



中国建筑业的发展状况 与前景展望

The status and prospect development
of China's Construction Indust

中国建筑业协会副会长 吴涛
Vice chairman of CCIA Wutao

尊敬的主席先生、女士们、先生们、朋友们，大家好！

Dear Mr. President, ladies and gentlemen, good afternoon !

在第8届建筑管理首尔论坛召开之际，我谨代表中国建筑业协会及我本人向本次论坛的举办表示衷心祝贺！

On behalf of the China Construction Industry Association and myself, I would like to extend my heartfelt congratulations to the opening of the 8th CM Seoul Forum.

按照论坛日程安排，今天我的发言主题是“中国建筑业的发展状况与前景展望”。

According to the schedule of the forum, today my topic is “The status and prospect development of China’ s Construction Industry ” .

目录

CONTENTS

①

中国建筑业产业地位与 “十三五”规划

China's construction industry status and the
13th Five-Year Plan

②

中国建设工程项目管理体系的 形成与创新

The formation and innovation of China's construction
project management system

③

推行新型建造方式，加速建筑产业 现代化进程

Accelerate the modernization of the construction industry by
implement new construction methods

中国建筑业产业地位 与 “十三五” 规划

China's construction industry status
and the 13th Five-Year Plan

章节一 Part 1

中国建筑业发展的基本状况

The basic situation of China's construction industry

改革开放四十年来，我国政府始终把建筑业定位为国民经济的支柱产业。

In the four decades since the reform and opening up, our government has always positioned the construction industry as the pillar industry of the national economy.

1、建筑业对国民经济的贡献巨大

The great contribution that the construction industry has made to the national economy

2017年建筑业总产值达到21.3954万亿元，同比增长10.5%，是1980年的746倍。

In 2017, the total output value of the construction industry reached 21.3954 trillion yuan, a year-on-year increase of 10.5%, which was 746 times that of 1980.

依据建筑业增加值在GDP中所占比重的排序，建筑业排在第四位。

The construction industry ranks fourth in terms of the proportion of the added value of the construction industry in GDP.

中国建筑业发展的基本状况

The basic situation of China's construction industry

2、建筑产业规模及建造能力不断提升

The construction industry scale and construction capacity are continuously improved

有从事施工活动的建筑业企业8万多个，工程勘察设计企业近万家，工程监理企业7500多个，从业人员5600万以上。中国的超高层建筑技术、高铁设计施工技术已在全世界属于领先地位，世界超高层建筑50%都在中国，高铁已经达2.2万公里，约占世界高铁总里程的60%以上。港珠澳大桥集桥、岛、隧道于一体，全长55公里，是世界上最长的跨海大桥。

There are more than 80,000 construction enterprises engaged in construction activities, nearly 10,000 engineering survey and design enterprises, more than 7500 engineering supervision enterprises, and more than 56 million employees. China's super-tall building technology and high-speed railway design and construction technology have been the leading position in the world. Fifty percent of the world's super-tall buildings are in China. The high-speed rail has reached 22,000 kilometers, accounting for more than 60 percent of the world's total. Hong kong-zhuhai-macao bridge which is a collection of bridge, island and tunnel is the longest cross sea bridge in the world with a total length of 55 kilometers.

中国建筑业发展的基本状况

The basic situation of China's construction industry

3、建筑业相关产业协同发展

Coordinated development of construction industry related industries

建筑业需要消耗建材涉及冶金、机械、化工、纺织、轻工、电子、交通、电力、运输等50多个行业、2000多个种类、3万多种规格的产品，有力的促进和带动了上下游产业的发展。

Construction Industry takes building materials involved in metallurgy, machinery, chemical, textile, light industry, electronics, transportation, power, carriage and more than 50 industries, more than 2000 species and 30000 kinds of specifications of products, which promotes and drives the development of the upstream and downstream industries strongly.

中国建筑业发展的基本状况

The basic situation of China's construction industry

4、建筑国际市场开拓稳步增长

The exploration of construction international market is steadily increased

具有对外承包工程经营资格的企业超过4000家，有65家企业进入美国《工程新闻记录》公布的2017年度“全球最大250家国际承包商”榜单。对外承包业务已遍布全世界190多个国家和地区。

There are more than 4,000 enterprises with the qualification of contracting foreign projects. There are 65 enterprises have entered the list of "The world's 250 largest international contractors" released by the US engineering news record in 2017. External contracting business has spread to more than 190 countries and regions all over the world.

中国建筑业“十三五”乃至未来发展前景看好

During the Five-Year period and even the future China's construction industry is looked promising

“十三五”是我国全面建成小康社会、实现民族复兴中国梦的决胜历史阶段。建筑业作为支柱产业，促进经济社会发展，建设创新型国家承担着崇高的历史使命。

The 13th Five-Year is the decisive period for China to build a moderately prosperous society in all respects and realize the Chinese dream of national rejuvenation. As the pillar industry, the construction industry bears the lofty historical mission in promoting economic and social development and building an innovative country.

一是从国家“十三五”规划目标看，随着新型工业化、信息化、绿色化、城镇化、农业现代化，特别是新型城镇化建设快速发展，将带来新一轮的投资热潮。城镇化发展将构建“两横三纵”战略格局。涉及全国20多个城市群、180多个地级以上城市和2万多个城镇的建设。

Looking from the target of the 13th five-year plan , with the new industrialization, informatization, greening, urbanization and agricultural modernization, especially the new construction and rapid development of urbanization, it will brings a new round of investment boom. The urbanization development will construct the "two horizontal and three vertical" strategic pattern. It is involved in the construction of more than 20 urban agglomerations, more than 180 prefecture-level cities and over 20,000 towns.

中国建筑业“十三五”乃至未来发展前景看好

During the Five-Year period and even the future China's construction industry is looked promising

二是建筑业“十三五”规划明确了五年建筑业持续健康发展六大目标。建筑业总产值年均增长7%，增加值年均增长5.5%，工程咨询等服务企业营业收入年均增长8%，对外工程承包营业额年均增长6%，培育高素质的建筑产业工人队伍，到2020年中级以上的建筑工人数量达到8300万，其中形成产业工人300万人；要求绿色建筑占新建建筑比重达到50%，装配式建筑面积占新建建筑面积比例达到15%。

The 13th five-year plan of the construction industry has identified six major goals for the sustainable development of the construction industry during the five year. The total output value of the construction industry increased by 7% annually and the added value increased by 5.5% a year. The annual revenue of service enterprises, such as engineering consulting, increased by 8%. The annual turnover of external contracting projects increased by 6%. To cultivate high-quality construction workers. By 2020, the number of above the intermediate level construction workers will be 83 million which include 3 million industrial workers. Green development requires that green buildings account for 50% of new buildings and prefabricated building area accounts for 15% of the new construction area.

中国建筑业“十三五”乃至未来发展前景看好

During the Five-Year period and even the future China's construction industry is looked promising

三是东北老工业区振兴、中部崛起、西部大开发、京津冀一体化发展前景看好，大有作为。特别是雄安新区的设立和建设，通过区域发展战略探索人口经济密集地区优化开发的创新模式，将为未来中国经济社会发展打造新的增长极，解决长期以来形成的东西部、沿海内陆地区发展不平衡问题，其发展红利不仅将惠及京津冀，也进一步辐射全国。

The revitalization of the old industrial zone in northeast China, the rise of the central region, the development of the western region and the integration of the beijing-tianjin-hebei region are looked promising. Especially the establishment and construction of the Xiong An New Area will be the innovative mode of optimizing the development of population economy and create new growth pole for China's future economic and social development. It will solve the problem of unbalanced development of the eastern and western regions and the inland and coastal areas. Its development dividend will benefit not only the beijing-tianjin-hebei region, but also the whole country.

中国建设工程项目管理体系的形成与创新发展

The formation and innovation of
China's construction project
management system

章节二 Part 2

工程项目管理发展历程的简要回顾

A brief review of the development process of construction project management

现代意义上的中国工程项目管理是源于20世纪80年代以来中国经济体制的巨大变革。
在改革开放大潮的涌动下，建设工程项目管理大致上经历了四个阶段的发展历程。

Chinese Engineering project management in the modern sense originates from the great changes of China's economic system since the 1980s. As the campaign of reform opening up proceeds, construction project management has experienced four stages of development.



工程项目管理发展历程的简要回顾

A brief review of the development process of construction project management

1. 学习推广阶段 (1986年 ~ 1992年) Learning and promotion stage (1986 ~ 1992)

2. 总结提高阶段 (1993年 ~ 2000年) Summarize and improvement stage (1993 ~ 2000)

形成以“过程精品，标价分离，文化建设”实施工程项目全寿命期管理“三位一体”，具有中国特色的建设工程项目管理框架体系。

To form the “three in one” construction project management system with Chinese characteristics, which is based on “process quality, price separation and cultural construction”.

主要特征：动态管理，优化配置，目标控制，节点考核

The main features are dynamic management, optimized configuration, target control and node assessment.

运行机制：总部宏观调控，项目授权管理，专业施工保障，社会力量协调

The operation mechanism is headquarters macro control, project authorization management, professional construction guarantee and social force coordination.

组织结构：“两层分开，三层关系”

The structure of the organization is “two layers of separation, three layers of relations”

工程项目管理发展历程的简要回顾

A brief review of the development process of construction project management

推行重心：“二制建设，三个升级”

The focus of implementation is “two system construction, three upgrades”

基本内容：“四控制，三管理，一协调”

The basic content is “four control, three management, one coordination”

管理目标：“四个一”。即形成一套具有中国特色并与国际惯例接轨，比较系统的工程项目管理理论和方法；培养和造就一支具有一定专业知识、懂法律、会经营、善管理、敢负责、作风硬的工程项目管理人才队伍；开发应用一代能够较快提升建筑生产力水平，具有经济含量促进企业科技进步的新材料、新工艺和新技术；建设和总结推广一批高质量、高速度、高效益，充分展示建筑行业科技水平和当代管理实力，具有国际水准的代表工程。

The management goal is "four ones". The first is to form a set of engineering project management theories and methods that have Chinese characteristics and integrate with international conventions and compare systems. The second is to train and build a team of engineering project management personnel with certain professional knowledge, understanding law and management, dare to be responsible and hard work. The third is to develop and applicate a series of new materials, new processes and new technologies, which can improve the building productivity rapidly and promote the enterprise's scientific and technological progress. The forth is to build and promote a number of representative works, which have high quality, high speed, high efficiency and the international standard. The works also need to fully demonstrate the technological level and modern management strength of the construction industry.

工程项目管理发展历程的简要回顾

A brief review of the development process of construction project management

3. 规范引领（国际化发展）阶段（2001年~2011年）

Standard and guidance (International development) stage (2001 ~ 2011)

2000年1月，中国建筑业协会工程项目管理委员会组织有关企业、大专院校编制了中国建设领域第一部《建设工程项目管理规范》。同年，会同国际项目管理协会(IPMA)英国（CIOB）、韩国（CMAK）、新加坡（SPM）、印度（PMP）、日本（PMCC）等组织签署了“国际工程项目管理合作协议与联盟宣言”，既推动了中国建筑业与国际同业的交流与合作，又促进了中国工程项目管理的国际化发展。

In January 2000, CPMC organized relevant enterprises and colleges and universities to compile the first project management code in China——“Code for construction project management”. In the same year, CPMC together with the International Project Management Association (IPMA), UK (CIOB), Korea (CMAK), Singapore (SPM), India (PMP), Japan (PMCC) signed a “cooperation agreement and union declaration of international construction project management”, which has promoted the exchanges and cooperation between China's construction industry and international counterparts and promoted the internationalization of Chinese engineering project management.

工程项目管理发展历程的简要回顾

A brief review of the development process of construction project management



4. 创新发展阶段（2012年至今）

Innovation development stage（2012 up to now）

运用信息技术加强工程项目集成化管理，推广应用建筑业10项新技术，开展创建鲁班奖和绿色施工示范工程等活动，促进工程项目管理的优化升级。

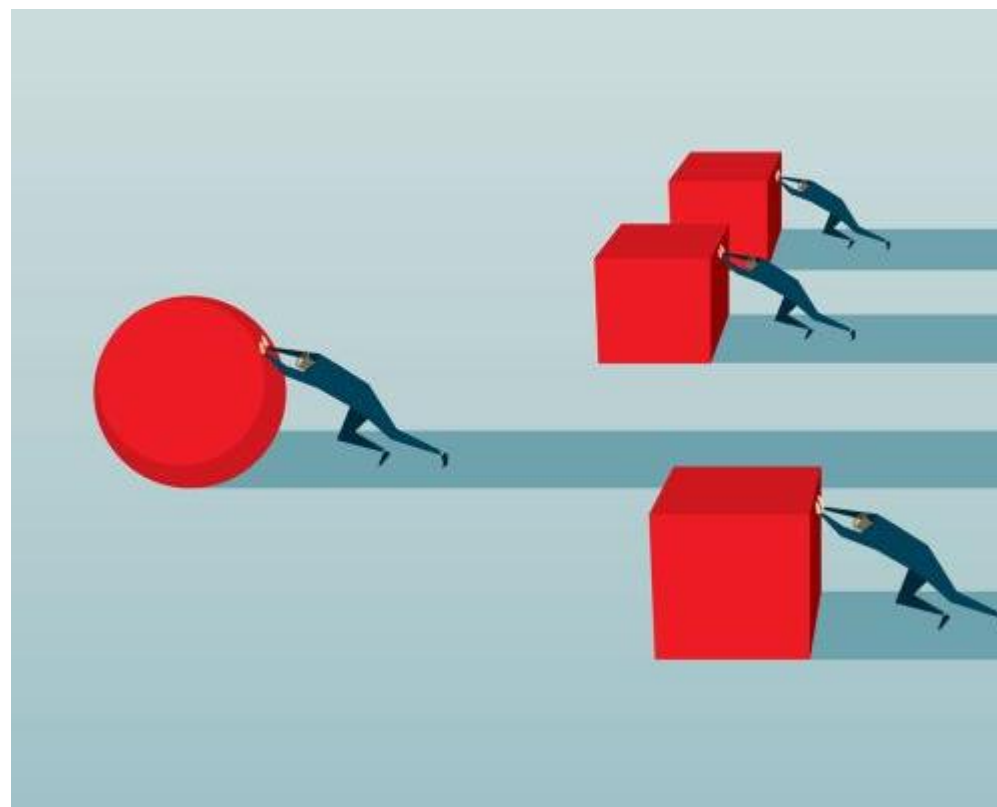
Using information technology to strengthen the project integration management, promoting and applying the 10 new technology of construction, establishing the Luban prize and green construction demonstration projects and other activities, promoting the upgrading of the construction project management.

1. 以“项目生产力论”深化创新项目管理实践应用

Deepen the practice and application of innovation project management by "project productivity theory"

注重加强项目管理理论研究与实践应用的结合，创造性地提出了“项目生产力论”的观点。深入探讨项目生产力理论对促进工程项目生产组织方式变革的范围、目标和路径。

Focusing on strengthening the combination of project management theory research and practical application, putting forward the viewpoint of “project productivity theory” creatively. To explore the scope, goal and path of project productivity theory to promote the change of production organization mode.



2. 以项目管理模式创新推动企业持续发展提质增效

Promoting the quality and efficiency of the continuous development of the enterprise by the innovation of the project management model

从提高产业国际化竞争力的角度，整合优势资源，建立全球范围内的建筑供应链网络，积极引入国内外生产要素与条件的最新先进组合方式，大力推进和运用以EPC、PMC、PPP三大主流模式，不断创新和提升我国建筑业新时代的管理方式和服务质量。

From the angle of enhancing the international competitiveness of the industry, integrating the advantageous resources and establishing the network of building supply chain around the world, Actively introduce the latest advanced combinations of domestic and foreign factors of production and the condition, vigorously promote and apply three mainstream with EPC, PMC, the PPP mode, constant innovation and promote our country's construction of the new era management mode and service quality.

3. 以信息技术应用创新提升工程项目管理效率

Improve the efficiency of construction project management by the application and innovation of information technology

要加大项目管理层面“互联网+”和信息化技术应用的力度，通过工程项目管理的数字化、可视化、网络化和智能化，逐步构建建筑产业互联网。

We need to strengthen the “Internet +” and the information technology application of the project management. By the project management digitalization, visualization, networked and intelligent, gradually building the construction industry Internet.

4. 以利益形成机制创新构建合作共赢新方式

Building a new mode of win-win cooperation by the innovation of interest formation mechanism

应用制度经济学、现代组织理论、合作竞争理论的原理，促进工程项目管理合作共赢、和谐发展。

Applying the principles of institutional economics, modern organization theory and cooperation and competition theory to promote the cooperation win-win and harmonious development of project management.

5. 以项目管理人才培养创新夯实筑牢产业发展根基

Build a solid foundation for the development of the industry by fostering project management talents

加快推动项目经理职业化、管理人员专业化、产业工人技能化建设。

Accelerating the development of project managers, professional managers and industrial workers.

6. 以文化建设支撑工程项目管理创新发展软实力

Support the construction project management innovation and develop soft strength by cultural construction

项目文化集中体现了以品牌形象为外在表现，以创新理念为内在要求，以细化管理为基本内容，以团队建设为主要对象，以人为本为永恒主题。

Project culture embodies the brand image as the external performance, the innovation concept as the internal requirement, the detailed management as the basic content, the team construction as the main object, and the people-oriented as the eternal theme.



章节三 Part 3

推行新型建造方式， 加速建筑产业现代化进程

Accelerate the modernization of the
construction industry by implement
new construction methods

建筑产业现代化是指建筑产业要通过持续健康发展，运用先进的科学技术和创新及现代大生产方式，促使建筑全产业链建立在当代国际先进水平的基础上。推进建筑产业现代化首先要加快生产方式变革，通过理念引领、工艺革新、技术进步推行新型建造方式。

Construction industry modernization refers to the construction industry through continued healthy development, using advanced scientific technology and management innovation and modern production methods, promoting the whole industry get to the contemporary international advanced level. To promote the modernization of the construction industry, we need to accelerate the transformation of the mode of production, and implement new ways of construction through concept guidance, technological innovation and technological progress.



一是要大力推行绿色化建造方式。绿色化建造基本涵义是通过科技进步与管理创新，在工程建造过程中最大限度地节约资源和保护环境，生产绿色建筑产品的施工活动。包括绿色规划、绿色设计、绿色材料、绿色技术、绿色施工等要素和过程。



We should vigorously promote the green mode of construction. The basic meaning of green construction is the produce construction activities that save resources and protect the environment maximally through technological progress and management innovation in the process of engineering construction and product green building products. Including many elements and processes, such as green planning, green design, green materials, green technology, green construction.



二是要大力推行装配式建造方式。当前我国装配式建筑主要有预制混凝土（PC）建筑、钢结构建筑、木结构建筑三大类。装配式建筑对于加快实现设计标准系列化、部件生产工厂化、现场施工机械化、技术工人专职化、功能使用智能化等具有重要的促进作用。按照我国政府对装配式建筑总体要求，10年内达到30%，这项工作时间紧，量大任务艰巨。



We should vigorously promote the assembly mode of construction. At present, there are three main types of prefabricated building in China, including precast concrete (PC), steel structure and wood structure. Prefabricated building plays an important role in accelerating the realization of the design standard serialization, the manufacture of parts, the mechanization of the site construction, the professionalization of technical workers and the intelligent use of functions. According to the general requirements of our government on the prefabricated buildings, it will reach 30% within 10 years, which is a time tight and task heavy work.



三是要大力推行智慧化建造方式。智慧化建造基本思想是聚焦于建设项目寿命期全过程信息技术与建造技术的集成应用，实现信息技术与项目策划、设计、施工生产和管理过程的深度融合。



We should vigorously promote the wisdom mode of construction. The basic idea of intelligent construction is to focus on the integrated application of information technology and construction technology in the whole process of project life, and to realize the deep integration of information technology and project planning, design, construction production and management process.



- 首先是在施工策划方面，以BIM为核心，对施工组织过程和施工技术方案进行模拟、分析。

First of all, in the aspect of construction planning, using the BIM to simulate and analyze construction organization process and construction technology plan.

- 其次是在施工管控方面，通过传感器、射频识别（RFID）、定位跟踪、图像采集、二维码等物联网技术，应用于施工现场的物料、设备、安全、质量等管控体制环节，实时交互与共享。

Secondly, in the aspect of construction control, real-time Interaction and sharing are realized by the application of the Internet of things technology, such as the sensor, radio frequency identification (RFID), location tracking, image acquisition, QR code to the construction site materials, equipment, safety and quality control system.

- 再就是施工过程决策方面，通过基于云端的集成系统和大数据分析技术，建立管理要素模型，实现智慧预测、反馈和控制。

Furthermore, in the aspect of decision-making in construction process, intelligent prediction, feedback and control are realized by the cloud-based integrated system and big data analysis technology establishing the management factor model.



全面推进建筑产业现代化除上述建造生产方式变革外，还必须实现资源配置科学化、建造过程精益化、项目管理信息化、企业高管专职化、产业工人技能化、全产业链集成化、产品优质绿色化。



Promoting the modernization of the construction industry in an all-round way is not only the above production and construction mode change but also realizing the distribution of resources scientifically, the construction process lean, the project management informationization, the corporate executives full-time, the industrial workers de-skilled, the whole industry chain integration and the high-quality green products.

各位嘉宾，朋友们，我们很高兴参加这次建筑管理首尔论坛，并希望通过论坛的交流学习，借鉴包括韩国在内的国家和地区同行业的好经验、好做法。

Distinguished guests and friends, we are very delighted to participate in the ConsMa Seoul forum. We hope that we can learn good experience and practice from the peer of Korea and other countries through the exchange and learning from the forum.

当前，中国建筑业协会正在深入学习贯彻中共十九大精神，我们将不断开拓创新、努力奋斗，把在新时代中国特色社会主义条件下的建筑产业现代化发展的更好，做出更大的贡献。

At present, China Construction Industry Association is studying and implementing the spirit of 19th CPC National Congress. We will continue to expand innovation, hard work, do the better to modern construction industry improvement under the conditions of socialism with Chinese characteristics in the new era and make greater contribution to it.



谢谢大家！
THANK YOU

