

Digital Silk Road as an Integration Project: Opportunities for Russia

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ABSTRACT

The article discusses the possibility of Russia in connection with the implementation of the project of China "Digital Silk Road". This comprehensive project is related to the accelerated development of the Central Asian countries and is a response to China's economic and political processes within the country and in the Asia-Pacific region as a whole. The article shows the possibilities of integration of the Russian transport system in the transport and logistics network of the Eurasian region to provide additional opportunities related to logistics services and access to the growing markets of the region. «Digital Silk Road» will help strengthen industrial cooperation between countries and the formation of new economic production clusters. The implementation of the project may allow the EEU to become a new center of economic development at the global level. The analysis showed that the basis of "Digital Silk Road" becomes e-commerce, as well as some of the latest technologies used on the routes of the "new Silk Road": the Internet, artificial intelligence, big data, cloud computing, blockchain.

Keywords: “Digital Silk Road”, digitalization, information technology, ICT, China, Russia

1. INTRODUCTION AND PROBLEM STATEMENT

Globalization, representing the diverse and contradictory process of development of the world economy, creates new integration blocks, alliances, and projects. Economic integration is a unique means of resolving the contradictions of globalization. According to Nobel Prize winner (1974) G. Myrdal value of integration is determined to create opportunities to enhance the competitive position of countries in the struggle for world markets, sources of raw materials and energy, new technologies, investments, etc.

In turn, the spread of digital technology over a long period determines the development paths of the economy and society and has already led to dramatic changes in people's lives more than once. In recent years there has been another wave of transformation models of economic activity caused by the emergence of a new generation of digital technology, which, because of the scope and depth of influence given the name "cross-cutting" - artificial intelligence, robotics, the Internet of Things, and several other. Their implementation is estimated to be able to increase labor productivity in companies by 40% [WEF, 2018]. Soon is the efficient use of new digital technologies will determine the international competitiveness of both individual companies and entire countries that form the infrastructure and legal environment for digitization [WEF, 2016, Gorodnova et al, 2018]. At the new stage in the development of digital technology, one of the main challenges of becoming an exponential growth in the

number, quality, and diversity of relationships between organizations, citizens and socio-economic systems. In the development of the integration processes with the use of digital technology interesting is China's initiative to develop "Digital Silk Road." Compare the beginning of the New Silk Diplomacy in the 1990s with the plans of the Digital Silk Road offers a unique opportunity to understand the peculiarities of the Chinese approach to international integration. [Kozłowski, 2018].

2. LITERATURE REVIEW

The transition to digitalization "New Silk Road" is determined by China's significant achievements in the field of e-commerce development, artificial intelligence, financial technology, etc. Carrying out an unprecedented project for the development of transport corridors in the framework of "One Belt - one way" in the plans of China is not only the development of the classical infrastructure, construction of railways, roads, etc., but also digital infrastructure. The implications of BRI go even further, encouraging other major powers to develop their global schemes [Teo et al, 2019]. Construction of "Digital Silk Road" will stimulate economic growth, improve the quality of economic development, promote employment and improve the welfare of the population. It also opens up new possibilities for implementing the concept of sustainable economic development [Lazanyuk et al, 2020]. Implementation of this program contributes to the development of cross-border e-commerce, "smart" cities,

promoting the development of the technical sphere, including cloud computing, big data, the Internet of things, etc. The digital transformation of the economy, in the framework of this project, is related to expectations for economic growth [Lazanyuk et al, 2019].

This initiative will also stimulate the development of science and technology in the region, for example, through research in the field of artificial intelligence, nanotechnology, quantum computing, and smart cities. [Huadong, 2018].

Given the profound implications that BRI can create in business and economics, it is crucial to structure and simplify the discussion to identify the key mechanisms and cause-effect relationships that it causes [Visvizi et al, 2020]. Integration project "Digital Silk Road" provides new opportunities for all participating countries [Gu et al, 2019]. The world is entering a period of accelerated provision of reliable "smart" spaces, when technologies become an integral part of a person's daily life in any of his roles - employee, client, community member, citizen [Gartner, 2018]. The development of digital spaces is challenging the traditional principles of territoriality, geographically-based communities, and sovereignty. Politics, on the geographical principle, is based, such as rules of origin or certain markets, that need to be revised to adapt to the actual process of creation and distribution of value [OECD, 2019]. The study aims to explore new prospects for Russia to participate in the project.

3. FINDINGS

The proliferation of the Internet of Things, big data, artificial intelligence, machine learning, and other digital technologies has led to the development of categories of business models such as digital platforms that provide direct interaction between sellers, buyers, and supplier partners, minimizing transaction costs and expanding opportunities for shared consumption. Internet of Things applications are a driver for the development of the servitization model since they allow one to evaluate the parameters of product use and the achieved effects. Based on this principle, a popular car-sharing model is built, payment of car insurance depending on the kilometers traveled, Kaiser bills its customers, not for compressor equipment, but compressed air produced [McKinsey, 2017].

IT development in China is given great importance at all levels. In China, TNK formed the production of ICT goods - Huawei, Lenovo, ZTI, Xiaomi, triple digital TNK - they are called BAT - Baidu, Alibaba, Tencent. JDcom is the third-largest company in the world in revenue, second only to Amazon and Google, but far ahead of Facebook.

The development of the Digital Silk Road project will be helped by the development of an IT platform common to all economies of the Asia-Pacific Economic Cooperation (APEC) that unifies the customs processing of goods. Under such a system, companies will be able to more efficiently manage storage space, standardize goods acceptance and shipment systems, reduce labor costs

through automation, and receive real-time delivery progress information. Individually, these elements exist today, but a single IT-platform will allow accumulating large amounts of data, which will be a unique array of information, necessary for everyone who deals with international trade and the production of goods for export. Distribution of Chinese mobile payment applications such as Alipay, WeChat Pay, and Baidu Wallet, will increase the volume of financial data passing through the hands of the Chinese, as all transactions of these applications are estimated through the clearinghouse of the People's Bank of China. Chinese payment systems, as well as Chinese-built ICT networks across the Digital Silk Road, push recipient countries to favor the renminbi and Chinese companies.

The ICT sector in Russia includes telecommunications services, the production of software and information and communication equipment, and wholesale trade in ICT goods and is one of the fastest-growing segments of the Russian economy. During the period 2010-2017, it grew by 17%, almost double the rate of GDP growth. The sector's share in GDP is 2.7% [HSE, 2018r]. So far, the import of ICT goods and services exceeds the export of ICT goods and services. However, in 2017 for the first time, the export of ICT services exceeded the import of ICT services. Also, the segment of export-oriented companies grew up in Russia, which are competitive in foreign markets, but often they occupy separate niches or built into global value chains. For Russia, this fact is a positive result. However, it should be noted that in most developed countries, the ICT sector plays a more important role - its share in the added value of the business sector in OECD countries is 1.6 times higher than in Russia (5.4 and 3.4%, respectively) [OECD, 2017].

Russian government commission for the digital development of the Presidium approved the seven roadmaps development "through" the national program of digital technology "Digital Economy». By "cross-cutting" the Russian government has classified: quantum technology, neuroscience and artificial intelligence, wireless technology, blockchain, robotics and sensor components, new production technologies, virtual and augmented reality. To implement the tasks it was proposed that state-owned companies develop more detailed roadmaps. So, Sberbank will become a leader in the development of artificial intelligence, Rostelecom and Rostec will develop wireless technologies, Rostec will use quantum sensors, blockchain and a new generation of narrow-band communications for the Internet of things. Rosatom will head the direction of quantum computing, and Russian Railways - quantum communications.

The spread of the Internet among the population is accompanied by an increase in the intensity of its use: the share of the most active (daily) Internet users over the past 8 years has grown by 2.3 times, reaching 60.6% in 2017. [HSE, 2018], by 2019 the proportion of active users amounted to 79.8% of the adult population. Russian organizations are widely mastered the basic and relatively simple digital technology, but only a few had profound automation and restructured the business processes under

the advanced digital technology. Today, 83% of Russian companies are already using broadband Internet, 63% - have mastered the technology of electronic data interchange. At the same time, the share of organizations that have mastered more sophisticated technologies is several times lower: cloud services - 23%, ERP systems - 12.2% [Rosstat], we note that the digitalization of industrial enterprises remains low. Based on the foregoing, the domestic industry is inferior to foreign competitors,

and above all, China in terms of price and quality, the timing of the market for finished products. Our industrial systems, as a rule, do not allow for customization, and most importantly, the ability to quickly respond to market changes. International comparisons on a combination of factors demonstrate promising Russia's position on key indicators of development and introduction of digital technology (tab. 1)

Table 1 Comparison of the indices of Russia and China

Country	Global Competitiveness Index, 2019	IDI (2017)	E-Government Development Index (EGDI) (2018)	Telecommunications Infrastructure Index (TII) (2018)	Logistics Performance Index Rank, 2018	Ease of Doing Business Index Rank, 2020	The Inclusive Internet Index Rank, 2019
Russia	43	45	32	0,6219	75	28	19
China	28	80	65	0,4735	26	31	42

A comparison of the index shows that Russia is ready for the digital transformation and has good prospects for the use of the new possibilities offered by digital technology. At the same time, Russia needs to increase its competitiveness at the global level. Ease of doing business is practically the same for Russia and China, but we have a noticeable lag in logistics issues. So the «Digital Silk Road» project is highly relevant.

Digitalization of the country is provided by some indicators including a significant proportion of users of mobile phones and a widespread fiber-optic Internet, etc. (Fig.1-2).

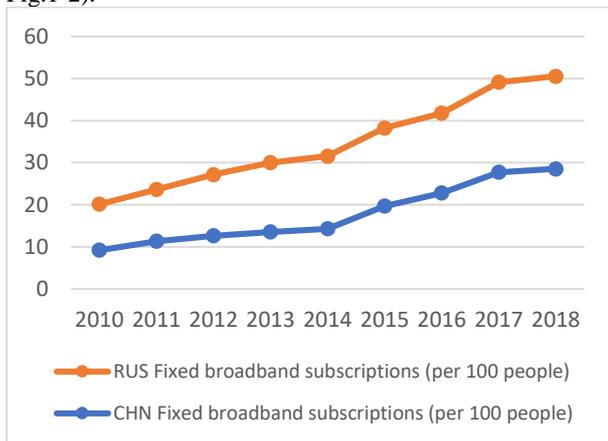


Figure 1 Fixed broadband subscriptions (per 100 people)

Source: <https://databank.worldbank.org/source/world-development-indicators#>

In this figure, it is clear that Russia is not inferior to China, and perhaps even more than the connection speed broadband Internet, helping to reduce the "digital divide"

and the smooth operation of the organization not only to each employee but also the company as a whole.

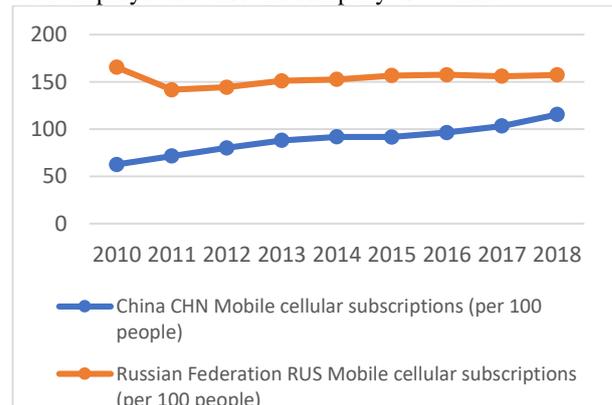


Figure 2 Mobile cellular subscriptions (per 100 people).

Source: <https://databank.worldbank.org/source/world-development-indicators#>

The number of internet users by mid-2019 in Russia amounted to more than 116 million. Pers., In China 854 million. People, but Internet penetration in Russia value of 80.1% and 60.1% in China. [<https://www.internetworldstats.com/stats.htm>]

Global e-commerce is growing annually. Especially fast it involved developing countries [Revinova, 2019]. Over the past years, China has been the undisputed leader in e-commerce in the world. In 2019, the volume of B2C e-commerce in China reached \$ 738 billion (tab. 2).

Table 2 B2C online trade in 2019, \$ million

Country	B2C online trade in 2019, \$ million
China	738 000
USA	542 000
United Kingdom	79 000
Germany	74 000
India	32 000
Russia	30 600

Compiled by: Data insight in conjunction with eBay, Retail Export of Goods via the Internet, 2019 datainsight.ru/eBay_export2019.

The global Chinese sites of Alibaba, Taobao, and Aliexpress are widely present in the world. At the level of Russian-Chinese relations, the task of bringing bilateral trade to a level of \$ 200 billion in dollar terms in 2025. This is only possible due to the implementation of new drivers, such as the qualitative development of trade infrastructure [https://raspp.ru/press_center/tsifrovoy-shelkovyy-put/].

To date, the Russians actively make purchases in the Chinese e-commerce market, and their number continues to grow. The share of Russians who made purchases in Chinese online stores in 2019 amounted to 73% (Fig.3.).

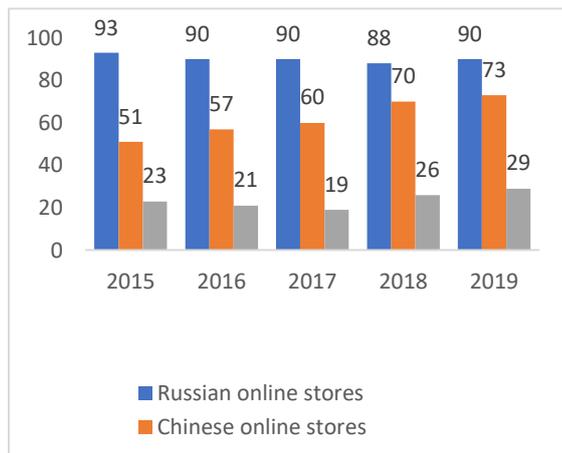


Figure 3 Russian purchases in online stores over the past year, %

Source: Yandex market Research _gfk_2019

It should be noted that the size of the average purchase receipt in a Chinese online store, although it increased in 2019, remains significantly lower than in other online stores (Fig.4.).

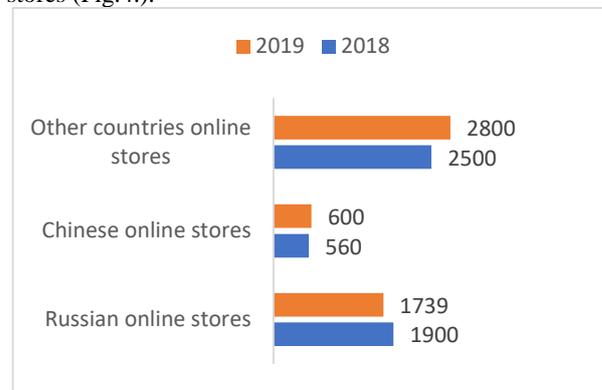


Figure 4 Average bill, rub.

Source: Yandex market Research _gfk_2019

At the same time, Russian e-commerce is still far from a leader but has great potential. Russian-Chinese cooperation in the field of cross-border e-commerce is also developing at a fast pace - AliExpress has already become for Russia the largest foreign e-commerce platform. Russian online retail exports are growing. In 2019 online exports to CIS countries amounted to 43%, non-CIS countries - 57%. Belarus remains the leading export destination among the CIS countries, and the United States among non-CIS countries (tab. 3).

Table 3. Country structure online retailer in Russian Export 2019

	2018, %	2019, %
CIS countries		
Belarus	17,5	21,8
Kazakhstan	13,7	12,9
Ukraine	6,6	4,6
Other	-	3,5
Foreign countries		
USA	17,6	20,4
Germany	4,5	4,3
United Kingdom	3,8	3,8
France	2,4	2,3
Canada	2,2	2,3
Israel	2,0	2,2
China	2,4	1,9
Other	27,4	20

Compiled by: Data insight in conjunction with eBay, Retail Export of Goods via the Internet, 2019 datainsight.ru/eBay_export2019.

Far abroad is a priority direction for the export of medium and small businesses through sales platforms. Large online retailers are focused on the development of exports in the country's customs union, thereby creating export infrastructure, which in the future will be able to use and small businesses. Alibaba, due to the capabilities of the AliExpress platform, allows Russian small and medium-sized businesses to participate in foreign export expansion by simplifying the system of sales, procurement, logistics, and payments. The transport component of logistics begins to be modified based on the use of digital technologies, in particular unmanned road transport and blockchain technology. Unmanned transport in China is still at the testing stage, and blockchain technology has begun to gradually be introduced into practice, including the operation of high-speed highways, which soon are planned to be laid along the routes of the digital Silk Road.

As part of the Digital Silk Road Alibaba, Mail.ru Group, «MegaFon» and the Russian Direct Investment Fund announced the completion of the investment in the creation of a joint venture in the field of e-commerce – AliExpress Russia.

These same participating companies announced plans to create another joint business in Russia - in the field of payment systems. Mail.ru Group, Megafon, USM, the Russian Direct Investment Fund and the Alipay payment system (part of Ant Financial Services affiliated with the Alibaba Group) plan to create an enterprise that will provide digital payment services and electronic wallets to Russian users.

The leader of digital technology, the largest Chinese company Alibaba Group, has taken the initiative to establish a World Tr eWTP platform that will connect small and medium enterprises along the entire route "Belt and Road" and will simplify import and export procedures. The development of e-commerce plays a leading role in the digital creation of free trade zones, which contribute to the simplification of Customs regulations and reduce

barriers to foreign companies when entering the Chinese market. To promote e-commerce, China significantly reduces export duties, which makes online commerce more profitable than usual. Digitalization, big data, cloud services take the data center segment to a new level. Today, half of the world's data center capacities are located in eight cities on the planet, and this list has not a single Russian metropolis, despite the enormous market capacity. According to analysts, in the next five years, the Russian data center industry will increase by at least 10% per year. Russia's location on the digital Silk Road to China allows it to occupy its niche in the construction of data centers.

One of the projects into a single digital transport complex of Russia Platform is to create a green corridor for transit cargo. The Digital Silk Road will geographically pass through Russia and will include convenient services for shippers and freight forwarders - a single electronic seal and a fully electronic declaration using blockchain technology. The purpose of the electronic seal service is to create a single trusted space at the first stage with the EEU countries, and in the long term with partners such as China and India. In Russia, announced the development of a unified digital transport and logistics system. GLONASS-based technologies will create a digital platform using which will be monitored and regulated all the operations related to the transit of import and export goods involving Russia, Kazakhstan, Belarus, China, and the European Union. In the long-term development program includes the equipment and cargo railway transport routes themselves unified system of digital control equipment.

The digitalization of the Silk Road is not only in the field of electronic international trade and its logistics component but also in some other areas, in particular in the field of the Internet of things (IoT), artificial intelligence (AI). The Internet of things communicating with each other on the routes of the "New Silk Road" is an important goal and an already implemented program. Developed in

2015 by Huawei, an operating system called Lite OS, designed to manage devices connected to the Internet, should become the basis for managing many processes, including the corporate level, production complex systems for organizing "smart cities" as technological oases on the route this project. Implementations of digital silk way it involves the formation of advanced "smart" enclaves. The influence of these enclaves (cities, zones, growth areas) on the adjacent territories, both in China and on the trajectory of the entire "silk road", will lead, according to Chinese experts, to the emergence of megacities and mega-agglomerations. The probable structure: megacities - industrial ring - twig "Silk Road". In the implementation of this scheme, Chinese experts also suggest the active use of blockchain technology. Build a modern technological infrastructure more profitable, according to Chinese experts, rather than to use the tried and tested, but outdated approaches to the organization of urban space. "Smart City" in the sight of Huawei, is to optimize the road network, the work of communication services and other urban management systems. In turn, the use of M2M and IoT technologies should contribute to retail sales and raise customer satisfaction.

As a result, adopted in 2017 China's strategy to achieve leadership in the field of artificial intelligence by 2030 in the country, a new generation of an artificial intelligence development plan, based on an automated "Urban brain" medical image, intelligent sound and autopilot. Leading Chinese corporations Baidu (autopilot platforms), Alibaba (urban brain platform), Tencent (medical imaging platform), iFlytek (intelligent sound platform) participate in these projects. The creation of a new artificial intelligence system is considered by the Chinese leadership as the main driving force in the production modernization and economic transformation of the country, the basis for a breakthrough in foreign markets for goods and services. Currently, more research is published in the field of artificial intelligence in China than in the United States, and several times more patent applications are filed. In 2017, China attracted 48% of global investment in AI startups (in 2016 there were only 11%), in the USA, the investment share of AI startups was 38%. The goal of the Chinese authorities is to turn the country into a major global center of innovation in the field of artificial intelligence. It is believed Huawei's experts, after 5 years, this transformation will be involved in a quarter of the world economy. According to forecasts by Huawei Global Industry Vision, in 2025, 77% of the world's population and households will have access to the Internet, and 80% of people will be provided with mobile communications. The growth of such several connections will become a driver for creating an "intellectual world". The Digital Silk Road is intended to promote the development of the countries through innovation, to enhance cooperation in such advanced areas of the digital economy, artificial intelligence, nanotechnology and quantum computing, promote the development of big data, cloud computing, and "smart" cities to increase the integration of in the 21st century.

4. CONCLUSION

Thus, the recipient countries of Chinese investment projects benefit from external effects, including increased demand for electricity and increased employment. Infrastructure and logistics, the emergence of "smart cities" and science parks, as well as the introduction of information and communication technologies, lead to the overall economic growth of the member countries of the "Digital Silk Road".

Of course, as with any project, there are certain risks. In some countries, there are political instability and security problems, problems with the level of creditworthiness and transparency of financial transactions, the lack of highly qualified personnel, etc.

Regarding new opportunities for Russia, for the joint construction of "Digital Silk Road" should be developed and improved:

- the role of governments and international organizations,
 - mechanisms of interstate cooperation,
 - unions of enterprises,
 - social service platforms,
 - dispute resolution mechanisms,
 - risk prevention and network security,
 - unify technical standards,
 - create management systems.

The project Digital Silk Road will develop cross-border and remote areas along the way, increase the share of employment in these areas, will give a new impetus to the development of digital platforms and e-commerce businesses, which in turn will give a new round of economic development sustainability and competitiveness of the country -participants.

REFERENCES

- [1] Gartner Top 10 Strategic Technology Trends for 2019. <https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technologytrends-for-2019/>
- [2] N. V. Gorodnova, D. L. Skipin, A. E Berezin, A. A. Peshkova, The information technology industry in Russia: Current position and future prospects. In Proceedings of the 32nd International Business Information Management Association Conference, IBIMA 2018 - Vision 2020: Sustainable Economic Development and Application of Innovation Management from Regional expansion to Global Growth, International Business Information Management Association, IBIMA, 2018, pp. 1221–1234.
- [3] J. Gu, H. Corbett, M. Leach, Introduction: The belt and road initiative and the sustainable development goals: Opportunities and challenges, *IDS Bulletin*, 50(4)

(2019) 1–22. DOI: <https://doi.org/10.19088/1968-2019.136>

[4] HSE, A Perspective Model of State Statistics in the Digital Age: Report to Apr. Int. scientific conf. on the problems of economic and social development, Moscow, April 10–13, 2018 / Main. ed. L.M. Hochberg. M.: Publishing. HSE House, 2018

[5] G. Huadong, Steps to the digital Silk Road. Nature. Nature Publishing Group, 2018, <https://doi.org/10.1038/d41586-018-01303-y>

[6] K. Kozłowski, BRI and its digital dimension: twists and turns. Journal of Science and Technology Policy Management. <https://doi.org/10.1108/JSTPM-06-2018-0062>

[7] I. Lazanyuk, S. Revinova, Digital economy in the BRICS countries: myth or reality, Proceedings of the International Scientific and Practical Conference on Digital Economy (ISCDE 2019), 2019, <https://doi.org/10.2991/iscde-19.2019.97>

[8] I. Lazanyuk, S. Revinova, Inclusive development of the country in the context of digitalization: new challenges. Proceedings of the II International Scientific Conference GCPMED 2019 - "Global Challenges and Prospects of the Modern Economic Development", 2019, <https://doi.org/10.15405/epsbs.2020.03.166>

[9] McKinsey, What Shoppers Really Want from Personalized Marketing. October, 2017. <<https://www.mckinsey.com/business-functions/%20marketing-and-sales/our-insights/what-shoppers-really-want-frompersonalized-marketing>>.

[10] OECD Digital Economy Outlook 2017 <<https://espas.secure.europarl.europa.eu/orbis/sites/default/files/generated/document/en/9317011e.pdf>>.

[11] OECD, Vectors of Digital Transformation. OECD Digital Economy Papers No. 273 Paris: OECD Publishing, 2019.

[12] S. Revinova, 'E-commerce in BRICS: similarities and differences', Int. J. Economic Policy in Emerging Economies, 12(4) (2019) 377–390. DOI:10.1504/IJEPEE.2019.10025690

[13] H. C. Teo, A. M. Lechner, G. W. Walton, F. K. S. Chan, A. Cheshmehzangi, M. Tan-Mullins, A. Campos-Arceiz, Environmental impacts of infrastructure development under the belt and road

initiative. Environments - MDPI. MDPI AG, 2019, <https://doi.org/10.3390/environments6060072>

[14] A. Visvizi, M. D. Lytras, P. Jin, Belt and road initiative (BRI): New forms of international and cross-industry collaboration for sustainable growth and development. Sustainability (Switzerland). MDPI AG, 2020, <https://doi.org/10.3390/SU12010193>

[15] WEF, What is Competitiveness? <https://www.weforum.org/agenda/2016/09/what-is-competitiveness/>.

[16] WEF, Digital Transformation Initiative. Unlocking \$100 Trillion for Business and Society from Digital Transformation. Executive summary, 2018, <http://reports.weforum.org/digital-transformation/wp-content/blogs.dir/94/mp/files/pages/files/dti-executive-summary-20180510.pdf>.