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The Digital Silk Road: Technology and Innovation in Belt and Road Initiative



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Abstract

The Digital Silk Road, a contemporary incarnation of the historic Silk Road, has established as an acute driver of international trade in the 21st century. This article examines how imperative the Digital Silk Road is to the overall Belt and Road Initiative. It also looks at how innovation and new technology are fostering regional connectedness, economic growth, and transformation. It draws attention to the wide-ranging effects of these developments and their potential effects on future global trade.

Introduction

The Digital Silk Road is part of China's Belt and Road Initiative, which aims to turn China a global technology giant. The initiative has both a foreign and a domestic element. The

program, which began in 2013, focuses on international connectivity and infrastructure projects to encourage investment, knowledge, and trade among participating



countries. The first stage in analyzing this component of the Belt and Road Initiative is to develop a conceptual roadmap to comprehend the Digital Silk Road components. The name 'Information Silk Road' inspired the concept of a digital BRI. The BRI comprises land (the



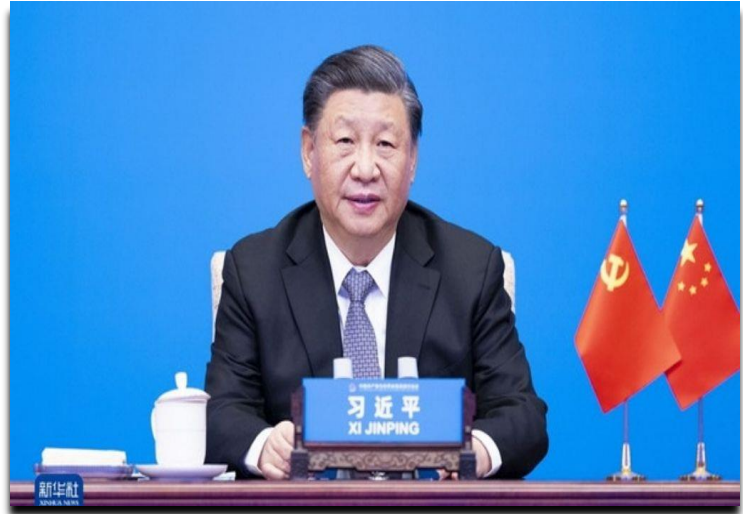
21st Century Silk Road) and sea routes (the 21st Century Maritime Silk Road). The BRI White Paper Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road as Information Silk Road was published by the CCP in March 2015 (Chang, 2018) . According to the "Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road" document released by the Ministry of Foreign Affairs, the Ministry of Commerce, and the National Development and Reform

“We should jointly advance the construction of worldwide optical cables and other trunk line networks for communications, enhance global connectivity for communications, and establish an Information Silk Road (xingdong, March 28, 2015).”

Commission:

Xi Jinping emphasized the necessity of the initiative reaching a new level of cooperation in the sciences and technologies back in 2017. President Xi reportedly emphasized information sharing at the BRF in 2017 in addition to the unification of communication services (Yamei, 2017). It is a significant economic integration project including numerous Eurasian nations. As part of the BRI project, China announced a new initiative to establish a Digital Silk Road (DSR). This brings together environmental experts from different countries. As a result, scientific collaboration has become a cornerstone of China's Belt and Road Initiative (BRI), a connectivity initiative whose stated purpose is to promote land and maritime trade links between East Asia and Europe. With the launch of the Digital Silk Road, Green Silk Road, Health Silk Road, and Polar Silk Road in recent years, China has

increased the scope of its aspirations. The establishment of the Digital Silk Road (DSR), Green Silk Road, Health Silk Road, and Polar Silk Road represents an expansion of China's Belt and Road Initiative (BRI). By 2017, DSR has taken the lead in the government's BRI agenda, connecting 138 nations to China, particularly those with digital infrastructure shortages in developing and rising economies. To increase digital connectivity in Belt and Road nations, the DSR focuses on establishing telecom



infrastructure, data centers, and smart cities (Yu, 2020). By 2020, DSR has become a major area of priority for China's foreign policy, with Xi JinPing encouraging collaboration with ASEAN participants. Due to shifting geopolitical environments, technological advancements, and the appearance of COVID-19, DSR has drawn more attention (Kurlantzick, 2020).

The Digital Silk Road's Transformative Role

The Digital Silk Road's three primary pillars are cross-border e-commerce, smart cities, and digital infrastructure. They work together to improve global trade, enhancing its interconnectedness and accessibility in the digital era.



The DSR can be divided into three major categories:

- 1) **Digital infrastructure; 2) smart city; 3) cross-border e-commerce**

Digital Infrastructure – The Backbone of Digital Trade

China dominates in digital infrastructure, including cable networks, satellite navigation, 5G telecommunications, and digital technology. It dominates in surveillance, with 60% of the world's surveillance cameras. China contributes 11.4% of undersea cables to the Belt and Road Initiative. Only five companies globally developed 5G infrastructure in 2020. (Anthony Xiao, 2023). The majority of 5G networks and ICT technologies are being deployed along the DSR countries by Huawei Technologies and ZTE. Between 2025 and 2030, a 15,000 km undersea cable network connecting Asia, Africa, and Europe is intended to be built as part of the Pakistan and East Africa Connecting Europe (PEACE) project. 137 nations have signed cooperation agreements for the BeiDou Navigation Satellite System, which will be launched in 2020 and offers an alternative to GPS, GLONASS, and Galileo (Mochinaga, 2020).

Smart city – Hubs of Innovation and Economic Activity

Technologies to streamline processes and provide better services. China has the smartest cities in the world, with 200 million security cameras as of 2018 (Exporting China's Digital Authoritarianism through Infrastructure, 2023). China is a competitive competitor in the provision of smart city solutions thanks to advanced technologies like

AI, facial recognition, big data, and 5G. Chinese businesses have made a significant contribution to the development of smart cities both domestically and abroad. Kuala Lumpur has adopted a smart-city infrastructure, smart-city technologies, and information and communication technology (ICT) infrastructure for the first time outside of China.



Cross-border e-commerce – A New Frontier in Global Trade

China's Belt and Road Initiative, the Digital Silk Road, aims to connect nations digitally for seamless internet trade, economic growth, and international cooperation. It uses advanced infrastructure, smart city technologies, and e-commerce platforms, enabling cross-border e-commerce and facilitating bilateral cooperation with over 20 countries.

Challenges for the Future

The Digital Silk Road (DSR) program, part of China's Belt and Road initiative, faces challenges due to regulatory inequalities among participating nations. The GDPR, for example, sets stringent data privacy rules for Europe. The WTO predicts data localization policies and tariffs could cost the global economy up to \$1.9 trillion annually by 2030 (Rawat, 2023). Cyber security threats are increasing, with cybercrime



costing \$6 trillion globally by 2021. As the Digital Strategy (DSR) expands, protecting data privacy and implementing strong measures are crucial. The digital divide will persist, with over 3.7 billion people without internet access by 2021. Balancing economic growth and environmental impacts is essential. Global collaboration, flexible governance frameworks, and a nuanced approach are needed to maximize potential and manage complexity. China's Digital Strategy (DSR) concept lacks direction and coherence among government agencies.

Conclusion

A Chinese proverb, "adding wings to a tiger" (ru hu tian yi), which translates to "adding more capacity to a strong force," may serve to describe the function of the Digital Silk Road for the BRI. The DSR, in my opinion, is much more comprehensive than just the digital aspect of BRI's infrastructure projects and has the potential to fundamentally alter the digital landscape around the world. The contemporary digital transformation age is a megatrend that is bringing about major changes to human civilization, not another dotcom bubble. It won't be overstated to say that it will become the norm in the future. For the benefit of the entire globe, the Digital Silk Road (DSR) Initiative seeks to lead this historic shift.



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