharing among competent government departments, and jointly promote construction enterprises to "go global". Promote the international mutual recognition of professional qualifications in the field of engineering construction such as registered architects, expand channels for exchanges and cooperation of young talents, and accelerate the cultivation of compound talents who are familiar with international rules.

4. Safeguard measures

(1) Strengthen the implementation of the plan.

All localities should increase overall planning, coordination and support, establish a coordinated promotion mechanism, clarify the division of tasks, strengthen dynamic tracking, and ensure that the goals and tasks of the plan are implemented. Encourage industry associations to actively feedback on the implementation of the plan and policy suggestions to government departments, give full play to the role

of industry self-discipline, and improve the ability to serve industries and enterprises.

(2) Carry out evaluation and assessment.

Strengthen statistical monitoring and performance evaluation of the implementation of the plan, and dynamically adjust the plan according to the progress of tasks, the completion of stage goals, and new trends in technological development. Improve the supervision and assessment mechanism, give commendation to areas with remarkable results in planning implementation, and urge areas where planning organization and implementation are not in place to intensify their work .

(3) Strengthen publicity and guidance.

All localities should promptly summarize replicable and generalizable practical experience, widely publicize the new progress and new results of the implementation of the plan, mobilize the enthusiasm of all sectors of society to support the high-quality development of the construction industry, and create a good development environment.