

Impact of the Modern Silk Road in International Logistics

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gain from the Belt and Roa Initiative's effect on interr transportation construction different industries. The e	was to present what advantages co ad Initiative by analyzing informatio national logistics from the aspects or ons, opportunities and challenges in ffects on different areas were prese method. The historical research ap	n about the Belt and Road f transportation, the supply chain, finance and ented and analyzed by

utilizing the desk research method. The historical research approach and literature reviews were applied to analyze the topic. The method for analyzing the documentations, theories, articles as well as some recent cases related to the Belt and Road Initiative was based on both the qualitative and quantitative approaches. By providing figures, graphs and tables, the thesis analyzes the impact that the Belt and Road Initiative has brought and will bring to international logistics.

According to the results, the Belt and Road Initiative has provided a variety of opportunities for the international logistics of countries and industries. The delivery times are shorter, the transportation costs are lower, more collaboration networks are formed, all of which also improves the economic situation. The Belt and Road Initiative has enabled more people to enjoy the convenience and benefits brought by trade and transportation. Keywords/tags (subjects): The Belt and Road Initiative, International Logistics, Transportation, Supply Chain, Economic Developmenthttp://vesa.lib.helsinki.fi/

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1 Introduction

More than 2100 years ago, the well-known trade routes of the Silk Road and the Maritime Silk road were established to promote the communications and culture exchanges and to facilitate trade between Asia, Europe and Africa. Products, such as silk, cloth, grain, metal as well as many other products were traded between the countries connected by the ancient Silk Road. However, because of the diversity of political issues in different regions, the ancient Silk Road that used to connect the East and West has not been used for more than 500 years. In 2013, the modern Silk Road, named the Belt and Road Initiative, which is a shortening of the phrase the Silk Road Economic Belt and the 21st Century Maritime Silk Road, was proposed by the Chinese government. China proposed it to make efforts for the development of countries in terms of policy communication, road connectivity, unimpeded trade, money circulation and cultural understanding. The Belt and Road Initiative is one of the most popular ongoing proposals, and it makes a great contribution to international logistics. It is also one of the best platforms for international co-operation.

This thesis explains what the Belt and Road initiative is and what values can be achieved from the initiative. The influences and potential benefits that this initiative has already brought to international logistics are analyzed and explained. The opportunities and challenges of the Belt and Road Initiative are discussed as well in the thesis. The aim is to evaluate the impacts that the Belt and Road Initiative brings to the international logistics industries and what benefits can be gained from such an initiative so that the international logistics can achieve further development.

1.1 Motivation

The development of the logistics industry around the world

Nowadays, globalization has been the main trend of development. The Belt and Road Initiative is also connected to the global development. It is something related to both China and the world. Since the Belt and Road Initiative was introduced, the countries involved have participated actively in cooperation. Moreover, the Belt and Road Initiative as the new Silk Road is highly relative to International logistics. Thus, the aim was to find out how this could affect logistics currently, what advantages are provided, and what benefits countries and industries could gain from it.

The influence of the Belt and Road Initiative is mainly shown in transportations, transportation infrastructures, financial aspects and the effects on different industries. Hence, it is worth analyzing its effects and searching for the opportunities of the Belt and Road Initiative in the logistics of China and even of the rest of the world.

1.2 Objectives and Research Questions

The objective of this thesis was to present especially the opportunities that countries and industries could absorb from the Belt and Road Initiative by looking through the information and analyzing the following questions:

- How does the Belt and Road Initiative affect international logistics from the aspects of transportation, transportation infrastructure and finance?
- What benefits can countries and industries achieve and expect to achieve from the Belt and Road Initiative?
- What are the opportunities and challenges that the Belt and Road Initiative brings to logistics?

1.3 Scope and Limits

The Belt and Road Initiative focuses on the cooperation between relative countries in many fields, for example, politics, education and culture. However, this thesis focuses on the analysis of the logistics area. Transportation is the main topic to be analyzed in this thesis as a major element of logistics. The influence on the logistics in different regions, Asia, Europe and Africa are the areas that is discussed since they are the major areas covered by the Belt and Road Initiative, and they take part in the initiative actively. Among the countries in Asia, Europe and Africa, China is the main country of observation and analysis for it is the host country that put forward the initiative and one of the main beneficiaries of the initiative. As for the transportation modes that are discussed in this thesis, railway and maritime transportation are the major fields of the logistics part of the Belt and Road Initiative. In addition, freight logistics is a key issue of discussion instead of passenger. Aviation related logistics was not taken into consideration in this study.

1.4 Research Methods

The thesis was implemented by applying desk research that is also called secondary research. To be more specific, the historical research approach and a literature review were applied. Historical research is used to explain the phases and characteristics of a phenomenon or process in the past. It assists to explain the historical situation of the current topic. (Historical Research, 2010) In this thesis, historical research was utilized to introduce the history of the Belt and Road Initiative as the Silk Road more than 2000 years ago as well as the background of the initiative. The literature review included books, scholarly articles as well as all other published resources online or papers that were relative to the research topic. (Fink, Arlene, 2014) A Literature review aims to study the literature about the topic of a thesis. The information from the literature is organized in summaries and syntheses based on the topic. According to the literature, the collected information is criticized and analyzed to stimulate further studies on the main topic. (What is a literature review?). In this study about the Belt and Road Initiative, the required information and the statistics were obtained from scholarly articles, student papers, online sources about the topic. This material was dissected and analyzed during the research process to meet the objective of the thesis.

The method for analyzing the documentations, theories, articles as well as recent some cases related to the Belt and Road Initiative was based on both the qualitative and quantitative approaches. Necessary figures, graphs and tables are provided to show the comparisons and findings of what impact the Belt and Road Initiative has brought and will bring to international logistics.

2 The Belt and Road Initiative Defined

2.1 Historical Background

More than 2,100 years ago, a man named Zhang Qian arranged two trips to visit and explore the western regions, and then he established a continent trade route, which was the Silk Road". The Silk Road extended from the East to the West, and it connected Europe, Africa, and Asia. Likewise, more than 2000 years ago, the period when China was in Qin and Han Dynasties, the Maritime Silk Road that connected China and the Eurasian countries was then gradually emerging. The Silk Road and Maritime Silk Road (see Figure 1) turned out to be major channels for transportation, trade and cultural exchanges between the ancient China and European and other Asian countries, which meanwhile promoted the communications of civilizations and friendly collaboration between the East and the West. (Cheng 2018)

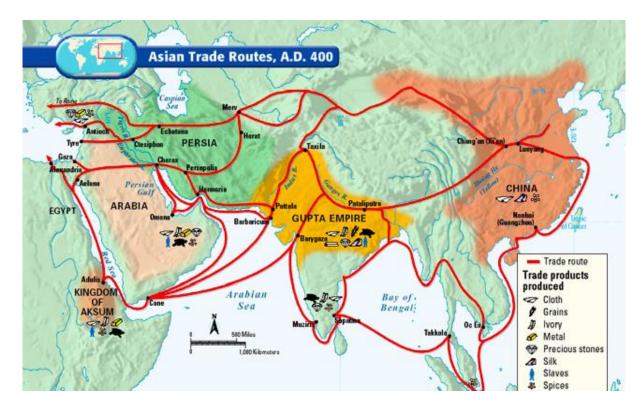


Figure 1 The ancient Silk Road

(Adapted from Silk Road History.)

2.2 Reasons for the Belt and Road Initiative

The international trade is facing diverse problems. The reasons for this are, for example, the continuous worldwide financial crisis, the slow speed of the economic recovery as well as the unbalanced world development. The Belt and Road Initiative was introduced to comply with the trend of the world diversity, cultural diversity, economic globalization and society digitalization with the applications of information technology. There are five major areas as the content of the cooperation between the countries joining the Belt and Road Initiative, which are:

- 1. Policy communication
- 2. Road connectivity
- 3. Unimpeded trade
- 4. Money circulation
- 5. Cultural understanding

It targets to maintain and promote the global free-trade system and the open world economy in order to activate the world trade and investment. The application of this initiative should be based on the spirit of cooperation between different regions in order to receive mutual benefits. (Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road, 2015)

The main aim of the Belt and Road Initiative is to connect closely the continents as well as the adjacent seas of Asia, Europe and Africa areas, to build up and deepen the partnership and cooperation among countries along the Belt and Road. The connectivity network is expected to be comprehensive and covers all dimensions of the international cooperation. In this way, countries can utilize the network to enlarge the market of the regions, to promote consumption and investment as well as to enhance more business transactions between the relevant countries. In addition, more job opportunities will be created by the partnerships and collaborations. People in these countries will be able to gain more opportunities to communicate and share their culture and civilization to other countries. (Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road, 2015)

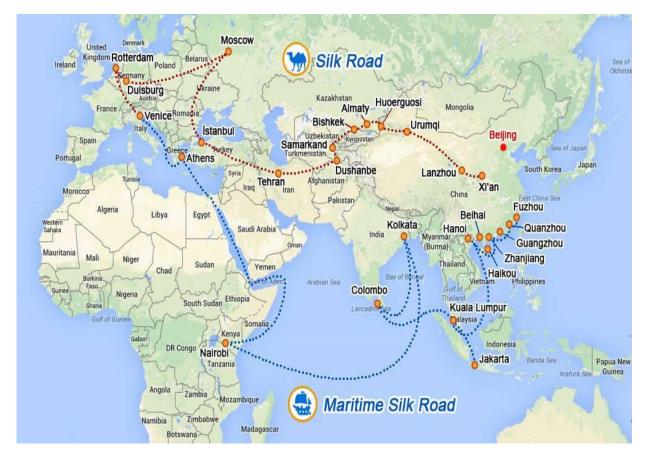
The countries and projects planned in the initiative account for over 40 percent of the global GDP, 62 percent of people all over the world, and 75 percent of the known energy reserves. The Belt and Road Initiative target to create benefits these areas by promoting the infrastructures, trade and investment among countries. (Belt and Road Initiative, 2018)

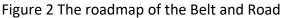
Furthermore, China's economy development is tightly connected with the world economy. Building up the Belt and Road Initiative makes China more open and strengthens the cooperation of the Asian, European, African and other countries by creating more mutual benefits for the countries involved.

2.3 Establishment of the Belt and Road Nowadays

The Belt and Road is the abbreviation of the Silk Road Economic Belt and the 21st Century Maritime Silk Road. To illustrate, it is a Chinese initiative to establish a Silk Road Economic Belt and a 21st Century Maritime Silk Road in cooperation with relevant countries and it was proposed by Chinese president during his visits to Central and Southeast Asia in September and October of 2013. This initiative has attracted great attention from all over the world since it has been raised.

The Belt and Road connect through the countries of Asia, Africa, as well as Europe. It provides the connections for the economic circles that contain both the developing East Asian economic circle and the developed European economic circle. Also, countries like India, Uzbekistan and Turkmenistan, etc. with immense potential for economic development are involved in (Holodney 2015). The Silk Road Economic Belt focuses on bringing together China, Central Asia, Russia and Europe (the Baltic), linking China with the Persian Gulf and the Mediterranean Sea through Central Asia and West Asia; and connecting China with Southeast Asia, South Asia and the Indian Ocean. The 21st-Century Maritime Silk Road is formulated to run from China's coast to Europe going through the South China Sea and the Indian Ocean in one path, as well as from China's coast running through the South China Sea then to the South Pacific in the other.





(Adapted from How the world will benefit from China's Belt and Road? 2017.)

2.3.1 The Frame of the Belt and Road

According to the initiative and the demand of promoting international cooperation under the circumstances nowadays, and with the consideration and combination of the directions of the ancient Silk Road, the establishment of the Belt and Road has set up five major routes, three for the Silk Road Economic Belt and two routes for the 21st Century Maritime Silk Road. The three major routes for the Silk Road Economic Belt:

(1) China links with Europe and the Baltic Sea by starting from Xi'an, continuing with Urumqi, Istanbul and Moscow.

(2) China connects with the Middle East by going through the Central Asia.

(3) China links with Indian Ocean through the Indochina Peninsula.

The 21st Century Maritime Silk Road focuses on utilizing Chinese coastal ports:

(4) China reaches the South China Sea and Indian Ocean from the coastal ports in Southeast China in Fuzhou, Guangzhou, etc. then continue going through Europe.(5) Starting from Chinese coastal ports, connecting with South China Sea, extends to South Pacific Ocean.

(Building the Belt and Road: Concept, Practice and China's Contribution, 2017)

Based on the five major routes, the Belt and Road founded six international economic collaboration corridors, which connect

- (1) China-Mongolia-Russia
- (2) New Eurasia Land Bridge
- (3) China-Central Asia-West Asia
- (4) China-Pakistan
- (5) Bangladesh-China-India-Myanmar
- (6) China-Indochina Peninsula

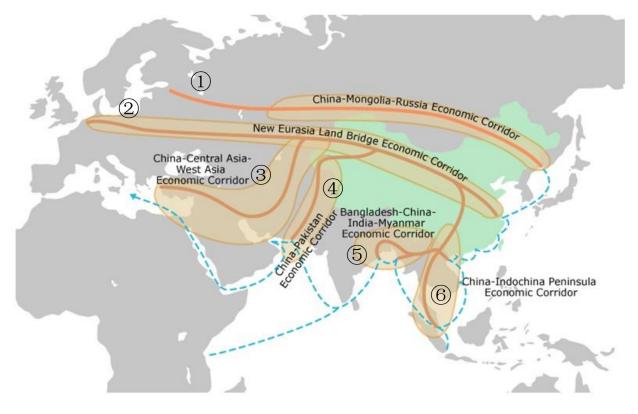


Figure 3 The Six Economic Corridors of The Belt and Road and the influence areas (Adapted from The Belt and Road Initiative, 2018)

When creating the frame of the Belt and Road, the special terms "six economic corridors", "six means of communication", "multiple countries", "multiple ports", have been defined by the Belt and Road Initiative authorities. The "The six economic corridors" is defined as above. The "six means of communication" represents for railway, highways, maritime transportation, air transportation, pipelines as well as aerospace. According to the initiative, the constructions and cooperation of these six means of communications are on process these years and there are already existing benefits gained from these constructions and cooperation. The "Multiple countries" means the firstly participant countries involved in the Belt and Road Initiative, which China will continue to collaborate with them to obtain more mutual benefits. Over 60 countries in Asian, Africa and Europe joint the initiative and more are on the way of further cooperation. "Multiple ports" reveals the amount of ports that are involved to provide the safe and smooth communications and trades. The ports such as Shanghai Port, Tianjin Port and the international ports like the ports in India, Greek Port, Hambantota Port in southern Sri Lanka, Rotterdam Port are all involved in the collaboration. By building and connecting a number of important ports and key cities with countries along the Belt and Road, China works to promote railway and maritime cooperation and development. The framework of the cooperation has given clear guidance and directions for the cooperation countries and further development. (Building the Belt and Road: Concept, Practice and China's Contribution, 2017)

2.3.2 Countries Involved and Their Roles

According to the report "Industrial Cooperation between Countries along the Belt and Road", published by the China International Trade Institute in August 2015, the 65 countries along the Belt and Road that are mentioned in the Figure 4 and Table 1 will be the participants in the Belt and Road Initiative. However, it should be noticed that the Belt and Road Initiative is not just an initiative that only open for these limited 65 countries that cover the ancient Silk Road, it is an international cooperation platform for global parties and organizations. (Chin & He, 2016). For example, South Korea, Spain, Netherland, Greece and so on are also cooperating with China with ports, rail projects according to the Belt and Road Initiative, it is welcomed for countries to join the program to promote the mutual development.

There are 65 countries in total including China till now are involved along the Belt and Road.

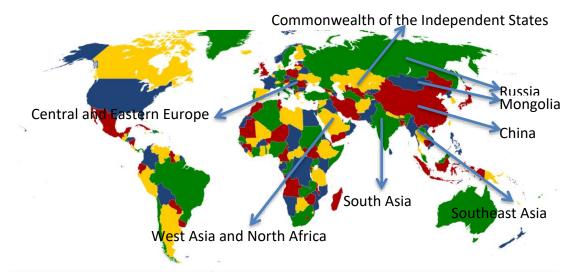


Figure 4 65 Countries along the Belt and Road

To present in a clearer way, a table is provided to better shown the countries along the Belt and Road.

Regions	List of countries
East Asia	China
Southeast Asia (11)	Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar, Cambodia, East Timor
South Asia(7)	Nepal, Bhutan, India, Pakistan, Bangladesh, Sri Lanka, Maldives
Central Asia (6)	Kazakhstan, Turkmenistan, Kyrgyzstan, Uzbekistan, Tajikistan, Afghanistan

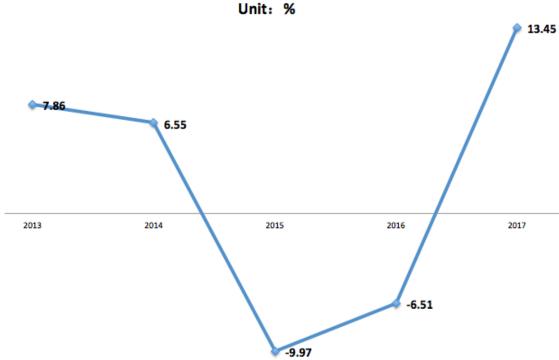
Table 1 Countries along the Belt and Road listed

West Asia (18)	Iran, Iraq, Georgia, Armenia, Azerbaijan, Turkey, Syria, Jordan, Israel, Palestine, Saudi Arabia, Bahrain, Qatar, Yemen, Oman, United Arab Emirates, Kuwait, Lebanon
Central and Eastern Europe (16)	Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Romania, Poland, Serbia, Slovakia, Slovenia
Commonwealth of Independent States (4)	Russia, Belarus, Ukraine and Moldova.
Others (2)	Mongolia and Egypt.
Total	65 countries

To sum up, as for China is the initiator and there are 43 Asian countries joined the cooperation, which are the biggest group. There are 16 countries from Central and Eastern Europe and 4 from CIS (Commonwealth of Independence States), 1 from Africa. So there are 65 countries in total from all over the world along the Belt and Road.

2.3.3 Current Situation

Since the initiative has been brought up, the Chinese companies and industries had already formed 52 different economic cooperation zones in over 20 counties till 2016. Meanwhile more business opportunities were generated from the Belt and Road, which were mainly the area of infrastructure construction, finance, trade and logistics, as well as distribution and retail. What is more, the trade volume of China with those countries involved in the Belt and Road Initiative accumulated to US\$848.9 billion from January till November in 2016, which represents for 25.7 percent of China's total foreign trade volume during the same time. (How the world will benefit from China's Belt and Road? 2017.)



China's Foreign Trade Growth Rate with the Belt and Road Countries

Figure 5 China's Foreign Trade Growth Rate with The Belt and Road Countries (Adapted from Statistics of General Administration of Customs)

The Belt ad Road Initiative covers approximately 4.4billion people in over 60 countries. If the bilateral and multilateral trade among China and the Belt and Road countries is operated in the RMB (Ren Min Bi) currency, RMB will certainly expand widely and develop in both status and influence. (The Belt and Road Initiative: Reshaping the global value chain, 2017). Since the Belt and Road has been proposed till 2017, China's foreign trade has increased a vast amount (see Figure 5). Though the foreign trade growth rate with the Belt and Road countries experienced a decreasing trend during 2014 till 2016, the overall tendency shows a vast increasing trend from 2013 to 2017.

According to data and statistics, China has already opened 356 international transportation routes for passengers and freights with relevant countries based on railways and ports under the Belt and Road Initiative. Till 2018, there is about 39 lines already operated between China and Europe and the amount of Sino-European trains in operations has accumulated to over 12000. The back and forth deliveries are about to be presented in a balanced trend. The rails back from Europe to China

accounts for 71% of the rails from China to Europe. Over 15 countries in Europe are connected to China by rails. (Zhuang 2018) Also, all the countries along the Belt and Road were covered by the maritime transportation services. And 43 countries along the route have been served by the direct air transportation services with about 4,200 flights a week with 18 new flight lines in the Belt and Road countries. The procedures for these countries to operate the rail transportation have been simplified to a great extent, which undoubtedly promoted the international rail freight transportation between China and European countries so that more and more cooperation will be started with the international railway transportation. (ibid.) Meanwhile, lists of international documents between China and African and European countries are signed to promote the co-operations. Such as that China signed the documents with European Union to import more high technics and to learn about the environmental protection issues. And there are listed documents signed with different countries about different cooperation projects.

2.4 Connections with International Logistics

The routes going through the Belt and Road countries cover a large scale and 25% of the world's manufactured goods are produced from these countries along the line. (Reopening the Silk Road. n.d). To illustrate the how the Belt and Road Initiative has close connectivity with international logistics, the definition of the international logistics is described firstly.

The definition of international logistics can be given as the well-regulated flow of commodity and products among countries under an international-scale environment. It is to utilize the international logistics network to reach the exchange of the commodity internationally according to the principle of international division of labor, which leads to the effective progress of the optimal allocation of international resources. The target of international logistics is to provide better service to international business operations and international trade. International logistics assist enterprises to accomplish the trade with other countries in the condition of the lowest cost under the premise of superior quality and quantity. Compared to domestic logistics, international logistics is more risky. International logistics has made a great progress these years. With the rapid development of the

informatization, the international logistics will reach to a more advanced and professional level. (Jigang & Fujun 2016)

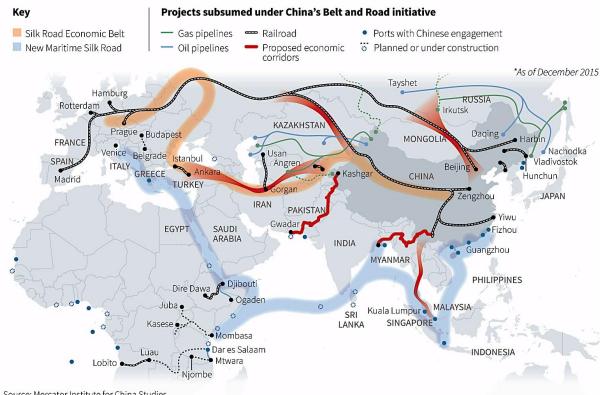
According to the goals of the Belt and Road Initiative, one of the major goals is to boost the global economy by promoting the trade among countries. International logistics is the main way to make this realize. Meanwhile, due to the implementation of the Belt and Road, numbers of the projects like international railways, highways and ports are established and also more are in the process of planning along the routes. These establishments of the transportation structures better allow and facilitate the process of the international logistics operations. The cooperation areas of the initiative, especially the road connectivity, unimpeded trade and money circulation, are planned to bring more opportunities for countries and industries to trade with more unified system, better logistics services and lower prices.

3 Effects on Transportation

Transportation is one of the key elements in logistics. It aims to move the products through the supply chain in a proper way. Transportation modes consists of railway transportation, maritime transportation and road transportation pipelines for oil and gas. In Figure 6 below, it is clearly shown that there are railways already constructed and under constructions to connect the countries of Asia, Europe and Africa. Moreover, China is cooperating with ports along the belt and road to boost better operations in maritime logistics. In the projects conducted according to the Belt and Road Initiative, railroad constructions and China's engagement with the international ports occupy a large portion.

Reviving the Silk Road

Announced by Chinese President Xi Jinping in 2013, the Silk Road initiative, also known as China's Belt and Road initiative, aims to invest in infrastructure projects including railways and power grids in central, west and southern Asia, as well as Africa and Europe.



Source: Mercator Institute for China Studies.

Figure 6 Projects subsumed under China's Belt and Road Initiative (Adapted from Lu, et, al. 2018. The economic effects of improved transport links in Belt and Road countries, China Railway Express.)

The projects of transportation and the constructions are the vital parts of the Belt and Road Initiative, and great efforts have been put to these sectors. As can be seen in Figure 7 below, the average project value of transport and the transportation construction has increased by approximately 68% and 89% respectively from 2013, when the Belt and Road Initiative was proposed, to 2016.

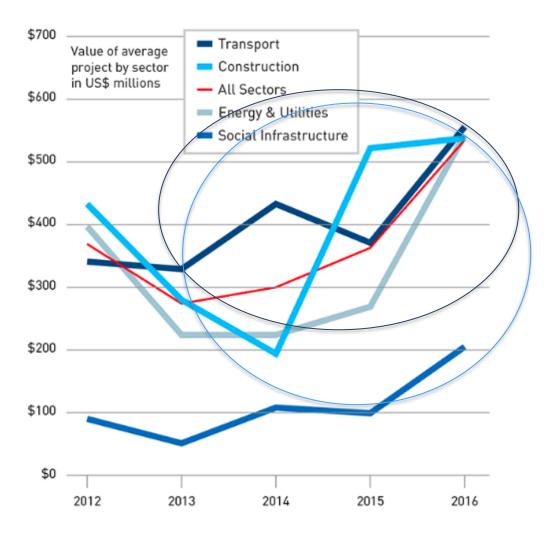


Figure 7 Increased Value of Projects along the BRI

(Adapted from Davis. & Mark. & Gabriel. 2018. Source: Thomson One, Bloomberg, BMI Research, and PwC.)

3.1 Progress of the Transportation Infrastructures

Based on the Belt and Road Initiative, the railway named YuXinOu Trans Eurasia Rail and extending 11,179 kilometers has been established. The name of the railroad, YuXinOu, represents Yu (Chongqing)-Xin (Xinjiang Uygur Autonomous region) and Ou (Europe). This railway goes through seven countries, which are China, Kazakhstan, Russia, Belarus, Poland, Germany and the Netherlands. Comparing the delivery time with sea transportation from China to Rotterdam, it takes only 15 days by railway, which is around 30 days quicker. (Zhang 2016). The weekly cargo rail service between China and the Port of Rotterdam turned to be fully operational in September 2016 (Lynch n.d.). On the ocean, the Belt and Road has been actively promoting the joint transportation of cargo from Japan, South Korea and Singapore, opening up new routes from Turkey to Europe, and gradually improving the logistics network of China and Europe. Statistics show that the China Ocean Shipping Company required the usage of 51 percent of Greece's largest port in 2016 (Lynch n.d.).

During the recent years, China has been challenged with the problem that the costs for logistics are on the high side when having trade with Europe by land channels. There are few opportunities to take full cargos from Europe to China due to the short supply, so that the transportation trains always come back with empty containers, which has also increased the expenses. In addition, the transport routes from China to Europe have many exchanges of rails, which always wastes plenty of time on the way. The lack of capacity in some ports is a problem as well. From China to Europe and Africa, there are many different rail gauges on the way (see Figure 8).

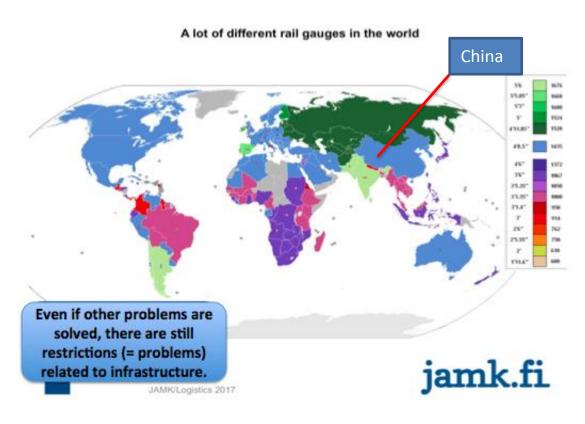


Figure 8 Different Rail Gauges in the World

(Adapted from the presentation of the Transportation modes, Railroads section)

With the development of the Belt and Road Initiative, the trade cooperation between China and European countries has increased from that described in Figure 6 so that the problems mentioned above about the empty miles can be gradually solved and more costs can be saved.

3.2 Effects on the Railways

The Belt and Road Initiative promotes exchanges between different regional economies so that they can cooperate more tightly, and the transportation between different continents is the basic guarantee for ensuring economic exchanges. The Belt and Road organizes funds and talents between countries to build different modes of transportation. The China Railway Express is the most obvious example. The opening of the China Railway Express has undoubtedly promoted the trade between China and Europe to become more frequent. The China-Europe team has built three Sino-European avenues with 57 Sino-European routes (Li 2017).

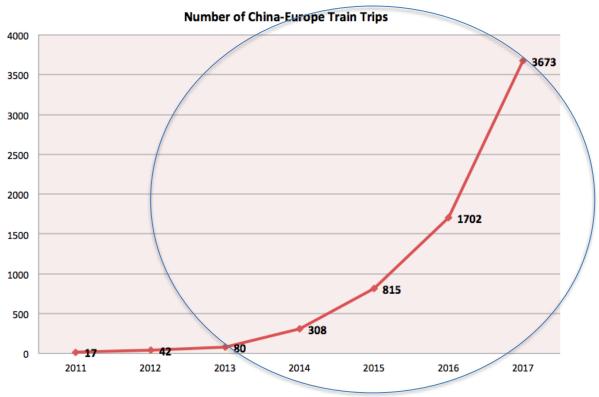


Figure 9 The number of the China- Europe Express train trips

(Adapted from statistics from the Belt and Road Department)

According to the Belt and Road Initiative plan, the number of train trips from China to Europe has greatly increased from 80 to 3673 from 2013 till 2017, which is approximately a 46 times' growth in four years, as can also be seen also in Figure 9. Since the constructions of the transportation infrastructure have been increasingly improved, more communications and trade are generated as well. For the countries along the Belt and Road, the leaping numbers of the rail connections display a vital role in the trade between the countries. The total exports rate has improved by 2.8% due to the already built up connection of the rail infrastructures, according to the studies on the Belt and Road Initiative (Lu et al. 2018).

In order to expand the services through the trans-Kazakh west corridor between Shenzhen, China, and Minsk, Belarus, DHL's forwarding team arranged a new route that covers the Belt and Road routes. Deliveries by railway transportation from Shenzhen to Minsk take less than 12 day for the first time. Some other delivery routes for DHL deliveries have also been connected such as Chengdu, China, to Vienna, Austria, which takes only 15 days going along 9800 km. (DHL and rail cargo group extend "Belt and Road" network with new Chengdu-Vienna direct route, 2018). The trade with the Baltic states and Nordic countries as well as other European destinations, such as Warsaw, Hamburg and Tilburg has been facilitated by the new route. (Davis, Mark & Gabriel 2018)

3.3 Activation of the New Eurasian Continental Bridge

The Eurasian Continental Bridge logistics channel mainly relies on the Eurasian Continental Bridge and the New Eurasian Continental Bridge to form a logistics artery across the Eurasian continent. It is also the land logistics artery of the Pacific and Atlantic Oceans. According to the logistics flow that has been formed and may be formed in the future, the Eurasian Continental Bridge logistics channel relies on the Eurasian Continental Bridge and the Siberian Continental Bridge. It starts from Vladivostok in eastern Russia, crosses Siberia to Moscow, then to Europe and finally, reaches the port of Rotterdam, the Netherlands. Through Russia, Kazakhstan, Belarus, Poland, Germany and the Netherlands, the total distance is about 13,000 kilometers. Due to the earlier operation time of the Eurasian Continental Bridge Railway, especially the multimodal transport mode, the logistics channel also played the role of connecting Eurasia, but it was mainly in the eastern and western regions of Russia. The western and European regions and a small number of land transportations from Japan to Europe cover a small number of countries, a narrow radiation range, and relatively limited material flows (Zhao 2015).

When compared to the former Eurasian Continental Bridge, the logistics route of the New Eurasian Continental Bridge crosses Kazakhstan, Russia, Belarus, Poland and other countries and reaches Europe and eventually Rotterdam in the Netherlands, with a total length of 10,900 kilometers, crossing more than 30 countries and regions in Asia and Europe. The logistics channel has become the second international channel that realizes sea-land-sea unified transportation across the two continents of Asia and Europe and connecting the Pacific Ocean and the Atlantic Ocean. As two of the major elements of the transportation channel, the geographical location and climatic conditions of the New Eurasian Continental Bridge are better compared with the old one. The ports have no freezing periods, and they have a larger throughput capacity, shorter land distance and lower costs. Compared with the previous logistics channel, the logistics channel has a wider radiation surface, which leads to a greater logistics demand. With the progress of the construction of the New Eurasian Continental Bridge, the number of departures in the channel grows larger when more countries are connected via the new channel. The major coastal cities in Southeast Asia, east of China and west of Europe have formed a connection with the New Eurasian Continental Bridge. These cities are connected to countries and regions, such as South Korea, Japan and Southeast Asia through sea routes. They form an extension of the logistics channels of several New Eurasian Continental Bridges (Wang 2017).

With the development of the Belt and Road Initiative, the new bridge has been activated to perform a vital role in connect the countries around China with a wider radiation area. China and the countries that are not covered by the old bridge can more easily access to each other with the help of the New Eurasian Continental Bridge.

3.4 Maritime Transportation Shipping Times

As for the maritime transportation times, according to the researches and statistics of the documents done by Alen, since the Belt and Road has been promoted, the shipping times has been decrease of certain level, especially for the East Asia and Pacific region, their shipping time when transporting goods to all the countries and regions has been cut down most, which are shown on the second column of Table 2. It can be seen that the transportation times among Asia, Europe and Africa shows larger decreasing percentages compared with American countries. (Alen et al. 2018,15-16)

UNIT (%)	East Asia & Pacific	Europe& Central Asia	Latin America & Caribbean	Middle East & North Africa	North America	South Asia	Sub-Saharan Africa
East Asia & Pacific	2.01	2.70	0.71	2.99	1.06	4.67	2.64
Europe& Central Asia	2.70	1.15	0.75	0.38	0.74	0.88	1.06
Latin America & Caribbean	0.71	0.75	0.00	0.05	0.00	1.15	0.55
Middle East & North Africa	2.99	0.38	0.05	0.14	0.18	0.70	0.91
North America	1.06	0.74	0.00	0.18	0.00	1.49	0.47
South Asia	4.67	0.88	1.15	0.70	1.49	3.59	2.59
Sub-Saharan Africa	2.54	1.06	0.55	0.91	0.47	2.59	0.97
Average	2.38	1.09	0.46	0.76	0.56	2.15	1.31

Table 2 Proportional decrease in shipment time

(Adapted from Alen et al. 2018,15-16.)

Based on the calculation of the average decreasing time of these areas, East Asia is experiencing the largest decrease in shipping times with the average decrease of 2.38 percent when transporting to all the other regions (first column in Table 2). And the most effective time decreasing are happened between the East Asia and Pacific and South Asia, with the average decrease proportions reaching 4.67 percent when having trades across all countries in these areas. These countries are exactly the countries covered by the Belt and Road Initiative and have cooperation due to the initiative. There are also regions hasn't been affected efficiently that for example there is no obvious reduction in shipping time between North America and the Latin America with zero decrease of time. These areas are that not join the Belt and Road that there are few convenience provided for them that there are few development of the transportations in these areas recently.

4 Effects on the Financial Aspects and Economic Development

Finance and economy is also one important issue that affects the logistics industry. The international trade that trades the physical goods requires comprehensive logistics operations to facilitate the trade. The countries that the Belt and Road Initiative covers account for 40% of the global GDP. The export and import activities are highly related to the logistics industries. To boost the trades is one of the most major tasks for the Belt and Road countries. The Belt and Road countries wish to enlarge their oversea markets and cooperate to make each other to live a better life and share a booming economy. The export volume of China to the Belt and Road related countries shows an increasing trend from 2013 to 2016 (see Figure 9). More products have been exported to more countries due to more cooperation has been built up. In 2017, the total foreign trade volume of the Belt and Road countries reached US\$9.3 trillion. The Belt and Road trade volume on behalf of 27.8% of global trade, which reveals that Belt and Road cooperation plays a vital role in the total volume of global trade. In terms of export volume, Singapore and Russia, as the countries that co-operate closely with China in the Belt and Road projects, their exports value reached US\$369.55 billion and US\$357 billion. Among the countries along the Belt and Road, the trade volume of each country is quite different with increases. Moreover, the trade volume between Russia and the United Arab Emirates has exceeded US\$500 billion. (Liu 2018)

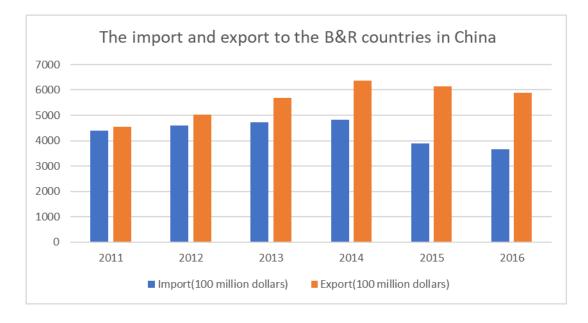


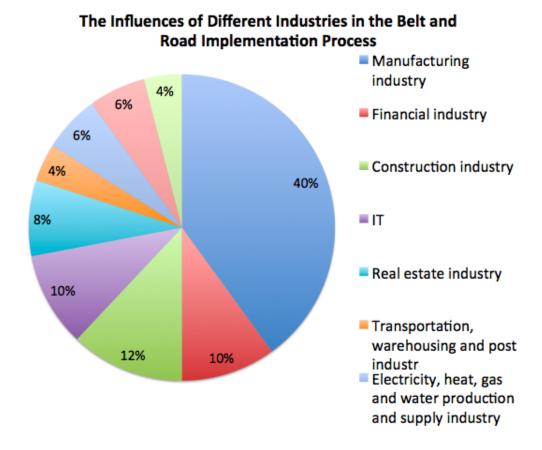
Figure 10 The Import and Export to the Belt and Road Countries in China (Adapted from The national Bureau of Statistics of China.)

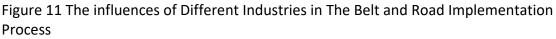
Due to the proposal of the Belt and Road Initiative, more investment is attracted for the projects. From 2014 to 2016, Chinese enterprises directly invested more than US\$50 billion in the Belt and Road countries. The signed foreign contracted projects within the Belt and Road countries amounted to US\$304.9 billion (Liu 2017). In 2016, the economic aggregate of more than 60 countries along the line was US\$23 trillion. Even if the infrastructure investment is equivalent to 10% of GDP per year, there will be 10 trillion US dollars of market space in the next five years because of the projects of Belt and Road Initiative. From January to October in 2016, Chinese enterprises invest more money in the countries related to the Belt and Road Initiative by US\$11.18 billion, and the contract value of newly signed foreign contracted projects was US\$1020.7 million. A number of major projects have been successively launched based on the investment, the China-Laos Railway, the Pakistan Karakoram Highway Phase II, the Karachi Expressway have started construction, and the construction or operation of oil and gas pipeline projects such as China, Russia, China, Kazakhstan and China-Myanmar are in existence. (Weng 2016)

5 Different Industries and Cooperations Considered

5.1 Influences on Different Industries

The influence of the Belt and Road brings to Chinese industries with a large amount of business opportunities and a diversity of industries have joint in this initiative.





(Adapted from The rankings of different industries based on the influences of the Belt and Road.2017.)

There is a wide range of industries are participating in the Belt and Road Initiative (See Figure 11). Manufacturing and construction as well as financial industries are the industries that are highly influenced during the process. Although the Belt and Road initiative was proposed by China and the projects based on it were mostly dominated by Chinese enterprises and financial institutions, those multinational and international companies and industries are still willingly to participate in the projects in order to gain the benefit from globalization as well as to earn the chances of the enlargement of markets in these regions.

Industries like delivery services, energy companies, infrastructure, consumer goods, and foods are all have their expectations to gain opportunities from the Belt and Road Initiative. The main benefits they considered are about the convenience of the transportation infrastructures, the reduction of the operation cost, the increase of the investment according to the Belt and Road Initiative as well as the expand of the market.

Table 3 Industries in Southeast and South Asia Expected to Benefit from the Belt and Road

Industries	Supporting Factors	Companies		
Trading and Logistics	 Improved infrastructure Reduced logistics costs Further opportunities for e-commerce 	DHL		
Energy	 Increased investment in energy sector 	Shell		
Infrastructure	 Increased investment will benefit both infrastructure construction companies and construction equipment providers 	Caterpillar		
Consumer Goods	 Improved connectivity will drive more e-commerce traffic Increased income levels and consumer demand 	Nike, Apple		
Food & Beverage	 Increased income levels and consumer demand 	Coca Cola, Nestle		

(Adapted from Deep dive: one belt and on e road impact, western multilateral countries.)

Moreover, due to the Belt and Road Initiative, the e-commerce industry has been promoted that a digital international free trade zone called BRI was proposed by the most famous Chinese e-commerce Alibaba in cooperation with the Malaysian government. (Lynch n.d.)

5.2 Car Industry

As an industrial the automobile industry has always been a reference factor for industrial development indicators. The automobile industry is a comprehensive industry. One goal of Belt and Road Initiative is to push ahead the countries involved to enlarge the oversea market, and exchange the products. The new rising economy countries like India, Russia, China, and so on become the main market in the Belt and Road. The Belt and Road contributes to help these countries to explore the new market and to share the labors from these countries as well as exchange technology to strengthen their car industry in their mainland.

As said in the previous paragraph, 25% manufacturing and production goods are produced along the Belt and Road countries with a large number of manufacturing components and added value of products. And with the progress of global trade, the Belt and Road Initiative is also operating a process of optimizing the industrial structure. As there is an increasing number of countries join the Belt and Road cooperation and projects, many high-tech automobile industries start to build automobile production bases in the local area through wholly-owned or joint ventures. At the same time, in the developed markets along the Belt and Road, developed countries with high technology occupy a higher market share. As the market of automobile industry in developed countries tends to be saturated, the economic rise of developing countries, especially the "BRIC countries" in the Belt and Road, has become the engine that drives the growth of the automobile market. The focus of the global automobile industry is gradually shifting to emerging economies such as China, India and Russia (Zhang 2017).

China- Russia Co-operation

In the Belt and Road cooperation, China and Russia use the comparative advantage to conduct trade cooperation in the energy and automobile markets. According to the Belt and Road, the construction of the pipelines to transform the gas has also been built between China and Russia. Russia has abundant natural resources and China has excessive vehicle production capacity. China's natural gas is not abundant, and imports are needed to meet the demand gap. In 2017, China imported 39.4 billion cubic meters of pipeline natural gas, an increase of 3.4 billion cubic meters from 2016; liquefied natural gas imports were 52.6 billion cubic meters, an increase of 16.7 billion cubic meters from 2016. The gap between China's natural gas production and consumption has grown in the past decade while the construction of Belt and Road has enabled Russia to join the Chinese natural gas market, and Chinese car brands can also enter the Russian market and assist each other.

Since there has been years countries facing the recession of the economy and a series of political influences such as the Ukrainian crisis, the Russian auto market has been declining for four consecutive years, and automobile production and sales have been declining year by year. In 2016, the yearly sales volume was only 1.45 million units, which was 11% less than the previous year. Under the policy of the Belt and Road Initiative, FAW and also other Chinese car companies like Lifan and Haval, began to deploy in Russia, entered in the Russian markets. Great Wall Motor is also a famous Chinese car company in Russia. It has established a sales company in Russia and operates stably. Meanwhile, Great Wall company started to establish its plant in Tula, Russia and the expected production capacity is about 1500000 per year. (Great Wall, 2014). This plant in Tula is the first automaker plant of Chinese brands that covers the four major production processes of stamping, welding, painting and final assembly. The Belt and Road helps China and Russian to cooperate in the energy and car industry in a great way. Besides, the Belt and Road offers the loan to this two countries' companies to build the tunnel to transmit the natural gas. Also, the companies in both countries can use the loan from the Asian Developing Bank as well as other banks that offer investment and loan to the Belt and Road Initiative co-operations.

To conclude, the Belt and Road is the good way for both the developing countries and developed countries. This is the new way of cooperation in the car industry. The car companies in the developed countries offer the loan for the companies that lack of money and the companies take the loan to build the car factories in the developed countries to facilitate the manufacturing process with lower labor costs. Besides, due to the Belt and Road helps the developing countries to build the basic construction like road and railways, the car market in the developing countries are being promoted and China also builds up cooperation to import natural gas from Russia since all kinds of trusty cooperation has been established.

6 Summary and Analysis of Opportunities and Challenges

The application of the Belt and Road Initiation has greatly encouraged the cooperation among the countries, which provided more opportunities for international logistics. Meanwhile, though there are numbers of benefits, there are also challenges exist.

6.1 Opportunities

The main aspects that the Belt and Road Initiative influences the international logistics are transportation, finance and collaborations among countries and industries.

To illustrate the opportunities the Belt and Road Initiative brings to international logistics, there is an evaluation index can be taken as a reference. The Logistics Performances Index (LPI), which was created by the World Bank to assist countries to identify and assess the performance of logistics operations and the corrective actions. There are six evaluation factors to evaluate the international logistics performance, which are:

• The efficiency of customs and border management clearance. (International LPI 2018) This indicator evaluates the efficiency of the agencies that controls the border operations, which covers also the customs. It assesses the uniformity and simplicity of the documents, rules and regulations during the delivery and operation processes.

• The quality of trade and transport infrastructure. (Ibid.) This aims to determine if the transportation infrastructure, like rails, ports, bridges of good quality and provide convenience and smooth assistance for the international transportations.

• The ease of arranging competitively priced shipments. (Ibid.) This is related to the cost of the international shipments. If the cost of the logistics activities in these countries has the competitive advantages compared to other countries.

• The competence and quality of logistics services. (Ibid.) This reveals the how well the activities such as forwarding, customer brokerage are done, if these services meet the market's expectations and if they are equipped with competitiveness.

• The ability to track and trace consignments. (Ibid.) This presents how reliable the logistics operations are. It assess that if the service is

• The frequency with which shipments reach consignees within scheduled or expected delivery times. This indicator aims to show if ideal the delivery time can be achieved as scheduled, which is also an important aspect in logistics.

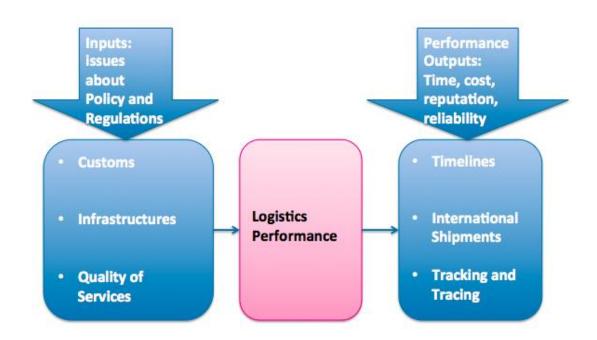


Figure 12 International Logistics Performance Indicators

According to the indicators above, the opportunities of the Belt and Road Initiative brings to the logistics are listed based on the six aspects.

1) Superior International Shipments

For transportations, a large amount of transportation infrastructures and constructions have been and are being built and connected since the Belt and Road Initiative has been proposed. China are being connected with more countries in a more convenience way. The delivery from China to for example Rotterdam port used to take more than a month with ships while now it only requires 15 days, which leads to a better service quality. Similarly, in addition to the 65 Belt and Road countries, China contributes to cooperate as many countries as possible Europe and Africa to create more opportunities to both sides. There are less empty containers due to the cooperation and goods exchanges among countries. The efficiency for the international shipments has been improved.

2) Convenience From the Infrastructure

The laying of new tracks has created a bridge of cooperation among countries. The locomotives can be transported without change of rails. More importantly, the line also improves the operation of the locomotives. The speed has made it possible to speed up freight trains. High-speed freight railways across Russia, India, Southeast Asia and Europe are gradually being put into use. The rail density has been greatly improved. The high-speed railways between China, Malaysia, Singapore as well as some other Asian countries are gradually replacing the traditional way of shipping. It is expected that this line will create a production value of US\$10 billion by 2020. On the other hand, Beijing's high-speed rail to Moscow will make it 400 kilometers per hour so that the travel time from Beijing to Moscow will take only one day instead of seven days previously (Russia, China to build high-speed rail link, 2017). More high-speed rail lines, such as Indonesia, India, Vietnam and Eastern Europe, will gradually be integrated and connected into the China's high-speed rail network. The construction of the railways going through the Belt and Road will continuously be the main projects of the initiative. (Liang 2015).

3) Reduction of Shipping Time

The reduction of the shipping time at the same time has greatly reduced the trade cost. According to the statistics shown on the Belt and Road Department, the transportation costs are 30% less compared with the time before the Belt and Road Initiative was proposed. Shipping time can be a critical barrier in the trade process. For companies or customers, the on-time delivery can directly affect on the goods' value. The delay of the deliveries then would affect the materials flow and the efficiency of the whole process. So, the convenience of the improving transportation infrastructures as well as the connections among

countries can reduce the transportation costs and also the materials flow. (Alen at el. 2018) The Belt and Road has accelerated the construction of the transportation facilities, more ports has been upgraded to allow larger capacity and the railways have been equipped to be more convenient, scientific and effective.

4) Transport Rules Unified

Prior to the implementation of Silk Road Economic Belt, international rail transport rules were not uniform. The international railway transportation system of Eurasia is still in a split state, belonging to the Organization for Cooperation between Railways (OSJD) and the International Union of Rail ways (UIC), and has not yet formed a sound unified customs clearance and documentation system. For example, to the different railway system, the Marathiste station in Poland is usually 8-10 hours due to the replacement of the waybill. However, the construction of the Silk Road Economic Belt can promote the convenience of customs clearance; realize a customs declaration, an inspection, a full-line release, and a unified waybill. The countries along the line can implement information exchange, supervision and documents unification, and unification in law enforcement. (Hou 2017). The unified track standards can lead to more active cooperation of logistics industries along the line.

5) High-speed Railway Development

Since the Belt and Road facilitates the development of the high-speed rail development, high-speed rail may change the traditional railway logistics format. Chinese railway nowadays can reach the quickest speed in the world with 250 to 350 km/h. At present, many countries have taken high-speed rail development direction and actively cooperated with China under the Belt and Road Initiative. From a global perspective, there are currently six major high-speed rail programs and they have close connections with the Belt and Road countries and projects. Firstly is the Asian-scale high-speed railway starts from Kunming, China, with one line linking Thailand, Myanmar, Bangladesh, India, Pakistan, Iran, and Turkey. The other line will travel from Kunming, China to Thailand and Malaysia and Singapore. The second is the Central Asian high-speed railway with the departure point Urumqi in China again. Through this railway, the Central Asian countries, such as Kyrgyzstan, Uzbekistan, Iran,

and Turkey, will be connected and travel to Iran and then arrive in Germany as the destination. They will connect 17 countries that included in the Belt and Road. The third is the Eurasian high-speed railway, which travels from London and going through Paris, Berlin, Warsaw, and Kiev. After Moscow, it is divided into two routes, one going to Kazakhstan, the other from Khabarovsk in the Far East, and then into Manzhouli in China. The fourth is the Siberian high-speed rail, the modernization of the Baikal-Amur Railway across Russia. The fifth is the "two oceans high-speed rail", which is a high-speed railway construction project jointly carried out by China, Brazil and Peru. The "Two Oceans Railway" spans Brazil and Peru and connects the Atlantic Ocean to the Pacific Ocean, with a total length of 5,300 kilometers. The sixth is the "Global High Speed Rail", which includes five lines of the Eurasian North Line, the Eurasian South Line, the Southeast Asia Line, the Americas Line and the African Line (Cao, et al. 2015). Though these high-speed rails are still on the process of the construction, the complement of these projects will create a considerable change of the railway networks and logistics efficiency. The Belt and Road Initiative provide the platform for development and cooperation for the constructions of these high-speed rails to a large extent.

6) Financial Opportunities

The growing economic situation and trade cooperation will enlarge the market stage of logistics companies. According to the statistics from Chinese Belt and Road department, China is the largest trading partner, largest export market and main source of investment for many countries along the route. Under the progress of the Belt and Road, the trades among different countries along the Belt and Road as well as the investment volume along the line show the trend to continue to improve. While the trade value and volume keeps going up, the materials flow, the demands for transportation services, the co-operations of production and manufacturing industries are all expose to a more prosperous logistics environment with a growing tendency.

The Belt and Road provides a financing platform for infrastructure construction in neighboring countries. Cooperation in financing and infrastructure construction is carried out in local markets along the route. Banks between countries serve as the main body to support the cooperation of these banks.

The Belt and Road Initiative undoubtedly provides an important opportunity for the banking industry to actively expand overseas markets based on existing domestic commercial maps. Optimizing the layout of financial institutions along the Belt and Road and actively building a global financial service network to meet the investment needs of enterprises and the capital needs of national infrastructure construction will bring significant opportunities for the company. The development banks, export-import banks, and commercial banks like the World Bank, the Asia-pacific economic cooperation have continued to raise up their support for the implementation of the Belt and Road (Song 2017). The Belt and Road Initiative brings important opportunities for financial cooperation and further development. As one of the important strategic ideas, finance has deepened the financial links of the Belt and Road countries, strengthened financial cooperation among countries along the route, and brought new opportunities for regional financial cooperation development. The economic corridors of the Belt and Road facilitate the development of the economy according to the planned direction.

6.2 Challenges

1) Lack of Synergy

The Belt and Road brings opportunities to countries along the route as well as challenges. To illustrate, the challenges exist on the interconnection of logistics infrastructure. The construction conditions of the landforms along the Belt and Road Initiative are complex and the capital needs are large, which affects the development of economic and trade relations. While the countries involved are working on it to improve a better transportation construction plans to create better connections among countries. Though part of the infrastructures has been improved and synchronized, there are still differences and inconsistences among track gauges of different countries. Furthermore, the ability to change the loading capacity is also uneven. These have became a major bottleneck for the normal operations of the trains to accelerate the efficiency. Thus, the operation efficiency of the ports along the countries is low due to the lack of synergy. According to statistics, the average waiting time of trains transporting from China to Europe at the port accounts for 30% of the total transit time. In the port waiting time, the retention due to factors such as documents and customs inspections accounted for 60%, and the retention caused by other factors such as capacity connection accounted for 40%. (Vinokurov 2016) This reveals that though countries joint the projects, there are still lack of communications and unifications to make the whole system work with high efficiency.

2) Westbound Eastbound Unbalanced

The Belt and Road has more westbound cargo and less eastbound cargo. The imbalance between two-way trade has increased the vacancy rate and reverse logistics costs, which has affected the development of trade facilitation, and the Belt and Road cross-border e-commerce has not yet formed. Under the unified international rules, customs of different countries have different definitions of cross-border B2C commodity attributes, tax policies and supervision methods, which increases the uncertainty of cross-border e-commerce development (Zhang 2017).

3) Enthusiasm for Countries to Take Part In

The Belt and Road Initiative was brought up by China, so during the process of implementing this initiative, China is the country that proposed the initiative and this initiative is comparatively speaking a still developing proposal that just ongoing for 5 years, the contents and details in some aspects are still not familiar and understood by some countries or authorities. In this case, the necessary information for the projects in different countries still needs inputs of time, labors and costs to make surveys and investigations. These processes all require countries to put large efforts and investment in. Considering of these processes and inputs, countries may feel not worth joining the projects.

4) More Competitions Generated

Though more co-operations are generated due to the Belt and Road Initiative, the competitions are as well rose up. According to the effects of the Belt and Road brings to transportation and financial aspects, all the countries and industries that take part in earn the opportunities from those, which then will generate the competitions among countries as well as logistics industries.

7 Conclusions

Complying with the Belt and Road Initiative facilitates China and the relative countries earn more opportunities to acquaint with the market conditions of each other and more available co-operations of the trade are provided. With the help of the Belt and Road, the infrastructures for rail transportation and maritime transportation have been greatly improved, which allows shorter transportation time and lower transportation costs for bilateral and multilateral trade. The reduction of the non-tariff barriers creates more opportunities for the international business co-operations. The logistics industry has been more active since the Belt and Road allows the supply chain to be more cost-efficient. In this way, the logistics operation can have diverse choices to maximize the benefit.

The Belt and Road provides an unprecedentedly comprehensive and large-scale transportation network for the countries along the channels, which activated the circulations of the trades of commodities and cooperation of logistics between China and other countries. Especially for those international industries work with global supply networks, the reduction of the transportation time, the improvement of the transportation infrastructure's quality and the expand of the transportation connections can undoubtedly reduce their operation costs and logistics performance.

Since the Belt and One Road Initiative has been launched, the trade and commodity exchange among the countries along the route turn to be more frequently. The reduction of the transportation time as well attracts more investment. Numbers of local excellent products which were previously not familiar to China gradually became known to Chinese consumers. Consumers around the world also obtain a deeper understanding of China's products and services. Due to the construction of the Belt and Road Initiative, the convenient international logistics and the unification of the transportation infrastructures and rules have strongly accelerated the development of cross-border trades. Under the background of the Belt and Road initiative, the logistics and express companies are becoming more flexible to adapt the change of the logistics market. While the logistics companies are acting vibrantly in the international logistics and commerce market, the global supply chain meanwhile gets the chance to accelerate the progress according to the transformation of the global market. The Belt and Road initiative has boost the economic development of the countries along the line through communications and collaborations in different projects.

The direct reliability study on the general conclusions is a little difficult since the topic of the thesis is rather wide, but the major opportunities and results are illustrated in the context of the thesis. For example, the major opportunities on the savings of transportation time and transportation costs are supported by the statistics from the sources of the Belt and Road Authority and the reports from the World Bank as well as the Port of Rotterdam Authority, etc. In this case, more detailed analysis and evaluation are presented in the content of the thesis.

8 Discussion

More than 2,000 years ago, the ancient Silk Road was established to connect China with Africa and Europe, contributes to the exchange of civilization and trades among countries for the development. In today's information age, transportation and communication are more advanced and developed, and the trend of economic globalization is even more unstoppable. In the past few years, under the background of depressed global economic situation, the import and export trade value and volume of the countries along the Belt and Road and involved in the cooperation has continued to grow. These countries are collaborating through the different projects like construction of railways, ports, pipelines and other large-scale construction and manufacturing projects. Under this environment, for suppliers, they can consider supplying the equipment of construction or infrastructure, machinery, and the advanced solutions for the infrastructure projects, since there is a great need due to the large amount of the construction projects based on the Belt and Road Initiative. Companies that supply for special expert equipment for constructions can also take the chance to take part in the projects since the technical need for special equipment is necessary to build up the transportation infrastructures in different regions. For the companies, for example the trading and logistics companies, they can considerate how to utilize the Belt and Road to generate more co-operations among countries or to reduce the transportation time and cost, there would be a huge amount of potential benefits for the development of the companies. Collaborations

between these countries have effectively promoted the sustained and healthy development of the international logistics as well as the global economy. No matter for the developed countries of Europe, developing countries in Africa or the Asian countries that are trying to emerge economies, the implementation of the Belt and Road can promote more high-quality international trade and economic cooperation to facilitate their development. The Belt and Road Initiative is still ongoing and more convenience and mutual benefits are going to be created and for countries and international logistics industry. The potential challenges can be researched in the future to provide more advice for participants to better perform in the cooperation of the Belt and Road Initiative.

References

Alen, M., Siobhan, M., Nadia, R., & Michele, R. (2018). *How Much Will the Belt and Road Initiative Reduce Trade Costs?* (15-16). Accessed on 1 November. Retrieved from http://documents.worldbank.org/curated/en/592771539630482582/pdf/WPS8614.p df

Belt and Road Initiative.(2018). The World Bank. Accessed on 10 September 2018. Retrieved from

https://www.worldbank.org/en/topic/regional-integration/brief/belt-and-road-initia tive

Building the Belt and Road: Concept, Practice and China's Contribution, 2017. Accessed on 6 November. Retrieved from

http://www.yidaiyilu.gov.cn/wcm.files/upload/CMSydylyw/201705/2017051105370 27.pdf

Cao, X., Tao, L. I., Yang, W., Huang, X., Yin, J., & Liu, Y., et al. (2015). *Accessibility and urban spatial connections of cities in the silk road economic belt based on land transportation*. Progress in Geography, 34(6). Accessed on 14 October 2018. Retrieved from <u>http://en.cnki.com.cn/Article_en/CJFDTotal-DLKJ201506001.htm</u>

Cheng. X. (2018).*The historical background of the Belt and Road*. Accessed on 15 November 2018. Retrieved from_

https://wenku.baidu.com/view/6e7c8972f6ec4afe04a1b0717fd5360cba1a8da6.html

Chin, H. & He, W. (2016). *The Belt and Road Initiative: 65 Countries and Beyond.* (1-4) Accessed on 3 December. Retrieved from

https://www.fbicgroup.com/sites/default/files/B%26R Initiative 65 Countries and Beyond.pdf

Davis, W. & Mark, R. & Gabriel, W. (2018) A STRAEGIST'SGUIDE TO CHINA'S BELT AND ROAD INITIATIVE. Accessed on 12 November. Retrieved from https://www.strategy-business.com/feature/A-Strategists-Guide-to-Chinas-Belt-and-Road-Initiative?gko=a98e0

Deep dive: one belt and on e road impact, western multilateral countries. Accessed on 12 November. Retrieved from

https://www.fungglobalretailtech.com/research/deep-dive-one-belt-one-road-impac t-western-multinational-companies/

DHL and rail cargo group extend "Belt and Road" network with new Chengdu-Vienna direct route.(2018) Accessed on 12 November 2018. Retrieved from https://www.logistics.dhl/global-en/home/press/press-archive/2018/dhl-and-rail-cargo-group-extend-belt-and-road-network-with-new-chengdu-vienna-direct-route.htm

Fink, Arlene. (2014). *Conducting Research Literature Reviews: From the Internet to Paper.* Fourth edition. Thousand Oaks, CA: SAGE, 2014. Accessed on 20 November. Retrieved from <u>http://libguides.usc.edu/writingguide/literaturereview</u>

Great Wall Motors Company Limited to Build Solely-Owned Plant in Russia, with Estimated Production Capacity at 150,000 Units/Year.(2014). Accessed on

31December 2018.Retrieved from http://www.gwm-global.com/news_detail-1638.html

Historical Research. (2010). Accessed on 20 November 2018.Retrieved from <u>https://koppa.jyu.fi/avoimet/hum/menetelmapolkuja/en/methodmap/strategies/his</u>torical-research

Holodny,E. (2015). *The 13 fastest-growing economies in the world.* Accessed on 25 November 2018. Retrieved from

https://www.businessinsider.com/world-bank-fast-growing-global-economies-2015-<u>6?r=US&IR=T</u>

Hou, J. (2017). Dynamic Multi-objective Optimization Problem of Container Intermodal Transport: An Empirical Analysis on the Belt and Road Initiative of China. International Conference on Electrical and Information Technologies for Rail Transportation (pp.679-688). Accessed on 14 August 2018.

How the world will benefit from China's Belt and Road? 2017. Accessed on 14 May, 2018. Retrieved from

http://www.scio.gov.cn/31773/35507/35520/Document/1539004/1539004.htm

International LPI. (2018). The World Bank. Accessed on 3 January, 2019. Retrieved from <u>https://lpi.worldbank.org/international</u>

Isabel Y. (2017). *Globalization to withstand protectionist challenges*. Accessed on 1 November. Retrieved from

https://www.cb.cityu.edu.hk/CityBusinessMagazine/2017-Spring/en/globalization-to -withstand-protectionist-challenges

Jigang, W. & Fujun, Z. (2016) *The Belt and Road with the opportunities of Chinese logistics development*. Accessed on 15 October. Retrieved from <u>https://wenku.baidu.com/view/5e2b72237f1922791788e82f.html</u>

Liang, L., & Wang, Y. (2015). *The influence of one belt and one road construction on Qingdao port transportation system*. Electronic Test. Accessed on 14 October 2018. Retrieved from <u>http://en.cnki.com.cn/Article_en/CJFDTotal-WDZC201514029.htm</u>

Li, J., Wen, J., & Jiang, B. (2017). *Spatial spillover effects of transport infrastructure in Chinese new silk road economic belt*. International Journal of e-Navigation and Maritime Economy, 6, 1-8. Accessed on 10 November 2018. Retrieved from https://www.sciencedirect.com/science/article/pii/S2405535217300013

Liu. (2016). On the role of beijing in financial cooperation along the belt and road. *China Opening Journal*. Accessed on 23 November 2018. Retrieved from <u>http://xueshu.baidu.com/usercenter/paper/show?paperid=fee5dedc5f0a869dc20d3</u> <u>c05b81eaa44&site=xueshu_se</u>

Liu, P., Chen, J., & Chen, Z. (2017). *On the financial sector's support for enterprises to thrive with the belt and road.* West China Finance. Accessed on 23 November 2018. Retrieved from

http://www.en.cnki.com.cn/Article en/CJFDTotal-XAJR201710004.html

Liu, B. B.&Xie, Q. H., Law, S. O., L. (2017). Construction of the belt and road and intellectual property protection of cultural industry in west china. Journal of Lanzhou

University. Accessed on 25 November 2018. Retrieved from http://www.en.cnki.com.cn/Article_en/CJFDTotal-LDSK201706019.html

Liu, W., Dunford, M., & Gao, B. (2018). *A discursive construction of the belt and road initiative: from neo-liberal to inclusive globalization.* Journal of Geographical Sciences, 28(9), 1199-1214. Accessed on 25 November 2018. Retrieved from http://en.cnki.com.cn/Article_en/CJFDTotal-ZGDE201809001.htm

Lu, H., Rohr,C. Harfner, M. Knack, A& The Rand Corporation.(2018) *The economic effects of improved transport links in Belt and Road countries.* Accessed on 13 November. Retrieved from

https://www.weforum.org/agenda/2018/09/measuring-the-economic-impact-of-imp roved-transport-links-in-belt-and-road-countries

Lynch, K. *What Does China's Belt and Road Initiative Mean for International Traders?* Accessed on 12 November. Retrieved from

<u>https://www.americanexpress.com/us/content/foreign-exchange/articles/china-belt</u> <u>-and-road-initiative-for-international-trade/</u>

Office of the Leading Group for the Belt and Road Initiative(2017),9-11. *Building the Belt and Road: Concept, Practice and China's Contribution.* Accessed on 8 November. Retrieved from

https://www.yidaiyilu.gov.cn/wcm.files/upload/CMSydylyw/201705/2017051105370 27.pdf

Russia, China to build high-speed rail link.(2017).China Daily. Accessed on 2 January 2019.

Silk Road History. Accessed on 3 November. Retrieved from <u>https://www.chinadiscovery.com/china-silk-road-tours/history.html</u>

Reopening the Silk Road. International Road Transportation Union. Accessed on 2 January, 2019.Retrieved from

https://www.iru.org/where-we-work/iru-in-eurasia-and-russia/reopening-the-silk-ro ad

Song, N. (2017). Financial supporting-leading role of "the belt and road" under the new situation. Modern Industrial Economy & Informationization. Accessed on 24 November 2018. Retrieved from

http://www.en.cnki.com.cn/Article_en/CJFDTotal-SHJG201704004.htm

"The Belt and Road" is prevalent, and retail industry is involved in many formats. (2017). Accessed on 13 May 2018. Retrieved from <u>https://www.colabug.com/1822880.html</u>

The Belt and Road Initiative. (2018). Hong Kong Trade Development Council. Accessed on 4 January, 2019. Retrieved on <u>http://china-trade-research.hktdc.com/business-news/article/The-Belt-and-Road-Initiative/obor/en/1/1X000000/1X0A36B7.htm</u>

The Belt and Road Initiative: Reshaping the global value chain.(2017). 11-12. Accessed on 25 November. Retrieved from <u>https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/belta</u> <u>ndroadinitiative/pi-belt-and-road-initiative-2017.pdf</u> *The influence the Belt and Road brings to logistics*, 2017. Accessed on 9 October 2018. Retrieved from <u>http://www.sohu.com/a/140061752_267303</u>

The national Bureau of Statistics of China. Accessed on 24 November 2018. Retrieved from <u>http://www.stats.gov.cn/</u>

The rankings of different industries based on the influences of the Belt and Road.2017. Accessed on 11 September. Retrieved from <u>http://www.sohu.com/a/207231086_99955864</u>

Vinokurov, E. (2016). *Transport corridors of the silk road economic belt across the Eurasian economic union: preliminary estimates for transportation capacity and investment needs.* Social Science Electronic Publishing. Accessed on 20 October 2018.

Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road.(2015). First Edition. Accessed on 29 October 2018. Retrieved from <u>http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html</u>

Weng, D. L. (2016). Discussion on the financial support and cooperation risk of the "belt and road" construction. *Northeast Asia Forum*. Accessed on 24 November 2018. Retrieved from

http://www.en.cnki.com.cn/Article en/CJFDTOTAL-DBYL201606005.html

What is literature review? Accessed on 20 November 2018. Retrieved from <u>https://www.rlf.org.uk/resources/what-is-a-literature-review/</u>

Zhang, G. (2017). *The international cooperation in the ice and snow industry between china and Russia based on "the belt and road" initiative.* Business Economy. Accessed on 13 October 2018.

Zhang, Q., & Zhang, Y. Q. (2017). *Study on the spatial spillover effect of transportation infrastructure on economic growth in "the silk road economic belt".* Soft Science. Accessed on 25 October 2018.

Zhang, X. (2016). *Catching the Golden Opportunities via the OBOR for Dutch Agriproducts*. Business Development China. Accessed on 20 December. Retrieved from

https://www.portofrotterdam.com/en/doing-business/logistics/connections/one-bel t-one-road

Zhang, Y. F. (2017). *The analysis of influence factors industry of "the belt and road initiative" node cities*'. Journal of Huaihua University. Accessed on 22 November 2018. Retrieved from

http://www.en.cnki.com.cn/Article en/CJFDTotal-HUAI201702009.htm

Zhao, G. (2015). Study on transportation and logistics planning of yunnan under one belt one road strategy. Logistics Technology. Accessed on 25 October 2018. Retrieved from <u>http://en.cnki.com.cn/Article_en/CJFDTotal-WLJS201523008.htm</u>

Zhuang, L. (2018). Over 12000 China-Europe trains have been operated. Accessed on 20 December 2018. Retrieved from https://www.yidaiyilu.gov.cn/xwzx/gnxw/74493.htm