

Current problems in developing the new silk road from China to Europe

Anton Smirnov^{1}, Evgeniy Smolokurov¹, Roman Bolshakov¹, and Viacheslav Parshin¹*

¹Admiral Makarov State University of Maritime and Inland Shipping, 198035, 5/7, Dvinskaya str, Saint-Petersburg, Russia

Abstract. The rapid development of China dates back to the twentieth century. From an economically underdeveloped country, China has become one of the economic leaders of the world, a major exporter of goods around the world. In the twenties of the twenty-first century, it has in its hands a resource that no other country can boast of. One of China's great boasts is its extensive network of high-speed railway lines (HSR). The length of China's HSR surpasses all existing HSRs in the world. In 2012, the country proposed a lucrative project: building a new HSR network across Eurasia to link a number of countries. And while some work is currently underway, there is still no clear plan. The project seems promising not only for China, but also for the other participating countries; it would develop the regions and the economy as a whole and anchor the countries on the world stage in terms of freight transport. But in the ten years of the project's existence, no clear implementation has come to fruition. It is necessary to find out what is stalling the project and find solutions to existing problems. Or, on the contrary, to finally recognize that the project is considered unprofitable for a number of countries. It is known that part of the territory of Russia, a country that has not yet given a clear answer to this project, will be the largest section of this road, which means it is worth digging deeper into the problem of this project in Russia as well.

1 Introduction

China is a leading exporter in the twenty-first century. The economic breakthrough that it has made is difficult for anyone else in the world to replicate. However, it is hard to disagree that China's distance from Europe is a big enough problem, as Europe has quite a few solvent consumers. Europe has concentrated developed countries in one area. And for China to continue to excel, it needs a project that integrates it directly with Europe, as well as opening up new opportunities for cooperation with other countries. The world's role in establishing itself as a country that transmits its cargo via a unified high-speed route is also important for China's overall economic and strategic development.

* Corresponding author: smirnovab@gumrf.ru

1.1 The relevance

The relevance of studying the development of the New Silk Road project is determined by the fact that the implementation of this project can have a positive impact on the economies of the participating countries. China, as an exporting country, will have to pay a certain interest for transporting its cargoes through other countries; in the areas where the railway will be located, it will be profitable to build new factories and develop existing cities, and therefore the project will not only bring profit from transportation, but will also bring a multiplier effect for the countries' economies.

Infrastructure development will begin in those regions that are economically weak, and China will be able to afford to remain an export-leading country. In addition, it should be understood that high-speed information transfer is the key to successful competitiveness, and information means freight transport, among other things.

In addition, land transport will start to actively compete with maritime transport: it will reduce the delivery time from 60 to 10 days, which will directly affect the growing demand of consumers. This issue is a strategically important project and it has many advantages, so it is necessary to understand what points in its development are controversial.

1.2 Literature review

Dmitry Kuzmin¹, Vera Baginova, and Andrey Baginov have analyzed the Chinese experience in organizing high-speed rail service, the authors note a sharp leap in the development of the railways in a short period of time, and the fact that China is unrivaled in this matter [1].

JIN Fengjun, JIAO Jingjuan, QI Yuanjing, YANG Yu in their works analyze various indicators of high-speed lines in China, they note a sharp leap in high-speed rail traffic in the last few years and further grandiose plans of the country in this area [2]. But it should be noted that the authors' view is rather optimistic; they did not take into account the impact of coronavirus infection on this sphere, did not take into account political changes in the world, and also the fact that with further development of high-speed rail the meaning of such rapid development will be lost if the railways are not "taken abroad" and not united with other countries.

Jiang Y., Xiao, X., Li, X., Ge, G. in their work show the impact of high-speed rail on the economy and the social sphere and conclude that these areas will be characterized by more rapid economic development when high-speed railways are developed [3]. Lin, S., Dhakal, P.R., and Wu, Z. hold the same opinion in their works, noting at the same time that high-speed rail helps to eliminate the "economic gap" between cities [4]. This opinion is also supported by the works of Xuehui Yang, Shanlang Lin, Jiaping Zhang and Minghua He, as well as He, D., Chen, Z., Zhou, J., Yang, T., Lu, L [5, 7]. Wang L and Huang Y also join the general view of the great impact of high-speed rail development in their work, but highlight how high-speed rail encourages the concentration of people around large stations and generally placing them in previously unpopulated areas [12].

But the opinions of the above authors also tend in a more optimistic direction, the authors do not take into account the fact that the development of high-speed rail in other countries cannot be extensive due to lack of resources, some areas will not have high-speed roads, and therefore with the development of some areas others will start to lag far behind economically and social inequality will increase.

1.3 Problem statement

As a result of the analysis of the cited and other scientific papers in the study area, a number of problems have emerged in the development of the project which need to be addressed as a matter of priority.

Among these problems, one of the most important is the lack of a clear design for the construction of the HSR. There is also a lack of investment in the project, including from China, which is most interested in the issue.

Also a problem is the point of view of Europe, which fears that China as the main exporting country will have some kind of 'power' over the countries participating in the project.

And of course one of the central problems is the underdevelopment of the Russian regions through which the road will pass, which means that there are doubts about the profitability of the project on Russia's side. It is important to look at these problems from different angles and in subsequent studies.

1.4 Aim, objectives and hypothesis

“The New Silk Road” is a project that has not been developed for a decade, although it is promising.

The main objective of this study is to investigate existing problems/obstacles to the project and to justify the need for implementation.

The objectives of the research are:

- to examine the peculiarities of high-speed rail development in China and the reason for the rapid economic development of the formerly lagging country;
- to explore the benefits that the New Silk Road will bring to China and participating countries;
- to identify obstacles to implementation of the project;
- to propose solutions on the basis of the problems identified.

Hypothesis looks as follows: the New Silk Road is certainly an important strategic project, as its implementation will bring huge economic benefits: not only will the speed of delivery of overland cargo be reduced. Together with the implementation of this project, the development of infrastructure along the entire route will begin, which means that new jobs and facilities will appear, the activities of which will bring income to the participating countries. But at the same time, this project is a costly initiative, which requires a great deal of investment and decision-making. These decisions are complicated by political considerations, as many countries intend to participate in the project.

2 Methods

Using empirical-theoretical methods as well as the method of analogy directly, a summary of the development of the HSR in China and its success in economic terms in general were examined.

Based on the induction method, the main problems in the development of the One Belt, One Road project, the new Silk Road, were identified. A comparative analysis was also presented for a number of countries on the basis of indicators such as overall road length and GDP.

3 Results and discussion

In the twenty-first century, with China on its ear as an economically powerful country, it is hard to imagine that things were different 70 years ago. In the 1950s, Chinese President Mao Zedong starved the country with his "great leap forward" policy for industrialising the economy. This failure took the lives of some 40 million Chinese.

One of the keys to China's economic growth has been the fact that the country has reduced the role of government in most various sectors of the economy, with the private sector taking 'power' in the matter, allowing China to open up to international trade, and therefore to foreign investment.

Huang, H., Xiong, J., Zhang, J. rightly note in their works: "It took as little as 15 years for China to progress from relying on imported technology to endogenous innovation." [6, p.1].

China is becoming an export leader gradually, but the growth rate is impressive: in 1978 it exported goods worth 10 billion dollars, in 1985 - 25 billion. At the beginning of the 21st century, China is the world's largest exporter and one of the economic leaders. In terms of GDP, China is second only to the USA, as shown in Figure 1.

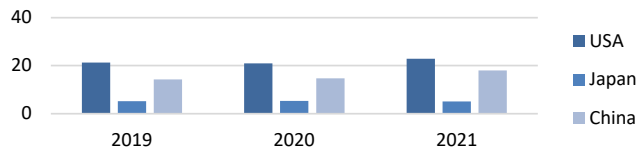


Fig. 1. GDP of the USA, China and Japan for 2019-2021.

In terms of railways, at the beginning of this century China could not boast of a well-developed rail network: mobility levels were rising and the average speed was only 48 km/hour. Rail transport in the country was losing the race to compete with road and air transport.

At the beginning of the twenty-first century Chinese trains are the fastest, which is confirmed by the work of Liu, L., Zhang, M.: "Resulting from the upgrades, the fast trains, coded as D-trains, run at the cruise speed of 200 km/h. The final, seventh round of rail upgrade came in 2007, with a number of major rail routes across the country operating trains up to 250 km/h. It was not until 2008 when the first HSR line of new generation trains began passenger services at the speed of 300~350 km/h" [9, p.5].

And the length of roads is growing at an unbelievable rate, as noted by Pagliara, F., Mauriello, F. Ping, Y.: "The coverage of the HSR network to cities with a population of more than 500,000 expands from 28% in 2012 to 86% in 2019". [10, p.2].

Initially, the construction of HSR in China began because of the beginning of the global crisis: it was necessary to provide employment and stimulate economic growth. High-speed traffic in China developed in three rapid stages. The first HSR was experimental, this road was built with the infrastructure allowing to run trains with the speed of 250 km/h and higher. The length was 407 km. The road was put into operation in 2003.

During the implementation stage, a ballast-free railway line was launched, and the Beijing-Shanghai, Wuhan-Guangzhou and other lines were designed and constructed.

The implementation stage is characterised by active operation. At this stage, the longest line (1,318 km) is launched and the speed of 486 km/h is tested.

In the twenty-first century, China's high-speed railways are a guarantee of quality. These roads are superfast. For instance, the road between Shanghai and Beijing, which can

be covered in 20 hours by a normal train, takes 4-5 hours on the HSR. China's highspeed railways are also notable for their high safety.

As Dmitry Kuzmin¹, Vera Baginova, and Andrey Baginov point out in their papers: "Today, the Chinese high-speed transportation infrastructure is the largest in the world - 30 thousand km, which is 67% of the global length of high-speed railway lines" [1, p.2].

Yesterday China was a backward country battling with hunger; at the beginning of the twenty-first century it is the leader in terms of the length of high-speed rail lines. Neither the U.S. nor Japan comes close to these figures, although they are economically strong competitors. Although the development of HSR began with Japan, it is currently far from being a leader because of China, as JIN Fengjun, JIAO Jingjuan, QI Yuanjing, YANG Yu noted in their papers: "The evolution of the HSR networks can be divided into three periods: the Japan period (1964-2002), the Transition period (2003-2007), and the China period (2008-). During the latter period, China replaced Japan as the country with the largest operating HSR network in the world". [2, p.518]. A comparison of the extent can be seen in Table 1.

Table 1. The length of the HSR in China, Japan and the USA in km.

Pountry	Length in km
China	37900
Japan	1952.5
USA	1139

It is important to note that the development of high-speed rail and economic growth in China are interlinked. The surge in the economy has contributed to the development of HSR, but HSR has also borne fruit, as noted by Xuehui Yang, Shanlang Lin, Jiaping Zhang, and Minghua He: "Te development of HSR has narrowed the regional economic gap and promoted China's regional economic integration". [5, p.3].

Moreover, China will not stop where it is at this point, as noted by Wang L and Huang Y: "Moreover, by 2025, according to the national mid- to long-term development plan (first formulated in 2004, and updated in 2016), all cities with a population larger than half a million will be connected by HSR services, with a total line length of 38,000 km" [12, p. 45]. [12, p.459].

It is important to note that such a route is not only high-speed railways, it is also new infrastructure facilities and a sea route, but this study will pay special attention to the HSR, since it is in these highways that the key importance lies.

It is worth noting that the creation of this route in the twenty-first century is not only the foundation of the transport system. The existence of this road also implies the fact that there will be more customs cooperation between the participating countries, more financial transactions, and the creation of financial institutions between BRICS and the SCO and the EU.

One of the main problems of this programme is the fact that it is expensive. Estimates vary, with the most courageous analysts putting the cost at some \$26,000 billion. Of a number of countries along this route, the most economically successful is China itself, but the government has no intention of financing such an expensive road. China is offering loans from Chinese banks; Chinese investors will get involved in the project by means of commercial loans with very high rates.

The New Silk Road project is likely to repeat this fate. China will conquer new markets, which will strengthen the status of its national currency, which in turn will become a lever of pressure on the countries of Eurasia. America is also aware of this and opposes the implementation of this project.

Separately, of interest is the fate of the route through Russia, which has not yet given a clear answer on the question of participation in the project. The country simply does not have the funds and is not sure that the road will be profitable. The country's main movements are in the northwest and central parts.

Russia needs to develop Siberia and the East, and the example of once backward China is proof that a new road can develop even extremely backward cities; He, D., Chen, Z., Zhou, J., Yang, T., Lu, L confirms this: "The relationship between HSR development and the spatial changes of urban land has attracted widespread attention. The emergence of HSR potentially promotes urban expansion to meet the needs of rapid industrial development and accelerates urbanization". [7, p.2]. This idea is confirmed by Wang, X., Liu, J., Zhang, W: "Moreover, HSR causes increases in social and economic activities and leads populations to gather in cities with stations, which promotes the diversified development of industries, especially business services, communication and entertainment, retail, real estate, and tourism" [8, p.1].

The BAM (Baikal-Amur Mainline) is a case in point. When this road was first planned, it was also regarded as a controversial project, the cost-effectiveness of this route was doubted to the last. However, as time has passed, we can see that it was a necessary measure, because now, several decades later, the road is "suffocating" with cargo. The new high-speed railway will ensure that customers and the world's leading position will not be lost; the 60-day delivery time is unacceptably slow for today's world.

As Jiang, Y., Xiao, X., Li, X., Ge, G. note: "HSR not only shortens the spatiotemporal distance between regions, but also promotes the rapid flow of technology, labor, capital and information among regions, bringing great convenience to enterprises' production and residents' lives". [3, p.2]. Lin, S., Dhakal, P.R., Wu, Z. also agree with this idea: "As one of the most crucial transport infrastructures between cities, the high-speed rail may have a substantial economic impact on the cities along the line and has a specific impact on the economic gap between cities" [4, p.4].

It is also worth adding that amid Russia's deteriorating relations with Europe, improving economic cooperation with China via this road is an excellent way and support for developing both the domestic economy and strengthening Russia on the global stage.

It is worth considering the Moscow-Kazan HSR project, strategically considering extending this road to China, which would make freight cheaper, faster and pay off the HSR as a whole, as well as linking the Russian east to the central part of the country with a new road, increasing the length of the overall track.

There is another global problem - the delivery of large goods is done by sea, which is longer than via the HSR, but cheaper.

However, in this case one must take into account the fact that this problem is not relevant for all cargo. There are a number of cargoes which are more profitable to transport by rail. It is customary that maritime transport is cheaper because less fuel is spent per unit of cargo, but this rule works mainly for large and expensive goods.

A number of arguments should also be added in favour of rail transport. Importantly, rail transport allows different distances and routes to be considered, and loading and unloading can generally be carried out along the entire route.

It is also worth considering the fact described in Jibo Yu, Yuanhang Zhou , Qian Huang, Xuemei Li, Yiwen Hou, and Xu Wang: "At the macro level, the opening of HSR greatly improves the accessibility of regional transportation and promotes the reduction of inter-regional transportation costs, while greatly reducing people's time costs, thus making a span of time more integrated with economic activities and promoting regional economic development" [11, p.3].

In addition, in the 21st century there is a trend to preserve the natural environment. And, it should be noted, this is quite an important factor, because in the near future the developed

and developing countries will obviously use this knowledge in various spheres. This is another argument in favour of the Great Silk Road, as it is, among other things, the HSR. As A.B. Smirnov says in his paper: "High-speed rail transport reduces the harmful emissions of pollutants to air, water and soil" [13, p.1].

In numbers, the New Silk Road affects 63% of the world's population. This is the percentage that will be concentrated around the roads. This route implies improving existing trade routes and creating new ones. Economic corridors created with the help of the OPOP (One Belt, One Road) will connect more than 60 countries.

The main axis of this route will be about 6,500 km long. From the Pacific coast through China, Kazakhstan, Russia, Uzbekistan, Turkmenistan, Syria, Turkey, Iran and Iraq, and on to Europe - Bulgaria, the Czech Republic, Romania and Germany.

At the beginning of the 20th century, 124 countries and some 30 international organisations are supporting the initiative. Planned investment: \$1.3 trillion.

4 Conclusions

1. At the end of the twentieth century, Deng Xiaoping irrevocably changes the Chinese economy with his reforms, China opens up to investment, establishes diplomatic relations with the United States, American large companies enter the Chinese market, most sectors of the economy are privatised, international trade is established and economic growth begins.

The HSR is beginning to be built to stimulate economic growth and employment. The investment in the HSR has become promising.

"The New Silk Road will give a boost to infrastructure development in regions that are still economically weak. New facilities will open, jobs will increase. China will be able to afford to remain an export leader country, and it will also open new opportunities in trade with Europe.

The New Silk Road will also enable land transport to compete with maritime transport in terms of freight transport. And the delivery of many goods will be reduced from 60 days to 10 days.

2. one of the important problems hindering the development of the project, it is important to note the lack of financing. To solve this problem, it is important to work out the project at every level and attract investors from small and medium businesses, since the construction of the route will affect the development of these structures. It is important to let the private sector know that the project is finalised, to show what it can bring in the future.

3. The second relevant problem of the project is Russia's doubts about participation at all, as there is no clear evidence that the cost of the track directly in Russia will pay off. However, it should be understood that the development of the country cannot be concentrated solely around Moscow and St Petersburg. The HSR will open up new opportunities for Russia: new highways, new factories, hence many new jobs, export development and payments to the country's budget from China, the exporting country. In addition, the development of Siberia and the East will begin.

4. Europe's opinion and decision to participate is also a big challenge for the development of the project. For the participating countries to feel in a position not subordinate to China, it is important to make Asia and Europe partners through various kinds of checks and balances to avoid conflicts.

5. The project participants are also unsure of its cost-effectiveness compared to conventional maritime transport. To justify the price difference between rail and maritime transport, it is necessary to develop clear guidelines based on the calculation of each type of cargo by one transport or another.

Earlier it was said that China has a huge resource in its hands, economic superiority and superiority in the railway sphere. In order to maintain primacy and develop further, it is

important to come to the conclusion that the One Belt, One Road project is a strategically important step, which requires investment. It will affect 60% of the world's land population, reduce the delivery of a number of goods from 60 days (by sea) to 10 days (which conventional trains cannot yet achieve), affect 6000 km of roads, and thus move the economy forward where it "runs".

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