

The Capability of Three Highs and Seven Ways is the Cornerstone for the Construction of “Belt and Road Initiative”

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China has mastered the hi-tech of high speed rail, ultra high voltage and high level informatization (hereinafter referred to as Three Highs) as the representative technology, which has greatly extended the market radius; effectively reduced the transaction costs; driven the comprehensive capacity of the formation of strong railway, highway, waterway and airway, pipeline, electric grid and telecommunication line (hereinafter referred to as Seven Ways) and other infrastructure construction; and promoted the revival of land power, so that the land power based on Silk Road Economic Belt and the sea power based on 21st Century Maritime Silk Road can supplement and promote each other, facilitating the formation of an overall organic market for the “Belt and Road Initiative”; leaving huge room for international productivity cooperation, which will promote economic & social development of Belt and Road economies.

I. Integrate the Technology of “Three Highs”, and Enhance the Capacity of “Seven Ways”

Production and business activities of human beings can be divided into two states: manufacturing and transmission. Manufacturing is completed at each site of factories, while transmission has to rely on infrastructure network to accomplish. Production factors entering factories, as well as products and services flowing to the users must be delivered to every corner of the society through infrastructure network. The more developed productivity is, the greater the market radius will be, and the more important role infrastructure will play. Without infrastructure network, large-scale production can never be realized. With low infrastructure transmission efficiency, social transaction costs will be high. In the era of economic globalization, seven ways including railway, highway, waterway, airway, pipeline, electric grid and telecommunication line are the main transmission

network, supporting organic operation of the entire economic society.

China has always attached great importance to the role of infrastructure network, as known in the folk saying “To be rich, roads should be built first”. For the past 20 years, China has gained rapid development in infrastructure construction; especially the most remarkable achievement in application of the technology of “Three Highs” including high speed rail, ultra high voltage and highly informatization.

In respect of high speed rail, by the end of this year, China’s railway mileage will reach 120,000 km, of which high speed railway operating mileage will reach 19,000 km, which will significantly improve land transport efficiency of goods and people over long distance, of wide range and large scale, making it more convenient and efficient for manpower and material exchanges within Asia and between continents of Europe and Asia. In the era with increasingly prominent individual needs and fast-paced trading, China’s high speed rail technology will undoubtedly have dual advantages of cost and volume than those of air transport, which will also constitute a significant challenge for water transport (including sea transportation). High-speed rail technology has greatly changed the differential rent in many areas; expanded the market radius of economic development; and promoted the formation of new urban clustering. It is sure that high-speed rail technology will greatly promote close connection and co-development of B & R economies.

In respect of ultra high voltage, China has put into operation three alternate and four direct currents of 1000 KV commercial UHV AC lines and ± 800 KV UHV DC transmission project. By 2020, China will build a strong smart grid with a total of 27 UHV “Five vertical and five horizontal” lines as the backbone. UHV power grid will make it possible for ultra long range, and ultra low loss transport of energy, to link the remote energy base with central cities of power consumption economically, so that the limitless solar and wind energy in the wild desert and the ocean can be utilized effectively to promote the development of the remote regions, so as to protect the development of the central cities. On September 26th, president Xi Jinping attended the UN Development Summit at the United Nations Headquarter in New York and delivered an important speech entitled “To seek common and sustainable development, and to be cooperative and win-win partners”, discussing the initiative to build global energy Internet, and promoting a clean and green way to meet the global demand for electricity. The core of global energy Internet is to use strong smart grid formed by UHV technology to connect globally distributed energy base with the users, transmitting polar wind energy and equatorial solar energy to the global central cities in the form of electrical energy, so as to promote the development of hinterlands. From this perspective, UHV technology will greatly facilitate economic and social development of B&R economies.

In respect of highly informatization, China is the global leader in technology innovation of ultra-high speed, ultra-long distance, and large-capacity optical transmission. In June 2015, the total number of Internet users in China has reached 668 million; while the number of mobile phone subscribers reached 594 million, with a total of 3.57 million web sites, and realized the access to each village across the country. The ubiquitous and efficient information network has greatly improved the efficiency of information transmission; reduced transaction costs; enhanced market integrity; promoted the global division of labor, and facilitated the economic development, restructuring and upgrading. Premier Li Keqiang proposed in his government report this year that “To develop the ‘Internet +’ action plan, the mobile Internet, cloud computing, big data, Internet of Things and others, integrating with modern manufacturing, promoting healthy development of electronic commerce, industrial Internet and Internet banking, guiding Internet enterprises to exploit international market.” It is sure that the high degree of informatization will narrow the distance between people of B&R economies, and enhance the level of economic and social development.

The integrated technology of “Three Highs” has greatly enhanced China's construction capacity of “Seven Ways” and the level of international cooperation. At present, Chinese high-speed railway mileage, highway mileage, 4G network scope and Internet user scale all rank first in the world. Based on the US “Engineering News Record” (ENR) in 2015, 250 largest international contractors, among which 65 are Chinese mainland enterprises, ranking first in the world. Chinese enterprises have built a number of large-scale projects in the world with international leading level, such as Sultan Merowe Dam, Indonesia Madura Bridge, Malaysia Penang Second Cross Sea Bridge, the AU headquarter building, etc., which have become the local landmark projects, and the new business card for Chinese technology, with huge impact in the industry. SINOMA Group has a market share of more than 45% in the global cement technology and equipment market, ranking top in the world. ZPMC’s products are distributed to more than 70 countries and regions around the world, with global market share exceeding 70% in the field of container crane.

II. To Promote the Revival of Land Power, and Realize Land-Sea Interaction

Do global transportation and even the economic development mainly depend on land transport or maritime traffic? Historically, there was “Land Power Theory” with English Mackinder (Halford John Mackinder) as the representative and the “Sea Power Theory” with American Mahan (Alfred Thayer Mahan) as the representative.

From the perspective of economic growth, the development of society depends on the development of the productivity and science & technology in particular, and different infrastructure networks should be suitable for different times. In the agrarian age, human beings have limited power to conquer the nature, as terrestrial organism, human migration and material transportation were mainly based on land transport; the Eastern Europe and Central Asia, being the center of the “world island” had become the hub of land transport. The most famous passage of international trade in the farming era was undoubtedly the ancient Silk Road between the ancient Asia and Europe continent formed during the 2nd century BC to the 16th century, for long-distance bulk trade of silk and cultural exchanges. The ancient Silk Road starts from Chang’an / Luoyang, China, crossing Central Asia westward to reach the Mediterranean area, extending southward to the South Asian subcontinent, distributed across the Eurasian continent with about 10,000 km from east to west, and 3,000 km from north to south, which is the inter-continental commercial and cultural exchange road with the most abundant exchange contents and the largest transportation scale, as well as the road of the integration of Eastern and Western civilization, communication and dialogue.

Entering the era of industrial civilization, with advances in technology and invention of the steam engine and its application in particular, both land and maritime transport vehicles have gained rapid development. Compared to land transport, maritime transport gradually entered into the vision of mankind and become dominant, with its low transportation costs, less interference from point to point and other advantages. The economy of Portugal, Spain, and the Netherlands, the United Kingdom, the United States and other countries took off due to their dominance over the global sea power. Under the influence of the “Sea Power Theory”, sea becomes the main channel to connect the Earth, and maritime transport has become the aorta of economic development. Compared to the rise of maritime countries, the economic development of landlocked countries was stuck in trouble due to the decline of land power. The vanishing of once prosperous ancient country

Loulan indicated in one aspect that, the land power would give place to the sea power.

When coming to the information age, service trade substituted the industry and ranked first in the economy. With the integration and advances of “Three Highs”, the transport efficiency of highways, urban mass transit, inter-city high speed rail and other land vehicles have been greatly enhanced, and the balance between land and sea power is quietly changing. In September 2013, President Xi Jinping delivered a speech at the Kazakhstan Nazarbayev University, proposing the initiative to jointly build the Silk Road Economic Belt with the innovative mode of cooperation. In October 2013, during Chairman Xi Jinping’s visit in Indonesia, he proposed a strategic vision to build the 21st Century Maritime Silk Road. For the first time the “Belt and Road Initiative” strategic concept put the land and sea power of same significance. This is related not only to the Chinese geopolitical characteristics and the needs for western development, but also closed related the wide application of China’s Three-Highs technology and construction capacity of Seven Ways to long distances in B&R economies.

For China, the return of land power has a special significance. China is characterized by long coastline, wide hinterland. China’s economy began to take off from the opening along the coast, and gradually extended to the mid-west, and evolved into the multi-level development strategy of opening along the coast, rising in the central area, and developing the west; in recent years, coordinated development of three strategies of “Belt and Road Initiative”, including the collaborative development of Beijing, Tianjin and Hebei, the Yangtze River economic belt has been further formed. With the revival of land power, through two-way opening of the East and West and the interaction of land and sea, China can reconstruct its own economic geography to promote the comprehensive and balanced development, and effectively promote the revival of central Eurasian continent. For B&R economies, particularly the landlocked countries, the access to Three Highs technology support, the vigorous construction of infrastructure, promotion of communication with each other, and active integration into the world market is the inevitable requirement and strategic choice.

III. To be a Good Leader, and Become the Main Force

A total population of about 4.4 billion are involved in countries and regions along the “Belt & Road”, accounting for 63% of the world, a total economy volume of about \$21 trillion, accounting for 29% in the world, with rich natural resources and manpower, highly complementary in industrial structure, and the most potential for development. In terms of areas of cooperation, most of the countries and regions along the “Belt & Road” are in the primary and intermediate stage of industrialization, with mostly light industry or energy, resource industries, with strong demand for infrastructure construction, and huge industrial upgrading space. State-owned enterprises have the comparative advantage in interconnection infrastructure construction and international cooperation capacity, which can provide advanced industrial technology and necessary infrastructure for economic development along belt & road, to create more employment opportunities, and enhance competitiveness and cooperative ability of all these economies.

Enterprises are the main body to build “Belt and Road Initiative”. In recent years, the internationalized operation of state-owned enterprises has made positive progress, with rapid expansion of business scale overseas, fast development of foreign investment and project contracting business, and the continual enhancement of overall strength. By the end of 2014, a total of 107 state-owned enterprises set up 8515 branches overseas, which were distributed in more than

150 countries and regions, with the total foreign assets of RMB 4.9 trillion, and the operating income of RMB 4.6 trillion. Key areas of internationalized operations of state-owned enterprises include infrastructure such as energy, mineral resources, power and transportation, focusing on Asia, Africa and Latin America. Since the proposition of “Belt and Road Initiative”, state-owned enterprises take B&R economies as the focus of overseas development, paying attention to their own advantages and actively participate in the construction of key projects. Currently, there are more than 80 state-owned enterprises that have set up branches in the countries and regions along the “Belt and Road” to carry out business cooperation. In terms of promoting interconnection, state-owned enterprises participate in a number of infrastructure projects and promotion, including 10 interconnection transmission lines in China-Russia, China-Kazakhstan, China-Myanmar crude oil pipeline, China-Russia, Central Asia, China-Myanmar gas pipeline, Russia and other neighboring countries, as well as other projects such as China-Burma, China-Thailand, and China-Laos railway, China-Pakistan Karakoram Highway, China-Sri Lanka Hambantota port, etc. In deepening cooperation in energy resources, state-owned enterprises have implemented more than 60 oil and gas cooperation projects in more than 20 B&R economies in 2014. In the expansion of industrial investment, mainly involving state-owned enterprises of rail transportation, electric power, construction machinery and other competitive industries to actively invest in these countries. In terms of international productivity cooperation, state-owned enterprises with efficient capacity fully take into account national conditions and actual demand of B&R economies, and focus on mutually-beneficial cooperation with local governments and enterprises. So far there are iron and steel, cement, plate glass, aluminum and many other projects successfully-launched abroad, and some enterprises also actively participate in the construction of economic cooperation zones, creating good economic and social benefits for local areas, so as to realize mutual benefit, win-win and common development.

In the next decade, state-owned enterprises shall continue to be a good leader, and main force in the construction of the “Belt and Road Initiative”. Firstly, we must continue to improve Three-Highs technology. The capacity of Three-Highs and Seven-Ways is the cornerstone in constructing "Belt and Road Initiative". We shall play the dual advantages of technology research and application, keep our leading position of Three-Highs technology in the world, drive the construction ability of Seven-Ways to step on new levels continuously, advance cooperation with B&R economies, facilitate overall enhancement of local technology, standards, management and services, and promote long-term development of B&R initiative economies. Secondly, we shall vigorously build platform for regional capacity cooperation. B&R economies have strong demand for infrastructure construction and promotion of industrialization, and state-owned enterprises have accumulated huge efficient capacity in aviation, aerospace, electric power, telecommunications, refining, and metallurgy, machinery, building materials, light industry, textile and other aspects. We shall co-create the cooperation zone, combine both market and productivity advantages, comprehensively promote cooperation with relevant countries and regions, facilitate development and achieve win-win result. Finally, we shall accelerate transforming and upgrading from “going global” to internationalized operations. Going global mainly emphasizes on internationalization of operation venue, while internationalized operations emphasize on the required ability to allocate resources in the global market. For example, in respect of infrastructure construction, general contracting projects also belong to “going global”, while the combination of construction and operation, or the combination of construction, operation and investment is the internationalized operation. State-owned enterprises should master the ability to allocate capital, manpower, technology and management resources on the international market without undue delay, make the infrastructure construction along “B&R” with affordable, accessible and useful, so as to promote the international cooperation in production capacity to a larger scale and higher level.