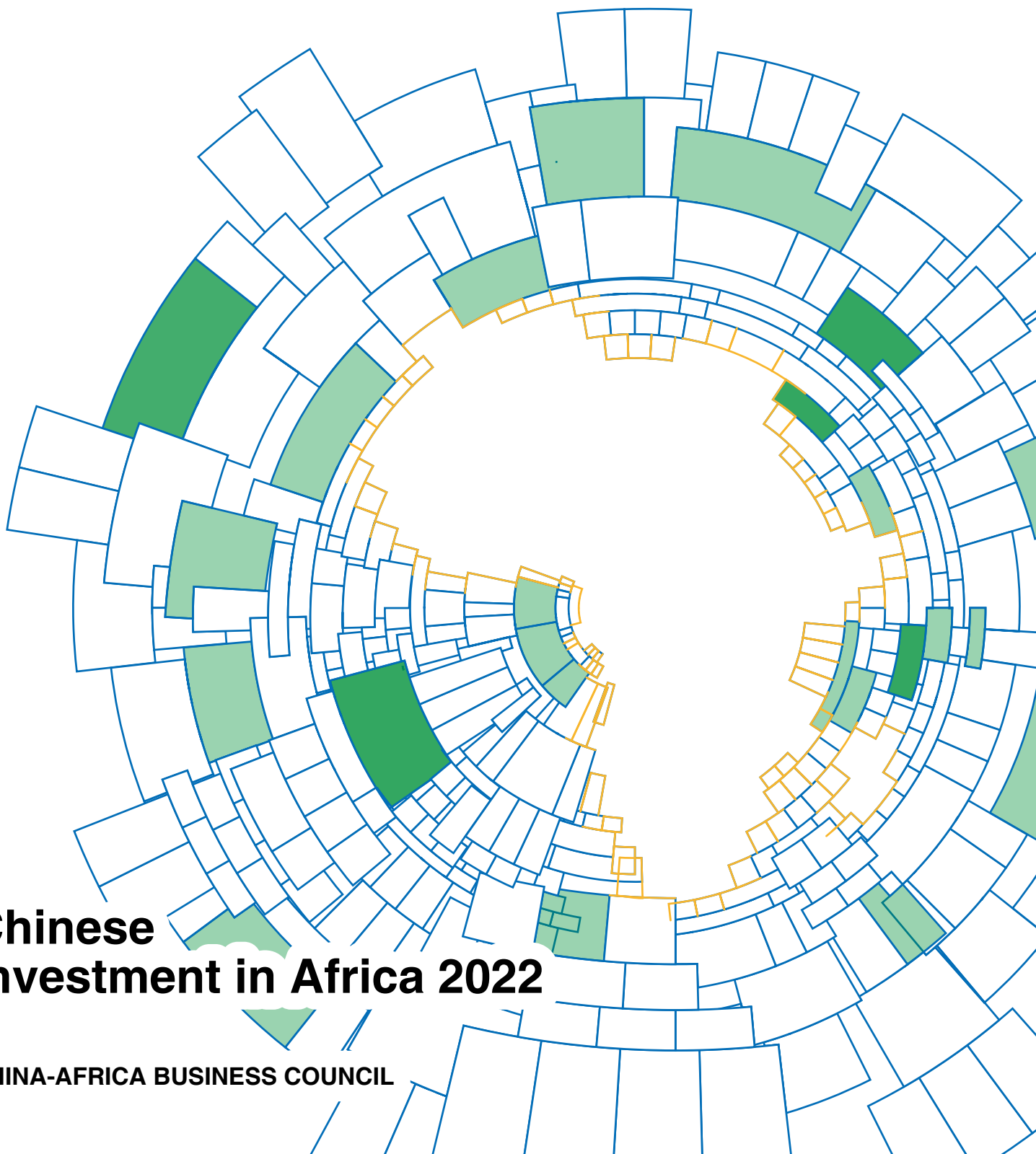




China-Africa Cooperation from a Supply Chain Perspective



**Chinese
Investment in Africa 2022**

CHINA-AFRICA BUSINESS COUNCIL



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This report is a work of the staff of China-Africa Business Council with external contributors, the main one being, Development Reimagined team. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the China-Africa Business Council, its Board members, or the Chinese government. However, there may be areas that need further verification. We welcome and will appreciate any correction in the report.

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“

“Increasingly, African businesses are seeking in business partnerships with China. In January 2021, Mauritius launched of free trade agreement with China, making it the 1st by an African country. African businesses are partnering with more Chinese companies. Over 400 African businesses, from 40 countries participated at the China International Export for the past three exhibitions. Now, Chinese firms of all sizes and sectors are bringing capital investment, management and know-how, and entrepreneurial energy and drive to every corner of the continent. In doing so, they are helping to accelerate the progress of Africa’s economies.”

“Africa needs quality investments. Africa needs environmentally sustainable investments. Africa needs investments that will build local supply chains and upgrade the skills of its youth and well-trained populations. Africa needs socially responsible investing that empower, not disempower communities. It must be win-win investment partnerships, together we invest, together we prosper.”

Akinwumi Adesina

African Development Bank
President

“To ensure that the Belt and Road Initiative is a mutual benefit to Africa and China, projects of the program must meet with the requirements of China and Africa’s fiscal frameworks, but also deliver sustainable development to their populations. One area where China-Africa collaboration has been very strong, of course, is in the energy sector. China has a unique advantage, both in the solar energy installment, but also in hydropower. We see Chinese investments in the hydropower sector across the continent, which have delivered growth. They have delivered the energy that Africa so need. We need to continue to work together to see how we can do more in the energy sector as we move forward.”

Vera Songwe

UN Economic Commission for Africa
Under-Secretary General and Executive Secretary

“It is therefore my hope that African’s current push for continental integration and economic transformation with the support of development partners such as China, will secure Africa’s prosperity for decades to come.”

“This is of critical importance today as Africa rebuilds resiliently post-COVID-19 and heads into a new and better normal with hope and optimism. China-Africa Corporation must yield a win-win outcome to encourage sustainable and inclusive development in Africa, whilst at the same time, contributing to China’s economy and Africa’s economy.”

Wankele Mene

African Continental Free Trade Area
Secretary General

”





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Preface

Corporate contribution to supply chains in Africa

At the end of November 2021, a successful 8th Ministerial Conference of the Forum on China-Africa Cooperation (Dakar) was held. Based on this review of experience and the strategic consensus it generated, China-Africa economic, trade and investment cooperation in the new era will proceed towards greater win-win cooperation and higher quality common development.



The China-Africa Business Council is one of the most important platforms for Chinese private enterprises to carry out economic, trade and investment cooperation. It serves almost 3,000 Chinese and African enterprises and carries out business in 54 African countries, involving manufacturing, industrial parks, medical and health, transport and logistics, infrastructure, trade and e-commerce, agricultural processing, and the legal and commercial sectors. Cumulative investment and reinvestment have exceeded US\$20 billion,

providing direct employment in Africa for 110,000 locals and more than 1.6 million indirect local jobs. Members of CABC strive to integrate into local communities and assume corporate social responsibility, and have donated more than US\$46 million to Africa for the fight against the COVID-19 pandemic.

In August last year, CABC released "Chinese Investment in Africa Report 2021" on the theme of "Market Power and Role of the Private Sector". From the perspective of this NGO, the report documented the past, present, and future of business cooperation between China and Africa for readers at home and abroad. The Report provided a comprehensive introduction, analysis, examination and forward projection of China-Africa cooperation. It was well received by domestic and foreign governments,

institutions, enterprises and think tanks, and promoted lively exchanges and discussions.

This year, a special edition of "Chinese Investment in Africa Report 2022" will address another new aspect of China-Africa enterprise cooperation — supply chains. Against a background of global events that include a serious challenge to public health and regional conflicts, Africa's economic development is confronted by multiple disturbances to global supply chains, blockages of regional African supply chains, and breakages in national supply chains. As a result, cooperation with other regions, including close cooperation with China, is of great significance to increasing Africa's capacity for endogenous economic development.

I believe that the further progress of the African Continental Free Trade Area (AfCFTA) will have a substantial and positive impact on China-Africa economic, trade, and investment cooperation at multiple levels and in a wide range of fields. It will significantly increase the scale of intra-African trade and facilitate the development of African supply chains, thereby boosting the trade balance between China and Africa, increasing Africa's manufacturing capacity, boosting Africa's drive for endogenous development, and attracting more Chinese businesses.

I believe that while Africa brings development opportunities to Chinese businesses, we should focus more attention on the localization, integration, and long-term development of Chinese businesses in Africa. We must respond to Africa's requirements for talent training, youth employment, female leadership and green development, and invest more in areas of ongoing local demand such as health care, agricultural processing, logistics and infrastructure, manufacturing, and industrial parks.

The future is approaching fast! The China-Africa Business Council hopes to provide ideas, pathways, and best practices for further and better economic, trade, and investment cooperation between Chinese and African enterprises through "China-Africa Cooperation from a Supply Chain Perspective".



Wang Licheng

Chairman of China-Africa Business Council
Chairman of the Board of Directors of Holley Group



Abbreviations

FOCAC	Forum on China-Africa Cooperation
CABC	China-Africa Business Council
NGO	Non-Governmental Organizations
AfCFTA	African Continental Free Trade Area
AU	African Union
Agenda 2063	Agenda 2063
DR	Development Reimagined
SDGs	Sustainable Development Goals
CIPS	Chattered Institute of Procurement and Supplies
LDCs	Least Developed Countries
UNGC	UN Global Compact
CAADP	Comprehensive African Agricultural Development Programme
PIDA	The Programme for Infrastructural Development in Africa
AMV	The African Mining Vision
STISA	Science Technology Innovation Strategy for Africa
BIAT	Boosting Intra African Trade
AIDA	Accelerated Industrial Development for Africa
SAATM	A Single African Air-Transport Market
TAC	Tanger Automotive City
PPE	Personal Protective Equipment
DOI	US Department of the Interior
SEZs	Special Economic Zones
ICBT	Informal Cross-Border Trade
FCL	Full Container Load
LCL	Less than Container Load
LPI	Logistics Performance Indicator
ALP	Africa Logistic Properties
TEU	Twenty-foot Equivalent Units
FDI	Foreign Direct Investment
AFC	African Finance Corporation
IMF	International Monetary Fund
BRI	The Belt and Road Initiative
eWTP	Electronic World Trade Platform
PPP	Public Private Partnerships
M&A	Mergers and Acquisitions



Introduction to Report

Supply chains’—the activities required by governments, organisations and businesses to deliver goods or services to consumers are crucial to Africa’s development plans, in particular the African Union’s Agenda 2063. Most recently, the operationalisation of the Africa Continental Free Trade Area (AfCFTA) and the ongoing COVID-19 pandemic has prompted a discussion on the importance of supply chain development on the continent and the role of development partners in enhancing supply chain across Africa. However, even before COVID-19, there was strong evidence that Africa’s supply chains were already under stress due to inadequate infrastructure, security issues, poor trade logistics, overreliance on foreign imports, onerous regulatory requirements and complex customs procedures.¹ In particular, the ongoing the Ukraine crisis and the ensuing global supply challenges are leading to greater pressure on Africa’s supply chains.

Yet Africa provides vast opportunities for businesses hoping to invest in supply chain development. This is underlined by Africa’s fast-growing population and markets that present important opportunities for business, and also by the vast resources that make the continent a fertile ground for manufacturing industries.

China has been and is continuing its interest in providing active support to African countries in supply chain development. Therefore, this report will explore how and why China has invested and financed infrastructure in Africa, especially in trade, logistics, manufacturing, and infrastructure, which play essential roles in supply chain development in Africa. Overall, the report will shed light on how Chinese companies can use their own development experience to bring insight to the supply chain in Africa and what role Chinese businesses are playing in Africa’s supply chain development plans.

Aims and objectives

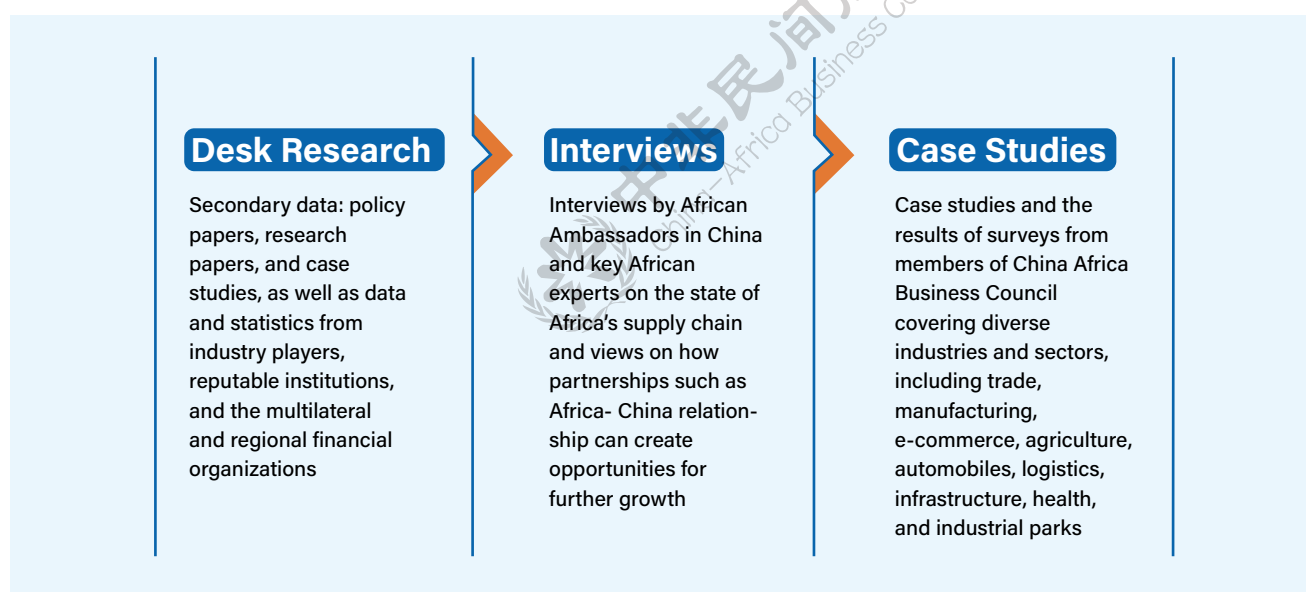
The report, produced by the China Africa Business Council and Development Reimagined, aims to analyse Africa’s supply chain, including its historical development, the current status, the challenges it faces, and how it interacts with the rest of the world. The report also highlights the growing importance of Chinese businesses in addressing supply chain challenges on the continent and notes future opportunities for China- Africa engagement in supply chains.

¹ Webb fu Preez, Laura. (2021). “Creating a disruption-proof supply chain.” Baker McKenzie. <https://www.bakermckenzie.com/en/newsroom/2021/10/supply-chain-in-africa>

Methodology

This report employs a number of different sources and analytical techniques to derive its findings. First, detailed desk research is used to understand and analyze the current context and outlay of Africa's Supply Chains especially in the context of the African Union's development plans, sustainable development goals (SDGs), trade, manufacturing and industrial policy. This analysis uses secondary data – policy papers, research papers, and case studies, as well as data and statistics from industry players, reputable institutions, and the multilateral and regional financial organizations. Second, the report incorporates interviews by African Ambassadors in China and African experts on the state of Africa's supply chain and views on how partnerships such as Africa- China relationship can create opportunities for further growth. Third, the report includes case studies and the results of surveys from members of China Africa Business Council covering diverse industries and sectors, including trade, manufacturing, e-commerce, agriculture, automobiles, logistics, infrastructure, health, and industrial parks. This analysis presents how Chinese companies support supply chain development in Africa and some of the challenges they have faced in doing so (see Figure 1).

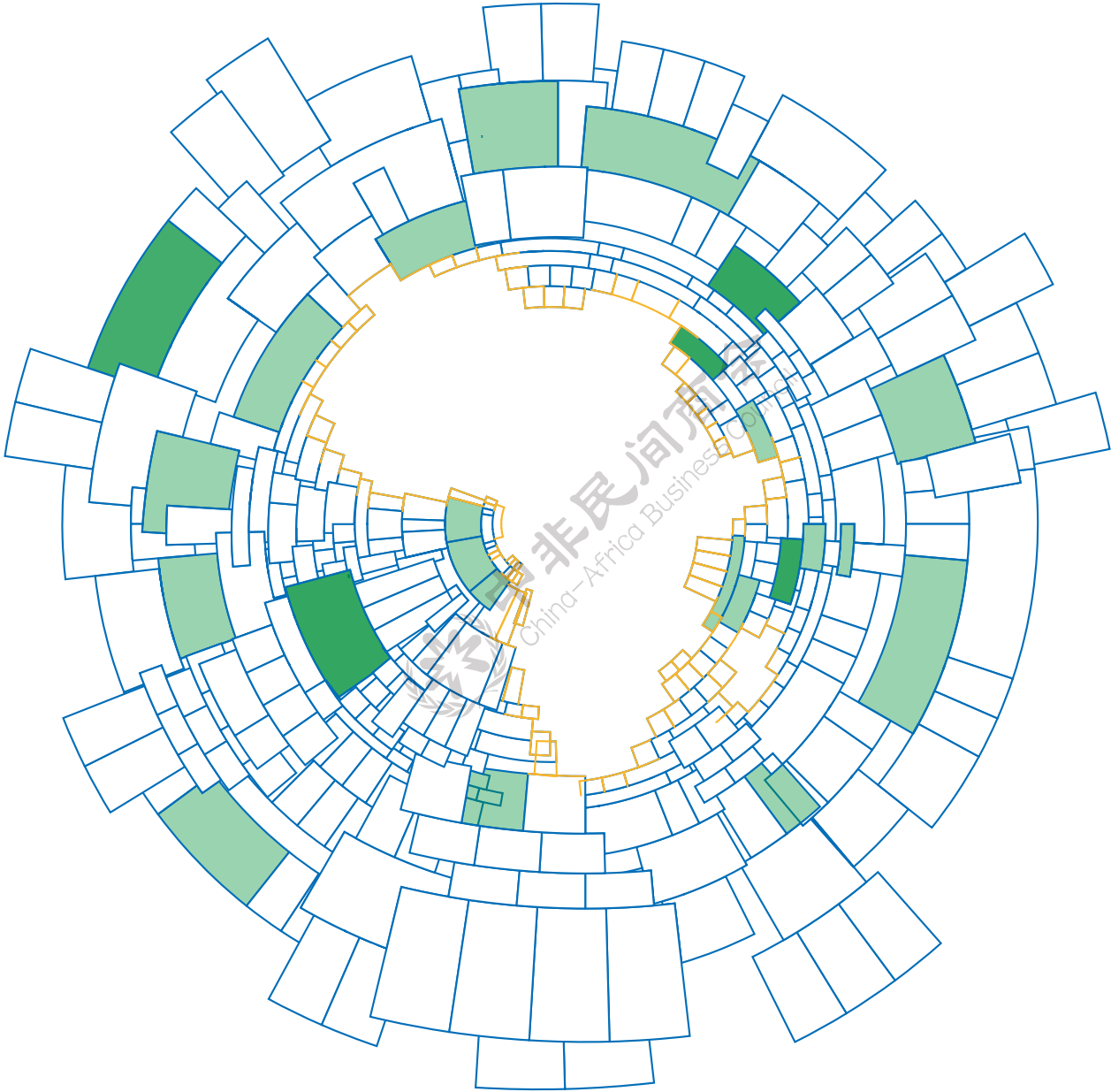
FIGURE 1
Methodology of the Report



The report is organised as follows.

Chapter one provides an overview of Africa's current supply chain policies and development. Chapter two explores the current challenges and needs associated with Africa's supply chains through interviews with African policy makers. Chapter three explores China's current policies and contributions to supply chain growth across the continent. Chapter four provides a number of cases studies of the impact of Chinese businesses operating in Africa on supply chain growth. Chapter five provides recommendations for next steps for supply chain growth for both African and Chinese stakeholders.

China-Africa Cooperation from a Supply Chain Perspective



Chinese Investment in Africa 2022



Chapter 1: African Supply Chain in the Global Context

Chapter one aims to firstly provide a clear definition of supply chains in the context of Africa's economic and social development and analyze why supply chains are central to Africa's development and industrialization plans. Next, this chapter explores why Africa's supply chains are attractive to development partners. Finally, this chapter reviews the current impact of global shocks on African supply chains.

Chapter Summary

Although there are various global definitions of supply chains, this chapter presents a 5-part framework for analysing supply chains in Africa- Production, Inventory, Location, Transportation and Information. This chapter also highlights how supply chain development can be utilised for poverty reduction and the achievement of the UN sustainable development goals, in particular to create jobs.

The continent provides vast opportunities for development partners interested in investing in Africa's supply chains. With a young dynamic population, abundant natural resources and clear policy direction under the AU's Agenda 2063, the continent is an attractive market for development partners such as China. However, current global challenges, such as COVID-19 and the ongoing crisis in Ukraine are putting pressure on Africa's supply chains.

1.1 The definitions and role of supply chains in economic and social development

Understanding the definitions, processes and impact of supply chains is crucial for analyzing the opportunities and challenges offered by supply chain development for developing countries. The following section outlines the key definitions of supply chain and key frameworks to consider when looking at supply chain growth.

1.1.1 Five key drivers of supply chains

'Supply chains' have been defined in many ways, the most common definition, as defined by the Chartered Institute of Purchasing and Supplies (CIPS) describes supply chain as 'activities within an organization essential to convert raw materials or component parts to finished products or services to the customer'.²

In this report, we use the term 'supply chain' to define the ecosystem that supports the growth of manufacturing and trade across and within the African continent.

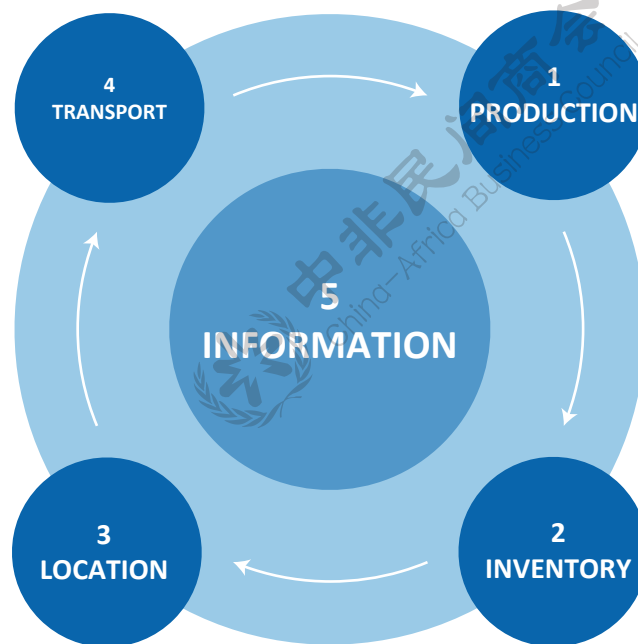
² Chartered Institute of Procurement & Supply. (2020). "What is a Supply Chain?" <https://www.cips.org/knowledge/procurement-topics-and-skills/supply-chain-management/what-is-a-supply-chain/>

According to CIPS, a supply chain can take on the form of a product based supply chain or that of a service, where services come together to offer an overall customer service. An example of this would be the shipping of customer goods, staff, and supply of vessel and fuel, all of which are required in order to provide the shipping service to the consumer.³

There are 5 key supply chain drivers, which influence the performance of the supply chain.⁴ (see Figure 2)

- ① Production (What, How and When to produce),
- ② Inventory (How much to make, How much to stock),
- ③ Location (Where best to produce, transport, store),
- ④ Transport (How and when to move product), and
- ⑤ Information (Basis for making these decisions).

FIGURE 2
Key Drivers of Supply Chain



Source: WoltersKluwer⁵

These five interlinked elements will be used to define and analyse the supply chain throughout this report.

³ Chartered Institute of Procurement & Supply. "What is a Supply Chain?"

⁴ WoltersKluwer. (2021). "Five Supply Chain drives that make or break your forecasts." <https://www.wolterskluwer.com/en/expert-insights/five-supply-chain-drivers#:~:text=Five%20supply%20chain%20drivers%2C%20Production,your%20business%20and%20financial%20requirements.>

⁵ Source: WoltersKluwer. (2021). "Five Supply Chain drives that make or break your forecasts.".

1.1.2 Four key agenda 2063 aspirations

As the supply chain is also defined as 'goods and services that cross international borders for consumption or as inputs for further production',⁶ strong supply chains have always been important for growing trade and investment in any country and ultimately supporting poverty reduction through the creation of jobs.

How can strong supply chains help achieve the Sustainable Development Goals (SDGs)?

The SDGs were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. The 17 SDGs are integrated – they recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability. In this regard, countries have made commitments to prioritize the realization of the goals, especially for those who lag behind.⁷

According to the ILO, there are four SDG targets that are directly related to supply chains. SDG 8 (Decent work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), SDG 16 (Peace, Justice and Strong Institutions) and SDG 17 (Partnerships for the goals) (see table 1).

TABLE 1
The Link Between Supply Chains And SDGs

SDG	Relationship of SDGs and Supply Chain according to ILO
	<ul style="list-style-type: none"> • Increase aid for trade support for developing countries, particularly least developed countries(LDCs), including through the enhanced integrated framework for Idcs.
	<ul style="list-style-type: none"> • Increasing the access of small-scale industrial and other enterprises, particularly in developing countries, to financial services including affordable credit and their integration into value chains and markets. • Upgrading the technological capabilities of industrial sectors in all countries, in particular developing countries. • Support domestic technology development, research and innovation in developing countries including by ensuring a conducive policy environment for inter alia industrial diversification and value addition to commodities.
	<ul style="list-style-type: none"> • Promotion of rule of law at the national and international levels, and ensure equal access to justice for all.

⁶ International Labour Organization. "Global Supply Chains." <https://www.ilo.org/global/topics/dw4sd/themes/supply-chains/lang--en/index.htm#ref>

⁷ United Nations Development Programme. "What are the Sustainable Development Goals?" <https://www.undp.org/sustainable-development-goals>.



- By increasing significantly the exports of developing countries, in particular with a view to doubling the LDC share of global exports.

Source: ILO⁸

However, Supply Chains also have a number of other direct linkages to the SDGs. For example, Climate Change (SDG 13), Affordable and Clean Energy (SDG 7) and No Poverty SDG 1. (see Table 2)

TABLE 2

Other Direct Impacts of Supply Chain on SDGs

SDG	Relationship of SDGs and Supply Chain– other direct impacts
	Supply chain development can have a direct impact on developing countries' plans to mitigate and adapt to climate change. If supply chains are not 'clean' and adopt clean mechanisms and technologies (such as using renewable energy for manufacturing or clean vehicles for transport) supply chains can contribute towards fossil fuels and climate change.
	The development of supply chains can have a direct impact on the affordable and clean energy as investment into the supply chain ecosystem requires an upgraded of infrastructure such as electricity.
	Supply chains can have a direct impact on poverty reduction through both job creation and the sustainability actions of companies (see below).

Source: Development Reimagined

How can supply chain development support job creation and poverty reduction?

Across the world, millions of young women and men are looking for opportunities to enter the labour market. At the same time, 780 million working women and men are not earning enough to lift themselves out of poverty.⁹ According to the UN Global Compact (UNGC), supply chains continue to be one of the most important levers for business to create a positive impact in the world. Supply chains contribute to economic growth, job creation, poverty reduction, entrepreneurship and to

⁸ International Labour Organization. "Relevant SDG Targets related to Global Supply Chains." https://www.ilo.org/global/topics/dw4sd/themes/supply-chains/WCMS_558569/lang--en/index.htm

⁹ United Nations Global Compact. (2018). "Decent work in Global Supply Chains. A Baseline Report." https://d306pr3pise04h.cloudfront.net/docs/publications%2FDecent-Work-in-Global-Supply-Chains_UN-Global-Compact.pdf

workers' transition from the informal to the formal economy. However, UNGC note the importance of business taking a holistic approach to supply chains in a way that also addresses root causes of poverty and goes beyond mere compliance with labour standards.

Research has also shown¹⁰ the importance of businesses integrating 'Corporate Social Responsibility' or 'Sustainability Strategies' into their supply chain investments to support poverty reduction in the local community. A study in China found that CSR-driven supply chains can have a positive impact on poverty reduction and job creation, especially when government subsidies are provided to the businesses.¹¹

Different elements of the supply chain also support poverty reduction through job creation at different levels of the supply chain ecosystem. For example air transport, crucial for the freighting of products, can support job creation both directly (those employed directly to work on the logistics) and indirectly through the procurement of goods and services needed to support air freight (see box 1). E-commerce is another example. UNCTAD has stated that e-commerce has significant potential to create new jobs—as many as 3 million by 2025, particularly for youth in Africa (predicted to increase by 170 million by 2030). These jobs will be directly in online marketplaces, supporting services, and spin-off economic activity.¹²

BOX 1

Contributions of Air Transport in Africa to Job Creation and Poverty Reduction

According to the 2017 Air Benefits Report by ICAO, Air transport in Africa supports 6.8 million jobs and contributes USD 72.5 billion to Africa's GDP. Beyond this, the aviation sector impacts African economies in several ways. First, the effect of the procurement of goods and services through the supply chain has an impact of USD 11.3 billion. The benefits that arise when employees of the industry and its supply chain spend their wages in the local consumer economy account for another USD 5.2 billion of economic impact. Direct, indirect and induced, respectively, contribute USD 26 billion to the African GDP. In addition, the spending by foreign tourists in the continent accounts for USD 46 billion of the total economic impact.

Source: 2017 Aviation Benefits Report

Supply Chains and the Agenda 2063 Aspirations

To examine how the above has been, or can be achieved in Africa specifically, it is important to assess supply chain frameworks and ambitions as laid out in the AU's Agenda 2063 and the AfCFTA (see Box

¹⁰ Kang, Kai et al. (2020). "The Strategies of the Poverty-Alleviation Supply Chain with Government Subsidies and Cost Sharing: Government-Led or Market-Oriented?" Sustainability 12, no. 10: 4050. <https://www.mdpi.com/2071-1050/12/10/4050#cite>

¹¹ Kang, Kai et al. (2020). "The Strategies of the Poverty-Alleviation Supply Chain with Government Subsidies and Cost Sharing: Government-Led or Market-Oriented?"

¹² Lynch, Leah and Chung Tsz Chung. (2020). "E-commerce and Mobile Money for Poverty Reduction in China." Center for Global Development. <https://www.cgdev.org/sites/default/files/e-commerce-and-mobile-money-poverty-reduction-china-lessons-african-countries.pdf>

BOX 2 AGENDA 2063

Agenda 2063 is Africa's blueprint and master plan for transforming Africa into the global powerhouse of the future by centering Africa's growth on 'Aspirations' for the future and also on key 'Flagship Programmes' to boost Africa's economic growth and development.

Source: African Union

Agenda 2063 has many 'Aspirations' directly linked to the importance of supply chain development on the continent. Table 3 outlines how 4 key Agenda 2063 Aspirations link directly to supply chains and are driving supply chain policy across the continent.

TABLE 3
Agenda 2063 Aspirations and Links to Supply Chain

Agenda 2063 Aspiration	Goals under Aspiration and how they relate to Supply Chains
Aspiration 1: A prosperous Africa based on inclusive growth and sustainable development	Goal number 4: focuses on 'transformed economies and jobs'- transforming Africa's economies by utilising Africa's natural resources, manufacturing, industrialization and value addition, as well as raising productivity and competitiveness.
Aspiration 2: An integrated continent, politically united and based on the ideals of Pan-Africanism and the vision of Africa's Renaissance	Goal number 2: World class infrastructure across Africa— aims to improve connectivity through newer and bolder initiatives to link the continent by rail, road, sea and air; and developing regional and continental power pools, as well as ICT.
Aspiration 3: An Africa of good governance, democracy, respect for human rights, justice and the rule of law	Goal Number 2: Capable institutions and transformed leadership aims at building strong institutions for a development state; and facilitating the emergence of development-oriented and visionary leadership in all spheres and at all levels
Aspiration 7: Africa as a strong, united, resilient and influential global player and partner.	Goal Number 2: Africa takes full responsibility for financing her development, which aims to improve Africa's partnerships and refocusing them more strategically to respond to African priorities for growth and transformation; and ensuring that the continent has the right strategies to finance its own development and reducing aid dependency.

Source: African Union¹³

Agenda 2063 Continental Frameworks and flagship projects

Agenda 2063 has six continental frameworks that provide important policy direction for supply chain development across the continent.

- 1 Comprehensive African Agricultural Development Programme (CAADP),
- 2 The Programme for Infrastructural Development in Africa (PIDA),
- 3 The African Mining Vision (AMV),

¹³ African Union. "Our Aspirations for the Africa We Want." <https://au.int/agenda2063/aspirations>

- ④ Science Technology Innovation Strategy for Africa (STISA),
- ⑤ Boosting Intra African Trade (BIAT),
- ⑥ Accelerated Industrial Development for Africa (AIDA).¹⁴

Development partners should note how the six frameworks link directly to national and regional policies and use the frameworks as important policy direction when investing in supply chains. For example, the establishment of 'A Single African Air-Transport Market (SAATM)' will ensure intra-regional connectivity between the capital cities of Africa and create a single unified air transport market in Africa, as an impetus to the continent's economic integration and growth. This will be essential for supply chain development on the continent as open-air arrangements boost traffic, drive economies and create jobs.

A full list of how the frameworks link to supply chain can be found in see Annex 1.

Furthermore, the 15 Agenda 2063 'Flagship Projects' are key programmes and initiatives which have been identified as essential for accelerating Africa's economic growth and development as well as promoting Africa's common identity by celebrating its history and vibrant culture. There are a number of key projects under Agenda 2063 that speak to supply chain, these include:

- ① Integrated High Speed Train Network,
- ② Formulation of an African Commodities Strategy,
- ③ Establishment of the African Continental Free Trade Area - see Box 3,
- ④ The African Passport and Free Movement of People,
- ⑤ Silencing The Guns By 2020,
- ⑥ Implementation of the Grand Inga Dam Project,
- ⑦ Establishment of a Single African Air-Transport Market (SAATM),
- ⑧ Establishment of an Annual African Economic Forum,
- ⑨ Establishment of the African Financial Institutions,
- ⑩ The Pan-African E-Network,
- ⑪ An African Virtual And E-University,
- ⑫ Cyber Security,
- ⑬ Great African Museum,
- ⑭ Encyclopaedia Africana.

¹⁴ African Union. "Continental Frameworks." <https://au.int/en/agenda2063/continental-frameworks>

A full list of how the projects link to the supply chain can be found in Annex 2

BOX 3 The AfCFTA

The recent World Bank's analysis on the AfCFTA show an increase in intracontinental exports by over 81% by 2035. This is important as it will create new opportunities for African manufacturers and workers. The processes of achieving the above are laid out in the Agreement and they include

reducing tariffs and non-tariff barriers, and improving border infrastructure to facilitate trade. The effect of these measures includes reduction of red tape, lowering compliance costs for traders, and ultimately making it easier for African businesses to integrate into global supply chains.

Source: World Bank

1.2 Why are Africa's supply chains attractive to development partners?

As outlined above, the African continent, under the African Union, has already has well developed policy plans for the growth of supply chains on the continent. However, it has not always been this way. The following section outlines the history of supply chain growth on the continent and notes some of the historical challenges the continent has faced.

1.2.1 African supply chain history: marginalisation

Africa has historically been marginalised in terms of supply chains, due to ongoing and increasing reliance on extractive(ist) development models from the colonial era.¹⁵ An understanding of the history of Africa's supply chains particularly the continent's colonial and pre-colonial history sheds light on why the current African supply is the way that it is today.

While some historians suggest that in the pre-colonial era, Africans primarily engaged in hunting and gathering, simple manufacturing and agriculture,¹⁶ there is also significant research to suggest that African societies were – in the context of the time – fairly well developed and engaged in international trade, especially with the Arab and Asian regions.¹⁷

Africans were good technologists as they made advances within their environment and were able to meet the technological needs of the society. As the conditions at the time were very volatile and dynamic, Africans were very flexible in their production systems, although environmental factors such as drought, famine etc. occasionally

¹⁵ Fofack, H. (2019). "Overcoming the colonial development model of resource extraction for Sustainable Development in Africa." Brookings Institution. <https://www.brookings.edu/blog/africa-in-focus/2019/01/31/overcoming-the-colonial-development-model-of-resource-extraction-for-sustainable-development-in-africa/>

¹⁶ Green, Erik. (2013). "Production systems in Pre-colonial Africa." In Ewout Frankema, Ellen Hillbom, Ushehweu Kufakurinani and Felix Meier zu Shelhausen (eds.), *The History of African Development: An Online Textbook for a New Generation of African Students and Teachers*. African Economic History Network.

¹⁷ French, Howard. (2021). *Born in Blackness: Africa, Africans, and the Making of the Modern World, 1471 to the Second World War*. WW Norton & Co.

affected people's livelihoods and disrupted supply chains. Africans created new technology or adapted it to changing conditions and convoluted arrangements to further facilitate and increase production. Unfortunately, due to unforeseen and recurring crises, periods of development were rarely sustained and supply chains were affected, leaving the continent far behind other parts of the world that slowly became wealthier from the 18th century onwards.¹⁸ Prior to the scramble for Africa, the continent was becoming increasingly interconnected with trade and production thereby gradually bringing about structural transformation and regional integration which is a prerequisite for a strong position within the global supply chain.

However, as the colonial era took hold, where the primary goal was to provide maximum economic benefit to colonial powers, an increasing number of African societies, which once exercised discretion over what they wanted to produce, were compelled to produce solely for export.¹⁹ Colonial institutions imposed trade controls and restrictions that essentially reduced the freedom of Africans in marketing their goods, weakening their traditional storage mechanisms and inventory systems and prohibiting any progress in their means of production and distribution system. As colonial governments primarily if not solely focused on export, their interest was in the transport of raw materials and not in the economic advancement and welfare of the colonies.²⁰ This resulted in most roads, railway systems, sea ports and other transport routes to be oriented towards the coast, leading to a highly underdeveloped transport and infrastructure system within the continent itself.²¹ This in turn stifled economic and agricultural integration and cooperation within and among African territories.²² Therefore, colonialism had undermined indigenous technology, skills and trade know-how and suppressed Africans from advancing into manufacturing. This disarticulated transport, production of goods and markets in addition to distorting traditional marketing routes that were based on local needs.

As colonialism intended to find a market for manufactured European goods as well as raw materials for their industries, it was imperative that the African economy became linked with the international system and global supply chains.²³ This however forced the continent to accept an unfair international division of labour where Africa produced agricultural raw materials. African countries also had limited access to information flows in the system, with the key logistics and tracking handled by colonial powers. This explains why Africa's position in the global supply chain was - at least until independence movements from the 1960s onwards - confined to the production of primary commodities and agricultural products.²⁴

¹⁸ Green, Erik. (2013). "Production systems in Pre-colonial Africa."

¹⁹ Settles, Joshua Dwayne. (1996). "The Impact of Colonialism on African Economic Development." Chancellor's Honors Program Projects. https://trace.tennessee.edu/cgi/viewcontent.cgi?article=1182&context=utk_chanhonoproj

²⁰ Austin, G. (2010). "African economic development and Colonial Legacies." *Revue Internationale De Politique De Développement*, (1), 11-32. <https://doi.org/10.4000/poldev.78>;

Frankema, E. (2015). "How Africa's colonial history affects its development." *World Economic Forum*. <https://www.weforum.org/agenda/2015/07/how-africas-colonial-history-affects-its-development/>

²¹ Settles, Joshua Dwayne. (1996). "The Impact of Colonialism on African Economic Development". Chancellor's Honors Program Projects

²² Austin, G. (2010). African economic development and Colonial Legacies. *Revue Internationale De Politique De Développement*, Vol.1, pp. 11-32

²³ Ocheni, S., & Nwankwo, B. C. (2012). "Analysis of Colonialism and Its Impact in Africa." *Canadian Academy of Oriental and Occidental Culture*, 8, 1-9. <https://doi.org/10.3968/j.ccc.1923670020120803.118>

²⁴ Ibid

So, what has changed since 2000 and why is Africa now an attractive market for development partners seeking to invest in supply chains?

1.2.2 Current status of African supply chains

Starting from the 21st century the continent's growing population makes it an ideal market for supply chain investment. It is estimated that the African continent will have a market with 1.7 billion consumers by 2030 from 1.2 billion in 2018²⁵ and according to the Brookings Institution report on Africa's consumer market potential, there is a growing demand for African goods including food (agricultural products) and energy, fast-moving consumer goods and luxury products. This demand is expected to rise with the anticipated income growth across the continent.²⁶

Africa is also home to some of the world's fastest growing markets, including the likes of Rwanda and Mauritius, according to the 2022 Africa Wealth Report. There are several well-established wealth hubs on the continent, including South Africa, Egypt and Morocco and these hubs are staffed by highly skilled advisors, transactors, and brokers who bring vast knowledge and investment opportunity for businesses.²⁷

Africa also has the fastest growing youth population in the world, who all need jobs and fast. According to the African Development Bank, of Africa's nearly 420 million youth aged 15-35, one-third are unemployed, and another third are vulnerably employed—only one in six is in wage employment.²⁸ Young people are also increasingly engaged in higher education. A 2019 Economist report indicated that about 9 percent of Africa's young people are in tertiary education (vocational colleges and universities)—more than double the share in 2000 (4 percent).²⁹ If properly harnessed, this increase in the working age population could support increased productivity and stronger, more inclusive economic growth across the continent. It also offers vast opportunities for businesses who seeks to invest in this growing workforce and provide skill transfer on the continent.

A number of African countries are already attracting investment in relation to the global supply chain. For instance, North African countries with established industrial capacity are already attractive nearshoring options for European or European-focused manufacturing. A case in point is Morocco, a promising option for the automotive industry in Africa. This is due to the fact that it is politically stable, is close to Europe, and has well-established logistics connections to Europe and pertinently cheap and readily available labour.³⁰ In addition to investment from Europe, there are also considerable Chinese interests in Morocco, particularly in investments by Chinese automotive equipment manufacturers.³¹ (see Box 4)



²⁵ Singe, Landry. (2018). "Africa's consumer market potential. Trends, drivers, opportunities, and strategies." Brookings Institution. <https://www.brookings.edu/wp-content/uploads/2018/12/africas-consumer-market-potential.pdf>

²⁶ Singe, Landry. (2018). "Africa's consumer market potential. Trends, drivers, opportunities, and strategies."

²⁷ New World Wealth. (2022). "Africa Wealth Report 2022." <https://www.henleyglobal.com/publications/africa-wealth-report-2022>

²⁸ African Development Bank. "Jobs for Youth in Africa." https://www.afdb.org/fileadmin/uploads/afdb/Images/high_5s/Job_youth_Africa_Job_youth_Africa.pdf

²⁹ Lynch, Leah and Chung Tsz Chung. (2020). "E-commerce and Mobile Money for Poverty Reduction in China." Center for Global Development.

³⁰ Zhang, Ganyi. (2021). "AfCFTA: A more Integrated Africa in the Global Supply Chain." Market-Insights Upplly. <https://market-insights.upply.com/en/afcta-a-more-integrated-africa-in-the-global-supply-chain>

³¹ Rouaud, Pierre-Olivier. (2019). "Morocco sees big investment drive from auto part manufacturers." The Africa Report. <https://www.theafricareport.com/17953/morocco-sees-big-investment-drive-from-auto-part-manufacturers/>

BOX 4

Case Study of Morocco's Tanger Med Port

Tanger Med has evolved over the years to become a genuine concept for port logistics

- The leading African port in terms of number of containers, the leading African automotive hub but also the leading African logistics zone.
- The originality of Tanger Med is in the creation of free zones specialized by sector. Logisticians are grouped in one area, mass retailers in another, the automotive sector in a third
- Renault Tanger Med Zone, specifically allotted to the French automotive group, produces 400,000 vehicles per year, including Dacia models such as the Sandero, the Dokker and the Lodgy

- Tanger Automotive City (TAC) brings together 50 companies of all nationalities, 90% of which have a direct link with the automotive industry. These include Korean company Hands, which manufactures alloy wheels. China is also represented with ZTT, Japan with JTeckt as is India.
- It has the Tetouan Park is dedicated to logistical activities and light manufacturing industries for VSEs and SMEs
- It has Logistics Free Zone mainly brings together logisticians such as DHL but also manufacturers who want to open dedicated international distribution centres on the site. Bosch and Huawei have built warehouses in this area.

Source: The Africa Report

Mining is another growing sector. Africa's mining industry dates back to 19th century and the first mine, constructed in what is now South Africa - a copper project, began operation in 1852.³²Africa also has several resources rich countries and these resources include mineral oils, gold, copper, diamond, iron ores, bauxite, precious stones, and cobalt. Research indicates that the top 10 in sub-Saharan Africa are Nigeria, South Africa, Angola, Equatorial Guinea, Gabon, Sudan, Tanzania, Zambia, Botswana, and the Democratic Republic of Congo.³³It is for this reason that there is the presence of some of the world leading mining companies engaged in the mining and supply chain of the natural resources that are obtained in the continent. However, the vast majority of the activity that occurs in Africa in this sector is simply extractive, rather than value-added. (see Figure 3)

³² Casey, JP. (2019). "History of mining in South Africa." Mining Technology. <https://www.mining-technology.com/analysis/history-of-mining-in-south-africa/>

³³ Izvorski, Ivailo. (2018). "7 surprising findings about resource-rich sub-Saharan Africa." Brookings Institution. <https://www.brookings.edu/blog/future-development/2018/08/01/7-surprising-findings-about-resource-rich-sub-saharan-africa/>

FIGURE 3
Map Outlining Natural Resources Across the Continent



Source: Baobab News³⁴

Now we understand the history of supply chain growth on the continent and why Africa's supply chains are attractive to development partners, we turn to the current global challenges that are impacting Africa's supply chain development.

1.3 The current global challenges impacting Africa's supply chain development

Worldwide supply chains are facing difficulties due to the COVID-19 pandemic and the ongoing Ukraine crisis. This section provides a brief overview of the global supply chain challenges and their impact on supply chain development in Africa.

1.3.1 Disease challenges: COVID-19 pandemic and post-pandemic development

During the COVID-19 pandemic the global economy experienced a considerable downturn in economic activity and further issues with supply chains, which faced

³⁴ Baobab News. (2019). "Natural Resources of Africa." <https://africa.baobab.news/2019/09/19/natural-resources-of-africa/africa-1/>

Nigeria

2.3%

South Africa

0.9%

Africa's largest economies have slowed down growth.

constraints after the gradual reopening of global markets.³⁵ These mechanisms meant several border closures, restrictions on movement and production within industries where activities were either reduced or outright halted. These also affected some markets in terms of personal protective equipment (PPE) and vaccine deliveries which were not only in high demand but faced production issues due to limited manufacturing capacities caused by concentration of manufacturing in limited countries.³⁶

Supply chains logistics has also been negatively impacted with restricted air and sea freight. Shipping in particular has faced a number of challenges with blockages. For example, some of the world's busiest ports have faced a number of logistical challenges due to COVID-19. First, the transport of freight has been made difficult as the entry and exit of collectors and port workers has been hampered leading to delayed freight collection and delivery times. Second, there are many empty imported containers in docks that cannot be transported to the yard or repaired, due to a lack of trailer personnel on-site. Third, some ports are slowly filling up with no more space to store frozen goods. Around the world, this has forced cargo ships to take their goods to other ports. China, a major player in global supply chains, implemented a number policies to mitigate the ongoing impact of COVID-19 and adopted additional measures to ensure the smooth running of the ports, waterways, and international marine logistics supply chains. These measures also provide valuable lessons for other countries facing challenges with sea freight.

Specifically, COVID-19 has caused slumps in Africa's economic growth. According to data provided by OECD, in 2020, Africa's largest economies have slowed down growth. In Nigeria (GDP growth of 2.3%), the non-oil sector has been sluggish, in Angola (-0.3%) the oil sector remained weak, while in South Africa (0.9%) low investment sentiment weighed on economic activity.³⁷ This meant that companies faced reductions in demand for their respective products, slow-paced supply chains due to shipment lags and lockdown policies that were aimed to ensure better healthcare. Regardless of these factors, African economies relatively experienced less negative ripple effects in downturns as predicted by several organizations in terms of deaths and infectious spreads. Although several African struggled to cope in terms of pandemic cushioning, many have shifted their focus on the economy and managed to inject further money into the economy, such as Egypt injecting over \$6.4 billion since the COVID-19 started.

Regardless of the general supply issues in Africa, several sectors experienced considerable development within their supply chains, particularly digitalization and pharmaceuticals. The African continent hosts a low number of pharmaceutical production companies with only an estimated 375 institutions concentrated in less than 15 countries with only five countries including Algeria, South Africa, Egypt, Senegal, and Morocco having production capacity.³⁸ To boost manufacturing capacity,

³⁵ Meier, Matthias and Pinto, Eugenio. (2020). "Covid-19 supply chain disruptions." Covid Economics. https://matthias-meier-econ.github.io/files/MeierPinto_Disruptions.pdf

³⁶ Park, Cyn-Yong et al. (2020). "Global shortage of personal protective equipment amid COVID-19: supply chains, bottlenecks, and policy implications." Asian Development Bank. <http://dx.doi.org/10.22617/BRF200128-2>

³⁷ OECD. (2020). "COVID-19 and Africa: Socio-economic implications and policy responses." <https://www.oecd.org/coronavirus/policy-responses/covid-19-and-africa-socio-economic-implications-and-policy-responses-96e1b282/>

³⁸ Kinyanjui, Sam et al. (2021). "Covid-19 policy response in Africa: a rapid evidence synthesis on the current state of vaccine and drug research & development capacity, regulation and coordination." The African Academy of Sciences. https://www.aasciences.africa/sites/default/files/inline-files/Status%20of%20vaccines%20and%20drugs%20research%20Rapid-Review_EM_%20UA_.pdf

several initiatives have started across the continent as a form of self-sustenance, such as Recipharm facility and NantSA vaccine manufacturing campus. The critical focus in most hubs has been the move beyond fill and finish which mostly focuses on the vial filling and final packaging for distribution. Countries such as China have also played a crucial role in pharmaceutical sector development, such as the investments in Ethiopia by companies such as Sansheng.

1.3.2 Regional conflicts: fragile African supply chain

Regional conflicts which include political, environmental, and economic shocks have over the years throttled the efficiency within supply chains. African countries due to the integrative nature of the global economy, are prone to similar shocks that occur within countries with direct or indirect economic ties³⁹. Research notes that conflict and instability has been a major deterrent in supply chain development and increased bottlenecks in countries that face instability. Africa continues to face several conflicts with the highest number of states rated at alert and warning levels within the Fragile States Index.⁴⁰This has mostly been due to the highly polarized political issues and crippling socioeconomic issues such as youth unemployment which have led disgruntled citizens to either support coups or partake in rebel groups in countries such as Guinea-Bissau and Cote d'Ivoire.⁴¹

Since 2004, African countries in fragile situations⁴² continued to grow in aggregate approximately 2% less than non-fragile countries.⁴³These countries also face infrastructural deficits which include subpar roads and railways leading to high logistics costs for companies. Moreover, conflict leads to reduced imports and exports which both affect regional and the local economy of each country. In African context for example, according to the IMF, the Arab spring which affected Libya, Egypt, and Tunisia, led to a negative growth for not only Libya at -66.7% but also the region of North Africa by -0.3% which was the lowest pre-pandemic since 1987.⁴⁴Moreover, the Sub-Saharan Africa also faced reduction in growth rates, growing only by 5.8% which is lower than growth during the 2007/8 financial crisis which also saw slow paced economic growth.⁴⁵

Fragile states are prone to low levels of infrastructural development and institutional stability. Thus, reports find that several African countries which are experiencing conflict or fragility has reduced levels of access to electricity, finance, transport, and effective regulatory frameworks.⁴⁶These have been found to lead to long term loss of productive capacity and increased costs of doing business within such countries,

³⁹ Dunne, John Paul and Nan Tian. (2019). "Costs of civil war and fragile states in Africa." *Review of Development Economics*, 23(3). <https://onlinelibrary.wiley.com/doi/abs/10.1111/rode.12612>

⁴⁰ The Fund for Peace. "Fragile States Index." <https://fragilestatesindex.org>

⁴¹ Azeng, T.F. and Yogo, T.U., 2013. Youth unemployment and political instability in selected developing countries. Tunis, Tunisia: African Development Bank.

⁴² Latest fragile African states list include: Burundi, Central African Republic, Chad, Comoros, Congo, Democratic Republic of Congo, Cote d'Ivoire, Eritrea, Gambia, Guinea-Bissau, Liberia, Malawi, Mali, Sierra Leone, South Sudan, Sao Tome and Principe, Togo, Libya and Zimbabwe.

⁴³ IMF. (2022). "Regional Economic Outlook. Sub-Saharan Africa." <https://www.imf.org/en/Publications/REO/SSA/Issues/2022/04/28/regional-economic-outlook-for-sub-saharan-africa-april-2022>

⁴⁴ IMF. (2022). "Real GDP growth. Historical data." https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEO_WORLD

⁴⁵ IMF. Real GDP growth.

⁴⁶ Jones, Basil. (2013). "Fragile States: Taking Part in Africa's Inclusive Growth Take-off." African Development Bank Group. https://www.afdb.org/sites/default/files/documents/publications/economic_brief_-_fragile_states_taking_part_in_africas_inclusive_growth_take-off.pdf ..

12%

Specifically, the canal carries roughly 30% of global container traffic annually and about 12% of global trade daily.

thereby leading to disruptions in supply chains, given the uncertainty and possible destruction of viable infrastructure such as warehouses.⁴⁷These ultimately spillover to neighboring states through loss in export or import markets, collapse of trade routes and increased prices due to reduction of supply of resources such as oil.

1.3.3 Logistics blockage: negative impacts on global supply chain

On March 23, 2021, the 400-meter long Ever Given container vessel got stuck in the Suez Canal and it took 6 days to free the ship. The blockage had a negative impact on the global supply chain. Specifically, the canal carries roughly 30% of global container traffic annually,⁴⁸and about 12% of global trade daily. A total of \$9.6 billion of trade was hold up each day due to the blockage.⁴⁹The blockage hit European markets as the canal connects the exports from Asia to consumers in Europe. The Suez Canal is also a preferred route for U.S. importers of manufactured goods like footwear and apparel from Southeast Asia.⁵⁰These brought shortages and higher prices of consumer goods in the European and the US market.

1.3.4 Global events: the Ukraine crisis and food and energy crisis

The conflict between Ukraine and Russia is causing stress on global supply chains and increasing the cost of commodities for many countries. According to Deloitte, the most pressing vulnerabilities is an overreliance in Europe on natural gas and crude oil from Russia, as well as dependence on both Russia and Ukraine for key agricultural commodities. According to the Food and Agriculture Organization of the United Nations, Russia and Ukraine account for more than 25% of the world's trade in wheat and for more than 60% of global sunflower oil and 30% of global barley exports. Russia is also a major global exporter of fertilizers, which means any supply shortages, or restricted access, could impact crop yields globally.

Russia is also a significant source of many of the 35 critical minerals that the US Department of the Interior (DOI) deems vital to the nation's economic and national security interests, including 30% of the globe's supply of platinum-group elements(including palladium), 13% of titanium, and 11% of nickel.⁵¹Russia is also a major source of neon, used for etching circuits on silicon wafers. The price of palladium, a critical component of catalytic converters for cars, has climbed as much as 80% in price since the conflict started. Moreover, as a result of the Ukraine conflict, LMC Automotive has cut its forecast of light vehicle sales in Europe by 2 million units a year over the next two years.

The African region can also expect to be affected by the Ukraine conflict. First and foremost is the challenge of food security. AfDB President, Dr Adesina stated that both Ukraine and Russia supply almost 30 percent of global wheat exports and the

⁴⁷ Mueller, Hannes and Julia Tobias. (2016). The Cost of Violence: Estimating the Economic Impact of Conflict. International growth Centre.

⁴⁸ Jaganathan, Jessica. (2021). "Suez Canal blockage adds strain to global supply chains." Reuters. <https://www.reuters.com/article/egypt-suezcanal-supplychains-int/suez-canal-blockage-adds-strain-to-global-supply-chains-idUSKBN2BI13B>

⁴⁹ Russon, Mary-Ann. (2021). "The cost of the Suez Canal blockage." BBC News. <https://www.bbc.com/news/business-56559073>

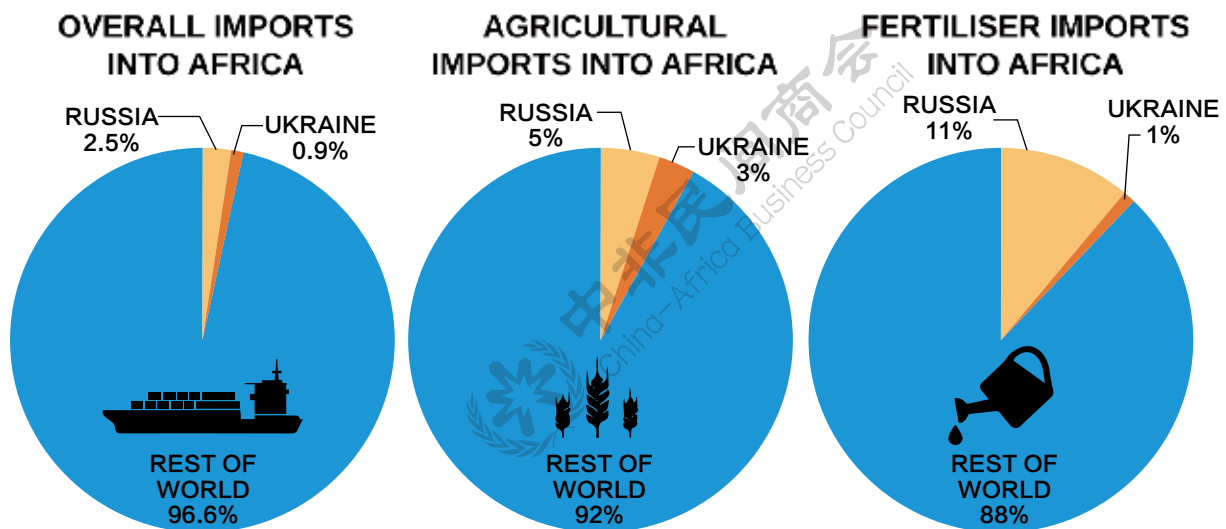
⁵⁰ Jaganathan, Jessica. (2021). "Suez Canal blockage adds strain to global supply chains." Reuters.

⁵¹ Kalish, Ira. (2022). "How sanctions impact Russia and the global economy." Deloitte Insights. <https://www2.deloitte.com/us/en/insights/economy/global-economic-impact-of-sanctions-on-russia.html>

prices have more than doubled.⁵²In 2020 Russia's exports to Africa amounted to \$4 billion, and of the total amount 90 percent of the exports were made up of wheat, whereas 79 percent of Ukraine's exports to Africa in the same year were made up of wheat and maize. He reiterated that not only food prices had gone up in the continent, but fertilizer prices have tripled, and energy and food basket prices have increased. The conflict has caused disruption of food aid deliveries to nations at risk of hunger. Typically, Somalia gets close to 70 percent of its wheat imports from Ukraine and the rest from Russia. Moreover, the disruption of oil prices on the world market is expected to lead to higher fuel prices and higher food production costs.⁵³

However, it is worth noting that African countries as a whole import less than 3% of their agricultural imports from Russia and Ukraine and most African consumers have alternatives to wheat for their staples.⁵⁴ (see Figure 4)

FIGURE 4
African Countries' Imports From Russia and Ukraine



Source: Development Reimagined⁵⁵

As African countries account for 60% of global arable land share,⁵⁶it is more important to receive enough investments to help develop the agriculture sector in the continent to ensure the domestic production of food. And access to financing in supply chains that facilitate intra-Africa trade is particularly important to help the continent become more resilient to wars and conflicts, such as the Ukraine crisis.

⁵² African Development Bank. (2022). "Africa must prepare for the inevitability of a global food crisis says African Development Bank President, Akinwumi Adesina." <https://www.afdb.org/en/news-and-events/press-releases/africa-must-prepare-inevitability-global-food-crisis-says-african-development-bank-president-akinwumi-adesina-51173>

⁵³ Sacko, Josefa and Ibrahim Mayaki. (2022). "How the Ukraine crisis impacts Africa." United Nations Africa Renewal. <https://www.un.org/africarenewal/magazine/may-2022/how-russia-ukraine-conflict%2%A0impacts-africa>

⁵⁴ Development Reimagined. (2022). "Russia's Invasion of Ukraine: A New Economic Crisis in Africa?" <https://developmentreimagined.com/2022/05/20/africasupplychaincrisis/>

⁵⁵ Development Reimagined. (2022). "Russia's Invasion of Ukraine: A New Economic Crisis in Africa?"

⁵⁶ Sacko, Josefa and Ibrahim Mayaki. (2022). "How the Ukraine crisis impacts Africa." United Nations Africa Renewal.

The above aforementioned impacts pose challenges globally, but also offer opportunities for African economies and other countries, particularly emerging economies such as China, to support the African region to 'fill the gap' – which will create a more diversified global supply chain and thereby increase global and African resilience to such shocks.

But it will not be easy.

Our next chapter turns to the current context, opportunities and challenges for Africa's supply chains according to the five key areas of the supply chain— Production, Inventory, Location, Transport and Information.





Chapter 2: African Supply Chain's Needs and Challenges

The last chapter reviewed current policy directions for supply chain development across the African continent, and outlined why African supply chains are attractive to development partners such as China. However, despite the clear policy direction, the steady growth of the five key drivers of the supply chain ecosystem, multiple challenges remain. The first section of this chapter will begin with an overview of the background, trends, and challenges of supply chains in Africa. Section two outlines the urgent needs highlighted by African partners for critical supply chain development, based on interviews with African embassies in China, data analysis and desk research.. This context, challenges and needs provide an important context for businesses seeking to invest in supply chains in Africa.

Chapter Summary

This chapter will discuss the context, trends and current challenges of supply chains in Africa, with the aim of identifying and addressing disruptions in supply chains that can assist companies seeking to invest in supply chains in Africa. For example, there is a lack of reliable infrastructure, local manufacturing, logistics companies, and local talent.

Urgent needs highlighted in this chapter include addressing tariff and non-tariff barriers; accelerating energy mining and localization of supply chains; improving continental and regional infrastructure quality; promoting the localization of African manufacturing capabilities; ncreasing workforce training centres; providing multi-modal financing for African companies; providing more digital solutions.

2.1 The context, trends and challenges in Africa's supply chains

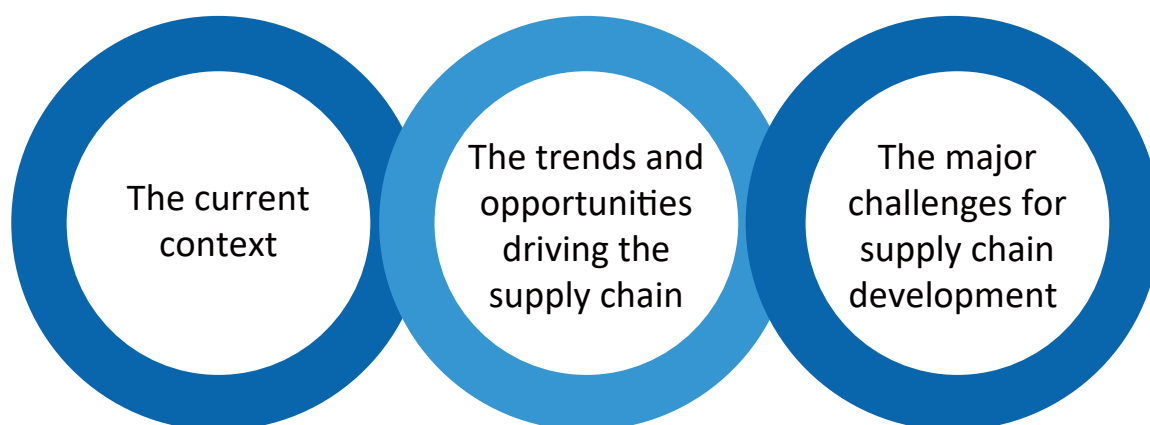
Using a 3-part framework, the first section of this chapter reviews supply chain development in Africa to date in terms of five key supply chain drivers - Production, Inventory, Location, Transport and Information.

The 3-part framework provides an overview of: (see Figure 5)

- ① The current context,
- ② The trends and opportunities driving the supply chain,
- ③ The major challenges for supply chain development.

FIGURE 5

Three-part Framework to Review Africa’s Supply Chain Development



2.1.1 Production and location

CONTEXT

The ‘production and location’ elements of the supply chain (manufacturing and trade) have developed to varying degrees across the continent and are often unequal across regions. This is partly due to different levels of investment by businesses and development partners. For example, while import and export trade has been growing, there is still a huge trade deficit causing significant bottlenecks to Africa’s supply chain growth. According to UNCTAD, the export potential of Africa is undermined by its heavy reliance on primary commodities, which account for about 70 % of extra-African exports; manufactured goods account for only 15% of extra-African exports, exposing Africa to external shocks such as volatile commodity prices.⁵⁷ Furthermore, whilst manufacturing has been steadily growing across the continent, the North African region attracts significantly higher investment than other regions due to proximity to Europe.

So what are the major trends driving ‘production and location’ development on the continent?

TRENDS

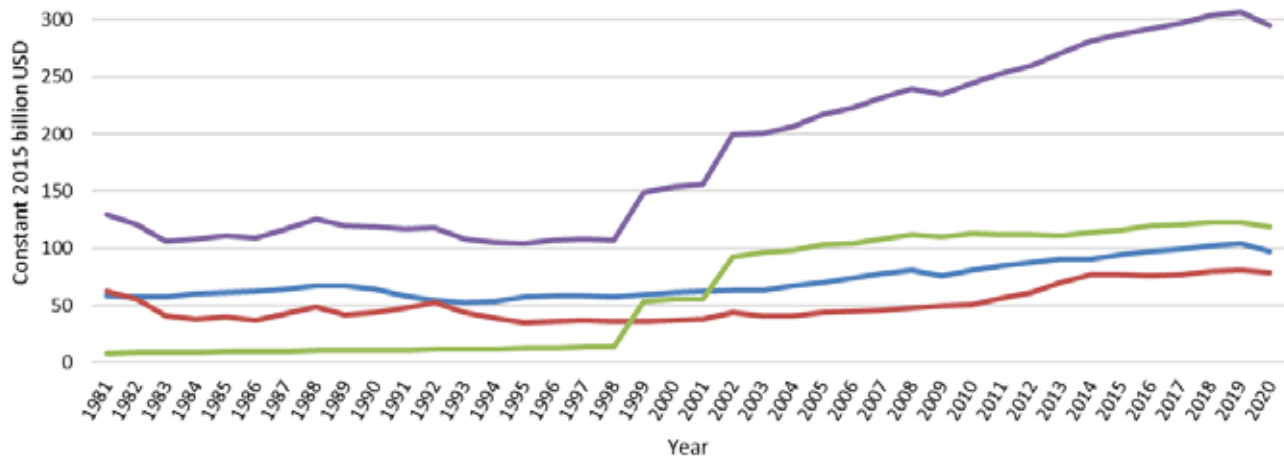
Africa’s Manufacturing

Manufacturing is a key sector for supply chain development on the African continent, according to estimates from the African Continental Free Trade Area.⁵⁸ However, manufacturing growth across the continent has historically been slow and uneven (see Figure 6).

⁵⁷ UNCTAD. (2021). Economic Development in Africa Report 2021. https://unctad.org/system/files/official-document/aldcafrica2021_en.pdf

⁵⁸ UNECA. “ASM Responsible Mineral Supply chains in Africa: Case of Conflict Minerals.”

FIGURE 6
Africa Manufacturing Value Added Growth by Region



Source: World Bank⁵⁹

The continent faces a stagnant trend in manufacturing as a GDP contributor, which means that although manufacturing has grown over the years it remains a declining sector in terms of share. Africa’s potential, including low transport costs, ease of access to natural resources, and an increase in its young but unemployed population, remains untapped and leads to supply chain problems as most manufactured goods are imported or are only assembled on the African continent, for example in the automotive industry. This shows that the manufacturing sector can unleash Africa’s potential in enabling a vibrant and efficient supply chain which would cut costs in sourcing, transport, processing and retailing.

As noted earlier, the establishment of the African Continent Free Trade Area is expected to bring change to the supply level in the African continent by boosting the intra-regional economy, and to bring new dynamics to Africa’s participation in the global supply chain. To do this, Africa needs to focus on manufacturing. According to a report by Landry Signé major drivers in manufacturing in Africa are human capital, cost, supply networks and domestic demand.⁶⁰ These drivers are explained in the Box 5 below.

⁵⁹ The World Bank. "Manufacturing, value-added (current US\$)." The World Development Indicators. <https://data.worldbank.org/indicator/NV.IND.MANFCD>

⁶⁰ Landry Signé, (2018), "The potential of manufacturing and industrialization in Africa Trends, opportunities, and strategies, Africa Growth Initiative." Brookings Institution.

BOX 5

Drivers for manufacturing in Africa

Human Capital

- For labour-intensive subsectors, the health of industry is limited only if the population suffering illiteracy, low education and poor health hinders the productivity of individual factories and the ability to absorb new technologies, creating a negative impact on the diversification of manufactured goods in the whole economy.

Cost

- Firms will always seek to find ways to compensate for high transport costs in order to compete in world markets, which can result in managers paying lower wages or focusing on e-commerce. Many countries in Africa are working to establish special economic zones (SEZs)³⁴ to empower manufacturing companies to capitalize on higher quality infrastructure, tax benefits, protection from import competition, and duty-free movement of goods.

Supply networks

- The entire African region is rich in natural resources, which are vital inputs for various manufacturing subsectors. One example is coltan, which is used in the production of electronic goods and is rich in the Democratic Republic of Congo, Rwanda, and Mozambique. However, the legacy of late-20th century protectionist industrialization policies has caused the sector to remain relatively restricted, despite increasing attempts to scale back trade barriers since the 1990s.

Domestic Demand

- Where income levels are low, household consumption is limited to basic subsistence needs, so all but the most essential manufactured products are exported to distant, wealthier markets.

Source: Brookings Institution

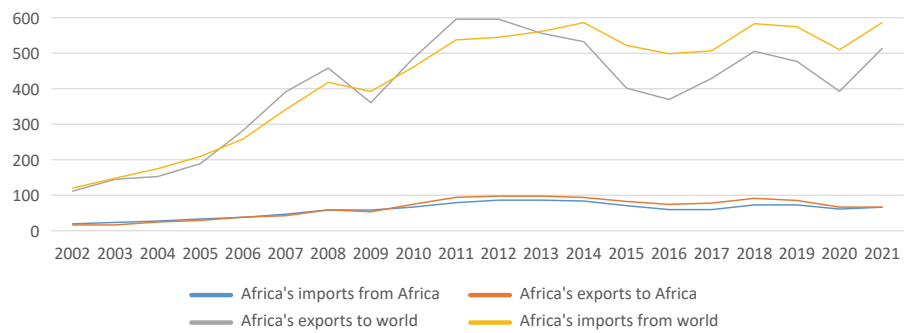
Trade

Trade is a key element for the growth of Africa's supply chains and helps drive decisions on where and what to produce. Figure 7 shows the trend in Africa's imports and exports both internally and externally, with a clear upward trend in both the global and internal markets since 2002. Before the Covid-19 outbreak, Africa's global trade continued to grow, peaking in 2012 with exports exceeding \$595 billion and imports at \$586.1 billion in 2015. The hallmark importance of supply chains has been critical to the trade growth on the continent particularly after the 2008 crisis, when companies expanded across borders several times, with several developments in interstate road, rail and increased air freight between African countries. However, it is worth noting that over 65% of exports to continents such as Europe are vastly primary products, whilst these countries export as much as 68% of their exports as manufactured products.⁶¹

⁶¹ Eurostat. (2020). Africa-EU - international trade in goods statistics. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Africa-EU_-_international_trade_in_goods_statistics

FIGURE 7

Internal and External African Trade (in US billion)



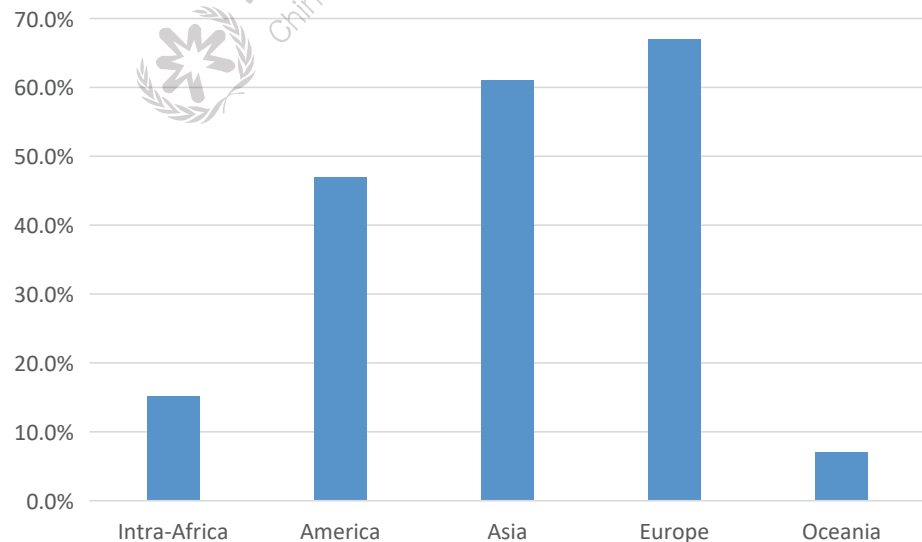
Source: International Trade Centre⁶²

Reports have suggested that Europe and China expect to see the largest increase in trade with Africa. According to the World Bank forecasts, European imports of textiles and chemicals from Africa will increase by 2035.⁶³ Meanwhile, African manufacturing imports from China are expected to grow significantly.

At the moment, Africa's place in the global supply chain is mainly supported by the supply of primary goods. In comparison to other regions, like the Americas, Asia and Europe, the intra-trade level in Africa is significantly lower at around 16-18%.⁶⁴

FIGURE 8

Share of Intra-Regional Trade in the Total Trade



Source: UNCTAD

THE CHALLENGES

⁶² International Trade Centre. "Africa's imports and exports." <https://www.trademap.org/Index.aspx>

⁶³ The World Bank. (2020). "The African Continental Free Trade Area." <https://www.worldbank.org/en/topic/trade/publication/the-african-continental-free-trade-area#data>

⁶⁴ Silver Ojakol. "ACFTA officially launched" <https://baijiahao.baidu.com/s?id=1687739745261985105&wfr=spider&for=pc>

Unequal geography and numerous natural disasters disrupt supply chain development and stability

Natural disasters such as floods, drought, and disease epidemics, can disrupt the supply chains across the continent. They can destroy transport infrastructures such as ports, container terminals, and road or railway connections, thereby raising trade costs, postponing or pausing deliveries, closing ports, cancelling cargo flights, and unbalanced supply and demand. They also affect production, mainly in the agriculture and manufacturing sectors, and consequently the supply of tradable goods.⁶⁵

Africa is more affected by certain natural disasters than other regions (see Figure 9). In particular, it is far more prone to droughts and epidemics.⁶⁶ Unlike other continents such as Asia, earthquakes and volcanoes are not frequent. Although disasters occur across the entire African continent, some countries are more affected than others because the threat varies significantly by geography and season. From 2000 to 2016, Kenya (60), Mozambique (55) and South Africa (54) experienced the most disasters, as they frequently experienced storms, droughts and floods.⁶⁷



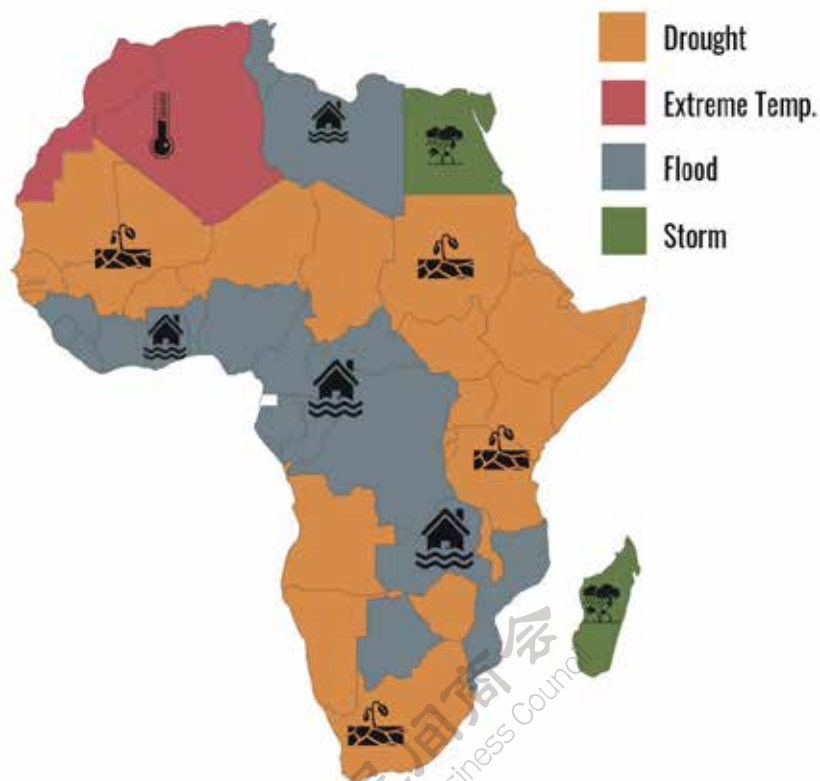
⁶⁵ Osberghaus, Daniel. (2019). "The Effects of Natural Disasters and Weather Variations on International Trade and Financial Flows: a Review of the Empirical Literature." *Economic of Disasters and Climate Change* 3, 305-325.

⁶⁶ Cred Crunch Newsletter. (2019). "Disasters in Africa: 20 Year Review (2000-2019)." Issue No.56. <https://reliefweb.int/report/world/cred-crunch-newsletter-issue-no-56-november-2019-disasters-africa-20-year-review-2000>

⁶⁷ International Monetary Fund. (2016). "Regional Economic Outlook, October 2016, Sub-Saharan Africa." <https://doi.org/10.5089/9781513595979.086>

FIGURE 9

Disaster Type Affecting the Highest Number of People by Country/Region



Source: Cred Crunch Newsletter⁶⁸

The varying degrees of land mass can create unequal distribution in the supply chain

Africa occupies a total of 30.37 million km², equivalent to China, India, the United States and most of Europe combined (see Figure 10). African countries vary in size and land area.

The size of a country can have a positive or negative impact on growth; large areas like Algeria, the biggest nation in Africa by area (2.382 million km²), can provide more natural resources but it is more expensive to manage public services and transport, thereby affecting the flow of the supply chain.

The Democratic Republic of Congo (2nd largest according to land mass) has untapped gold, cobalt and high-grade copper reserves, yet lacks the industrial and production capacity to add value to these minerals. Nigeria, one of the largest countries in Africa, was once the 5th-largest supplier of crude oil to the United States, but it still imports fuel and other bi-products of crude oil and doesn't yet have a steady supply of electricity. A large population, such as Nigeria with 225 million people estimated in 2022,⁶⁹ provides a labour force and a broad domestic market with economies of scale but may incur higher administrative costs.⁷⁰ These have potential

⁶⁸ Cred Crunch Newsletter. (2019). "Disasters in Africa: 20 Year Review (2000-2019)." Issue No. 56.

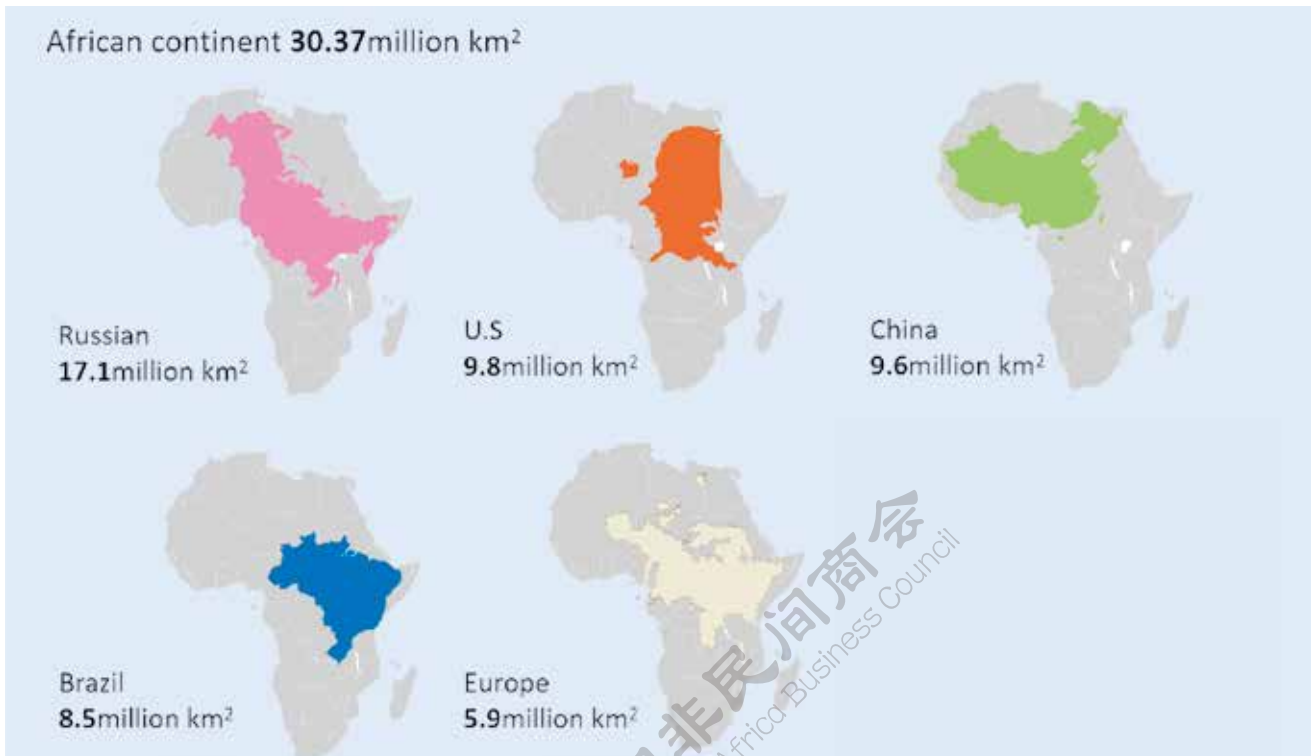
⁶⁹ "The World Factbook. Nigeria." (2022). <https://www.cia.gov/the-world-factbook/countries/nigeria/summaries>

⁷⁰ Alouini, Olfa and Paul Hubert. (2019). "Country size, economic performance and volatility." OFCE. <https://hal-sciencespo.archives-ouvertes.fr/hal-03403618>

impacts on the production operations and related supply chain activities of the aforementioned sectors.

FIGURE 10

The Size of Africa Compared to Other Countries



Source: World Factbook⁷¹, World Population Review⁷², Visual Capitalist⁷³

Uneven implementation of policies on manufacturing can impede the progress of the supply chain

Africa's fast-growing population and markets present significant business opportunities and the vast resources that make the continent a fertile ground for manufacturing. However, there are many existing challenges to the manufacturing sector. Critical among them is the lack of clear policies around manufacturing. An interviewee remarked- "Like many African countries, our government has not yet set a clear policy on manufacturing and industrial parks have been established without clearly defining the authority of a region."

While basic policy frameworks exist in most African countries, implementation is uneven. For example, Ethiopia's experimentation with industrial parks is well known - it shows the importance of leadership. Tanzania, however is rich in unimplemented plans, and Kenya lacked coordination in establishing industrial parks.⁷⁴ Another factor affecting growth in manufacturing in Africa relates to the quality and

⁷¹ "The World Factbook. The United States." (2022). <https://www.cia.gov/the-world-factbook/countries/united-states/>

⁷² World Population Review. "Area." <https://worldpopulationreview.com>

⁷³ Visual Capitalist. "Mapped: The True Size of Africa." <https://www.visualcapitalist.com/map-true-size-of-africa/>

⁷⁴ Asamoah Patience, D. and Opare, A. (2011). "An examination of pharmaceutical supply chain for artemisinin-based combination therapies in Ghana." *Management Research Review*, Vol. 34 No. 7, pp. 790-809.

availability of inputs in the local market, such as raw materials (textiles or materials needed for packaging) and equipment, making importing goods for manufacturing a challenge.

Moreover, the lack of investment by overseas or domestic firms contributes to the stagnation of the manufacturing industry in Africa. Little to no investment reduces productivity and reduces high value-added business activities. There will be no productivity spillovers that could create jobs and sustain the growth and development of Africa's manufacturing industry.⁷⁵ Box 6 provides an example of a Chinese company that is actively working to develop the manufacturing sector through skills training but could still do more to integrate local manufacturing into their business model.

BOX 6

Mamba Cement: A model of capacity cooperation between China and South Africa

The Mamba Cement Plant, located in Limpopo Province, South Africa, is a model project for China-South Africa cooperation on building industrial capacity. The project is jointly financed by the Jidong Development Group and China Africa Development Fund, South African Continental Cement and Women Investment Portfolio Holdings Ltd., to a total value of 1.65 billion rand (about \$220.8 million). The project started in June 2014, and the plant was completed and commissioned in October 2015, with an annual output of 870,000 tons of clinker and 1 million tons of cement.

Jidong attaches importance to local development, proactively carries out skills training, and provides direct employment for more than 210 local people. The company employs a large number of advanced energy-saving and environmental protection technologies, and sets a high standard for environmental protection in the cement industry in South Africa. The Mamba Cement Plant has received 170 million rand in cash and tax relief incentives from the Ministry of Trade and Industry of South Africa for its use of advanced energy-saving and environmental protection technologies; these bring its energy consumption well below the average of its counterparts.

Source: CABC

Lack of coordination across borders can affect inter-regional trade, causing delays in the delivery of goods and services.

Informal cross-border trade (ICBT) is pervasive. It has a long history given the region's artificial and often porous borders, a long history of regional trade, weak border enforcement, corruption, and, perhaps most importantly, a lack of coordination of economic policies among neighbouring countries.⁷⁶ In Eastern and Southern Africa, goods are transported through 10 major corridors: Northern, North-South, Dar Central, Dar es Salaam, Nacala, Beira, Maputo, Trans Kalahari, Trans Kaprivi, and Trans Cunene. The numerous border posts and roadblocks along these corridors, together with procedural inefficiencies, are costly to traders and businesses in the subregion. For instance, traders/trucks must negotiate 47 roadblocks and weigh stations between Kigali (Rwanda) and Mombasa (Kenya). They have to wait about 36 hours at the South Africa-Zimbabwe border post.

The combined effects of the above elements translate into Africa's highest intra-regional trade costs, constraining the scope and depth of regional value chains. For

⁷⁵ Sutton, John et al. (2016). "Harnessing FDI for job creation and industrialisation in Africa." International Growth Centre. https://www.theigc.org/wp-content/uploads/2016/05/GrowthBrief_FDI-in-Africa-FINAL_WEB.pdf

⁷⁶ Golub, Stephen S. and Ahmadou Aly Mbaye. (2019). "Benin's Informal Trading with Nigeria." Economic & Development Institutions. <https://edi.opml.co.uk/resource/benin-the-economic-relationship-with-nigeria/>

instance, according to the World Bank Doing Business indicators, it takes 51 days and 7 documents to export a container from Zambia, 40 days and ten documents from Angola, and 26 days and six documents from Mali, but only ten days and four documents from Morocco.⁷⁷In the European Union, common frameworks for cross-border coordination such as the EU Single Market and Customs serve to eliminate tariffs, quotas, or taxes on trade and promote the free movement of goods, services, capital, and people.

In 2020, most border closures were “one size fits all”. In West Africa, for example, fresh produce, meat, and other perishable products are usually shipped at night because of the daytime heat. But curfews made this practice impossible. Mandating more thorough health checks without adding necessary personnel also increased transport times. Health check delays and curfews caused significant waste and loss of products in West Africa.

2.1.2 Transport and inventory

CONTEXT

Logistics is considered one of the most critical stages within the transport and inventory part of the supply chain process as it ensures efficient flow of products from production to consumption. Thus, reliability and efficiency within the logistics sector play a major role in economic expansion and the ability of different companies to easily enter different markets without extreme costs due to barriers of entry. The most prominent pillars of logistics include transport, warehousing, and distribution centres which are also dependent on infrastructural improvements within countries. Logistics companies are a growing sector on the continent but the sector is dominated by foreign companies (see box 7).

BOX 7

Top 5 logistics companies in Africa

1. DHL logistics (The company is leading the way on innovation of new bespoke solutions to assist communities such as the use of package drones to deliver medicines in East Africa)
2. UPS Supply Chain Solutions (In 2020 they lead on the delivery of the Covid-19 Vaccine and looked into the safe use of drones to deliver medicines in hard-to-reach places)
3. Kuehe & Nagel (Developing the largest sea freight forwarder in the world specifically in the fields of Full Container Load (FCL) and Less than Container Load (LCL))
4. DB Schenker Logistics (Operating largely North Africa, they are the first company to utilise autonomous electric trucks, the T-Pod, on public roads for deliveries)
5. DSV (New player in the logistic industry DSV has rapidly climbed the ranks to become one of the top providers and most recognisable brands in the supply chain industry in Africa)

Source: SCN Africa “Top Five logistics companies in Africa”

The African Development Bank estimates that investment of \$130-170 billion per year is needed to tackle the continent's lack of quality roads, warehouses, power

⁷⁷ The World Bank. (2015). Business Enabling Environment. <https://www.worldbank.org/en/programs/business-enabling-environment/alternative-existing-indicators>

and other infrastructure that support supply chains.⁷⁸ The continent has 84,000 miles of road, but 53 percent are unpaved, with less than half of Africa's rural population having access to an all-season road.⁷⁹ Railways, crucial for transporting goods, have suffered a vast decline over the past three decades according to AfDB.⁸⁰ Although efforts are being placed on developing Africa's railways the continent's development of railways is unequal and uncoordinated. For example, in East Africa there is the China-built standard gauge railway, and some believe that Africa should adopt "wider gauge railways", which are more expensive to build but, once built, can carry heavier cargo and allow the locomotive to move faster.⁸¹



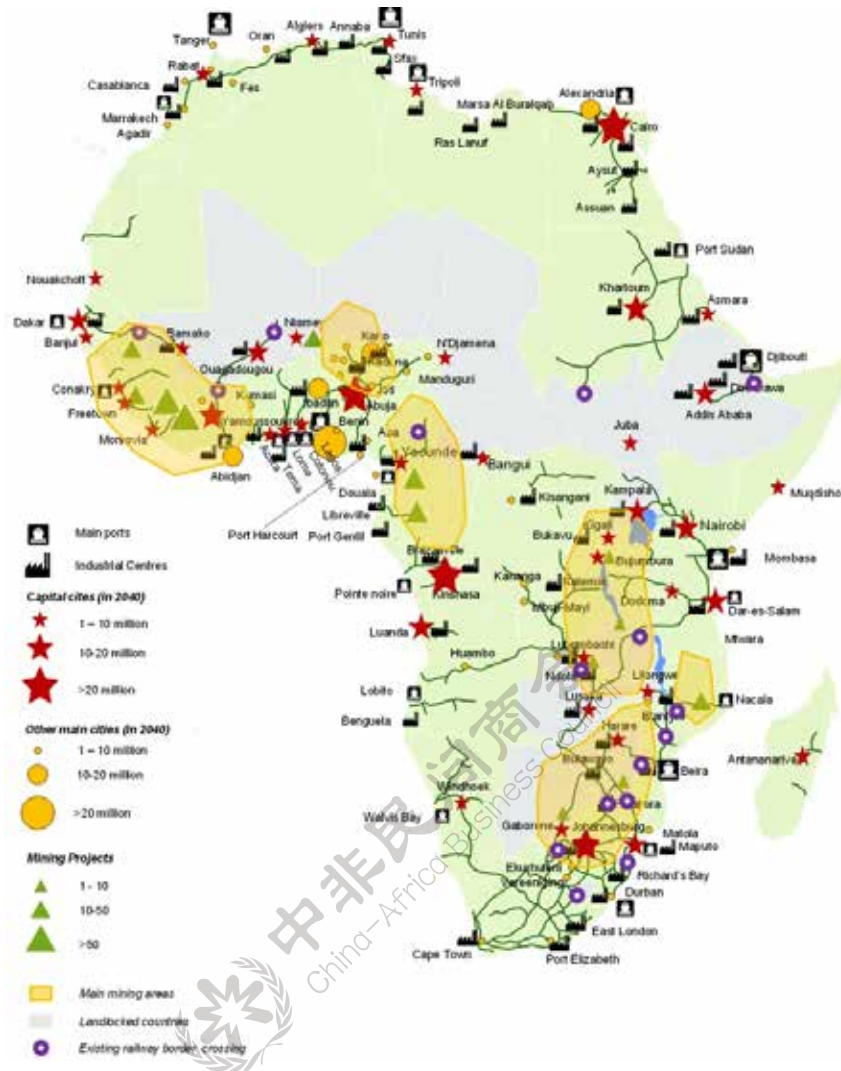
⁷⁸ White, Geoffrey. (2019). "The forgotten heroes of the economic: why better warehouses will be key to Africa's growth." World Economic Forum. <https://www.weforum.org/agenda/2019/09/5-ways-better-warehouses-can-boost-african-trade/>

⁷⁹ African Development Bank. (2016). "Tracking Africa's Progress in Figures. Infrastructure Development." https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Tracking_Africa's_Progress_in_Figures_-_Infrastructure_Development.pdf

⁸⁰ Tralac. (2015). "Rail Infrastructure in Africa: Financing Policy Options." <https://www.tralac.org/news/article/8609-rail-infrastructure-in-africa-financing-policy-options.html>

⁸¹ Chege, Kimani. (2021). "Railway growth and mobility in Africa." *The American Society of Mechanical Engineers*.

FIGURE 11
Main Areas Suitable for Railway Development



Source: ALG Newsletter⁸²

So, what are the major trends driving transport and inventory development on the continent?

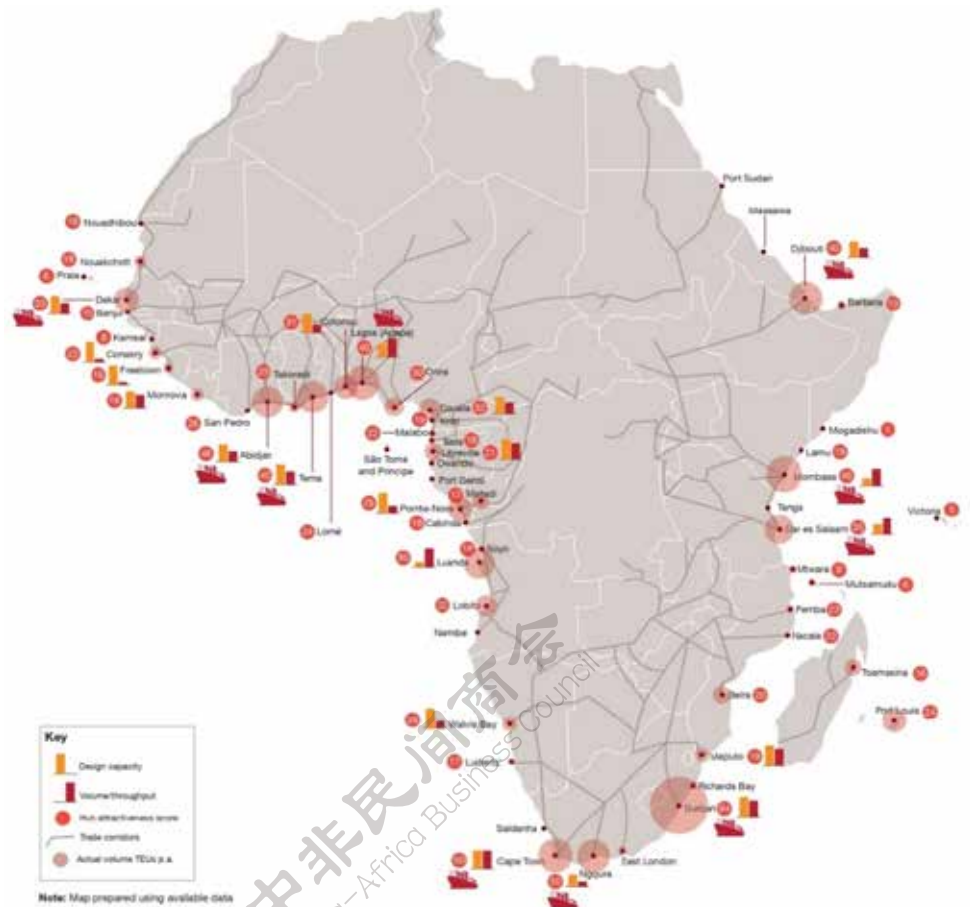
TRENDS

Logistics

Generally speaking, infrastructure in Africa lags behind other continents, and there are differences even among its own regions: on one hand, South Africa still has good infrastructure despite having the lowest annual growth, and on the other hand, Nigeria and Kenya have shown some of the highest growth rates in the past years.

⁸² ALG Newsletter. (2018). "Rail Infrastructure in Africa." <https://algnewsletter.com/land-transport/rail-infrastructure-in-africa/>

FIGURE 12
Ports Across the African Continent



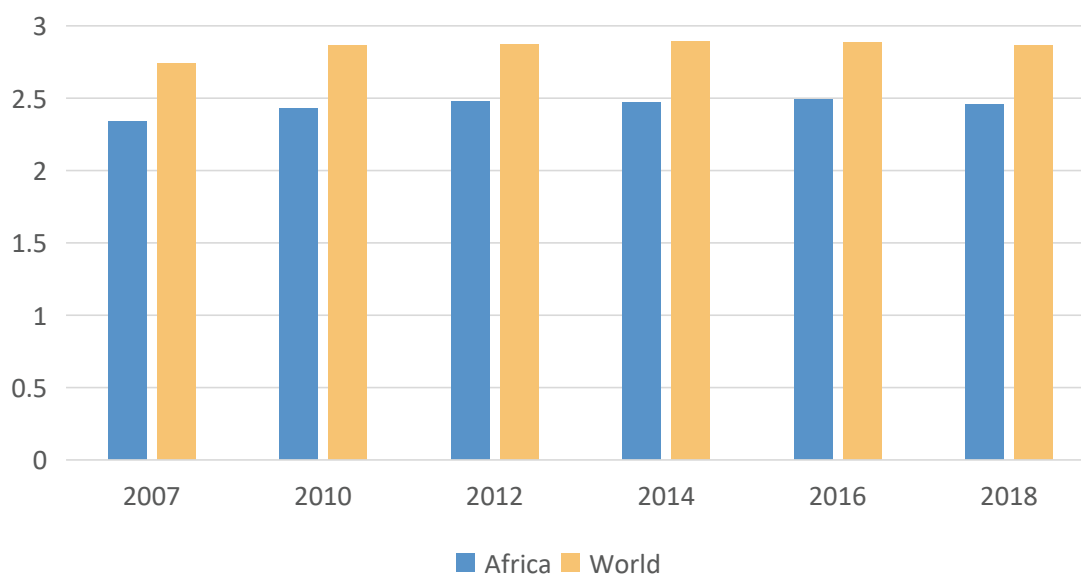
Source: PwC South Africa⁸³

With 38 of its 54 states either coastal or insular in nature, Africa has over 400 ports (see Figure 12). More than 90% of Africa's total trade passes through seaports, including imports and exports. The largest port in Africa by capacity is the port of Tanger-Med in Morocco, which occupies 3.65km² and can handle up to 9 million containers. In contrast, Asia's most prominent and busiest port is the Port of Shanghai, which occupies 3,619.6km² and can facilitate over 43.5 million containers. Close to 90 per cent of Africa's trade is carried out by sea, which makes its ports crucial for supply chains despite being small as per global standards. Some ports currently under construction across the continent will need to be modernized to face the large volume of trading expected from the growth in population and economic development.⁸⁴

⁸³ PwC South Africa. African Ports. <https://www.pwc.co.za/en/publications/african-ports.html>

⁸⁴ Solistica. (2022). "Logistics in the world." <https://blog.solistica.com/en/the-integration-of-logistics-in-africa>

FIGURE 13
Global and African Logistics Performance Index



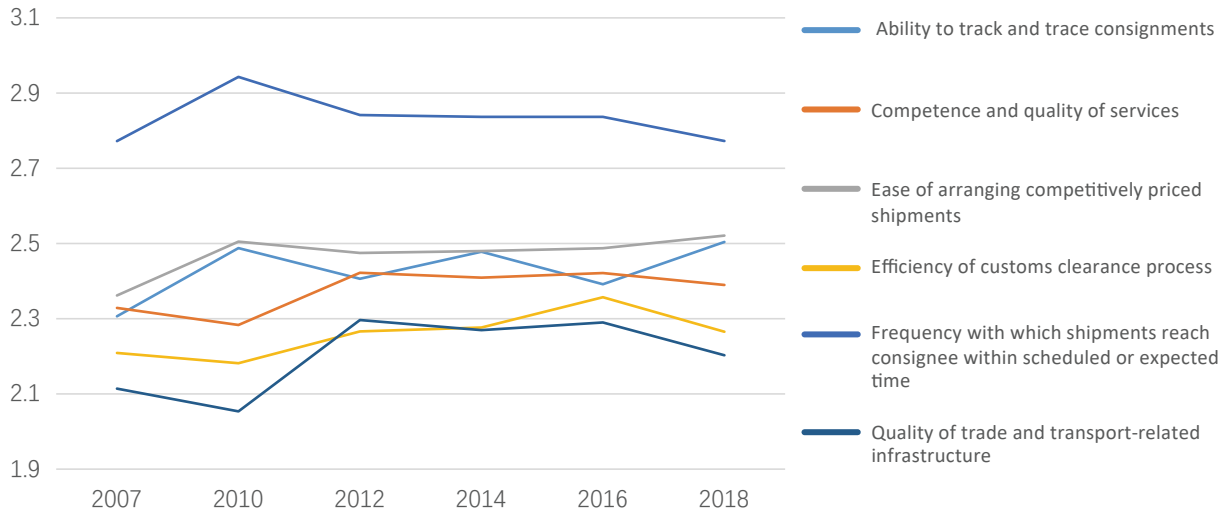
Source: World Bank⁸⁵

Africa continues to lag in many of these as many African countries are still improving their infrastructure and building industrial hubs. Regardless of these constraints, over the years Africa's logistics performance, evaluated through the Logistics Performance Indicator (LPI), a benchmarking tool from the World Bank to receive scores of performances on trade logistics from 1 (very low) to 5 (very high),⁸⁶ increased from 2.34 in 2007 to 2.46 in 2018, accounting for a 5.1 % increase (see Figure 13). This growth rate is higher than the global index, which stands at 4.6%.

⁸⁵ The World Bank. (2018). Logistic Performance Index. <https://pi.worldbank.org>

⁸⁶ Ibid

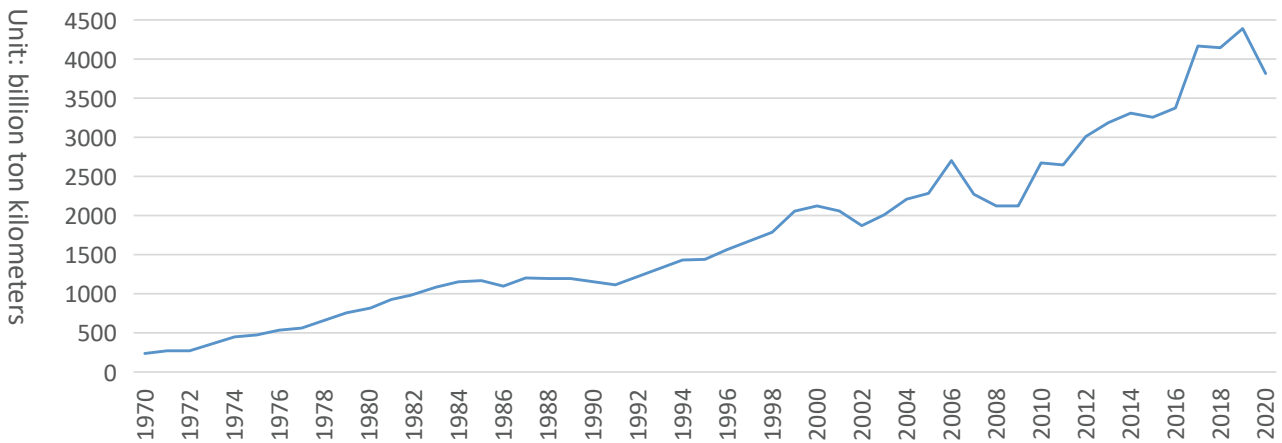
FIGURE 14
Africa's Logistics Performance Indicator Components Overtime



Source: World Bank⁸⁷

In terms of shipping, the indicator of ease of arranging competitively priced shipments also improved by 6.74%. This can be explained by several reasons such as the improvements in hub ports which have enabled ease of access for broader shipment companies and further lowered costs (see Figure 14). Gateways such as Mombasa, Tanga, Dar-es-Salaam, Maputo and Durban ports have experienced considerable financing for expansion and increased traffic. Regardless of these developments, Africa lags behind and encounters issues of reduced demand. Another sector that has been utilized to mitigate constraints has been Air freight.

FIGURE 15
Africa Freight Air Transport Overtime



Source: The World Bank⁸⁸

⁸⁷ Ibid.

⁸⁸ The World Bank. (2022). "Air transport, freight (million ton-km)."

Africa's air freight has experienced increased dominance within the logistics sector, increasing from merely 234.7 million ton-km in 1970 to 3,826 million ton-km in 2020 (see figure 15). The industry contributes over \$55.8 billion to GDP in Africa and has a positive impact on industries, including supply chains, of over \$6.8 billion⁸⁹. Just like elsewhere, transport in Africa was until the late 1960s generally seen as a high priority area. Many new ports, railways and roads were built both before and after independence. This state of affairs, however, changed during the 1970s when transport was generally given low priority. This had serious consequences for transport systems in the low-income African countries.⁹⁰

Warehouses And Storage Capabilities

Warehouses tend to be one of the most neglected elements of infrastructure and logistics, but they are a fundamental part of the supply chain, critical for economic development and growth. High-quality warehousing is needed not only for storage and distribution, but also for the packing, processing, assembling and light manufacturing of goods – the foundations of any economy. According to the World Economic Forum, African countries need to transition from low-quality “godowns” –makeshift warehouses that tend to lack basic security and safety features – to facilities that meet international standards with consistent, reliable IT connectivity and power.

The warehousing sector in Africa has been steadily growing over the past decade–between 2006 and 2016, the warehousing and logistics sector grew by 24%.⁹¹ There are a variety of factors driving demand, including the need for resilient distribution networks and better cost efficiencies, growing storage space requirements for goods, and the rise of e-commerce.⁹² There is a strong appetite for industrial stock on the continent as investors are attracted to numerous factors including increasing urbanization levels and the sector's robust income profile.⁹³ Box 8 provides an example of a company that has been investing in increasing warehousing in order to support supply chain growth in the agricultural sector and although investment in storage and warehouses are growing, many challenges remain.

⁸⁹ International Civil Aviation Organization. (2019). "Aviation Benefits Report 2019." <https://www.icao.int/sustainability/Documents/AVIATION-BENEFITS-2019-web.pdf>

⁹⁰ Alila, Patrick O. et al. (2005). "Development of African Freight Transport – The Case of Kenya." *Danish Institute for International Studies*. https://www.files.ethz.ch/isn/18871/pop_Development_of_African_Freight_Transport.pdf

⁹¹ Umaizi. (2016). "African Needs Warehouse Storage Space for E-Commerce." <https://umaizi.com/africa-needs-warehouse-storage-space-for-e-commerce/>

⁹² Turner & Townsend. (2021). "Warehousing across Africa." <https://www.turnerandtowntsend.com/en/perspectives/warehouse-cost-index-2021/warehousing-across-africa/>

⁹³ Knight Frank. (2021). "African Logistics & Industrial Review." <https://content.knightfrank.com/research/1114/documents/en/africa-logistics-industrial-review-h2-2021-8474.pdf>

BOX 8

Wynca Chemical Group: strengthens pesticide supply chain in Ghana

Zhejiang Wynca Chemical Group, headquartered in Zhejiang Province, is one of the top 500 manufacturing enterprises in China. Since 2005, the group has been investing in pesticide industry of Africa, with a total of \$21.5 million. The annual sales of pesticide products are nearly \$100 million and glyphosate products accounted for more than 35% of Ghana's market, making the group China's largest pesticide supplier in West Africa.

Wynca invited partners to invest in building materials, packaging and equipment parts in Ghana to address the need for the supply chain such as raw materials and packaging

suppliers. Wynca also introduced more than 40 enterprises into the Ghana Agricultural Operation Complex through the cross-border e-commerce public overseas warehouse platform.

In 2011, with the increasing demand for pesticides in Africa, the investment of a production base with an annual output of 30,000 tons of glyphosate water agents has greatly reduced the cost of local glyphosate and meets the demand. At the end of 2018, Wynca invested another 35 million yuan (\$5.5 million) in building service outlets/warehousing covering the West Africa region to fulfil the logistic demand.

Source: CABO

So what trends are driving the growth of the warehousing sector?

First, E-commerce sales require greater logistics and robust warehousing in order to serve the supply chain. E-commerce on the continent is a core driver of warehousing demand in Africa with South Africa, Kenya and Nigeria in the lead.⁹⁴ The Ethiopian Airlines Group is also gathering investment in both infrastructure and cargo services to become the logistical hub of the continent's storage capability.⁹⁵

Second, most African governments are also increasing their manufacturing and industrialization as an economic boost to counteract the effects of the pandemic and stimulate growth. This has resulted in the development of Special Economic Zones (SEZs) and industrial parks. In Ethiopia for instance, the Industrial Parks Development Corporation has supported the development of more than 15,000,000 sqm of warehousing within a period of six years.⁹⁶ Furthermore across East Africa, the development of infrastructure along the Northern corridor that links Kenya to Uganda and the Democratic Republic of Congo resulted in more than 150,000 sqm of prime warehousing in Nairobi in under six years.⁹⁷

Within Africa, the primary warehouse markets are in Nairobi and Johannesburg, although there has been increased activity in other cities such as Addis Ababa and Lagos. Kenya in particular has seen rapid growth with, as of 2021, over 170,000 sqm of speculative prime warehousing being developed within five years, with this number expected to rise with several developers planning on delivering over 400,000 sqm of speculative space by the end of 2024. Moreover, as of 2021, South Africa has the largest and most sophisticated warehousing and logistics market on the continent.⁹⁸

⁹⁴ Biz Community. (2020). "African logistics, warehousing sector set to overcome pandemic storm." <https://www.bizcommunity.africa/Article/410/711/205510.html>

⁹⁵ Mengistu, Tizita. (2022). "Ethiopia plans to Build African e-commerce Logistics Hub." *Walta*. <https://waltainfo.com/ethiopia-plans-to-build-african-e-commerce-logistics-hub/>

⁹⁶ Knight Frank. (2021). "African Logistics & Industrial Review."

⁹⁷ Ibid.

⁹⁸ Ibid.

Companies are increasingly investing in the development of warehouses, with Kuwaiti based company Agility, for instance, developing over 1,000,000 sqm of warehousing across Accra, Maputo, Lagos and Abidjan.⁹⁹ Africa Logistic Properties (ALP) launched a \$6 million warehouse in Kenya for small and medium sized enterprises in 2020 and as of June 2021, has raised \$150 million for the construction of modern grade A warehouses in the region.¹⁰⁰ Amazon has also recently inaugurated their largest logistics centre on the continent in Egypt.¹⁰¹ Our case study shows that more and more Chinese companies are establishing their own warehouses in Africa.

CHALLENGES

Unbalanced port development, high operating costs, and shipment delays are widespread

One of the challenges regarding African ports' size is that the existing port infrastructure is insufficient to meet the growing demand. As a result, several major ports, including Lagos, Mombasa, Dar es Salaam, and Cape Town, are close to reaching their capacity limit, leading to costly congestion issues that impact the supply chain.¹⁰²

The operation of ports is also more expensive, as management, storage, and local delivery fees in Africa cost up to six times more than Europe's ports. This lack of competitiveness is an additional obstacle to the continent's integration into the global supply chain.

African port development continues to be very uneven. Egypt, Morocco, and South Africa are the only African countries equipped to handle more than 4 million Twenty-foot Equivalent Units (TEU) in 2018, owing to their port sizes. These three countries rank in the top 50 regarding seaport services' efficiency, accounting for 51% of volume transported in Africa.¹⁰³

An additional challenge for African ports is that cargo sizes are small compared to those globally, increasing the unit cost of a shipment. Conversely, moving a single container is 1.5 to 3.5 times more costly from Africa than for high-volume trade routes over a comparable distance, say Asia.

The long customs clearance times cause disruptions to the supply chain and adversely affect the production of goods and services.

Many African countries import a significant proportion of their inputs – roughly 60% for most countries. But in the customs clearance process, they suffer from red tape and a long waiting time, in some cases up to six times longer than in Germany or Ireland, where the average border delay is seven days or less. These delays cause

⁹⁹ Ibid.

¹⁰⁰ Logistic Update Africa. (2020). "African Logistics Properties launches \$6mn warehouse facility in Kenya for SMEs." <https://www.logupdateafrica.com/africa-logistics-properties-launches-6-mn-warehouse-facility-in-kenya-for-smes>

¹⁰¹ CEO Business Africa. (2020). "Amazon to expand e-commerce operations in Egypt – country affiliate says." <https://ceobusinessafrica.com/amazon-to-expand-e-commerce-operations-in-egypt-country-affiliate-says/>

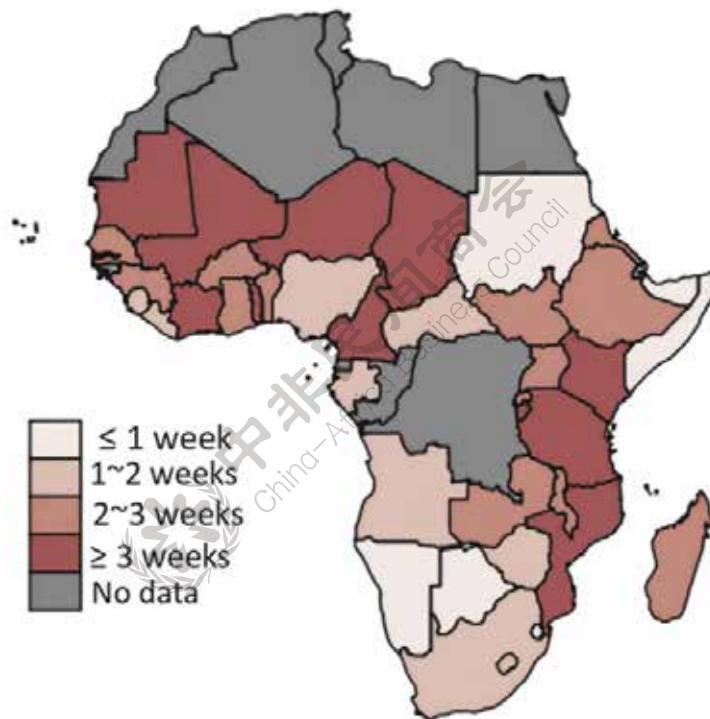
¹⁰² Africa CEO Forum (2020). "Africa's Ports: Fast-Tracking Transformation." https://okanpartners.com/wp-content/uploads/2020/10/Study-Okan-AFC_Ports-in-Africa.pdf

¹⁰³ Ibid.

disruptions to the supply chain and adversely affect the production of goods and services.¹⁰⁴

In Africa, although Botswana, Djibouti, Eswatini, Lesotho, Namibia, Somalia, and Sudan, show an average border delay of one week or less,¹⁰⁵ there is a much longer waiting time in the other countries, often more than a month; for example, in Burundi, custom clearance takes 32.4 days on average and a maximum of 90 days (see Figure 16). Ghana and Kenya already have projects underway to establish pre-arrival clearance processes. There are pipeline projects in Nigeria, Malawi, and Zambia.

FIGURE 16
The Varying Customs Clearance Times Across Africa



Source: STEG¹⁰⁶

Inadequate electricity supply across the continent creates a mismatch between supply and demand and adds to the overall cost of production.

Africa faces an electricity gap in two senses, a mismatch between supply and demand in grid-connected regions, and a lack of access in off-grid areas.¹⁰⁷ For the first time since 2013, the number of people without access increased from 74% to 77% in 2020.¹⁰⁸ Africa's increase in the number of people without access contrasts

¹⁰⁴ The World Bank, "Enterprise Surveys" <https://www.enterprisesurveys.org/en/enterprisesurveys>

¹⁰⁵ Ibid.

¹⁰⁶ Marius, Idossou. (2022). "Times Delays at the Border: Macroeconomics Consequences for Sub-Saharan African Countries." STEG. <https://steg.cepr.org/sites/default/files/2022-01/Full%203%20Paper%20Adom.pdf>

¹⁰⁷ Avila, Nkiruka et al. (2017). "The energy challenge in sub-Saharan Africa: A guide for advocates and policy makers". *Oxfam Research Backgrounder*. <https://s3.amazonaws.com/oxfam-us/www/static/media/files/oxfam-RAEL-energySSA-pt1.pdf>

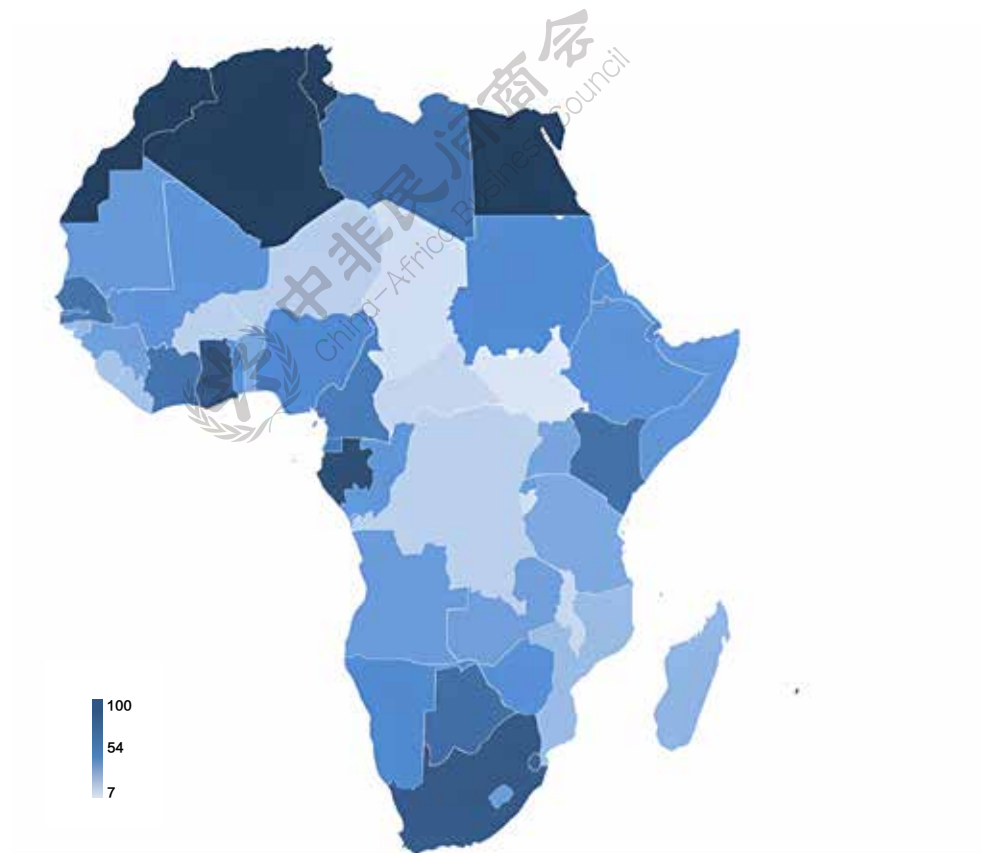
¹⁰⁸ IEA. (2022). "SDG7: Data and Projections. Access to electricity." <https://www.iea.org/reports/sdg7-data-and-projections>

with Asia, where the rollout of grid connections and distributed electricity access solutions was supported by more concerted policies and easier access to financing.¹⁰⁹

In many African countries, electricity is in short supply, and power cuts are common during peak periods. Even more advanced economies such as South Africa are experiencing significant challenges. In some countries (e.g., Guinea), the generator remains a vital energy source, and energy cost can be an essential consideration. Map 17 shows the uneven distribution of electricity supply across the continent.

Uninterrupted and ample electricity supply is an essential feature that boosts manufacturing output. A case in point is Nigeria, where an unstable power supply takes up to 50% of production costs, in contrast to other countries where this takes up only 10% of production costs. This further impacts the competitiveness of products because they will be competing with other countries with more stable supplies of electricity.

FIGURE 17
Access to Electricity (% of total population) in Africa



Source: The World Bank's the World Development Indicators¹¹⁰

¹⁰⁹ IEA. (2022). "SDG7: Data and Projections." <https://www.iea.org/reports/sdg7-data-and-projections>

¹¹⁰ The World Bank Group. (2020). "Access to electricity, %of total population." The world development indicators.

BOX 9

TBEA: assist African countries with power construction

TBEA is a green and clean energy solution provider for the global energy industry committed to “green and low-carbon development” It ranks 228th among the world’s top 500 machinery companies and 336th among the top 500 Chinese enterprises. At present, the company’s business has spread to more than 70 countries and regions around the world.

Focusing on the provision of electricity in African countries, TBEA has carried out power transmission and transformation projects in Angola, Tanzania, Kenya, Togo, Gambia, Chad,

Cameroon, the Democratic Republic of the Congo (DRC), Zambia, Burundi and other countries. In 2018, TBEA undertook the successful construction of the first substation of the power supply project in Angola’s Zaire Province, providing electricity to major local hospitals, schools and factories. In 2018, TBEA undertook the construction of a 220 kv gas-insulated substation in Kenya to help upgrade the power grid in the urban area of Nairobi. In 2020, TBEA and Gambia signed a contract for the Brikama-Jaban power transmission and transformation project, which will improve the power supply coverage in the Gambian capital region.

Poorly developed road and rail networks create trade barriers and lead to low productivity levels in regions

Studies have shown that poor road, rail, and port facilities add 30% to 40% to the costs of goods traded among African countries, thus adversely affecting the private sector development and the flow of foreign direct investment (FDI).¹¹¹ Furthermore, a recent World Bank study found that the poor state of infrastructure, such as rail and roads in many parts of Africa reduced national economic growth by 2% every year and cut supply chain productivity by 40%, making Africa, despite its enormous mineral and other natural resources, the region with the lowest productivity levels in the world.¹¹²

According to the African Development Bank,¹¹³ roads are the predominant mode of transport in Africa – carrying at least 80% of goods and 90% of passengers. No major trunk roads link West Africa to central or southern Africa, and railways lines are concentrated in the southern Africa region. It is easier and cheaper to transport goods from Lagos in Nigeria¹¹⁴ to Mombasa in Kenya¹¹⁵ by ship than by road – meaning that West Africa is developing economically in isolation from southern and central Africa.

¹¹¹ Mayaki, Ibrahim. “Why infrastructure development in Africa matters.” *The United Nations African Renewal*. <https://www.un.org/africarenewal/web-features/why-infrastructure-development-africa-matters>

¹¹² World Bank. (2017) “Why We Need to Close the Infrastructure Gap in Sub-Saharan Africa”. <https://www.worldbank.org/en/region/afr/publication/why-we-need-to-close-the-infrastructure-gap-in-sub-saharan-africa>

¹¹³ African Development Bank. “Tracking Africa’s Progress. Infrastructure Development.”

¹¹⁴ Investment Monitor. (2021). “Investing in Nigeria: what you need to know.” <https://www.investmentmonitor.ai/nigeria/investing-in-nigeria-what-you-need-to-know>

¹¹⁵ Investment Monitor. (2021). “The state of play: FDI in Kenya.” <https://www.investmentmonitor.ai/kenya/the-state-of-play-fdi-in-kenya>

FIGURE 18
Africa's Trans-continent Road Networks



Source : OECD¹¹⁶

2.1.3 Information and digital applications

CONTEXT

Digitalization and ecommerce plays a key role in the ability to track and trace consignments. This has been anchored by the increased technological improvements and access within the continent with several communities which include businesses having access to broadband.¹¹⁷ Africa is one of the fastest accelerating digital continents with its mobile broadband penetration increasing 20-fold within a decade¹¹⁸. Moreover, several rollouts of network infrastructure for 3G and LTE across the continent by both private sector companies such as Neotel, Airtel and Movitel have benefited companies by enabling e-commerce.¹¹⁹

¹¹⁶ OECD. (2019). "Accessibility and Infrastructure in Border Cities." West African Papers, No. 23. OECD Publishing. <http://www.west-africa-brief.org/content/en/african-plans-trans-continental-road-network>

¹¹⁷ Nyirenda-Jere, Towela and Tesfaye Biru. (2015). "Internet development and Internet governance in Africa." <https://www.internetsociety.org/wp-content/uploads/2017/08/InternetInAfrica-2015070820Final.pdf>

¹¹⁸ UNCTAD. (2021) "Digital Economy Report." https://unctad.org/system/files/official-document/der2021_en.pdf

¹¹⁹ Deloitte. (2014). "The future of Telecoms in Africa. The blueprint for the brave." https://www2.deloitte.com/content/dam/Deloitte/fpc/Documents/secteurs/technologies-medias-et-telecommunications/deloitte_the-future-of-telecoms-in-africa_2014.pdf

The development of the e-commerce sector also means a more connected intraregional economy and provides a new pathway, especially for local SMEs, to export to the foreign market. According to Statista, the number of online shoppers in Africa increased from 138.9 million in 2017 to 281 million in 2020.¹²⁰ The leading e-commerce market in Africa is in Nigeria, with South Africa following at a total revenue of \$3 billion in 2019. However, the e-commerce landscape across Africa is unevenly distributed, with Kenya, South Africa, and Nigeria accounting for over half of e-commerce consumers in 2017.¹²¹

So, what are the major trends driving information development on the continent?

TRENDS

E-Commerce

In 2022 the African continent had an estimated 334 million online shoppers,¹²² compared to China's estimated 842 million digital consumers in 2021. Although the number of online shoppers across the African continent has grown faster than the global average at 18 percent yearly since 2014, it is from a low starting point. Africa's consumer e-commerce market was valued at approximately \$20 billion in 2020, a 42% increase since 2019, and is expected to reach \$84 billion in 2030 if growth continues at the same rate.¹²³

Estimates suggest around 264 e-commerce start-ups are operational across the continent, active in at least 23 countries.¹²⁴ Over the past 5 years, there have been emerging African e-commerce marketplaces and retailers such as Jumia, a Nigeria-based e-commerce market place. But there are also emerging foreign invested e-commerce platforms dedicated to the African market, for instance KiliMall, a Chinese run Kenya-based e-commerce platform and the first Chinese e-commerce company to enter Africa.¹²⁵

With the expansion of e-commerce comes a growing demand for distribution and warehouse management services. According to DHL, a comprehensive logistics strategy that considers all operational efficiency and technology innovation can support the growth of retail e-commerce. An important success factor is to consider the logistics strategy in the early stages of e-commerce implementation.¹²⁶ In its call for robust supply chain solutions to complement e-commerce DHL acknowledges that, 'Optimized operations, with cost-effective fulfilment centres and transport

¹²⁰ Statista. (2021). "Number of online shoppers in Africa from 2017 to 2025." <https://www.statista.com/statistics/1190579/number-of-online-shoppers-in-africa/>

¹²¹ UNCTAD. (2021) "Digital Economy Report."

¹²² Statista. (2022). "Number of online shoppers in Africa from 2017 to 2025." <https://www.statista.com/statistics/1190579/number-of-online-shoppers-in-africa/>

¹²³ Lynch, Leah and Chung Tsz Chung. (2020). "E-commerce and Mobile Money for Poverty Reduction in China." *Centre for Global Development*.

¹²⁴ Lynch, Leah and Chung Tsz Chung. (2020). "E-commerce and Mobile Money for Poverty Reduction in China."

¹²⁵ Zhang, Jane. (2019). "How an ex-Huawei employer fed up with shopping in Africa build continent's biggest e-commerce platform KiliMall." *South China Morning Post*. <https://www.scmp.com/tech/start-ups/article/3022079/how-chinese-e-commerce-start-kiliMall-wants-become-digital-enabler>

¹²⁶ DHL Supply Chain. "E-Commerce is Growing." https://www.dhl.com/content/dam/dhl/global/dhl-supply-chain/documents/pdf/SC_MLEMEA%20-%20EFN%20Trends%20Report_EN.pdf

solutions, will be as crucial as technology implementations that provide efficiency and end-to-end visibility to the e-commerce supply chain.¹²⁷

It has also been noted that the expansion of the e-commerce market, especially cross-border e-commerce, can transform some areas into regional distribution hubs. Among Africa's leading distribution hubs is Mauritius, ranked highly by the DHL's Ecommerce Index.¹²⁸

CHALLENGES

Technology shortage, brain drain, and lack of adequate training in the ICT sector leads to a gap in the supply chain management process

Africa sees a considerable brain drain among those with higher education due to the economic fragility across most of the continent. Qualified professionals leave their home country to pursue better opportunities in other countries, typically in the United States or Europe. Those who receive a good education in Africa are often incentivized to leave for higher-paying jobs, a better quality of life, or more opportunities in other countries, thus leaving their home country worse off. The loss of potential workers leaves Africa increasingly reliant on bringing in workers from outside countries, which hinders building up local skills in the community.¹²⁹

Several researchers have highlighted the lack of adequate technology for Africa's logistics and supply chain management processes. A study on this demonstrated that information technology shortage hindered Ghanaian pharmaceutical supply chains from manufacturing and led to delays and disruptions in their production. The report emphasized¹³⁰ that the absence of EDI logistics technology in Moroccan food retailers can lead to a shortage in food production. A survey¹³¹ on the supply chain challenges faced by vehicle manufacturers in South Africa identified technological shortage as an obstacle to these firms.

Lack of internet access and uneven internet connectivity across the continent impacts the supply chain and adversely affects economic development.

Internet access can propel economic development through its impacts on the supply chain of an economy. For example, access to internet-based technologies help workers carry out tasks more rapidly and to higher quality standards.

¹²⁷ DHL Supply Chain. "E-Commerce is Growing."

¹²⁸ Altman, Steven A. and Phillip Bastian. (2020). "DHL Global Connectedness Index 2020." <https://www.dhl.com/content/dam/dhl/global/dhl-spotlight/documents/pdf/spotlight-g04-gci-2020-highlights.pdf>

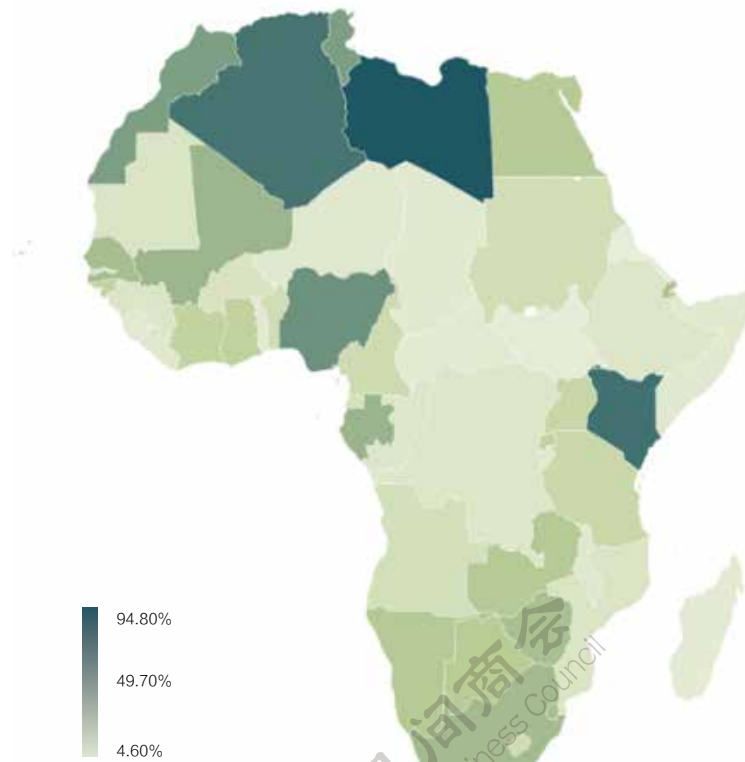
¹²⁹ Carroll, Anthony and Eric Obscherning. (2019). "Africa trade and technology." *Hoover Institution*. <https://www.tralac.org/news/article/13831-africa-trade-and-technology.html>

¹³⁰ Abbad, Hicham and Marie-Pascale Senkel. (2012). "Understanding the Non-adoption of EDI in the Modern Moroccan Food Retailing Industry." *Supply Chain Forum* 13(3). https://www.researchgate.net/publication/263341519_Understanding_the_Non-adoption_of_EDI_in_the_Modern_Moroccan_Food_Retailing_Industry

¹³¹ Ambe, Intaher Marcus and Johanna A. Badenhorst-Weiss. (2013). "Challenges of local manufactured vehicle supply chains in South Africa." *Journal of Transport and Supply Chain Management*. https://www.researchgate.net/publication/271309897_Challenges_of_locally_manufactured_vehicle_supply_chains_in_South_Africa

FIGURE 19

Current Status of Internet Penetration in Africa



Source: Internet World Stats.¹³²

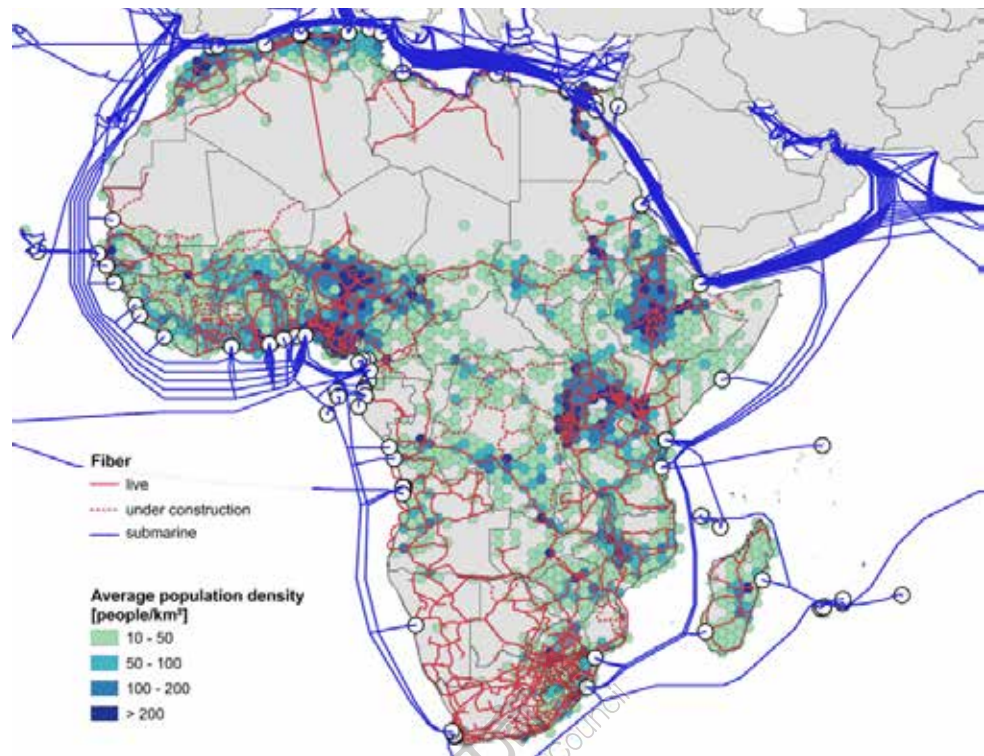
On the demand side, an internet connection may impact sellers' and buyers' ability to access markets and the availability and quality of information on products and services traded (see Figure 20). For example, e-commerce may allow firms to make their products accessible to a much larger pool of consumers than what would have been possible without the internet, especially in rural and remote regions.¹³³

¹³² Internet World Stat. (2022). "Internet Penetration Africa." <https://www.internetworldstats.com/stats1.htm>

¹³³ Hjort, Jonas and Camilla Sacchetto. (2022). "Can Internet access lead to improved economic outcomes?" *World Bank Blogs*. <https://blogs.worldbank.org/digital-development/can-internet-access-lead-improved-economic-outcomes>

FIGURE 20

The Current State of Digital Connectivity in Africa



Source: The World Bank¹³⁴

Political risk and instability create an unstable economic environment for supply and regional trade

As stated in Chapter One, political risks and instability within nations pose the greatest difficulty to supply chains and regional trade. A study by Willis Towers Watson on the 2016 Transport Risk Index compiled data and insights from 350 interviews. It noted that the main concern for logistics across the continent concerned geopolitical instability and regulatory uncertainty.¹³⁵ Eighteen African countries are due to hold elections of one sort or another in 2022, including Angola, Kenya, Libya and Senegal. States such as Chad, Guinea, Mali and Sudan are still dealing with the aftermath of past coups.¹³⁶ These messy takeovers have fuelled instability in the Maghreb, East Africa, and the Horn of Africa.

Similar findings from the 2021 Emerging Markets Logistics Index reveal that many of Africa's top supply chain risks are related to political and economic concerns.¹³⁷ Somalia and South Sudan, for instance, have experienced protracted civil wars, while both Sudan and Ethiopia are undergoing political reform that has destabilised the countries in recent times. The securitisation of borders, especially in the Horn of Africa, has created obstacles for free movement of goods and people. The

¹³⁴ Fukui, Roku, Christopher James Arderne and Tim Kelly. (2019). "Africa's connectivity gap: Can a map tell the story?" World Bank Blogs. <https://blogs.worldbank.org/digital-development/africas-connectivity-gap-can-map-tell-story>

¹³⁵ Willis Towers Watson. (2016). "Navigating risk in the transport sector." <https://raconteur.uberflip.com/i/739677-willis-towers-watson-transport-risk-index/0?>

¹³⁶ Siegle, Joseph and Candace Cook. (2022). "Africa's Complex 2022 Elections: Restoring Democratic Processes." African Centre for Strategic Studies. <https://africacentre.org/spotlight/elections-2022/>

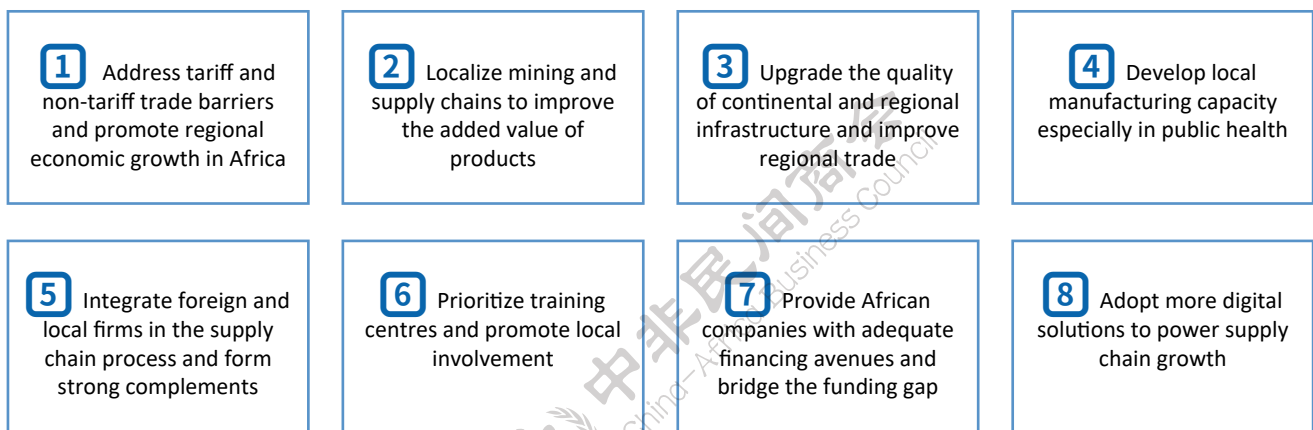
¹³⁷ Agility. (2022). "Agility Emerging Markets Logistics Index 2022." <https://www.agility.com/en/emerging-markets-logistics-index/>

border between Ethiopia and Eritrea, which was initially opened after their July 2018 rapprochement, has since been reclosed and there is also a military presence on both sides of the border.¹³⁸

2.2 Supply chain needs and opportunities for development partners

The results from the interviews and surveys with African embassies in Beijing indicated 8 intersecting areas where urgent action is needed to tackle the challenges with Africa’s supply chains (see Figure 21).

FIGURE 21
8 Intersecting Areas of Action for Supply Chain Development



2.2.1 Challenges around tariff barriers and non-tariff trade barriers need to be addressed to boost the intra-regional economy

The establishment of the African Continental Free Trade Area in 2021, which is designed to boost the intra-regional economy and Africa’s participation in global supply chains,¹³⁹ represents a good start for the intra-regional economy for Africa. A previous discussion looking at Africa’s manufacturing sector pointed out that, “The African Continental Free Trade Area in 2021 provides the opportunity for the greater integration and free trade in a potential healthcare market of 1.3 billion people. The opportunity requires ongoing collaboration between the member states, the reduction and removal of tariffs and non-tariffs barriers to trade, and enabling mechanism through strengthening of the regulatory system”.

Manufacturing exports anticipate considerable benefits (a 110% increase for intra-African trade and 46% for non- African trade) from the AfCFTA. The service sector

¹³⁸ Woldemichael, Shewit and Senai W. Andemariam. (2019). “The process of implementing Africa’s free trade deal could create conditions for countries to coexist peacefully.” Institute for Security Studies. <https://issafrica.org/iss-today/can-the-peace-trade-equation-stabilise-the-horn>

¹³⁹ The World Bank. (2020). “The African Continental Free Trade Area.” <https://www.worldbank.org/en/topic/trade/publication/the-african-continental-free-trade-area#data>

envisages a modest rise of 14% from intra-African trade.¹⁴⁰ However, before this can be fully accomplished, African partners emphasise that there is a need to remove tariff barriers and non-tariff barriers such as red tape and customs clearance procedures across the AfCFTA member states. For example, a complex regulatory environment, lengthy customs procedures, discrimination of rules of origin, separate border posts, and rent-seeking activities lead to corruption at the borders and inadequate border storage facilities, directly leading to delays in the supply chain.

The intra-African market lacks dynamism in productive capacities.¹⁴¹ Therefore, trade in manufactured intermediate products could be the springboard to broader and more profound economic diversification. It is estimated that Africa's changing demographic profile will demand a diversification in production structures, emphasizing higher intensity employment activities. In essence, 10 million new jobs in the formal sector are required each year to absorb a burgeoning young population who will enter the job market. This highlights the importance of investment in human capital, especially in education, skills training, and health. Resources for diversification could also be freed up through innovative protection measures including the strategic use of tariffs, subsidies, local content requirements, technology transfer provisions, and strategic foreign direct investment.¹⁴²

2.2.2 Localize the supply chains in resource-abundant regions and increase the conversion of raw materials to higher-value products

According to a 2022 African Finance Corporation (AFC) White paper, increasing mining output to produce the metals needed for the global energy transition is critical. The report also stated that African development finance institutions could create regional hubs that move processes closer to the producing regions, thereby generating employment opportunities while minimizing the costs for individual countries of setting up production operations and increasing trade in that region.¹⁴³ "There is no eco-system for a sustainable supply chain of industrial raw materials or spare parts in my country. To illustrate, when leather is ready and moulded into a bag, the factory is forced to wait for Chinese imported metal-parts to finish production, this shows that despite a growth in the leather processing micro factories, we rely too much on imported materials and industrial consumables", shared one of the interviewees.

2.2.3 Improve the quality of continental and regional infrastructure to promote economic development

The need for quality infrastructure in Africa cannot be overemphasized since it affects all levels of the supply chain system. The African Union's Agenda 2063 emphasizes infrastructure development, especially green infrastructure, as one of the best ways of achieving Africa's growth potential. African partners emphasised the importance of regional infrastructure which could increase intra-Africa trade from the current

¹⁴⁰ The World Bank. (2020). "The African Continental Free Trade Area: Economic and Distributional Effects." <https://openknowledge.worldbank.org/bitstream/handle/10986/34139/9781464815591.pdf>

¹⁴¹ UNCTD. (2013). "Intra-African Trade: Unlocking private sector dynamism." https://unctad.org/system/files/official-document/tdb60d4_en.pdf

¹⁴² Qobo, Mzukisi and Garth le Pere. (2017). "The Role of China in Africa's industrialization: The Challenge of Building Global Value Chains." *Journal of Contemporary China*. Volume 27, 2019 – Issue 110. <https://doi.org/10.1080/10670564.2018.1389016>

¹⁴³ Africa Financial Corporation (2022), "Roadmap to Africa's COP: A Pragmatic Path to Net Zero." <https://www.africafc.org/our-impact/our-publications>

15% levels of intra-continental exports and imports, to close to 50% by 2045, and reduce the cost of international trade significantly, making it easier and cheaper to manufacture for export globally, including to and from China. “The fact is, Africa must become more productive, more self-reliant as well as integrated with the rest of the world. And this will not happen without infrastructure, and in particular, regional infrastructure”, echoed an African stakeholder. Box 10 highlights the importance of infrastructure for regional development.

BOX 10

The Ruzizi III Project: a model for a regionally integrated infrastructure project in Africa

The Ruzizi III project—a \$450 million, 145-megawatt hydro plant located on the Ruzizi River flowing between Lake Kivu and Lake Tanganyika—offers more than much-needed electricity to Rwanda, Burundi and the Democratic Republic of the Congo. It also offers a blueprint for successful infrastructure development through regional integration.

The first regional PPP power project in Africa, Ruzizi III is expected to leverage more than 50% commercial financing (debt and equity), with majority private ownership. With a high level of interest

from major international investors and financing institutions, the project can boast a finance plan that is practically complete and of a true regional partnership at its foundation.

Overseen by a regional entity formed by the three beneficiary countries to develop projects of common interest, the framework for Ruzizi III has been successfully developed, despite its complex public-private structure, over a period of 18 months through a number of key factors, perhaps none more important than effective project preparation and management. Ruzizi III’s framework has been successful.

The project, part of the PIDA PAP, offers many valuable lessons for how sound structuring can attract commercial financing and lead to timely implementation, including: installing a dedicated and experienced predevelopment team, good communication with countries to maintain support, targeted capacity building, rapid execution of preparatory studies and the availability of substantial preparation funds.

Source: African Development Bank

The AfCFTA would enable the servicing of many countries and markets from regional hubs; this is poised to make cross-border transport easier. For example, Ethiopian Airlines recently engaged in the establishment of an East African smart logistics and fulfilment hub at Addis Ababa Bole International Airport.

The AfCFTA will also increase intra-African trade, which is currently less than 16-18% of total trade, thus having huge implications for logistics and supply chain activities across countries in Africa. Box 11 shows the importance of infrastructure for growing regional trade, highlighting the sugar industry in Ethiopia as an example.

Furthermore, the construction of the Africa Integrated High Speed Network, which is planned to link the 54 countries in Africa and consist of 12,000 kilometers of new track, would facilitate intra-Africa movement and logistics operations. The construction of this railway is a testament to the opportunities opening up on the continent. “We cannot overstate the benefits of the AfCFTA, such as the growth of intra-Africa trade, however, there is a need for adequate infrastructure in the continent to see the AfCFTA bear fruit”, remarked an interviewee.

It has been estimated by the International Monetary Fund (IMF) that if the quality of Africa’s infrastructure can reach the global average, its trade would increase by 7%.¹⁴⁴

¹⁴⁴ IMF. (2019). “Regional Economic Outlook. Sub-Saharan Africa: Recovery Amid Elevated Uncertainty.”

Thus, there is a need to focus on the existing channels, rather than building bigger ones that will require significant financial commitments. According to the 2022 report released by AFC, Africa's 2020-2028 infrastructure pipeline is worth \$2.3 trillion, with the majority in the energy and transport sector. However, most projects are at an early stage, and an estimated \$1.5 trillion of this is unfunded.¹⁴⁵

BOX 11

China Gansu International: Ethiopia sugar industry infrastructure

From 2013 to 2018, China Gansu International Economic and Technological Cooperation Co., Ltd. (China Gansu International) has undertaken three sugar refinery projects in Ethiopia: The Kesseme 6000TCD, OMO-Kuraz 2 12000TCD and OMO-Kuraz 3 12000TCD projects, which have created jobs for 15,000 people, including 1,000 skilled workers, which greatly promoted regional development of the OMO River Valley.

The three projects, with a total annual output of 630,000 tons of white sugar, will save the Ethiopian government \$120 million per year in imported sugar and earn foreign exchange of \$132 million. At the same time, the implementation of local procurement in the three projects has led to the growth of local upstream and downstream suppliers, increasing the number of local sugar mills to 8, which largely made up for the shortage of sugar supply in Ethiopia. In addition, sugarcane bagasse (a by-product of sugar mills) can be directly put into power plants

to generate electricity, and related businesses such as alcohol production can be derived to achieve recycling without negative emissions to the environment.

Such advantages include using these arrangements to upgrade capabilities that would allow African countries to make an incremental shift between product spaces, a move that offers a more realistic bridgehead to structural transformation. As Hausmann and Klinger (2007) point out, more capabilities (including skills, institutions, and infrastructure) enable countries to make more products, and also lend countries latitude for diversification. Addressing these requires an incremental approach to development and should consider the critical role of institutions. This view should underpin both industrial policies and terms of engagement with external actors such as China.

Source: CABC

2.2.4 Promote the development of local manufacturing capacity

Local manufacturing is crucial for the development of Africa's supply chain and central to many of the African Union's Agenda 2063 policy plans. Interviewees highlighted it was 'necessary to localize supply chains and fund of local technological capabilities. One interviewee noted the importance of bringing in local entrepreneurs who can support the transition to local manufacturing- "local entrepreneurs can team up and set up factories to supply into projects, what need to be done is to create transparent supply chain, sustainable funding and encouraging more local firms into participating in the whole supply chain for the projects." Box 12 provides an example of a company that has successfully created strong distribution channels for

¹⁴⁵ Africa Financial Corporation (2022), "Roadmap to Africa's COP: A Pragmatic Path to Net Zero."

machinery but is yet to localise their operations and manufacture locally which will have the biggest impact of supply chain growth going forwards.

BOX 12

SANY Heavy Industry: 15,000 items of equipment to promote an industrialized Africa

SANY Heavy Industry Co., Ltd. is a long-term Chinese representative in the machinery market of Africa. Its amount of equipment in Africa has long ranked first in the Chinese construction machinery industry, witnessing the development and revitalization of the continent.

SANY Heavy Industry was founded in 1994, with the main business in equipment manufacturing including machinery used for excavation, lifting, road construction and piling. In 2020, SANY was shortlisted for the first time in the Forbes Global 500 – the first construction machinery company in China and the second in the world on the list. In 2021, SANY's global sales of excavation machinery exceeded 100,000, ranking first in the world for two consecutive years. SANY concrete machinery achieved sales revenue of 26.7 billion yuan (\$4.1 million). In

2021, SANY doubled its growth in more than 50 countries, including 118% growth in the African market.

The internationalization of SANY started from Africa, exporting four motor graders to Morocco in 2002. From this starting point, nearly 15,000 sets of SANY equipment have been used in infrastructure projects in Africa to industrialize the continent. After more than 20 years, SANY has established a well-functioning distribution and service system in Africa, with permanent branches in 17 countries, 20 high-quality agents, and more than 90 service outlets. The equipment covers more than 50 countries and regions in Africa and plays a significant role in construction projects.

Source: CABC

Due to COVID-19 local manufacturing in the health system in particular is of urgent importance. A potent combination of high import dependence and low purchasing power has led to a lack of resources and relatively low local manufacturing capabilities.¹⁴⁶In a previous discussion on Africa's manufacturing, a health expert emphasised that, "It is important to focus on building local manufacturing capacity to produce medicines in Africa, especially using our cooperation with China". During a separate closed webinar of African manufacturers and other stakeholders in October 2020, it was stated that, "As the pandemic hit, African manufacturers experienced the collapse of input supply chains, due to rapid increases in imported input prices alongside escalating freight costs".¹⁴⁷This brought scarcity to externally produced drugs and other commodities. According to the report, this led local health care institutions and governments to turn to local industries for replacement supplies. The local manufacturers in some countries like Uganda¹⁴⁸, Chad, Nigeria, Burkina Faso¹⁴⁹, South Africa¹⁵⁰ were able to scale-up hand sanitizer production, using local ethanol and adapted plastic bottle delivery systems. They made local swabs from scratch alongside developed PCR test kits for local laboratories; made locally produced masks and protective equipment; scaled up dexamethasone production, and produced local ventilators and low-tech oxygen therapy delivery methods.¹⁵¹

¹⁴⁶ Banda, Geoffrey et al. (2021). "Local manufacturing, local supply chains and health security in Africa: lessons from COVID-19." *BMJ Global Health*. <https://gh.bmj.com/content/bmjgh/6/6/e006362.full.pdf>

¹⁴⁷ Banda, Geoffrey et al. (2021). "Local manufacturing for health in Africa in the time of Covid-10: experience and lessons for policy." Growth Research Programme. <https://web.archive.nationalarchives.gov.uk/ukgwa/20211030172136/https://degrp.odi.org/publication/webinar-report-local-manufacturing-for-health-africa-covid19/>

¹⁴⁸ CDC. (2021). "Uganda healthcare facilities make alcohol-based hand rub during COVID-19." <https://www.cdc.gov/globalhealth/stories/2021/Ugandan-healthcare-facilities-alcohol-based-hand-rub.html>

¹⁴⁹ African Development Bank. (2020). "With African Development Bank support, two West African Science and Tech institutions are driving local solutions to the COVID-19 pandemic." <https://www.afdb.org/en/news-and-events/african-development-bank-support-two-west-african-science-and-tech-institutions-are-driving-local-solutions-covid-19-pandemic-37728>

¹⁵⁰ South African Government. (2020). "Trade, Industry and Competition exports hand sanitizers to other African countries." <https://www.gov.za/speeches/export-hand-sanitiser-other-african-countries-reaches-more-r16-billion-during-last-6-months>

¹⁵¹ Banda, Geoffrey et al. (2021). "Local manufacturing for health in Africa in the time of Covid-10: experience and lessons for policy." Growth Research Programme.

2.2.5 Foreign firms need to complement and not compete with local companies

In order to grow and diversify, an economy needs both domestic investment and foreign direct investment (FDI). The two forms of private investments can be strong complements. Domestic investment creates jobs in a host economy – usually many more than FDI. However: what FDI does well is increase or maximize some of the benefits already generated by domestic investment in a developing economy. When looking at this from the perspective of job creation, foreign firms might not create as many jobs as the domestic private sector, but they often create better-paid jobs that require higher skills. This helps elevate the skills level in host economies. The same can be said for other FDI benefits. For instance, more advanced technologies and managerial or marketing practices can be introduced in a developing economy through foreign investment, at a much faster rate than would be the case if only domestic investment were allowed. Moreover, through partnerships with foreign investors who have existing distribution channels and commercial arrangements around the world, developing countries' firms can benefit from increased market access. Box 13 notes how a Chinese company is trying to build local capacity in order to benefit and grow local firms.

This was highlighted by one interviewee who stated “despite winning tenders on road construction in my country, overseas firms have not done enough on incorporating local firms, most of sub- contracting project goes to other (foreign) construction companies and there is no any initiative to empower local entrepreneurs”.

China offers striking evidence of an FDI-led industrial take-off. The country used inwards FDI, welcoming foreign participation in select sectors, through carefully designed “negative and positive lists”, to help build its manufacturing and export capacities, first in light industries (such as textiles and toys) and later in higher-value-added activities (such as automotive goods and electronics). China also used investments made by emerging Chinese multinationals in a foreign country to access additional and more advanced technologies, not just natural resources, through mergers and acquisitions.

BOX 13

BGI: building local detection capability in Africa

BGI established an Ethiopian reagent factory in September 2020, with a designed annual capacity of 8 million testing kits. This provides a significant amount of COVID-19 testing kits for the Ethiopian government. The factory can also produce tests for HIV/AIDS, malaria, tuberculosis and other diseases, for export to other African countries.

During construction BGI sent 17 experts to ensure smooth progress, launched local recruitment to train nearly 40 local experts and staff, created 500 jobs, and provided training for workers. The project uses local supplies in order to build a more resilient and integrated supply chain. BGI also cooperates with local universities and vocational colleges to share knowledge of

advanced technologies with more local workers to make them qualified for the industry.

In April 2021, BGI cooperated with Ethiopian Airlines to establish the Airport FireEye Laboratory to ensure international and China-Africa navigation. The laboratory design flux is 1,000 samples per day, which can provide detection services for up to 400 passengers in 3 hours. BGI has also established an international transit logistics warehouse in Hong Kong, establishing an efficient overseas logistics supply system. BGI uses local African suppliers to build a more resilient and integrated supply chain.

Source: CABC

2.2.6 Increase training centres and empower more local involvement in supply chain

Firms should have mechanisms in place to develop learning capabilities for the workforce. Through training centres, firms can make their products and services more attractive and relevant to the market, and increase efficiency, productivity and security of supply. Encouraging more local involvement facilitates the creation and utilisation of diverse knowledge and expertise. To quote one of the responses from a survey shared to African stakeholder, “There is a need to involve more local entrepreneurs in the (supply chain) process, because most Chinese projects overseas rely heavily on other Chinese firms as service providers. This is something that needs to be changed, either by training the locals, or contracting local firms to handle such projects... sustainability can only be achieved after empowering local talent”. Another respondent shared that, “In my country, we urgently need more collaboration on training, especially on management and production know-how. China has a lot of small and medium enterprises with some of the best practices, and my country needs to work closely with Chinese firms and learn more about management, cost control and work ethics”.

2.2.7 Provide better financing to African firms to ensure equal access to financing avenues

With a high number of informal businesses that often lack funding due to a lack of collateral and financial records, new financial technologies are increasingly used to finance supply chain operations in Africa. While firms and other small businesses in the informal sector drive the bulk of distribution in Africa, they are unable to obtain bank loans, have no access to affordable capital – sometimes very limited access to any capital at all – and have to rely on internal funds, or cash from friends and family, to launch and run their enterprises, as emphasised by an interviewee, “For some partnership projects in my home country, local financial structures sometimes cause delays and create unnecessary bottlenecks further straining the supply chain. What we need is strategic financing for local firms in order to turn them into trustworthy suppliers, thereby solving the problem of over importing from China and creating sustainable supply chains for their raw materials”.

It is estimated that the unmet financing need for firms amounts to \$331 billion every year in sub-Saharan Africa alone.¹⁵²

“Judging from past experience, it is impossible for any country to rely solely on its own funds, and it is impossible for any country to cooperate with only one or two development partners”, commented a respondent. This was supported by another stakeholder who shared that, “The financing gap cannot be easily filled by the government; it requires support from the private sector and institutional financing.”

¹⁵² African Centre for Economic Transformation. (2022). “The Future of Work in Africa: Eight Opportunities for Development Finance Institutions.” https://acetforafrica.org/media/blogs/the-future-of-work-in-africa-eight-opportunities-for-development-finance-institutions/#_ftn22

2.2.8 Adopt more digital solutions for supply chain growth

COVID-19 has disrupted global activities across all economic sectors and industries. The disruptions are largely due to the lockdown measures adopted and implemented by countries globally as a health strategy to mitigate the impact of the pandemic's spread on the human population. "Online meetings are not as effective as face-to-face meetings. Many projects have been delayed or postponed due to the pandemic", reflected one of the survey respondents. Production halts, restricted movement of people and goods, border closures, logistical constraints, and the slowdown of trade and business activities are fall-outs of the COVID-19 lockdown measures.

To mitigate the shocks caused by future disasters, digital solutions from ecommerce to online banking solutions can be adopted. However, for this to be sustainable more investment is needed in digital infrastructure such as electricity and internet access. Box 14 provides an example of a company providing digital solutions to transport challenges through ride-hailing

BOX 14

Dongfeng: meeting the growing demand for automobiles in Africa

Dongfeng Liuzhou Motors Co., Ltd. (DFLZM), engaged in automobile production and sales, is headquartered in Guangxi Province, China. It began to sell automobiles in Africa in 2019. Since then, DFLZM has strengthened its cooperation with local dealers to increase the brand's market share in Africa. DFLZM exported more than 3,000 vehicles to Africa in 2021.

To improve the local supply chain of African automobiles, DFLZM and Choice International (Nigeria) Co., Ltd. jointly promoted the Abuja taxi project, adopting the O/A credit

insurance method to ensure the supply of goods on a rolling basis. DFLZM also cooperates with Rwanda Racing Company to promote local ride-hailing.

In order to boost the local expansion of automobile brands such as Fengxing and Chenglong under the Dongfeng group, DFLZM is looking for assembly partners in Africa to assemble KD bulk parts in Nigeria and Tunisia. This will increase local manufacturing capacity.

Source: CABC

Chapter 3: How Has China-Africa Cooperation Affected Supply Chain Development in Africa to Date?

Starting from the 1950s, one of the main priorities of China-Africa cooperation has been supply chain development. China has invested in and financed infrastructure, trade, manufacturing, and other industries that are crucial to supply chain management in Africa. In the 1970s, one of the first monuments of China-Africa cooperation was built, the Tanzania-Zambia Railway funded by China. It runs from Tanzania's Dar es Salaam to Zambia's Central Province over a total length of 1,860.5 kilometers, connecting land-locked Zambia to the port. This project helped regional supply chain development. Since then, China and African countries have continued to strengthen their cooperation, particularly in the five key supply chain drivers we elaborated on in Chapter two: Production, Inventory, Location, Transport, and Information. This chapter explores how policy and local project implementation by Chinese provinces has driven supply chain growth on the continent.

Chapter Summary

The Chinese government has an opportunity to support African countries in addressing many of the outstanding supply chain challenges outlined in Chapter two through national policies such as FOCAC and BRI. For African countries, the opportunity to join the global supply chain is through trade, by importing and exporting products internally, and with the rest of the world including China, as well as the flow of capital – for instance, foreign direct investment from China.

China's efforts to help to close the infrastructure gap through concessional loans, as well as investment in manufacturing, e-commerce, and other partnerships with Chinese and (some

limited) African players, have been crucial. Chinese Provinces such as Zhejiang, Guangdong, Hunan, Shandong and Jiangsu are playing a particularly active role at the local level and success can be seen through the numbers of rising exports from Africa to China and rising annual flows of Chinese foreign direct investment, even despite the COVID-19 pandemic.

However, although FDI has been steady, Africa still struggles to finance the much-needed infrastructure that would enable African countries to advance their supply chains and become more connected to global supply chains.

3.1 Analysis of China's and Africa's policy evolution on supply chains

One of the most important mechanisms for China-Africa cooperation is the Forum on China-Africa Cooperation (FOCAC), established in 2000, responding to the call

of both African countries and China. It marked the start of a new era of China-Africa cooperation as it created an important framework and mechanism for strengthening the China-Africa partnership at all levels. Over the years, in the context of FOCAC, China and Africa have achieved practical cooperation in a wide range of areas, and in particular in industrial cooperation and supply chain development.

Convened every three years, FOCAC is hosted respectively in China and in Africa. By the year 2022, five successful ministerial conferences and three summits had been held. Over the past 22 years, FOCAC has supported China and African countries in expanding their engagement in diverse areas, from trade and investment to people-people flows.¹⁵³

By 2021 China's trade with Africa had increased 20-fold and its investment stock in Africa has grown 100-fold compared to 2000.¹⁵⁴ China has been Africa's largest trading partner country since 2009. A large number of infrastructure projects have been completed and have benefited millions of people. More than 3,800 Chinese enterprises have made investments in Africa and dozens of China-Africa economic cooperation zones and industrial parks have been developed across the continent.¹⁵⁵ All of this has contributed to China-Africa cooperation in supply chain development.

BOX 15

China-Egypt TEDA Suez economic and trade cooperation zone: promoting four industrial chains

The establishment of trade and economic zones in Africa is one of the important strategies for channelling Chinese investment to Africa. The China-Egypt TEDA Suez Economic and Trade Cooperation Zone has been a key cooperation project between China and Egypt in the field of strategic alignment, industrial capacity, trade and investment since 2008. As of December 2021, TEDA had attracted a total of 123 enterprises, with an actual investment of nearly \$1.3 billion, cumulative sales of more than \$3 billion, and tax contributions of more than \$190 million. These enterprises have provided jobs for around 4,000 people directly and indirectly helped more than 40,000 people find a job by driving industry.

The park has promoted local industrialization in four sectors – a building materials industry cluster led by Jushi Co., a petroleum equipment industry cluster led by Honghua Drilling Co., a high and low voltage electrical industry cluster led by Xidian Power Co., and a machinery manufacturing industry cluster led by Fengshang Co.

It takes advantage of its geographical link with Tianjin Pilot Free Trade Zone in China to promote cross-zone interaction between the Tianjin Binhai New Area and the Suez Canal Corridor in Egypt.

Source: CAB

The Belt and Road Initiative (BRI), unveiled by China's President Xi Jinping in 2013, is another important platform for the expansion of China-Africa cooperation. BRI is a transcontinental policy and investment strategy whose goal is to address the infrastructure gap and accelerate economic development along the historical Silk Road.¹⁵⁶ Africa is an important partner of China in building the Belt and Road. At the 2018 FOCAC Beijing Summit, China and African countries agreed to strengthen

¹⁵³ Zeng Aiping & Shu Zhan. (2018). "Origin, Achievements, and Prospects of the Forum on China-Africa Cooperation", *China International Studies*.

¹⁵⁴ Interview of Director-General of the Department of African Affairs of the Foreign Ministry Wu Peng. (2021). http://www.focac.org/zfgx/zjzw/202111/t20211104_10442600.htm

¹⁵⁵ Ibid.

¹⁵⁶ Belt and Road Initiative. <https://www.beltroad-initiative.com/belt-and-road/>

cooperation under BRI. By the end of April 2022, 52 African countries and the African Union Commission have signed Belt and Road cooperation agreements with China.¹⁵⁷

Both FOCAC and BRI are closely aligned with Africa's development blueprint and strategies including Agenda 2063 and African Continental Free Trade Area. To achieve the goals of Agenda 2063 and AfCFTA, supply chain development is critical, and FOCAC and BRI have the potential to upgrade the five supply chain drivers mentioned in Chapter one. Deeper BRI and AfCFTA cooperation between China and African countries will play an important role in building a more integrated African continent as well as connecting Africa to global supply chains.

This section first examines the policy directions provided from past FOCAC action plans relevant to supply chains, especially the Ten Major China-Africa Cooperation Plans raised in the Johannesburg Summit in 2015 and Eight Major Initiatives raised in the Beijing Summit in 2018, then turn to the relevant decisions made at the most recent Dakar Conference in 2021

3.1.1 Ten major cooperation plans and eight major initiatives: key achievements

During the Johannesburg Summit in 2015 in South Africa, President Xi Jinping announced the upgrading of the China-Africa relationship from a “New-type Sino-African Strategic Partnership” to a “Comprehensive Strategic Cooperative Partnership”.¹⁵⁸ He also promised to carry out practical cooperation with Africa in ten key areas: (1) industrialization, (2) agricultural modernization, (3) infrastructure, (4) financial services, (5) green development, (6) trade and investment facilitation, (7) poverty reduction and public welfare, (8) public health, (9) people-to-people exchanges, and (10) peace and security.¹⁵⁹ Of the ten areas, the first eight are all highly relevant to supply chain development, especially to Production, Location, Transport, and Information.

In January 2015, just before the Johannesburg Summit, the 24th AU Summit adopted Africa's long-term development blueprint and master plan Agenda 2063 which aspires to build an integrated, prosperous, and peaceful Africa.¹⁶⁰ Among its priorities is to build Africa's manufacturing industry, increase the value-add of African goods, and achieve economic growth and industrialization.¹⁶¹ To help Africa realize these aspirations, industrialization cooperation and supply chain development are placed at the top of the Ten Major Cooperation Plans.¹⁶² These plans are aligned with the implementation of Agenda 2063 and other development strategies, in order to assist African countries to accelerate industrialization and agricultural modernization, improve integration and connectivity for supply chain development, and advance

¹⁵⁷ Belt and Road Portal. (2022). List of Countries that Signed BRI Agreements with China. <https://www.yidaiyilu.gov.cn/xwzx/roll/77298.htm>

¹⁵⁸ Ministry of Commerce People's Republic of China. (2015). “The Interpretations of the Johannesburg Summit of the FOCAC and the Sixth Ministerial Conference on the 10 Major China-Africa Cooperation Plans in Economic and Trade Domains.” <http://english.mofcom.gov.cn/article/policyrelease/Cocoon/201512/20151201219036.shtml>

¹⁵⁹ Ibid.

¹⁶⁰ African Union. “Agenda 2063: The Africa We Want.” <https://au.int/agenda2063/overview>

¹⁶¹ Ibid.

¹⁶² Zhang, Zhongxiang & Tao Tao (2020). “20 Years of the Forum on China-Africa Cooperation: Retrospect and Prospects.” <https://shcas.shnu.edu.cn/2d/56/c18797a732502/page.htm>

their development capabilities and economic independence.¹⁶³The implementation of the Ten Major Cooperation Plans has led to some important successes in all five key supply chain drivers. For example, in three years after its establishment in 2015, the China-Africa Fund for Industrial Capacity Cooperation, with an initial pledge of \$10 billion, approved 17 investment projects with an investment amount of \$1.4 billion.¹⁶⁴ These projects will support the development of Production and Location. In terms of Transport, according to the Ministry of Commerce of China, Chinese companies have helped Africa to build and upgrade about 10,000 kilometers of railway and 100,000 kilometers of road. Box 15 provides an example of the construction of the port in Djibouti by a Chinese company. Such infrastructure projects are supportive of African integration and connectivity, which will further promote supply chain development.

BOX 16

The Multi-functional Port of Doraleh: Building a Shipping Centre in East Africa

Doraleh Multipurpose Port (DMP) is located in Doraleh port area of Djibouti city. It consists of a main quay, a workboat terminal, warehouses, auxiliary production buildings, roads, and storage yards. The main quay includes six multi-functional berths and six large warehouses.

Once in operation, the DMP will greatly improve port efficiency. For instance, for a 50,000-ton grain ship, the new port handles

10,000 tons per day compared to 2,800 tons per day of the old one; for a 50,000-ton chemical fertilizer ship, it operates at a rate of 7,200 tons per day at the new port compared to 2,800 tons per day at the old one. The increased efficiency will reduce costs. The DMP will thus become one of the best-served and most efficient shipping hubs in East Africa to contribute to the logistic development in Djibouti and in the region.

Source: CABC

The Beijing Summit was held in September 2018. It declared that China and Africa would continue to expand their partnership and work towards an “Even Stronger China-Africa Community of Shared Future”.¹⁶⁵On the basis of Ten Major Cooperation Plans, President Xi Jinping announced Eight Major Initiatives for the next three years: (1) industrial promotion, (2) infrastructure connectivity, (3) trade facilitation, (4) green development, (5) capacity building, (6) healthcare, (7) people-to-people exchange, and (8) peace and security.¹⁶⁶ Of the Eight Major Initiatives, the top six are all pertinent to supply chain development.

The Eight Major Initiatives have three main features. Firstly, connection and mutual consultation. These emphasize the connection between BRI and Agenda 2063 and African countries' own development strategies.¹⁶⁷ Secondly, a focus on cultivating Africa's own development capacity by increasing knowledge and technology transfer. Thirdly, China aims to share more development experience in addition to infrastructure construction.¹⁶⁸

¹⁶³ Shen, Xiaolei (2020). “Inception, Development and Achievements of FOCAC.” *Pacific Journal*. Vol.28, No.3, 2020, pp.80-86.

¹⁶⁴ Wang Yulong. (2018). “Managing Director of China-Africa Production Capacity Cooperation Fund: China-Africa production capacity cooperation should give priority to solving the ‘three flows’.” <http://finance.sina.com.cn/roll/2018-12-24/doc-ihmutuee2021442.shtml>

¹⁶⁵ FOCAC. (2018). “Beijing Declaration-Toward an Even Stronger China-Africa Community with a Shared Future.” http://www.focac.org/eng/zywx_1/zywj/201809/t20180912_8079765.htm

¹⁶⁶ Ministry of Commerce of the People's Republic of China. (2018). “Elaboration on the Eight Major Initiatives of the FOCAC Beijing Summit.” <http://english.mofcom.gov.cn/article/policyrelease/Cocoon/201809/20180902788698.shtml>

¹⁶⁷ China-Africa “Ten Major Cooperation Plans” Economic and Trade Measures Fully Implemented. (2018). http://www.gov.cn/xinwen/2018-08/29/content_5317272.htm

¹⁶⁸ Ibid.

Specific activities that expedited supply chain development were implemented after the 2018 conference. The China-Africa Economic and Trade Expo (CAETE) has been held twice in 2019 and 2021, introducing thousands of African products from all over the continent to Chinese buyers. Trade and investment liberalization and facilitation have made steady progress. In three years, China's new direct investment in Africa amounted to more than \$10 billion.¹⁶⁹ China has also worked with Africa on industrial and supply chain collaboration in manufacturing, agriculture, medicine, and health.¹⁷⁰ The development of supply chains in Production, Location, and Information benefits from these collaborations. Box 16 provides an example of a company using an industrial park to support manufacturing supply chain development.

BOX 17

Tiantang Group: supporting the industrial chain of Mbale Industrial Park in Uganda

China-Uganda Mbale Industrial Park is a national industrial park built since 2018 and operated by Tiantang Group (Uganda), covering an area of 2.51 square kilometers, with general industrial zones, free trade zones, bonded warehouses, convention and exhibition centres, storage bases, and commercial and living facilities. It is planned to attract 60 enterprises with a total investment of \$600 million, which will create 15,000 jobs for Uganda. The park is adjacent to three national highways leading to Kenya, South Sudan, Rwanda and the Democratic Republic of Congo, which can conveniently serve a surrounding market of 200 million people.

The park will focus on agricultural products processing, metallurgical and building materials, machinery manufacturing, daily necessities, clothing and textiles, pharmaceutical chemicals, electronic products, and infant and child products. Through cooperation with enterprises from both China and Uganda, the park will contribute to establishing a complete supply chain network for production, sales, and exports. A number of logistics and transport companies have also been involved to help establish a local logistics system designed to accelerate supply chain development in Uganda.

Source: CABG

The Eight Major Initiatives continue to prioritise industrialisation, infrastructure development, and trade and investment, areas that are crucial to the expansion and improvement of supply chain. The measures, if implemented proactively, will help Africa overcome bottlenecks impeding its supply chain development, specifically, insufficient industrial capacity, weak infrastructure, and an inadequate trade policy framework.

3.1.2 Key FOCAC 2021 elements: nine programs and cooperation vision 2035

On November 29 to 30, 2021, the Eighth FOCAC Ministerial Conference was held successfully in Dakar, Senegal. The conference reviewed the development of China-Africa relations and discussed the outcomes of the FOCAC Beijing Summit and outcomes of China-Africa cooperation in fighting COVID-19.¹⁷¹

¹⁶⁹ FOCAC. (2021). "Build a Closer China-Africa Community with a Shared Future." http://www.focac.org/zfzs/202111/t20211129_10458542.htm

¹⁷⁰ Ibid.

¹⁷¹ FOCAC. (2021). The Eighth FOCAC Ministerial Conference Achieves a Full Success. https://www.fmprc.gov.cn/eng/zxxx_662805/202112/t20211202_10461016.html

It also adopted the Dakar Declaration, the Dakar Action Plan (2022-2024), the Declaration on China-Africa Cooperation on Combating Climate Change, and the China-Africa Cooperation Vision 2035, going further than any of the previous conferences. The documents continue to reflect African priorities, with references to all aspects of the ten-year frameworks and 15 flagship projects of the African Union's Agenda 2063, manifesting China's commitment to upholding Africa's development plans.¹⁷²

Nine Programs

President Xi proposed Nine Programs in his keynote speech at the opening ceremony of the Dakar Conference. These cover (1) medical and health, (2) poverty reduction and agricultural development, (3) trade promotion, (4) investment promotion, (5) digital innovation, (6) green development, (7) capacity building, (8) cultural and people-to-people exchange, and (9) peace and security.¹⁷³ Various measures for cooperation are proposed in each area. Among the nine projects, the first seven are all closely related to supply chain development.

The Nine Programs can contribute to Africa's supply chain development through the five supply chain drivers, particularly Production, Location, Transport, and Information. It has specific trade and manufacturing promotion action plans to drive the development of Production and Location. For example, China will open "green lanes" for African agri-food products, provide \$10 billion of trade finance, and further expand the scope of duty-free products from the Least Developed Countries (LDCs), and China targets to import \$300 billion of goods from Africa in the next three years. To facilitate industrial transformation and increase industrial capacity, China pledges to support the upgrading of economic cooperation zones and undertake 10 industrialization assistance projects in Africa. To support Africa's deeper integration into regional and global supply chains, China promises to continue supporting two-way investment. China will encourage Chinese enterprises to invest no less than \$10 billion in Africa in the next three years and it will establish a platform for China-Africa private investment promotion.

To drive the development of Transport, Chinese enterprises will invest and participate in the construction of national and regional projects in Africa. The Addis Ababa - Djibouti Railway (see Box 18) is a prime example of how China and Africa will strengthen cooperation in Belt and Road partnership and will explore alignment and mutual recognition of standards under the framework of BRI. These measures will contribute to the supply chain in Africa through improvements in infrastructure and connectivity.

¹⁷² Development Reimagined. (2022). "Q&A: The African Union Ambassador to China Reflects on the Outcomes of FOCAC and 'What's Next'." China Global South Project. <https://chinaglobalsouth.com/analysis/qa-the-african-union-ambassador-to-china-reflects-on-the-outcomes-of-focac-and-whats-next/>

¹⁷³ FOCAC. (2021). Forum on China-Africa Cooperation Dakar Action Plan (2022-2024). http://www.focac.org/eng/zywx_1/zywj/202201/t20220124_10632444.htm

BOX 18

Addis Ababa – Djibouti Railway: exporting Ethiopian agri-products

The Addis Ababa–Djibouti Railway, with a total length of 752 kilometers, is the first electrified railway in East Africa, connecting Addis Ababa and Djibouti port and helping to build an industrial economic belt along the railway. Since its launch in 2018, the average annual traffic volume of the railway has increased by more than 40%. In 2020, the railway opened a cold chain transport service facilitating the export of Ethiopia's local fresh agricultural products.

In 2021, the railway expanded the transport market with improved quality of passenger and freight services. Throughout the year, 449 passenger trains, 1,469 freight trains, and 77,357 TEUs were operational and 96 chemical fertilizer trains and 13 wheat trains were running on this line. It is the trunk line of Ethiopia's transport. It also shipped edible oil, cars, refrigerated fruits and vegetables, and other products. In 2022, 6 trains carrying cold chain products and 23,660 tons of edible oil were dispatched.

Source: CABC

To drive the development of Information, China will support Africa's digital transformation and e-commerce growth by undertaking 10 digital economy assistance projects in Africa. These projects will promote African digital infrastructure. China and African countries will also work together to hold online shopping festivals featuring quality African products and to launch a campaign to market a hundred African stores and a thousand African products on e-commerce platforms.¹⁷⁴ Box 18 provides an example of a company using e-commerce to promote the flow of goods between China and Africa.

BOX 19

Kilimall: solve the last mile delivery problem

Kilimall, a China-Africa cross-border e-commerce platform, established in Nairobi, Kenya, in 2014.

In order to solve the problem of the last-mile delivery of e-commerce in Africa, Kilimall launched its "Ten Thousand Villages E-Commerce Connection Project" in 2019 and has built 1,008 delivery stations across Africa. The project system is integrated into Kilimall's two-way trade channel between China

and Africa through digital technology. Kilimall is also building a digital trading centre, logistics centre, exhibition centre, science and technology innovation centre, and enterprise incubation centre for China-Africa economic and trade cooperation.

Such initiatives provide more opportunities for Chinese products to reach African communities as well as for African products to enter the Chinese market.

Source: CABC

China-Africa Cooperation Vision 2035

China-Africa Cooperation Vision 2035¹⁷⁵ is the first of its kind as a mid- to long-term cooperation plan jointly developed by China and Africa. It brings together China's own long-term development plans, Year 2035, and double development dynamic with AU's Agenda 2063 so that both sides are better aligned and can substantiate cooperation closer to the needs of their peoples.¹⁷⁶ Vision 2035 aims to expand and strengthen China-Africa cooperation in (1) development agenda; (2) trade, investment, and financing; (3) industrial cooperation; (4) green cooperation; (5) health and poverty reduction; (6) cultural and people-to-people exchanges; (7) peace and

¹⁷⁴ Ibid.

¹⁷⁵ The 8th Ministerial Conference of the Forum on China-Africa Cooperation. (2021). "China Africa Cooperation Vision 2035." http://focac.org.cn/focacdakar/eng/hyqk_1/202112/t20211210_10466585.htm

¹⁷⁶ China Daily. (2021). "2035 vision of China-Africa cooperation heralds common actions for tangible benefits." <https://www.chinadaily.com.cn/a/202111/29/WS61a4d2baa310cdd39bc78323.html>

security; (8) global governance.¹⁷⁷ Vision 2035 is largely a continuation of the previous action plans, and supply chain development remains a priority, including addressing financing needs for SMEs and helping Africa develop “Made in Africa” brands. It shows the commitment of both sides to continued and expanded cooperation in the five key supply chain drivers. Box 19 provides an example of a company promoting “made in Africa” products and linking these to the global supply chain.

These broad policy directions have translated to policy direction at a local (provincial and municipal) level within China.

BOX 20

Kingdeer Group: “Made in Africa” exporting to 30 countries

Inner Mongolia Kingdeer Cashmere Co., Ltd. established its presence in Madagascar in 1997. Over the past 25 years the company has made a total investment of \$35 million and boasts 244 fully automatic knitting machines and 3,070 sets of equipment for cashmere sweater production. The company has trained more than 6,000 local people in the knitting industry.

Kingdeer Group’s factory in Madagascar, operating in synergy with the design centres in Italy, France, and Japan, and sales

centres in Germany and the United States, has established its global supply chain of the “made in Africa” cashmere products, which sell well in more than 30 countries.

Meanwhile, through “Seiko Cashmere”, Kingdeer group integrates the philosophy of greenness into product development, advocates harmony with nature, and brings more high-quality products with social responsibility.


Source: CABC

3.2 Local cooperation between China and Africa on supply chains

3.2.1 How to advance cooperation in a more efficient way

To coordinate with national policies and achieve implementation, provincial forces in China act to promote China-Africa trade and economic cooperation. The Forum on China-Africa Local Government Cooperation is held every three years, and a fourth successful forum was held in 2021. This provincial-level forum is a long-term mechanism to strengthen local cooperation between China and Africa and encourage Chinese provinces to cooperate with Africa in a more efficient way.

¹⁷⁷ Yun Sun. (2021). “An examination of the 2035 Vision for China-Africa Cooperation.” December 2021. *Brookings Institution*. <https://www.brookings.edu/blog/africa-in-focus/2021/12/27/an-examination-of-the-2035-vision-for-china-africa-cooperation/>

TABLE 4**Total Trade Data and Growth Rate Between 5 Chinese Provinces and African Countries**


Province/ Municipality	Total trade with Africa in 2021	Growth rate compared to 2020
Guangdong	\$43.7 billion	+ 9.5%
Zhejiang	\$43.4 billion	+ 17.2%
Shandong	\$29.21 billion	+ 36.1%
Jiangsu	\$20.6 billion	+ 51.2%
Hunan	\$6.34 billion	+ 38.5%

Source: CABC

Zhejiang, Guangdong, Hunan, Shandong, and Jiangsu are five Chinese provinces that are actively involved in local China-Africa cooperation. Their economic and trade relationships with Africa all have their own unique characteristics. The following section will present a detailed picture supported by data and cases of how each of them has promoted local cooperation between the two sides in different ways.

3.2.2 The local forces promoting China-Africa Cooperation**Zhejiang Province**

Zhejiang adopts a “bottom-up” interaction mechanism to promote China-Africa cooperation with the strong involvement of civil forces, including private companies, service centres, research institutes, and local chambers of commerce. In addition, as one of the first provinces in China to start implementing e-commerce, Zhejiang has also highlighted e-commerce and overseas warehousing in its cooperation with Africa. Box 20 provides an example of a company involved in e-commerce and warehousing to support cross-border trade within the African continent and between China and Africa.

BOX 21

KiKUU: serving 100,000 African online users every day

Hangzhou Jiku Information Technology Co., Ltd. (KiKUU), founded in Africa in 2015, is committed to helping Chinese sellers develop B2C and B2B businesses in Africa. KiKUU has its own last-mile delivery system and supports both local and cross-border payment. In 2022, its business covers 16 countries including Ghana, Tanzania, Rwanda, and Uganda. By the end of 2021, the number of registered users exceeded 10 million, and the number of merchants trading on the platform exceeded 10,000. Tens of millions of packages are delivered to African communities annually.

KiKUU's package delivery depends on a distribution team of 1,000 people in the capital city and nearly 1,000 franchised pick-up sites in second-tier cities. It has built a local service team with around 200 people by hiring local college students to serve nearly 100,000 online users every day and provide after-sales services. Since 2020, KiKUU has continued to develop overseas warehouses which now cover seven countries so as to further reduce logistics costs. KiKUU has also launched an online procurement service for SMEs.

Source: CABC

Support from the provincial government is a key driver of Sino-African cooperation in Zhejiang. In early April 2019, the Department of Commerce of Zhejiang Province issued the Action Plan for Accelerating Economic and Trade Cooperation with Africa (2019-2022).¹⁷⁸The Action Plan is an important measure for Zhejiang province to implement the "Eight Major Initiatives" in China-Africa cooperation, as well as meeting the practical need for Zhejiang enterprises to explore international markets in the African continent. The total trade between Zhejiang and Africa reached \$43.4 billion in 2021, an increase of 17.2% over 2020, and Zhejiang ranked second of the five selected provinces. Box 21 shows an example of a company in Zhejiang establishing a trade network in 12 African countries.

BOX 22

Chief Tech Co., Ltd.: a trade network in 12 African countries

Hangzhou Chief Technology Co., Ltd. was established in Zhejiang Province in 2013, providing services in trade, agricultural products acquisition, and primary processing. It now has branches in 12 countries in Africa – Mali, Senegal, Guinea, Cote d'Ivoire, Nigeria, Togo, Benin, Cameroon, the Democratic Republic of the Congo, Republic of Congo, Uganda, and Tanzania.

With its 12 branches, Chief Tech has gradually completed a unique pan-African trade network, including logistics, information, and cross-border payment systems, operating a model of "information + training + special services + agent". This promotes intra-Africa trade and also links African companies and products to Chinese consumers, which is positive for supply chain development.

Source: CABC

In the context of the 2019-2022 Action Plan, the Zhejiang government launched a series of projects to foster local cooperation between China and Africa. For example, the establishment of Alibaba's World Electronic Trade Platform (eWTP), a digital trade and information platform. Moreover, Zhejiang also encourages people-to-people exchanges. Specifically, Zhejiang organizes exhibitions on trade and production in China and Africa to allow companies to learn more about local markets. The province

¹⁷⁸ Sohu News. (2019). "Zhejiang Province to accelerate the promotion of Economic and trade cooperation with Africa action plan issued and strive to the end of 2022 Zhejiang's trade with Africa reached 40 billion USD". https://www.sohu.com/a/299434283_721565

also encourages enterprises to invest in African countries and participate in industrial parks.

Zhejiang supports small and medium-sized enterprises (SMEs) through capacity building. For instance, Zhejiang has established the Zhejiang-Africa Service Center, China-Africa Supply Chain Research Institute with the aim of serving Chinese enterprises by providing knowledge-sharing opportunities on economic development,



trade, and investment for both domestic and international partners. In particular, the Institute cooperates with Zhejiang E-port on a one-stop platform to help enterprises optimize and improve supply chain management capability by using real-time customs data and foreign trade analysis reports. Cities in Zhejiang are also playing an important role in local cooperation between China and Africa. For instance, Yiwu is famous for its small product market. Yiwu China-Africa Business Council was established in January 2020 to develop the small product industry and connect industry resources with the African market.

As one of the key manufacturing hubs and textile centres in China, Zhejiang has diverse exports to Africa, from light industrial products to a combination of mechanical and electrical products, auto

parts, and other industrial products. Box 22 shows an example of a company from Zhejiang participating in the manufacturing industry in Africa. In addition, Zhejiang imports not only commodities from Africa but also more value-added products, such as red wine from South Africa and coffee from Ethiopia.

BOX 23

Wanxin Doors & Windows Manufacturing: local branding

Wanxin Doors & Windows Manufacturing Group, headquartered in Zhejiang Province, China, is mainly engaged in door manufacturing and sales and has been selling products in Africa since 2004. It produces security, fireproof, wooden, stainless steel, and aluminum doors and targets 17 African countries across East and West Africa, such as Nigeria, Ghana, Tanzania, and Ethiopia.

Wanxin set up sales centres, warehouses, and production sites in major countries to boost the regional markets in East and West Africa, which allows the company to meet the demands of various-sized customers simultaneously and ensure the dispatch of products within 3 days. Wanxin not only drives local employment but also builds extensive and in-depth cooperation with local partners. In the future, Wanxin will focus on the internationalization through local branding and research and development of quality products.

Source: CABC

Guangdong Province

Guangdong province is another major province that has a close economic and trade relationship with Africa. In 2021, Guangdong's trade volume with Africa reached \$43.71 billion, an increase of 9.5% from 2020. In just over a decade, Guangdong's bilateral trade with Africa has grown at an average annual rate of nearly 30%.¹⁷⁹ In terms of trade, Guangdong's exports to Africa are mainly mechanical and electrical products (accounting for 70% of the total imports from Africa) and agricultural products. Guangdong's imports from Africa are mainly raw materials and primary products. Box 23 shows an example of a company from Guangzhou that exports and manufactures motorcycles in Africa.

Guangdong is promoting cooperation with Africa in a more comprehensive way. The first "Guangdong-Africa Exchange and Cooperation Week" was held in 2019. Guangdong devised a policy to accelerate agriculture, medical and health care, education, tourism, and people-to-people exchanges with African countries. Currently, Guangdong has invested in nearly 300 overseas enterprises in Africa with an estimated value of more than \$2.5 billion.¹⁸⁰ The most important port for African people to enter and leave China, Guangzhou port has opened 22 container liner routes with major African ports as of 2019. In the future, Guangzhou will play a greater role in China-Africa cooperation by virtue of its geographical advantages.

BOX 24

Sanming Zhongxing Motorcycle: strengthening motorcycle industrial chains in Angola

Sanming Zhongxing Motorcycle Trading Co., was established in 1991. In 2006, it started to invest in Africa, established AGIR Huang Electromechanical Co., Ltd. in Angola, and established Guangzhou Yushengyan Import and Export Trade Co., Ltd. in Guangzhou in 2013. Based on AGIR Huang Electromechanical Co., Ltd., it has gradually evolved into a multinational private enterprise with production, sales, and after-sales bases in Africa and procurement and supply supporting systems in China. AGIR has established a complete motorcycle assembly line and has successfully built famous motorcycle brands LINGKE and AGIR-H, which have a high reputation among African consumers.

AGIR's market share has ranked first in Angola for many years. The sales network of AGIR HUANG covers 18 provinces in Angola. It has established 10 cooperative stores, 36 distributors, and 98 sales points. As many as 95% of the employees of AGIR HUANG are local people. Products are sold from the capital of Luanda to all provinces and cities and are also exported to nearby countries. In the future, through promoting new models, improving the market system, and setting up professional technical service teams, it plans to reach an annual sales volume of 30,000 units from 2022 to 2024; 60,000 units from 2025 to 2027; and 100,000 units from 2028 to 2031.

Source: CABC

Trade in resource-based goods is one of Guangdong's strengths. At the same time, Guangdong is promoting e-commerce with African countries. Local e-commerce platforms in Guangdong are now actively selling goods from African countries, including wine, aloe vera, and black tea from South Africa. Currently, enterprises in Guangdong are mainly focused on importing wine and coffee from Africa.

¹⁷⁹ China News. (2020). "Trade between Guangdong and Africa has grown by an average of 30% on average". Guangming Web. <https://www.chinanews.com.cn/cj/2020/10-19/9317040.shtml>

¹⁸⁰ Southcn. (2020). "How to accelerate Guangdong - Africa cooperation in the post-epidemic era". https://news.southcn.com/node_54a44f01a2/783e42676c.shtml



Hunan Province

In recent years Hunan province has become one of the emerging drivers of China-Africa cooperation. In 2021, Hunan's trade volume with Africa reached \$6.34 billion, an increase of 38.5 % from 2020. 134 Hunan enterprises have invested in Africa, and Hunan products such as construction machinery, hybrid rice, agricultural machinery and tools, and house construction materials hold large market shares in Africa.

In contrast to Zhejiang's bottom-up approach, Hunan's cooperation with Africa has followed a top-down approach, with government policies to attract African countries to Hunan as well as to encourage Chinese companies to go out. Hunan's cooperation is led by two major national policies – the Pilot Zone for In-Depth China-Africa Economic and Trade Cooperation, and the China-Africa Economic and Trade Expo.

The current stage of the pilot zone focuses on distribution and processing centres to display and sell African non-commodity products. As part of the Eight Major Initiatives, The China-Africa Economic and Trade Expo is an important measure to promote economic and trade cooperation and long-term communication between the two sides. It is jointly hosted by the Ministry of Commerce of China and the Hunan provincial government once every two years. During the second Expo in 2021, 135 cooperation projects with a total value of \$22.9 billion were signed on-site or online. Nearly 500 domestic and non-trading enterprises conducted consultations and in-conference exchanges, and the intended transaction value reached \$200 million.

BOX 25

China-Africa Economic and Trade Expo: Injecting new momentum into China-Africa economic and trade cooperation

The China-Africa Economic and Trade Expo is an important element of the Eight Major Initiatives of the 2018 Beijing Summit of the Forum on China-Africa Cooperation, and a new window for local economic and trade cooperation with Africa. The expo focuses fields such as trade, agriculture, investment and financing, cooperation parks, and infrastructure. The first China-Africa Economic and Trade Expo 2019 led to the signing of 84 cooperation documents, covering trade, investment, infrastructure, agriculture, manufacturing, aviation, tourism, and other fields, involving a value of 20.8 billion US dollars. In 2021, the second China-Africa Economic and Trade Expo was the first to set up a “cloud trading” platform for African

products, inviting 6 countries such as Algeria, Ethiopia, Kenya, Rwanda, South Africa, and Senegal as the main guest countries.

In November 2021, the 8th Ministerial Conference of the Forum on China-Africa Cooperation proposed to “build a pilot zone for China-Africa in-depth economic and trade cooperation in China”. In the place where the China-Africa Economic and Trade Expo was held, Hunan Province has created a pilot zone for in-depth economic and trade cooperation between China and Africa and built an African coffee street and a distribution and trading centre for non-commodity African products, injecting new momentum into China-Africa economic and trade cooperation.

Hunan plans to build five freight centres including international logistic channels to serve its industrial parks, ports, and markets. Among them, the Hunan-Guangdong-Africa rail-sea combined transport channel is a typical initiative that links two significant provinces within China and offers Hunan a sea port to expand international logistic relations with African partners (see Box 26).

BOX 26

Hunan-Guangdong-Africa Rail-Sea Express: a revolutionary new logistic channel between China and Africa

China-Africa Rail-Sea Express Co., Ltd. was established in September 2021, marking a new step in the Hunan-Guangdong-Africa rail-sea combined transport channel. The channel is mainly used to transport products such as grain, auto parts, chemicals, grain seeds, and construction machinery. The first phase covers 11 seaports in Africa and 20 roads and railways leading into the interior of Africa.

China-Africa Rail-Sea Express has been working on the “end-to-end” logistics and transport channels and services for both China and Africa. On September 15, 2021, a train carrying 1,935 tons of aid to Africa departed from Zhuzhou Logistics Base to Nansha Port in Guangzhou, and terminated in Nairobi Kenya, marking the official launch of the Hunan-Guangdong-Africa rail-sea combined transport channel. Compared with the past alternatives, the transport time is shortened by 8-12 days and the costs are reduced by 60%.

Source: CABC

Other Provinces: Shandong and Jiangsu

Shandong's cooperation with African countries focuses on strengthening exchanges in the field of innovation and development. There are three main fields for Shandong-Africa cooperation. The first is to promote green development by sharing innovative green and low-carbon technologies with a specific focus on photovoltaic power generation, wind power, and other clean energy fields. Second, Shandong-Africa cooperation focuses on industrial cooperation and encourages talent and professionals to participate in research and innovation in information technology and high-end equipment that closely connects with Africa. Third, the provincial

government also works on the quality and upgrading of education cooperation between Shandong and African countries

BOX 27

Shandong High-speed Group: boost the “Soft Power” of Africa’s infrastructure planning and design/management consulting

Headquartered in Shandong, China, with a registered capital of 45.9 billion yuan, Shandong High-speed Group takes infrastructure construction as its core business. It is a leading enterprise in infrastructure investment, construction, and operation. The Group has worked in 45 countries and regions around the world, including South Sudan, Malawi, Ethiopia, Serbia, and Bosnia and Herzegovina, covering roads, railways, bridges, housing construction, and other fields. In the 2021 “World’s Top 250 International Contractors”, it ranked 90th.

In May 2021, the Group undertook the Ethiopian National Highway Operation Management Consulting Project. The project provides comprehensive management consulting services on road network planning, monitoring and dispatching, and toll collection operation for 280 kilometers of highways throughout Ethiopia.

At the same time, the “Hope Hut” built by the Group in Africa, as a Sino-foreign youth exchange and cooperation project, has improved the living and learning environment of local children in distress.

Source: CABC

Jiangsu province also has close economic and trade cooperation with Africa. The province mainly focuses on agricultural products such as cotton, on infrastructure, housing construction materials, and generators.

BOX 28

Aberdare Cable: the leader in cable manufacturing in South Africa

Aberdare Cables (PTY) Co., Ltd. was established in 1946 and is headquartered in Johannesburg, South Africa, with two production sites and seven customer service centres in Africa. In 2016, Hengtong Group from Jiangsu acquired 75% of its shares, helping Aberdare to achieve sustained growth. Hengtong Group operates in 147 countries, boasting 11 overseas manufacturing bases and 7 brands, including Aberdare Cable.

As a leader in the cable industry in South Africa, Aberdare is committed to developing advanced, innovative and cost-

effective cable solutions that provide customers with comprehensive and personalized products and services. With more than 70 years of experience, Aberdare is currently the largest cable manufacturer in South Africa and sub-Saharan Africa. Its main products cover a full range of power cables, widely used in power transmission and distribution, railways, chemicals, mining, ports, airports, and municipal and civil buildings.

Source: CABC

In sum, Zhejiang, Guangdong, Hunan, Shandong, and Jiangsu are five leading forces promoting local cooperation between China and Africa. But there are more provinces in China such as Shanghai, Fujian, Yunnan, Jiangxi and Tianjin that are also engaged in China-Africa local cooperation.

But how have all of these policies and actions at the central and local levels translated into reality? Have they made any real, lasting impact on supply chain development in African countries? The following section will provide a holistic analysis at the macro-level to understand the impact of China-Africa cooperation on supply chain development, particularly in trade and investment.

3.3 The result of China-Africa cooperation on supply chain development in Africa

Policy papers and action plans from FOCAC have laid a broad foundation for China-Africa cooperation. In terms of the supply chain, it has increased importance in linking Africa to international markets, particularly under the influence of globalization. For African countries, the opportunity to join the global supply chain is through trade with the rest of the world, including China, by importing and exporting products, as well as flows of capital – for instance, the foreign direct investment from China.

This section aims to provide a holistic data-driven analysis of trade and FDI in the China-Africa relationship, as means to gain insights into how the policies discussed above have translated into the reality of supply chain development on the African continent and what the remaining opportunities and constraints might be.

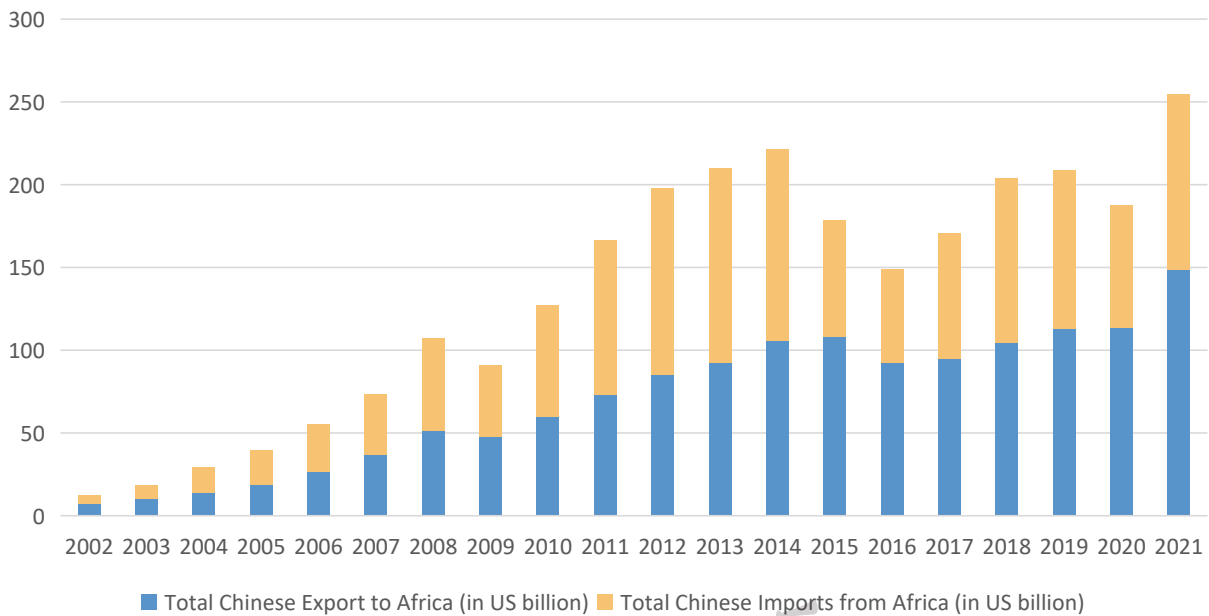
3.3.1 Trade: China has been Africa's largest trading partner for 13 years

China's engagement with Africa has risen rapidly in recent decades, in particular with regard to trade. By 2021, China had been Africa's largest trading partner for the past 13 years.¹⁸¹ Trade between China and Africa has experienced a significant increase from \$12.3 billion in 2002 to \$208.8 billion in 2019, although trade in 2020 was down nearly 10% from 2019 due to COVID-19, at \$187.7 billion. With the economic recovery in the aftermath of COVID-19, bilateral trade between China and Africa reached a record high of \$254.2 billion in 2021, a 35% increase over the 2020 figure.



¹⁸¹ Ministry of Commerce of the People's Republic of China. (2022). "2021 China Africa Trade and Economic Cooperation Statistics." <http://xyf.mofcom.gov.cn/article/tj/zh/202204/20220403308229.shtml>

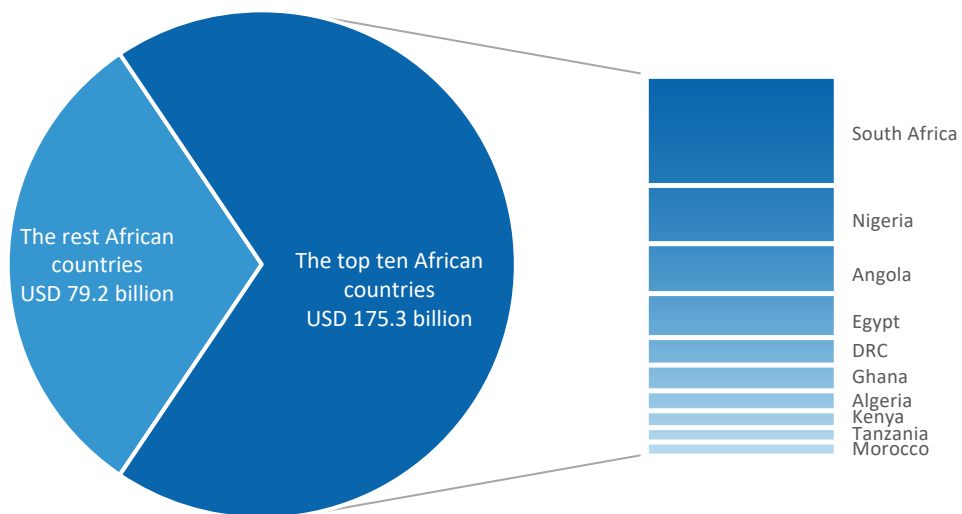
FIGURE 22
China-Africa Trade Between 2002-2021



Source: China's National Bureau of Statistics¹⁸²

In 2021, the total trade volume between China and the top ten trading partners in Africa reached \$175.3 billion, accounting for 68.9% of the total trade volume between China and Africa (Figure 23). South Africa is China's largest trading partner in Africa, followed by Nigeria, Angola, and Egypt.

FIGURE 23
China-Africa Trade by Top 10 African Countries in 2021



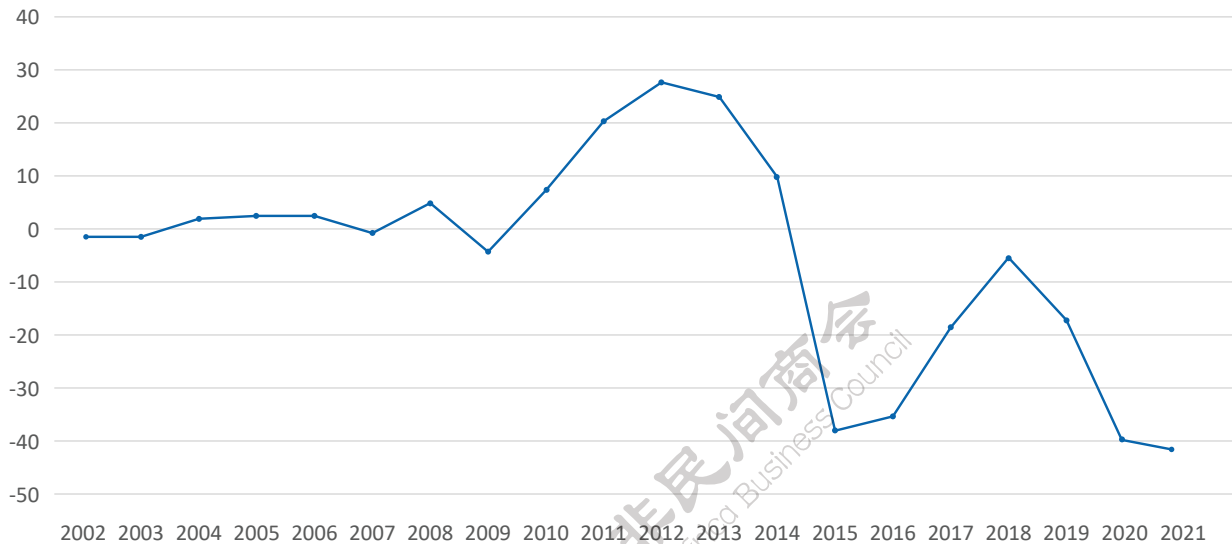
Source: China's National Bureau of Statistics¹⁸³

¹⁸² National Bureau of Statistic. "Trade." <http://www.stats.gov.cn>

¹⁸³ National Bureau of Statistic. "Trade." <http://www.stats.gov.cn>

As shown in Figure 24, overall, Africa's trade balance with China has shown a downward trend since 2002, but with a few exceptions. Specifically, Africa had a trade surplus with China (their exports to China are larger than their imports from China) between 2004-2006, in 2008 and between 2010-2014. The largest surplus was in 2012 at \$27 billion. Since 2015, Africa has an average annual trade deficit with China of \$28.2 billion.

FIGURE 24
Africa's Trade Balance with China Between 2002-2021



Source: China's National Bureau of Statistics¹⁸⁴

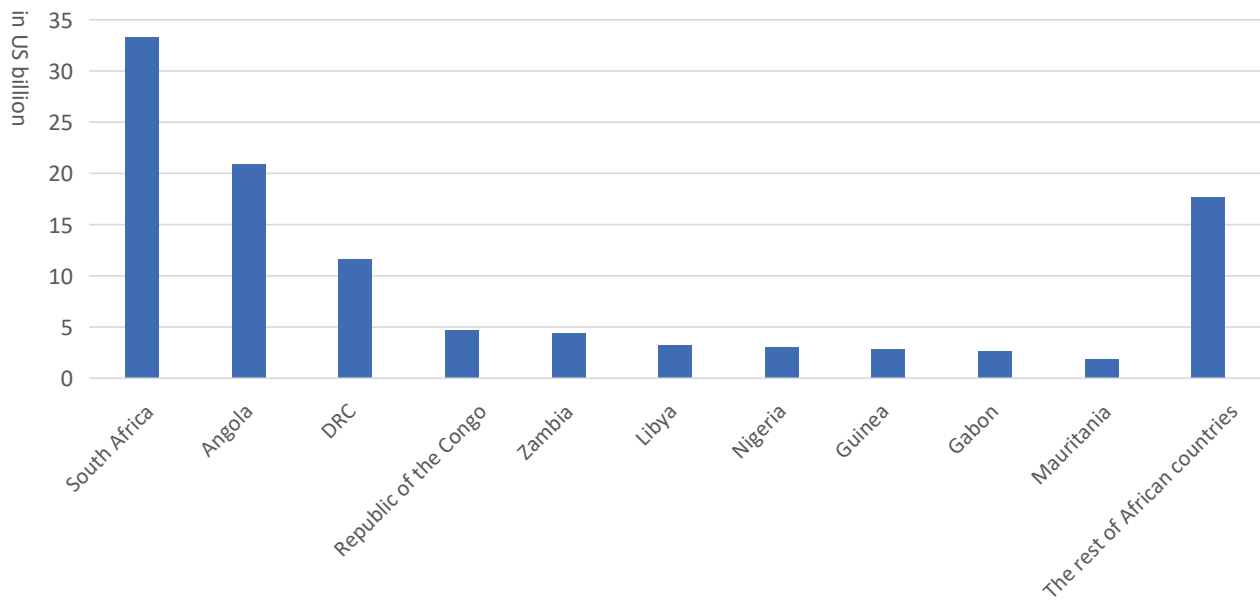
Africa's Exports to China

The overall trend in Africa's exports to China has been steadily increasing since 2002. But the exports from Africa have been concentrated in certain African countries. In 2021, the total volume of Africa's exports to China reached \$105.9 billion, an 43.7% increase from 2020.¹⁸⁵ South Africa and Angola make up 51% of the total exports from Africa, at \$33 billion and \$21 billion, respectively. In addition, the top ten African countries exported \$88.4 billion to China, accounting for about 83% of Africa's total exports (see Figure 25).

¹⁸⁴ Ibid

¹⁸⁵ Ministry of Commerce of the People's Republic of China. (2022). "2021 China Africa Trade and Economic Cooperation Statistics."

FIGURE 25
Africa's Top 10 Suppliers to China in 2021



Source: China's National Bureau of Statistics

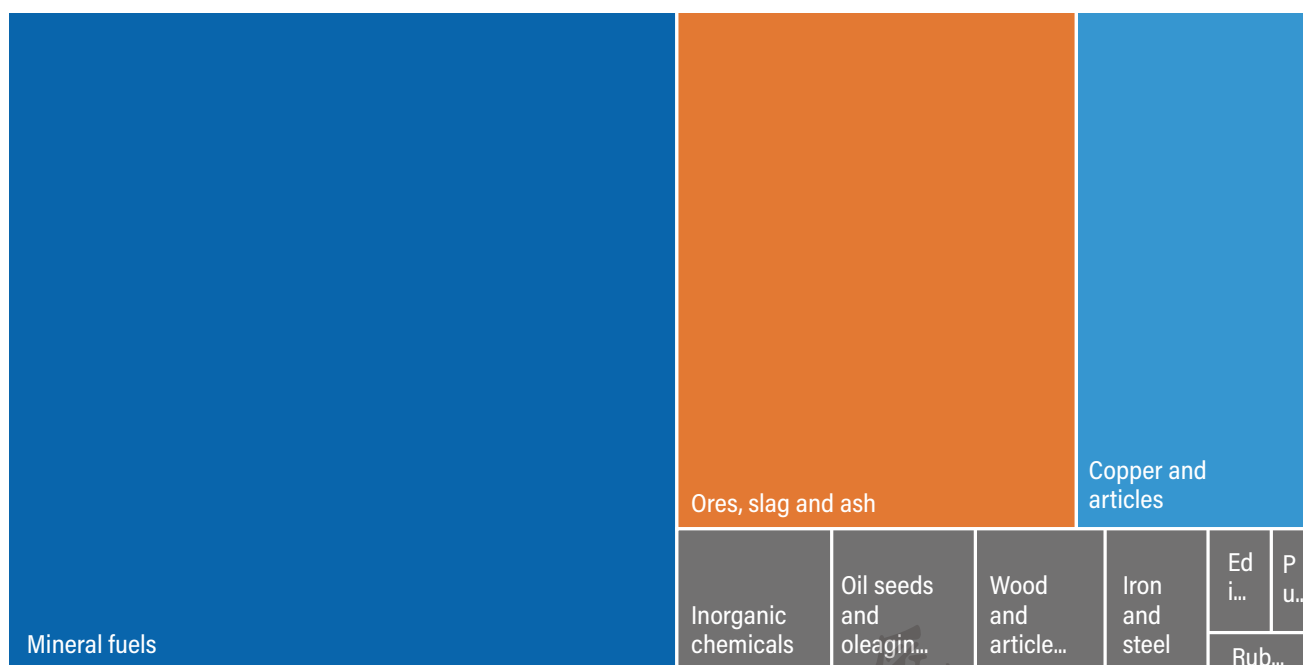
The types of exports from Africa to China are mainly raw materials and have hardly changed over time (see Figure 26). Between 2001-2019, the leading exports from Africa to China included petroleum oil products, copper, and other base metals and wood. The exports of fruits, wool, and cotton occupied the bottom three in Africa's top ten exports to China.¹⁸⁶ In 2021, according to the Trade Map database,¹⁸⁷ exports of mineral fuels, ores, and copper remained in the top three, while pearls and tobacco were also among the top ten. There was a decline in African fruits, wool and cotton exports to China in 2021, with their rankings dropping out of the top ten to 13th, 15th and 19th, respectively.

¹⁸⁶ Development Reimagined. (2021.) "From China-Africa to Africa-China: A Blueprint for a Green and Inclusive Continent-wide Africa Strategy Towards China."

¹⁸⁷ International Trade Centre. (2020). "Bilateral Trade between Africa and China." Trade Map. <http://trademap.org>

FIGURE 26

Africa's Top 10 Exports to China in 2021



Source: Trade Map Database¹⁸⁸

China's exports to Africa

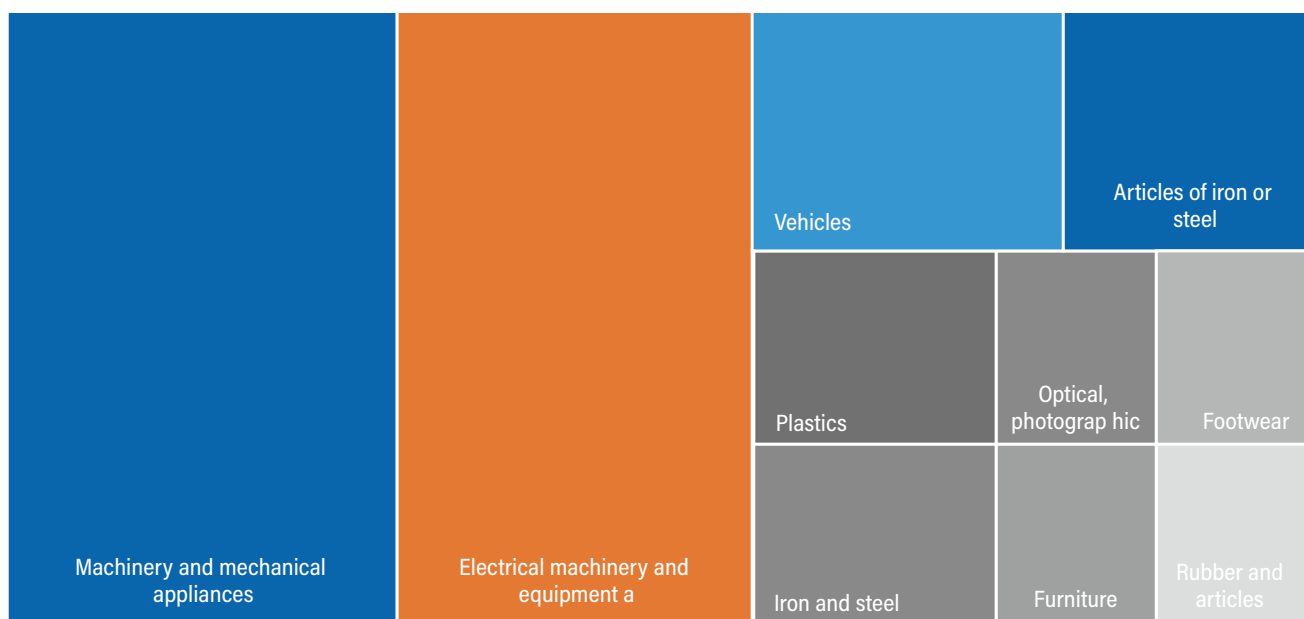
In terms of China's exports to Africa, the figure has grown steadily since 2002. In 2021, China's exports to Africa totalled \$148.3 billion, up 29.9% from the 2020 figure.¹⁸⁹ Nigeria, South Africa, and Egypt are the top three countries importing Chinese goods, respectively \$22.7 billion, \$21.2 billion, and \$18.3 billion in 2021.

China's exports to Africa have focused on consumer goods, such as electrical equipment, machinery, vehicles, and footwear. This is largely because China's growth as a manufacturing powerhouse and to some degree the growth of African consumer markets. In 2021, machinery, electrical equipment, vehicles, iron, and plastics were the top imports from China, virtually unchanged from 2020 (see Figure 27). Ships and boats became one of the top ten imports from China in 2021, which might be a move by African countries to address their logistics problems.

¹⁸⁸ International Trade Centre. (2020). "Bilateral Trade between Africa and China." Trade Map.

¹⁸⁹ Ministry of Commerce of the People's Republic of China. (2022). "2021 China Africa Trade and Economic Cooperation Statistics."

FIGURE 27
Africa's Top 10 Imports from China in 2021



Source: Trade Map Database¹⁹⁰

In sum, despite the welcome growth in China-Africa trade in the past two decades, there are still challenges in enabling African countries to advance their supply chains and become more connected to global supply chains. As mentioned above, Africa's exports to China are mainly raw materials, with limited local supply chain participation. There is a need to develop industries with a high-level supply chain involvement, such as manufacturing and agriculture that can bring added-value. Specifically, a well-established manufacturing industry encompasses activities such as input procurement, components, and assembly to make products.¹⁹¹ It also involves marketing, sales and distribution, after-sales service, and exporting. In this process, human, material, and financial resources operate in coordination, creating jobs and bringing value to the company and the country. And at a more advanced stage, research, innovation and development will also bring value. China can play an important role in this development process and Chinese FDI is one of the key sources.

3.3.2 Investment: China being Africa's 4th largest investor

Foreign direct investment (FDI) has a twofold role to play in supply chain development. First, FDI is most likely to be attracted to centres where the supply chain is already functioning well, especially FDI in extractives or manufacturing. Second, FDI itself can encourage supply development – for example FDI in construction can itself improve logistics and connectivity, or FDI in agriculture can strengthen food security, and in manufacturing it can increase production and distribution of goods and add to the efficiency of existing or new supply chains.

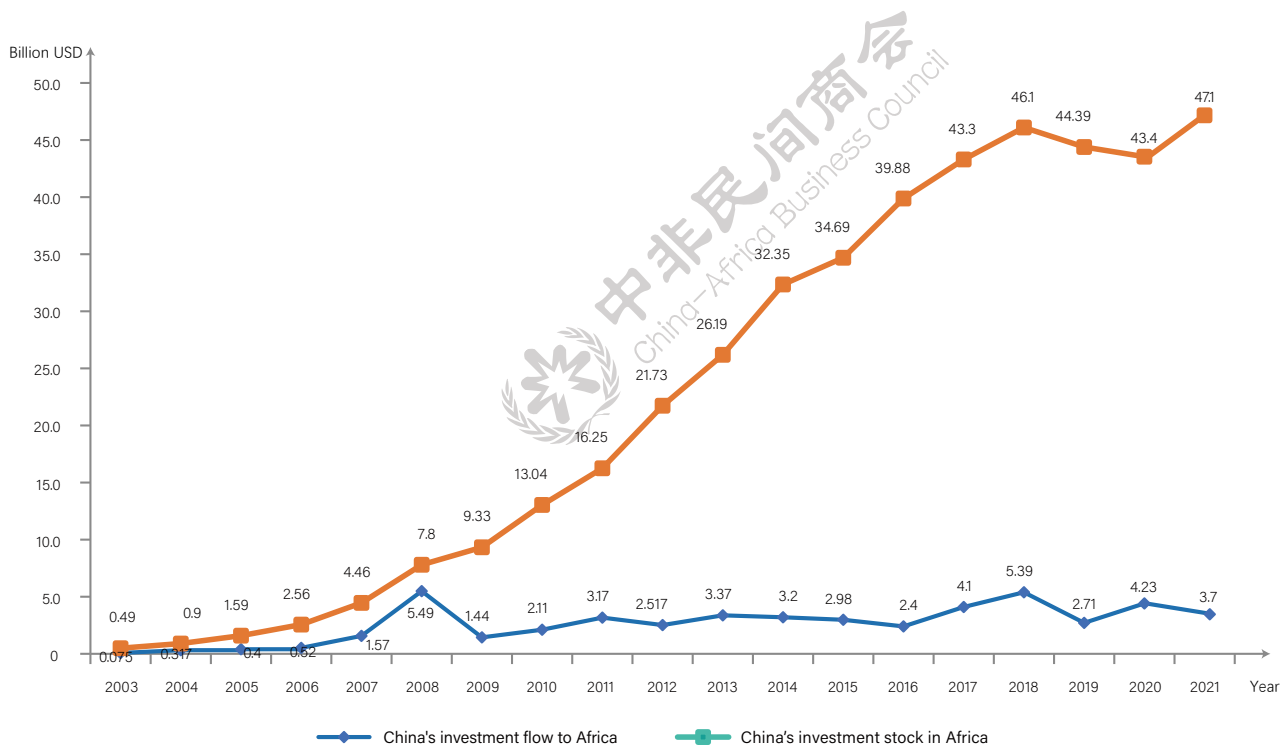
¹⁹⁰ International Trade Centre. (2020). "Bilateral Trade between Africa and China." Trade Map.

¹⁹¹ Nicita, Alessandro et al. (2013). "Global Supply Chains: Trade and Economic Policies for Development Countries." *UNCTAD*. https://unctad.org/system/files/official-document/itctab56_en.pdf

Chinese FDI annual flows to Africa have been consistently positive but fairly volatile over the past ten years, as shown in Figure 28. After 2003, three years after the Forum of China-Africa Cooperation commenced, annual flows of Chinese foreign direct investment began to rise steadily¹⁹² from only US\$74.8 million in 2003 to US\$5.4 billion in 2018, then a decline in 2019 to \$2.7bn, and then – despite the COVID-19 pandemic – an upswing again to \$4.2 billion.¹⁹³ In addition, according to the records from Johns Hopkins University's China Africa Research Initiative, Chinese FDI flows to Africa have surpassed those of the U.S. since 2013.¹⁹⁴ As a result, Chinese FDI stocks in Africa grew nearly 100-fold over a 17-year period - from US\$490 million in 2003 to US\$43.4 billion in 2020, peaking in 2018 at US\$ 46.1 billion. That makes China Africa's fourth largest investor.

According to Ministry of Commerce's West Asia and Africa Division, in 2021, China's direct investment in Africa was \$ 3.7 billion, a year-on-year increase of 26.1%.¹⁹⁵

FIGURE 28
Chinese FDI Stock in and Flows to Africa Between 2003-2021



Source: The Statistical Bulletin of China's Outward Foreign Direct Investment
Ministry of Commerce¹⁹⁶

¹⁹² The earliest FDI data available from Chinese government was from 2003.

¹⁹³ Ministry of Commerce et al. (2021). "2020 China's Outward Foreign Direct Investment." http://www.gov.cn/xinwen/2021-09/29/content_5639984.htm

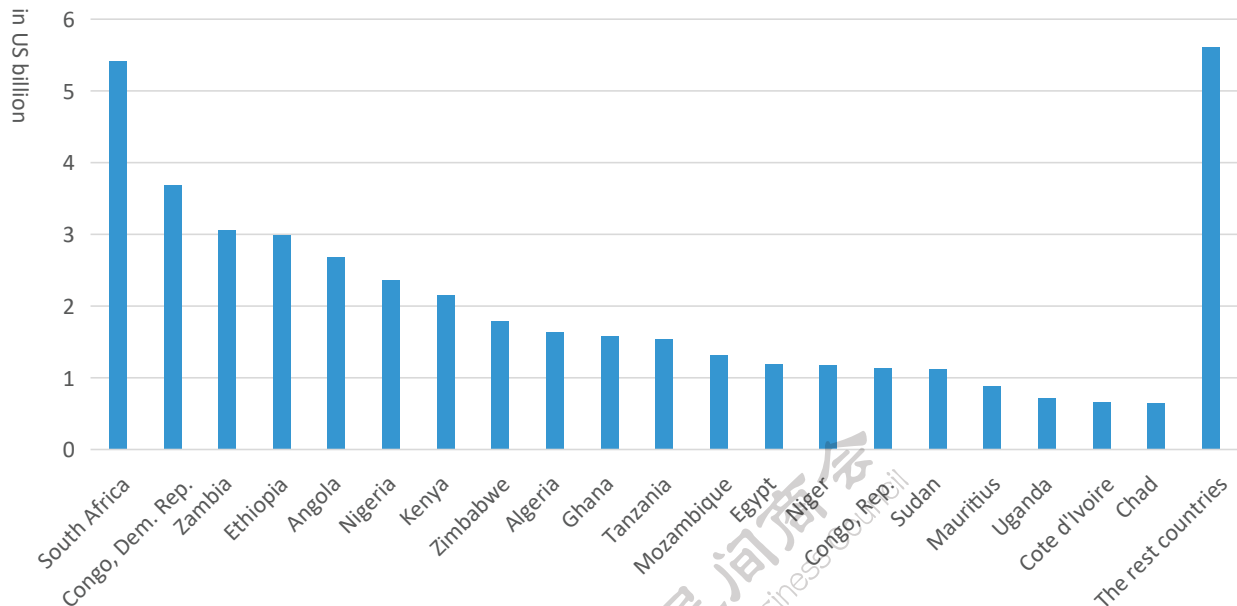
¹⁹⁴ Johns Hopkins University. SAIS China-Africa Research Initiative. "Chinese Investment in Africa." <http://www.sais-cari.org/chinese-investment-in-africa>

¹⁹⁵ The source could be found here. The calculation method of direct investment here is not the same as the way used in the Statistical Bulletin of China's Outward Foreign Direct Investment. This is the only place used the data from Ministry of Commerce's West Asia and Africa Division to show the trend of the Chinese investment.

¹⁹⁶ Ministry of Commerce et al. "The Statistical Bulletin of China's Outward Foreign Direct Investment." <http://fec.mofcom.gov.cn/article/tjsj/tjgb/>

The top five African destination for Chinese non-financial FDI as of 2020 were South Africa, Democratic of Congo, Zambia, Ethiopia and Angola (see Figure 29). Many of these are resource-rich countries.¹⁹⁷

FIGURE 29
Africa's Top Chinese FDI Destinations as of 2020



Source: The Statistical Bulletin of China's Outward Foreign Direct Investment¹⁹⁸

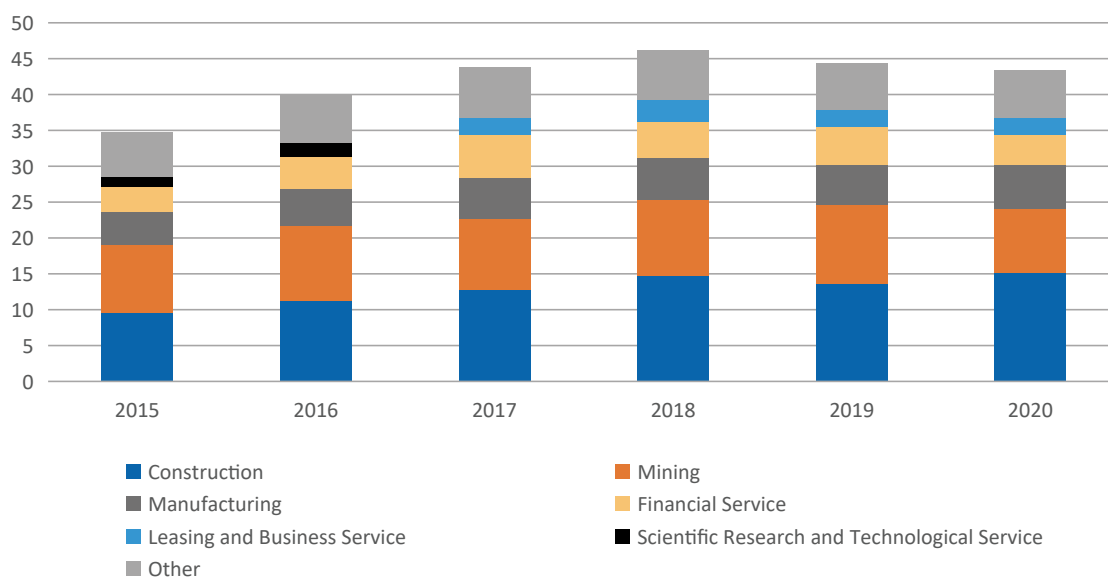
FDI from China covers several industries including construction, mining, manufacturing, financial services, leasing and business services, and scientific research and technologies services (see Figure 30). Chinese investment is concentrated in the construction and mining sectors. In 2020, Chinese FDI stock in the construction sector reached to \$15.2 billion, which accounts for 34.9% of the total FDI stock, while mining represented 20.6%. Manufacturing (14.1%) is another sector that attracts Chinese investment, especially in African countries with Special Economic Zones, high economic growth, or large domestic markets. Some FDI is also moving to countries with Chinese contracted projects such as Public Private Partnerships (PPPs).¹⁹⁹

¹⁹⁷ Cheung, Yin-Wong et al. 2010. "China's Outward Direct Investment in Africa." *Buffalo State University*. http://faculty.buffalostate.edu/qianx/index_files/ChinaODIafrica.pdf

¹⁹⁸ Ministry of Commerce et al. "The Statistical Bulletin of China's Outward Foreign Direct Investment."

¹⁹⁹ Brautigam, Deborah et al. 2017. "Chinese Investment in Africa: How Much do we Know?" PEDL Synthesis Series No.2. https://pedl.cepr.org/sites/default/files/PEDL_Synthesis_Papers_Piece_No_2.pdf

FIGURE 30
Top 5 Industries: Chinese FDI Stock in Africa Between 2015-2020



Source: The Statistical Bulletin of China's Outward Foreign Direct Investment²⁰⁰

The following sectors have seen a positive effect on supply chains in Africa.

Construction

Investment in Africa's construction sector is useful for infrastructure development in Africa. The sector has been the largest channel for Chinese FDI for five years. However, the African Development Bank estimates that the continent faces a financing gap of \$68-\$108 billion per year in infrastructure.²⁰¹ As the AfCFTA comes into force, infrastructure that will bring value to trade, including roads and railways that link urban and rural areas, agricultural facilities, food processing stations, and manufacturing hubs, will be crucial for post-COVID19 recovery and AU's 2063 Agenda.

The African Development Bank also identifies that the biggest demand for infrastructure investment in Africa is for energy. Data shows that only 30% of Africa's population has access to electricity, compared to 70-90% in other developing countries.²⁰² Therefore, Chinese investment in energy, especially in clean energy, to power both Africa's homes and factories would be an important source of help to Africa in addressing its financial needs in this area, and more urgently, in tackling climate change.

²⁰⁰ Ministry of Commerce et al. "The Statistical Bulletin of China's Outward Foreign Direct Investment."

²⁰¹ African Development Bank. (2018). "Africa's Infrastructure: Great Potential but Little Impact on Inclusive Growth." https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/2018AEO/African_Economic_Outlook_2018_-_EN_Chapter3.pdf

²⁰² African Development Bank. "Closing the infrastructure Gap Vital for Africa's Transformation." <https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/PIDA%20brief%20closing%20gap.pdf>

Manufacturing

Several Chinese manufacturing companies have chosen Africa as the destination for the transfer of labour-intensive industries since 2015.²⁰³ Chinese FDI into manufacturing on the continent can have a positive impact through the potential for local job creation and delivery as well as exports, which will give Africa a significant opportunity to connect with global supply chains and achieve its goal of becoming the world's manufacturing hub by 2063. Well-known examples of this trend include Huajian Group based in Ethiopia,²⁰⁴ Humanwell in Mali and Ethiopia,²⁰⁵ and most recently BGI in Ethiopia.²⁰⁶

BOX 29

Humanwell Healthcare Co.: modern medicine plant in Mali to increase local access to essential drugs

In 2013, Humanwell Healthcare Co., in cooperation with the China-Africa Development Fund, invested 350 million yuan (\$56.5 million) in Bamako, the capital of Mali, and established the Humanwell (Africa) Pharmaceutical Co., which later built three production lines for Large Volume Parenteral (LVP), syrup, and tablets.

Since its startup in 2016, Humanwell (Africa) has achieved an annual turnover of more than 100 million yuan (\$15.4 million) and 95% of the employees are local people. The company has

the capacity to produce 30 million bottles of syrup and 40 million bottles of LVP every year. These products have entered the public procurement list of 9 countries in West Africa.

The plant has greatly improved local access to essential drugs. The market prices of LVP and oral liquid products in Mali have decreased by about 40%, which has solved the supply shortage of LVP in French-speaking countries in West Africa, and strengthened the resilience of the local supply chain, particularly in pharmaceutical manufacturing.

Source: CABC

Agriculture

Agriculture in Africa is a sector with great potential, but more investment is needed. Agriculture is an important pillar of the African economy, accounting for 23% of the total GDP and providing 60% of employment in sub-Saharan Africa.²⁰⁷ Africa's agribusiness sector holds great potential and is forecast to reach US\$1 trillion by 2030.²⁰⁸ However, the majority of this industry is made up of small landholders whose individual ability to penetrate international markets is limited. And there is also a financing gap in the sector – analysts project that US\$45 billion per year is needed to “harness the power of agriculture and move up the value chain to create jobs and wealth”, while only US\$7 billion per year is invested the sector.²⁰⁹

²⁰³ McKinsey & Company. (2017). “Dance of the lions and dragons.” <https://www.mckinsey.com/~/media/mckinsey/featured%20insights/middle%20east%20and%20africa/the%20closest%20look%20yet%20at%20chinese%20economic%20engagement%20in%20africa/dance-of-the-lions-and-dragons.ashx>

²⁰⁴ China Daily. (2019). “Huajian Group puts its best foot forward.” http://www.chinadaily.com.cn/cndy/2019-06/27/content_37485271.htm

²⁰⁵ Development Reimagined. (2021). “Q&A: How the Chinese Private Sector can Help Develop Pharmaceutical Production Capacity in Africa.” <https://developmentreimagined.com/2021/04/23/qa-how-the-chinese-private-sector-can-help-develop-pharmaceutical-production-capacity-in-africa/>

²⁰⁶ Xinhua. (2020). “Factory built by Chinese supplies 250,000 COVID-19 test kits to Ethiopian institute.” http://www.xinhuanet.com/english/2020-10/21/c_139454811.htm

²⁰⁷ Goedde, Lutz, Amandla Okko-Ombaka, and Gillian Pais. (2019). “Winning in Africa's agricultural market.” McKinsey & Company. <https://www.mckinsey.com/industries/agriculture/our-insights/winning-in-africas-agricultural-market#>

²⁰⁸ The African Development Bank. (2018). “Africa agribusiness, a US\$1 trillion businesses by 2030.” <https://www.afdb.org/en/news-and-events/africa-agribusiness-a-us-1-trillion-business-by-2030-18678>

²⁰⁹ The African Development Bank. (2018). “Africa agribusiness, a US\$1 trillion businesses by 2030.”

China-Africa agricultural cooperation began in the 1970s. The cooperation model has been upgraded from simple agricultural assistance in the past to combined agricultural assistance and investment, and agricultural trade and agricultural exchanges and cooperation have developed in an all-round way. As of 2022, China has helped build more than 90 agricultural technology demonstration farms in Africa, and in particular since the 2000 Forum on China-Africa Cooperation, China has helped build more than 20 agricultural technology demonstration centres and sent more than 2,000 senior agricultural experts and agricultural professional teachers to African countries to help African countries improve agricultural production technology. At the same time, more than 400 agricultural technology training courses and agricultural officials training courses for African agricultural officials have been held in China, and more than 200,000 African agricultural officials and technicians have been trained. In the area of agricultural science and technology cooperation, China and Africa have established agricultural science and technology institutions. In addition, necessary agricultural and food assistance is provided to African countries through international agencies such as the Food and Agriculture Organization of the United Nations and the World Food Programme.

BOX 30

China National Fisheries Corporation: bringing Senegalese fishery products outside

Senegal is rich in fishery resources, which are one of its important economic pillars and the main source of foreign exchange. In 1994, China National Fisheries Corporation established a fishery company in Senegal, which has now developed into the largest fish processing enterprise in the region. The Senegalese branch has three aquatic product processing plants, with a daily processing capacity of 170 tons and a refrigeration capacity of 4,000 tons. It has created more than 2,300 jobs. The company has helped local fishermen

expand their market and sell products to more than 10 countries and regions in Europe, Asia, and Africa. It has received many honorary titles from the Senegalese government including National Oscar Quality Award and TOP 10 Exporters in Senegal.

In pursuit of a sustainable development path, the company is committed to cooperating with local fishermen by expanding their markets, significantly boosting the social and economic development of Senegal.

Source: CABC

All of this suggests that FDI from China has played this dual role fairly effectively. There has been a mix of FDI directly into the supply chain as well as into utilising supply chains.

As shown in this chapter, China-Africa cooperation is supporting supply chain development. But much more is needed, and a holistic approach around manufacturing, infrastructure, tech transfer and empowering local SMEs is essential.

Chapter 4: How Chinese Companies Can Work with Africa to Build Sustainable Supply Chains

The examples in Chapter 4 outline the contributions made by Chinese companies to drive supply chain development across the continent.

This chapter includes 12 examples from both Chinese and African companies supporting supply chain development in five African regions.²¹⁰ The examples cover the five key areas of supply chains introduced in Chapter 1: location, production, inventory, transport, and information.

An overview of supply chain-related indicators in each region is provided, covering the economy, trade, labour force, infrastructure, and logistics, as well as the region's economic relationship with China (see Annex 3 for data source and detailed data explanation). This overview provides some understanding of the incentives for Chinese companies in different sectors to choose this region to expand their footprints in Africa.

There are also African-owned examples, which indicate how African companies themselves are contributing to innovative supply chain development in the continent. This could also be an inspiration for future cooperation between Chinese and African companies in the supply chain.

Chapter Summary

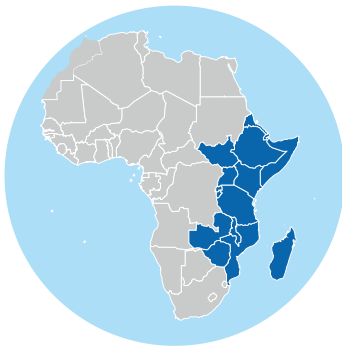
The 12 example studies demonstrate the commitment of Chinese and African businesses to take the long view to invest in Africa's supply chain across the 5 pillars of the supply chain ecosystem. Overall almost all enterprises in this report are employing local workers and commitment to training and skill transfer. Chinese investors are also bringing innovations to the continent through digitalisation and actively seeking ways to

address some of the existing supply chain challenges outlined in Chapter Two.

However, the cases also illustrate that Chinese businesses do still have many hurdles to overcome. For example, environmental (and land and community) management are not always a priority and many Chinese companies focus on building links with other Chinese enterprises.

²¹⁰ The methodology of identifying geographic regions in Africa in this report is based on United Nations Statistical Division criteria. Detailed information can be found here: <https://unstats.un.org/unsd/methodology/m49/#geo-regions>

4.1 East Africa



Burundi
Comoros
Djibouti
Eritrea
Ethiopia
Kenya
Madagascar
Malawi
Mauritius
Mozambique
Rwanda
Seychelles
Somalia
South Sudan
Uganda
United Republic of Tanzania
Zambia
Zimbabwe

Economic Performance	Average GDP growth in 2022	4.4%
Labor Force	Average Labor force Participation rate (% of population)	60.2%
Trade Performance	Exports of goods and services (% of GDP)	32.5%
	Imports of goods and service (% of GDP)	45.4%
Infrastructure	Access to electricity (% of population)	49.8%
	Internet Penetration	35.6%
	Freight volume by rail (Tonne km)	1.8 billion
	Freight volume by road (Tonne km)	5.2 billion
	Ports	99
Logistic Performance	Average Logistic performance index (1=low to 5=high)	2.48
Economic relationship with China	Trade with China (as % of total trade between China and Africa)	14.4%
	Chinese FDI stock in this region (as % of total Chinese FDI stock in Africa)	36.8%

EXAMPLE 1:

Greechain Technology (Greechain GFA): from a logistics company to an innovation driver for agricultural exporters

Needs and challenges targeted

- 2 Localize mining and supply chains to improve the added value of products
- 5 Integrate foreign and local firms in the supply chain process and form strong complements
- 6 Prioritize training centres and promote local involvement
- 8 Adopt more digital solutions to power supply chain growth

Part of the supply chain

Production, Inventory, Location, Transport, and Information

Country/Region

Kenya, Uganda

Annual Turnover

A new Kenya avocado processing project with an annual output value of \$76.9 million (500 million RMB)

Greechain is an innovative company covering the entire supply chain, with the aim of creating an ecological industry chain of African products and promoting trade

between China and Africa. With its global supply chain integration capabilities, Greechain provides Chinese consumers with products of excellent quality from countries around the world and along the “Belt and Road” and creates new vitality for Africa’s agricultural trade through the processing, export, and sales of African agricultural products such as Kenyan avocados and Ugandan dried mangoes. Currently, Greechain’s business is composed of food wholesale and retail businesses. Its flagship brands include Kenya avocado (GFA), Chile natural prune (AFRICHAIN), Uganda natural dried mango (AFRICHAIN), and African cashew nuts (GREECHAIN).

As one of the ‘Nine projects’ of the Forum on China-Africa Cooperation (FOCAC) in Dakar, the project was initiated when China and Kenya signed a protocol on the export of fresh Kenyan avocados to China in January 2022. With the coordination and assistance of the Chinese Embassy in Kenya and the Kenyan government, Kenya’s fresh avocado was approved for the Chinese market in June 2022, making it the first African country to export fresh avocados to China. As fresh Kenyan avocados

are allowed to enter China, the Chinese market is expected to consume 40% of Kenya’s avocados, making it the largest importer of fresh avocados from Kenya.



Early in 2019, Greechain, as the main partner with the Kenyan government avocado project, made great efforts to expand the Kenyan avocado market. In July 2019, the first container of frozen Kenyan avocados was shipped to China, and Greechain became one of the pioneers for importing Kenyan avocados into China. In this process,

Greechain has contributed to reducing Kenya avocado’s tariff from 30% to 7%.

In the future, Greechain hopes to lower the import tariff of Kenya’s avocado to zero, which will expand the exports of Kenya’s avocado and bring more benefits to Kenyan farmers, while providing Chinese consumers with fresh avocados at better prices.

Greechain wanted to import fresh Kenyan avocados to China in 2021, and the biggest challenge for doing so was fumigation technology and standards. Greechain later introduced fumigation technology from the Netherlands to Kenya throughout nearly a year’s efforts. By working with agricultural experts, it has developed standards for the entire fumigation process that met local conditions, and then introduced the standards to the Kenyan factories, helping Kenyan fresh avocados meet the requirements of Chinese customs standards.

In terms of avocado cultivation, Greechain currently cooperates with seven local avocado farms in Kenya, four of which are exclusive, covering about 500 farmers in total. In addition, Greechain plans to gradually expand its partnership with more than 20 other local avocado farms in the future. In terms of processing, Greechain's cooperative factories are situated in Kenya's Naivasha Lake, Thika Town, Limuru, and Nakuru, basically covering major production areas of nuts and avocados in Kenya. In particular, Greechain has launched a comprehensive and in-depth cooperation in the form of joint procurement, joint R&D and joint investment with VAL, which was established in 1972 and is the largest local avocado processing plant in Kenya.

Greechain is now communicating with Huawei to take advantage of Huawei's good network platform and supportive cloud system in Kenya. The upcoming digital system will track the entire life cycle of each batch of avocados, including origin, growth time, ripening time, picking time, production time, and transport time. Orders generated in China are directly sent to the front end of the supply chain to achieve efficient production and transport. Moreover, the system is linked to farmers' mobile phones to push demand data in real-time.

EXAMPLE 2:

Jielong Holdings (Tanzania): 20 years of farming and agro-processing in Tanzania

Needs and challenges targeted

- 2 Localize mining and supply chains to improve the added value of products
- 4 Develop local manufacturing capacity especially in public health
- 5 Integrate foreign and local firms in the supply chain process and form strong complements
- 6 Prioritize training centres and promote local involvement

Part of the supply chain impacted

Production, Inventory, Location, Transport, and Information

Country/Region

Tanzania

Annual Turnover

\$140 million (approximately 920 million RMB)

Jiangsu Jielong Agricultural Development Group (Jielong) was established in 2008, located in the west of Sheyang Economic Development Zone, Jiangsu Province, China. Jielong is mainly engaged in the production of edible vegetable oil, beer malt, cassava starch, feed, grain trade, storage, import, and export business. In 2012, Jielong Holdings (Tanzania) Ltd. was established in the Shinyanga region, western Tanzania with an investment of \$30 million.

Jielong Tanzania covers an area of 224 acres and a building area of 58,320 m² including its processing factory. Jielong's main products include cottonseed oil, sunflower seed oil and seed meal, soybean oil and meal series, palm oil, and soap, which are all sold locally. The plant has an annual processing capacity of 150,000 tons of oil, 75,000 tons of fodder, and 150,000 boxes of soap.

Jielong is fully involved in Tanzania's agricultural supply chain development based on the five key supply chain drivers. Regarding production, Jielong has a long history of working with local farmers to acquire cotton and other crops, in accordance with government requirements. In 2022, Jielong is consulting with the local government

to lease 6,382 acres of land to plant cotton, rice, and other crops. In this case, Jielong will be able to establish a complete cotton seed - cotton planting - cotton oil production chain. When it comes to inventory issues, products for the local market are stored directly by Jielong at the factory after production. For products sold to other countries of Eastern Africa, including Kenya, Uganda, and Rwanda, African buyers generally go directly to the factory to pick up the goods stored there. Additionally, to store those products for the Chinese market, the company leases two large cargo yards in the port for container transfer and packing. Jielong is also deeply involved in local transport. There are three main ways to transport Jielong's products. One is that the buyers organise their own transport, which is usually applicable to trade with other countries in East Africa. The second way is to transport products through Jielong's company fleet, which is mainly applicable to domestic customers in Tanzania. The third way is to sign long-term agreements with local logistics companies, which are used to transport goods destined for China from factories to ports. As for the information factor, Jielong works closely with local governments to get the latest information, policy support, and exemption of customs duty and value-added tax for export products. In addition, the local government has simplified the company's export approval, customs clearance and other procedures.

Overall Jielong has made advances in four main areas. Firstly, Jielong is committed to promoting local employment and provides career development training for local workers. Secondly, Jielong has helped to build a more resilient and integrated supply chain by partnering with local suppliers and bringing in five suppliers from other African countries. Thirdly, Jielong has cooperated with Tanzanian and Chinese universities and vocational colleges to provide local professionals with technical knowledge. Fourthly, Jielong's stable operation has driven up the local cotton price and increased the income of farmers.

Finally, Jielong's deeply localised presence in Tanzania has contributed to local farming, education, logistics development and infrastructure development.

EXAMPLE 3:

Electronic World Trade Platform (eWTP): more digital solutions to supply chain growth

Needs and challenges targeted

- 1 Address tariff and non-tariff trade barriers and promote regional economic growth in Africa
- 6 Prioritize training centres and promote local involvement
- 7 Provide African companies with adequate financing avenues and bridge the funding gap
- 8 Adopt more digital solutions to power supply chain growth

Part of the supply chain

Inventory, Location, Transport, and Information

Country/Region

Ethiopia, Rwanda

Annual Turnover

\$127 billion (approximately 853.1 billion RMB) in total revenue of Alibaba Group in 2022

\$899 million (approximately 6.034 billion RMB) in total revenue of ZHEJIANG CHINA COMMODITY CITY GROUP in 2021

The Electronic World Trade Platform (eWTP) is a mechanism for promoting cross-border trade, introduced by the Alibaba Group in 2016. It is a private sector-led and multi-stakeholder initiative. eWTP aims to promote public-private communication, improve the establishment of relevant digital trade rules, and create a practical and effective policy and business environment for the development of cross-border e-commerce. eWTP works with the relevant SME-focused and trade-focused international organizations, governments, and constituencies to incubate rules for the development of cross-border electronic trade such as B2B and B2C..

In October 2018, the first Electronic World Trade Platform (eWTP) established by Alibaba Group in Africa was set up in Rwanda. By using this e-commerce platform from TMall Global, coffee and handicrafts from Rwanda have been sold directly to Chinese consumers. For example, sales of Rwandan coffee in China via Tmall increased by 400% in 2020.²¹¹ Moreover, later in November 2019, the Ethiopian government also signed a deal with Alibaba to set up the eWTP. To cooperate with more African countries, eWTP does not only focus on e-commerce but also works on promoting tourism. For example, Chinese consumers can learn about Africa and book trips through Feizhu, a travel service platform of Alibaba.

In terms of inventory, as a platform to promote China-Africa e-commerce cooperation, eWTP builds bonded warehouses to secure the movement of goods. For instance, in September 2019, the eWTP Yiwu Innovation Center -- Rwanda digital Trade Hub was built in Kigali. Alibaba Group, Yiwu Mall Group, and DP World (an Emirati-owned port and logistics company) are committed to working together to make it a hub for Chinese goods in East Africa. On this basis, eWTP hopes to streamline procurement, distribution, logistics, customs, payment, and other trade processes by innovating import and export trade models.

In terms of transport, eWTP provides support for the digital clearance of customs. "Digital Customs Clearance" refers to the automatic collection of original data of orders, payments, and logistics, automatic generation of customs declaration data, and automatic tax calculation through the cross-border "Digital Customs Clearance" public service platform, to achieve 24-hour barrier-free customs clearance through the mail, express mail, and cross-border e-commerce channels. In the future, the digital customs clearance project will cover all B2B, B2C and C2C trade types.

Finally, eWTP brings opportunities for African countries to develop the e-commerce and digital economies. African countries can increase their economic resilience and have more potential for growth especially in the context of Covid-19 causing lockdowns and social distancing. As part of its future strategy, eWTP and African countries are also working to strengthen cooperation in digital technology to promote mobile payments and digital financial inclusion, such as the introduction of QR code technology.

²¹¹ Kuteesa, Hudson. (2020). "Rwanda Online Coffee Sales in China Rise by 400 per cent." AllAfrica. <https://allafrica.com/stories/202012310277.html>

EXAMPLE 4:

KENFREIGHT Group: a role model with 35 years of experience in regional logistics

Needs and challenges targeted

- 1 Address tariff and non-tariff trade barriers and promote regional economic growth in Africa
- 3 Upgrade the quality of continental and regional infrastructure and improve regional trade
- 8 Adopt more digital solutions to power supply chain growth

Part of the Supply Chain

Inventory, Location, Transport and Information

Country /Region

Kenya/East Africa

KENFREIGHT, an African logistics company, has more than 35 years' experience in the logistics industry with a specialized focus on east Africa. With its unique regional network covering the entire area KENFREIGHT has become a major player in the freight and forwarding industry in East Africa background. Today it boasts the fastest and safest inland transit time for all project types. On top of being part of the MSC network – the second largest shipping line worldwide – KENFREIGHT has secured agency contracts for some of the biggest freight forwarders worldwide.²¹² KENFREIGHT offers airfreight, ocean freight, road transport, special operations, warehousing depot, and container terminal operations, as well as international forwarding and customs clearance.²¹³

As a leading transport and logistics company in East and Central Africa, the impacts of KENFREIGHT forwards include providing efficient clearing, haulage, and storage service. Currently the firms have branches in Kenya, Tanzania, Uganda, Rwanda, Burundi, and South Sudan, thereby having a wider reach in terms of logistical demands for the region.²¹⁴

Some of KENFREIGHT's key clients are in the energy sector. For instance, in the construction of the Olkaria Geothermal Development project, KENFREIGHT imported required technologies and materials. The project is a 158-Megawatt (MW) plant which is expected to enhance existing power facilities in the Olkaria Geothermal fields with the aim of easing the struggling power supplies in the country.

KENFREIGHT is registered as an Inland Container Depot (ICD) operator in Uganda which means all customs clearance can be efficiently affected there under customs control. This gives clients much more flexibility and speeds up the delivery time for their containers. The ICD offers a dedicated rail siding, warehouse, two reach stackers for import, export and transit cargo.

Kenfreight could do more to tap into new markets. For example, it can target more smaller private sector companies and other new and unfamiliar markets such as China, and link up with AfCFTA to gain a competitive edge.

²¹² KENFREIGHT. "About us". <https://kenfreightgroup.com/about-us/>

²¹³ KENFREIGHT. "Our services." <https://kenfreightgroup.com/our-services/>

²¹⁴ KENFREIGHT. "About us."

4.2 Southern Africa



Botswana
Eswatini
Lesotho
Namibia
South Africa

Economic Performance	Average GDP growth in 2022	2.8%
Labor Force	Average Labor force Participation rate (% of population)	57%
Trade Performance	Exports of goods and services (% of GDP)	36.9%
	Imports of goods and service (% of GDP)	52.0%
Infrastructure	Access to electricity (% of population)	67.9%
	Internet Penetration	49.8%
	Freight volume by rail (Tonne km)	32.5 billion
	Freight volume by road (Tonne km)	35.6 billion
Logistic Performance	Ports	15
	Average Logistic performance index (1=low to 5=high)	2.90
Economic relationship with China	Trade with China (as % of total trade between China and Africa)	22.1%
	Chinese FDI stock in this region (as % of total Chinese FDI stock in Africa)	13.78%

EXAMPLE 5:

Hisense Group: industrial park empowering african manufacturing to integrate into global supply chain

Needs and challenges targeted

- 2 Localize mining and supply chains to improve the added value of products
- 4 Develop local manufacturing capacity especially in public health
- 5 Integrate foreign and local firms in the supply chain process and form strong complements
- 6 Prioritize training centres and promote local involvement

Part of the supply chain

Production, Inventory, Location, Transport, and Information

Country/Region

South Africa

Annual Turnover

Total annual revenue of \$450 million (approximately 2,925 million RMB)

Founded in 1969 in Qingdao, China, Hisense Group is a Chinese multinational corporation that focuses on manufacturing and sales of consumer electronics and home appliances. It entered the South African market in 1996 by forming a

joint venture to produce televisions locally and has over two decades of trading and manufacturing experience in Southern Africa. In March 2013, The China-Africa Development Fund and Hisense Group signed an investment cooperation agreement to jointly invest US\$30 million in the construction of Hisense South Africa Comprehensive Industrial Park. Located in the Atlantis Special Economic Zone in Cape Town, South Africa, the Hisense Park now covers 1.1 million square meters, of which 520 thousand square meters have been put into use. It is comprised of a manufacturing park and a logistics park.

The Park hosts Hisense's manufacturing factory, Hisense sales company, and SITC Logistics, covering production, logistics, trade, and distribution. This "industry plus park" model is actually quite innovative. It enhances the "industrial clustering" of up-streaming and down-streaming enterprises, creating a one-stop business service, which significantly improves the efficiency of supply chain management and reduces operation costs.

The establishment of Hisense Industrial Park has driven the development of surrounding supporting enterprises, such as the growth of local raw material processing and supplying companies, logistics providers, after-sales services, security services, and cleaning services. In addition, it has promoted the growth of local manufacturing capacity. The Hisense industrial park employs almost 1,000 South African employees, accounting for 90 percent of its total workforce. It is also estimated that it has facilitated the creation of over 5,000 jobs in up-stream and down-stream supporting industries. Hisense claims to attach great importance to staff training and growth. Through mentoring and experience sharing, Hisense has trained hundreds of local employees who are now taking up 40 percent of management positions.²¹⁵ Moreover, Hisense has cooperated with the Atlantis Secondary School to build the Hisense South Africa Technology Research and Development Training Base which provides various training to students to equip them with skills and knowledge in electronic technology, software, and equipment control.

Meanwhile, Hisense South Africa Industrial Park is also making efforts to accelerate its transformation from a regional base into a global production base. In April 2022, the first batch of refrigerators manufactured in South Africa was successfully delivered to the UK,²¹⁶ thereby linking African-made products to the European market. This new sales model increases South Africa's integration into global manufacturing supply chains, at a higher level of value-addition. It also increases the international recognition for "Made in Africa" brand and the production quality control level of African-based factories.

For Hisense, the manufacturing and sales hub in South Africa is a key component in its globalization strategy and a solid base for its market expansion in Africa. For South Africa, the project strengthens local manufacturing capacity, boosts employment and exports, improves supply chain management and enhances integration into global supply chain by bringing in Chinese investment finance, technologies, advanced managerial experience, and green development concepts.

²¹⁵ "Hisense Appliance Industrial Park Project." South South Galaxy. <https://my.southsouth-galaxy.org/en/solutions/detail/hisense-appliance-industrial-park-project>

²¹⁶ "Hisense 'Made in South Africa' Products Debut on the European Market." (2022). PR Newswire. <https://www.prnewswire.co.uk/news-releases/hisense-made-in-south-africa-products-debut-on-the-european-market-810197438.html>

EXAMPLE 6:

Wepon Group: pharmaceutical and park investment companies with manufacturing background

Needs and challenges targeted

- 4 Develop local manufacturing capacity especially in public health
- 7 Provide African companies with adequate financing avenues and bridge the funding gap
- 8 Adopt more digital solutions to power supply chain growth

Part of the supply chain

Production, inventory, location, transport, information driving the African supply chain

Country/Region

South Africa

Annual Turnover

Total revenue of 1,931 million RMB (\$297 million) in 2021

Wanbangde Pharmaceutical Group (WEPON), a subsidiary of the WEAPON Group, a multinational enterprise specializing in high-end medical instruments, medical equipment manufacturing, and hospital engineering services. Inspired by FOCAC and BRI, driven by its globalization strategy, and attracted by Africa's fast-growing medical-pharmaceutical market and local manufacturing opportunities, WEAPON established a medical company - Anglorand Medical Pty Ltd in South Africa after the Johannesburg Summit in 2015. In January 2016, Anglorand acquired two local companies, Elite Surgical Supplies Pty Ltd. and Tecmed Africa Pty Ltd., which marked the start of WEAPON's journey of promoting China-Africa cooperation in the health sector.

WEAPON chose the mergers and acquisitions (M&A) approach to better integrate resources in China and in Africa and to build a strong and complete global supply chain. Elite Surgical Supplies, located in Pretoria, South Africa, is in the business of research and development (R&D), manufacturing, and distribution of orthopaedic implants and surgical instruments. Tecmed Africa, is one of the leading medical equipment suppliers and technical service providers in Africa. Based in South Africa, its operation covers Southern Africa and reaches other parts of Africa.

WEAPON's acquisition of the two companies represents an integration of market resources and a restructuring of the supply chain. On the one hand, it can facilitate the development of local companies as well as industries, thus increasing the efficiency of resource allocation along the global supply chain. On the other hand, the acquisitions bring resources such as capital, human resources, technology and management skills to the local companies, and these opportunities can introduce new management concepts and technologies, which increase their competitiveness.

For WEAPON, the acquisitions helped it quickly gain a foothold in local and regional markets. Through accessing the distribution channels of the original companies, WEAPON gained an advantage in launching new products in the local market. The acquired companies also provide WEAPON with an opportunity to gain a quick and in-depth understanding of the culture, customs, and policies of South Africa and other

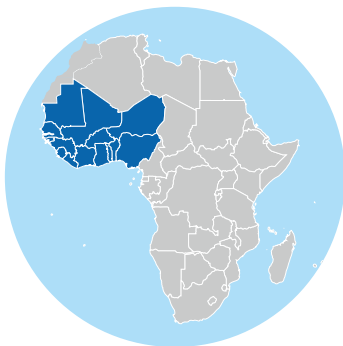
African countries. The acquisition facilitated the development of the supply chain as it mobilizes and integrates market resources and improves efficiency.

WEPON, together with its partners, has built an industrial and trade smart town in Limpopo Province, South Africa. The town is designed to combine a medical and pharmaceuticals industrial park, a distribution and wholesale centre, and a community with businesses and entertainment.

In the future, the construction of the smart town allows WEAPON to explore building a flexible supply chain in health sector with integrated elements including Production, Location, and Information. The development of smart town can improve the flexibility and efficiency of local and regional supply chains by integrating resources, capital, and technology. After its construction, the WEAPON Burgersburg Industrial and Trade Smart Town will establish China-Africa collaboration in the health industry and two-way interactions between China and Africa in medical cooperation.

Finally, by introducing advanced technology, high-end products and service concepts, WEAPON contributes to local medical and pharmaceutical production capacity and contributes to the development of the African health industry.

4.3 West Africa



Benin
Burkina Faso
Cabo Verde
Cote d'Ivoire
Gambia
Ghana
Guinea
Guinea-Bissau
Liberia
Mali
Mauritania
Niger
Nigeria
Senegal
Sierra Leone
Togo

Economic Performance	Average GDP growth in 2022	4.8%
Labour Force	Average Labour force Participation rate (% of population)	51.5%
Trade Performance	Exports of goods and services (% of GDP)	22.8%
	Imports of goods and service (% of GDP)	34.1%
Infrastructure	Access to electricity (% of population)	50.1%
	Internet Penetration	34.3%
	Freight volume by rail (Tonne km)	1.82 billion
Logistic Performance	Freight volume by road (Tonne km)	7.05 billion
	Ports	85
	Average Logistic performance index (1=low to 5=high)	2.44
Economic relationship with China	Trade with China (as % of total trade between China and Africa)	25.60%
	Chinese FDI stock in this region (as % of total Chinese FDI stock in Africa)	17.8%

EXAMPLE 7:

Guangzhou Choice International: 23-year trade foundation lays a stable partnership for local manufacturing and transport

Needs and challenges targeted

- 4 Develop local manufacturing capacity especially in public health
- 6 Prioritize training centres and promote local involvement
- 7 Provide African companies with adequate financing avenues and bridge the funding gap
- 8 Adopt more digital solutions to power supply chain growth

Part of the supply chain

Production, inventory, location, transport, information driving the African supply chain

Country/Region

Nigeria

Annual Turnover/ Rank in Size

Nigeria 1st importer of China's passenger car

Choice International was established in 1999 as a trading company. The company is now an international brand operator focusing on home appliances and automobiles, with four flagship self-owned brands and two represented brands. Under the guidance of China's national policies and initiatives, such as the Belt and Road Initiative and FOCAC, Choice International has been localizing operations in Nigeria since 2014. In 2014, Choice International signed a strategic investment Memorandum of Understanding with the China-Africa Development Fund, receiving RMB 100 million (\$ 15 million) to expand the company's operations internationally. With more than 20 years of experience, its business scope covers the entire supply chain, including manufacturing, trading, logistics, distribution and retail.

Since the introduction of automobile trade in Nigeria in 2014, Choice International has become the brand agent of Guangzhou Automobile, and established CIG Automobile Co., Ltd. to bring Chinese automobile brands and automobile industry into the African market.

In 2021, Choice International and Lagos State Government of Nigeria launched the Guangzhou Automobile Assembly Plant Project, which is a public-private partnership project committed to the localized production of Nigerian automobiles. The assembled automobiles will be sold in Nigeria and other West African countries, which will further improve transport and connectivity in the region. In 2022, with the arrival of 1,000 Guangzhou Automobile vehicles, Lagos government and CIG Automobile launched the LagRide car hailing service plan to meet the public transport challenges faced by metropolises. This cooperation has taken advantage of Didi's business model in China and established links with automobile manufacturers through the car-hailing service. LagRide uses a rent-and-own model, which enables drivers to receive government subsidies for vehicles and eventually own cars after earning enough money. LagRide is an example of providing clean and reliable taxi services at an affordable cost and will create more local jobs, especially for the younger generation.

LONTOR, as one of the four flagship self-owned brands of Choice International, is responsible for the manufacturing and sales of opto-electronic products. LONTOR

applies the 'off-grid power supply' model, which compensates for the unstable power situation in African countries including Nigeria. It has three major product categories: flashlights, desk lamps, and emergency lighting. Providing good quality at low prices, LONTOR products have obtained a share of 70% in the Nigerian optoelectronic products market, ranking first. Up to 2022, LONTOR has established more than 50 direct-sales stores throughout Nigeria.

Production wise, Choice International also established a factory in Nigeria, which can assemble locally. LONTOR actively promotes local employment and specifically aims to employ low-and-middle income individuals using a labour-intensive business model. The assembly factory hires local workers, while the creation of direct-sale stores brings a new sales network, encouraging more local people to recognize LONTOR through a franchise model and motivating employees who can become a store owner through their own efforts and training.

EXAMPLE 8:

Guangzhou SUNDA International: an international operation company deeply involved with and integrated in Africa

Needs and challenges addressed

- 1 Address tariff and non-tariff trade barriers and promote regional economic growth in Africa
- 2 Localize mining and supply chains to improve the added value of products
- 4 Develop local manufacturing capacity especially in public health
- 6 Prioritize training centres and promote local involvement
- 7 Provide African companies with adequate financing avenues and bridge the funding gap

Part of the supply chain

Production, inventory, location, transport, information driving the African supply chain

Country/Region

Senegal, Ghana, Kenya, Tanzania

Annual Turnover/Rank in Size

Top 100 exporters to Africa

Founded in Guangzhou in 2000, Guangzhou SUNDA International Trading Co Ltd (SUNDA)

was one of the first Chinese international trade enterprises to enter Africa and other overseas markets. It has become a multinational comprehensive industrial group integrating overseas industrial manufacturing, international trade, industrial investment, consulting services, and information technology services, and is committed to the research and development and production of ceramic products, sanitary ware, hardware accessories, and daily washing and personal care products, with a marketing network covering more than 20 countries and regions.

Sunda Group has ranked among the top 100 exporters to Africa for many years. The Group has opened subsidiaries in Africa in Ghana, Tanzania, Kenya, Cote d'Ivoire, Senegal, Uganda, Zambia, Nigeria and other countries. It rapidly developed localized manufacturing in Africa, and had opened eight production bases in Ghana, Kenya, Tanzania and Senegal by 2022, establishing a complete industrial chain that brings together industrial manufacturing, network marketing, strategic sourcing, land and sea transport, and warehouse management. on June 30, 2020, Sunda and its

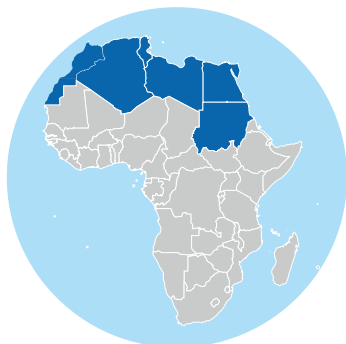
partner company, Keda Clean Energy Co. Ltd (Keda), reached an agreement with the International Finance Corporation to obtain a long-term loan of \$165 million for the business operations of its joint ventures in Africa. The funds will also be used for ceramics plants in Cameroon, Côte d'Ivoire and Kenya.

In 2017, Sunda Group established a subsidiary in Senegal. 2020, the Senegal Ceramic Factory commenced operations, becoming the fourth ceramic enterprise established by Sunda Group and its partners in Africa, and the project that has to date attracted the largest amount of Chinese investment and employed the largest number of local employees in Senegal. The first ceramics enterprise in Senegal, the factory directly employs more than 1,000 people and provides indirect employment for more than 2,000 people. The project represents a total investment of more than 80 million U.S. dollars, an annual production scale of 18 million square meters of ceramic products, and a daily output of more than 55,000 square meters. 65% of the products cover the domestic demand of Senegal, which saves foreign exchange of about 50 million U.S. dollars a year, and also generates foreign exchange revenue of more than 25 million U.S. dollars for Senegal. The annual tax revenues are expected to be 6 million U.S. dollars; 90% of the raw materials are locally sourced, and products can be sold to Mauritania, Mali, Guinea, Gambia and other neighbouring countries. The plant has a complete supply chain based on local industry in Senegal, and will provide substantial support to the development of Senegal's ceramic industry.

The successful operation of the ceramic plant follows the international division of labour and the development trend of industrialization in Africa. As China's largest investment project in Senegal, its success will encourage more and more excellent Chinese entrepreneurs to set up enterprises in Senegal, and show how the Chinese government has contributed to infrastructure construction and industrialization in Africa.



4.4 North Africa



Algeria
Egypt
Libya
Morocco
Sudan
Tunisia

Economic Performance	Average GDP growth in 2022	2.6%
	Average Labour force Participation rate (% of population)	43.6%
Trade Performance	Exports of goods and services (% of GDP)	18.9%
	Imports of goods and service (% of GDP)	30.9%
Infrastructure	Access to electricity (% of population)	87.5%
	Internet Penetration	57.3%
Logistic Performance	Freight volume by rail (Tonne km)	4.3 billion
	Freight volume by road (Tonne km)	18.7 billion
Economic relationship with China	Ports	145
	Average Logistic performance index (1=low to 5=high)	2.49
Economic relationship with China	Trade with China (as % of total trade between China and Africa)	17.3%
	Chinese FDI stock in this region (as % of total Chinese FDI stock in Africa)	10.4%

EXAMPLE 9:

Zhejiang CHINT Solar: Applying global experience to clean energy investment in Africa

Needs and challenges targeted

- 3 Upgrade the quality of continental and regional infrastructure and improve regional trade
- 4 Develop local manufacturing capacity especially in public health
- 5 Integrate foreign and local firms in the supply chain process and form strong complements
- 6 Prioritize training centres and promote local involvement

Part of the supply chain

Production, inventory, location, transport, information driving the African supply chain

Country/Region

Egypt

Annual Turnover

Total revenue of 38.86 billion RMB (about \$5.98 billion)

Established as a subsidiary of CHINT Group in 2009, CHINT Solar focuses on clean energy, construction, operations, and services, with specific businesses in photovoltaic (PV) power plants construction, energy storage, energy commercialization, and microgrids. After more than a decade, CHINT Solar ranked

first in private PV investment in 2021.²¹⁷ It has established more than 690 photovoltaic power stations and 600,000 distributed photovoltaic power stations at home and abroad, and has accumulated a wealth of experience in the construction of large and medium-sized ground power plants, rooftop PV plants, and PV stations used in agricultural and desert landscapes. The company works across a number of countries in the Belt and Road Initiative, providing Engineering Procurement Construction (EPC) services in the PV industry, including Egypt. As an infrastructure developer and manufacturer, CHINT has had a positive impact on the electrical equipment industry and new energy supply chain in Egypt.

In 2017, CHINT and Egyptian state-owned enterprise EGEMAC established the first joint venture in Africa— CHINT-EGEMAC, which produces electrical equipment products such as low-voltage switch gear, control boxes, lighting boxes, and intelligent control cabinets. At the same time, it will take advantage of the whole power industry chain to expand business types, enter the high-voltage market, master core technologies and provide customers with more comprehensive supporting services. Chint Egypt's products are used in the construction of core projects in Egypt, such as government buildings, hospitals, hotels, and three new cities. In addition, the factory promotes local employment, with more than 95% of its employees coming from Egypt, and provides internal training to encourage young employees to upgrade their skills.

Chint Egypt Subsidiary and CHINT Egypt Logistics Service Centre were established in 2018 to strengthen the company's sales and service network in Egypt. By increasing the localized operation and after-sales service of logistics centres, CHINT improves its service to the Egyptian electricity market. In 2018, CHINT New Energy won the EPC contract from ACWA Power, a leading developer of electricity and desalination projects in Egypt, to support the Internet access plan of three solar photovoltaic power stations in Benban Solar Industrial Park, which is part of the Egyptian government's Sustainable Energy Strategy 2035. Benban Solar Park (28MWp), ALCOM (70MWp) and ACWA Benban (67.5 MWp) represent a total investment of 190 million US dollars. They began operations and were officially connected to the grid in September 2019 and which can supply electricity to 80,000 homes and reduce 156,000 tons of carbon dioxide emissions every year.²¹⁸

A stable supply of electricity is essential in all links of Egypt's supply chain, including manufacturing and production, agricultural products processing, e-commerce, and road transport. With Egypt's electricity demand increasing by 28% in recent years, the photovoltaic project built by CHINT New Energy will become an important part of Benban New Energy to support the government's renewable resources policy and meet the country's growing energy demand.

²¹⁷ Guangfu BJX. (2022). "List of private photovoltaic investors". <https://guangfu.bjx.com.cn/news/20220527/1228498.shtml>

²¹⁸ ACWA Power. (2018). "ACWA Power Signs EPC Contract with CHINT Group to Build Three PV Projects at Egypt Totaling 165.5MW Capacity". <https://www.acwapower.com/news/acwa-power-signs-epc-contract-with-chint-group-to-build-three-pvprojects-at-egypt-totaling-1655mw-capacity/>

EXAMPLE 10:

Shanghai Greenroad International Logistics: getting into North Africa and building a green logistics road in Africa

Needs and challenges targeted

- 1 Address tariff and non-tariff trade barriers and promote regional economic growth in Africa
- 3 Address tariff and non-tariff trade barriers and promote regional economic growth in Africa
- 6 Prioritize training centres and promote local involvement
- 8 Adopt more digital solutions to power supply chain growth

Part of the supply chain

Production, inventory, location, transport, information driving the African supply chain

Country/Region

Eastern, Western, Southern, Northern and Central Africa

Annual Turnover/Rank in Size

Top 100 Freight Logistics Revenue in China in 2021

Greenroad started its business in North Africa. On June 26, 2022. A ceremony to celebrate the maiden voyage of the Greenroad Sudan-China Express was held in Khartoum, Sudan. The Sudan-China Express Line is operated by a medium-wave Atlantic ship with a load of 32,000 tons, providing a monthly scheduled service with a transit period of about 19 days, traveling between Qingdao Port and Sudan Port, and radiating to Sudan and neighbouring countries.²¹⁹

Greenroad International Logistics Co Ltd. (Greenroad), founded in 1998 with headquarters in Shanghai, provides one-stop logistics services. In 2021, Greenroad's business income ranked among the top 100 international freight and logistics enterprises in China. In 2007, Greenroad established its first overseas subsidiary in Mali. By 2022, Greenroad will set up 47 molecular companies in 27 African countries, with 89 Chinese employees and 465 local employees.

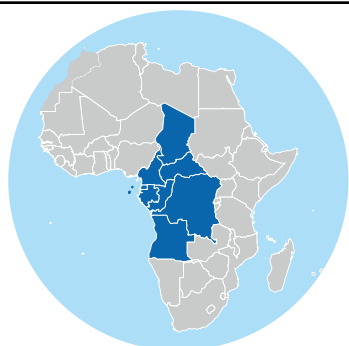
Greenroad has long been committed to providing logistics services for China's overseas projects in Africa, including energy, electricity, schools, hospitals, industrial parks, and trade-related infrastructure-roads, railways and ports. In the past two decades, Greenroad has provided goods and maritime logistics services for a large number of Chinese overseas project procurement, construction-operation-transfer, and public-private partnership projects, and improved supply chain efficiency through its logistics services and new logistics routes.

Greenroad has been building African capacity and overseas warehouse resources since 2017, and began to obtain management rights through direct investment and joint fleet formation in Benin in West Africa, Djibouti in East Africa, Ethiopia, Tanzania and South Africa. A self-operated trailer service system has been established, with more than 100 tractors, axis cars, and trailers of various uses and specifications, which effectively meet the special needs of customers and ensure capacity and inland transport timeliness in the peak season. Warehouses have been set up in Egypt, Uganda, Ethiopia, Zambia and South Africa.

²¹⁹ Sudan-China Express maiden voyage <http://file.mofcom.gov.cn/article/zwjg/zwxw/zwxwxyf/202206/20220603322240.shtml>

In order to increase regional connectivity and supply chain development, Greenroad actively cooperates with COSCO, China Inspection and other Chinese enterprises to improve the level of logistics services and trade facilitation, especially for African agricultural and mineral products, and has launched a new “logistics + quality inspection” one-stop service platform, forming a new industrial supply chain service system integrating logistics, quality control, financing, customs clearance, cargo control and product traceability, which shortens the trade cycle.

4.5 Central Africa



Angola
Cameroon
Central African Republic
Chad
Congo
Congo, Democratic
Equatorial Guinea
Gabon
Sao Tome and Principe

Economic Performance	Average GDP growth in 2022	3.7%
Labour Force	Average Labour force Participation rate (% of population)	Data not available
Trade Performance	Exports of goods and services (% of GDP)	33.7%
	Imports of goods and service (% of GDP)	34.9%
Infrastructure	Access to electricity (% of population)	49.1%
	Internet Penetration	25.6%
	Freight volume by rail (Tonne km)	1.7 billion
	Freight volume by road (Tonne km)	4.1 billion
	Ports	65
Logistic Performance	Average Logistic performance index (1=low to 5=high)	2.36
Economic relationship with China	Trade with China (as % of total trade between China and Africa)	20.6%
	Chinese FDI stock in this region (as % of total Chinese FDI stock in Africa)	21.2%

EXAMPLE 11:

Yewhing Holdings: Creating a high-end furniture commercial brand belonging to Africa

Needs and challenges targeted

- 2 Localize mining and supply chains to improve the added value of products
- 4 Develop local manufacturing capacity especially in public health
- 6 Prioritize training centres and promote local involvement

Part of the supply chain

Production, inventory, location, transport, information driving the African supply chain

County/Region

Angola

Annual Turnover

Annual turnover of \$70 million

Yewhing was established in Qingdao, China in 1993, and started in international trade. It has now developed into a multinational enterprise focusing on commercial retail, covering international trade and wholesale, high-end commercial real estate development and operation, furniture and building materials manufacturing, wood mining and processing, and fishing and processing. Yewhing entered Angola in 2002 in trade and retail business. In 2013, it invested 30 million US dollars to build Mundo Da Casa (MDC), a large home business centre.²²⁰

MDC is mainly engaged in the commercial retailing of all types of home furnishings, offering a wide variety of well-designed, functional, and cost-effective furniture, home furnishings and home appliances. It strives to be a one-stop shopping centre for all home furnishing products. MDC now has one flagship store and nine chain stores, occupying a total business area of approximately 30,000 square meters, located in various major modern commercial complexes in the capital Luanda and major provinces in Angola. MDC has a product range of nearly 20,000 stock keeping units (SKUs) and is equipped with over 20,000 square meters of warehousing and related logistics facilities.

Yewhing is actively engaged in the furniture supply chain in Angola. First, MDC works with designers in Angola and abroad to design and decide the style of products. Then, FAUNUS, a subsidiary of Yewhing, conducts wood harvesting and solid wood processing to produce solid wood semi-finished materials and outdoor solid wood furniture. Next, Yewhing's FATIMA, a furniture manufacturing company, customizes sofas and cabinets, produces sofas, mattresses, wooden doors, customized cabinets, wardrobes and other customized furniture products, and turns semi-finished materials into household items.

Afterwards, the furniture is shipped by Yewhing's own logistics segment to MDC's flagship and chain stores across the country for retail, or to MDC's warehouses for storage. Throughout the chain, MDC endeavours to maximize localization. It makes full use of local resources, expands local manufacturing, employs local staff, and

²²⁰ Bomjardim, Fabricio. (2014). "Angola recebe centro comercial Chine." CEIRI News. <https://ceiri.news/angola-recebe-centro-comercial-chines/>

increases local management. Within MDC, 2000 employees are hired locally and 10% of management team is Angolan.

MDC, FAUNUS wood processing PLC, FÁTIMA furniture manufacturing PLC and other companies under Yewhing Group in the furniture supply chain, has gained a solid foothold in the Angolan market. Yewhing plans to establish an international supply chain system based on the experience gained in Angola. To this end, it has strengthened ties with local and regional business organizations and built partnerships with suppliers and buyers from Portugal, Italy, Spain, India, Turkey and other countries.

Yewhing will replicate the MDC business model in other parts of Africa, and over the next five years, MDC Home World stores will operate in several African countries including the Democratic Republic of Congo, Mozambique, Nigeria, and Ethiopia. In terms of product quality and range, MDC aims to bring consumers high-quality products that meet international standards. It cooperates with many international design companies in the home furnishing and home decoration industries to provide high-end customized products. It also supplies markets in countries such as Turkey, Italy, India, Portugal and Spain, and its supply chain covers Africa, Asia, Europe and America.

Yewhing has taken advantage of resources in the African continent and contributes positively to local supply chain development. The company is committed to local employment and an increasing number of local employees are taking management roles. Yewhing is also actively engaged in corporate social responsibility activities. Yewhing has established a long-term counterpart assistance relationship with a local orphanage, regularly sending employees to volunteer, providing facilities, renovating the dormitories, and taking graduates to conduct internships at MDC and providing job opportunities for them.²²¹

EXAMPLE 12:

Zhejiang Herocean Pan-African Network: build an African trade and information technology supply chain platform

Needs and challenges targeted

- 1 Address tariff and non-tariff trade barriers and promote regional economic growth in Africa
- 5 Integrate foreign and local firms in the supply chain process and form strong complements
- 8 Adopt more digital solutions to power supply chain growth

Part of the supply chain

Inventory, Location, Transport, and Information

Country/Region

Angola

Annual turnover

USD 150 million

²²¹ Ministry of Commerce of the People's Republic of China. (2014) "In love with Angola, Youxing Group helps Angola orphanages" <http://ao.mofcom.gov.cn/article/todayheader/201410/20141000765678.shtml>

Zhejiang Herocean Pan-African Network Co., Ltd. is a China-Africa supply chain platform enterprise integrating international logistics and African industrial trade and information technology. Headquartered in Shanghai, China, it has more than 10 wholly-owned or controlled subsidiaries and is distributed in 39 city outlets in African countries such as Angola, Zambia, the Democratic Republic of the Congo (DRC), Mozambique, Malawi.

The Group started its Africa logistics business from 2009, and gradually formed a blueprint for one-stop full-process supply chain services between China and Africa. Benefiting from China's ports in Dalian, Qingdao, Tianjin, Shanghai, Ningbo, and Guangzhou, it provides international trade customers from more than 20 countries with convenient, and cost-effective third-party logistics solutions. With its strong physical investment, it can provide a full range of services including procurement, warehousing, shipping, customs clearance and delivery of goods to the door. The Group's strategy of "one center and three basic points", integrates three standardized core products: routes (improving and optimizing the operation efficiency of China-Africa routes), warehousing (establishing bonded warehouses and depots in key African ports and landlocked countries), and urban distribution (combined with the Group's non-physical network, exerting efforts and expanding distribution between African cities), combined with the strengths of African networks, integrating and creating standardized products to meet the increasingly diverse needs of customers.

In the industrial trade sector, based on its existing 30+ city outlets, the Group built a retail network with "home" products as the core, expanded the reach of channels, and implemented the layout of the 3 strategic engines driving the Group's business – chain stores (10 new market cities to be explored in 2022, and 100 franchise stores per new market), users (1,000 members per franchise store), and commodity ("home"-themed building materials, decoration, furniture, home appliances, daily necessities and travel products and other 6 categories).



In the information technology sector, in order to provide modern business services for the African market, the company created the OBOR e-commerce platform, aiming to improve daily lives of the African people. With years of intensive operation in the

whole supply chain, it optimizes the safe and reliable third-party payment platform, and introduced a variety of quality products for African consumers. OBOR opens up a full link between customers, stores and merchants, so that all local merchants can deliver business from home. The Group has made it its mission to grow into the largest e-commerce service platform in Africa.



Chapter 5: Conclusions and Recommendations

This report has focused on China's role in the African continent's supply chain, with the goals of assessing progress to date, documenting challenges encountered, and proposing future actions. The report first provided a five-part framework for understanding supply chain development. It then reviewed the history and status of supply chain development across Africa, providing key data to set the context for policy direction and the role of development partners such as China in engaging in this area. The report also summarized the attractions of Africa's supply chain, as well as the challenges to progress. The report also provided an insight of how Chinese forces, both at the policy and local level, are affecting supply chain development in Africa under the framework of FOCAC, and illustrated key trends through numerous case studies from CABC member companies in Africa.

5.1 6 Conclusions

In this process, this analysis has drawn a number of conclusions:

- ① **Development Agenda.** There is ample evidence that supply chain development is crucial to meeting the SDGs and Africa's Agenda 2063. However, as the COVID19 pandemic has shown, there are global risks and uncertainties that can inhibit the further development of supply chains. Internal conflicts and climate change will certainly impose pressure on the existing chains in Africa.
- ② **General context.** Africa's supply chain development has significant potential in theory, but the continent has actually been locked into a fairly poor position in global supply chains due to the history of colonialism.
- ③ **Industrial challenges.** While the supply chains of Africa generally lagged behind the rest of the world, some parts are more advanced than others. In particular, of five crucial areas of the supply chain framework - Production, Inventory, Location, Transport and Information - at the moment information appears to be the most developed (especially via African startups), and transport the least well developed – for instance no major trunk roads link West Africa to central or southern Africa, and railways lines are concentrated in the southern Africa region. There also remains a lack of local manufacturing, logistics companies and local talent. However, trends such as e-commerce could help to accelerate growth in supply chain framework components.

④ Country-Specific potential: Geographically, certain countries in Africa are also in a better position than others – for example, Egypt, South Africa, Kenya, Ethiopia and even Mauritius – for varying reasons, and again due to historic factors the areas on the borders of the continent are also better developed in terms of supply chain logistics. Countries such as Nigeria, Ghana, Tanzania and DRC have potential but their development falls far below expectations. However, the emergence of the AfCFTA and Agenda 2063 indicates a desire and need to pursue a continental approach, not investment in just one country or region.

⑤ Growing China-Africa coordination. Our research, interviews, and surveys, also show that addressing Africa's supply chain challenges requires Africa's own actions and support from its development partners like China so as to change the structure and to invest in lagging parts of supply chains – such as continental and regional infrastructure.

⑥ Increased contribution of Chinese enterprises. Since at least the early 1970s, China has been actively helping Africa resolve some supply chain gaps – particularly through concessional loans to help narrow infrastructure gaps, investment in manufacturing, and e-commerce. In the case studies selected in this report, particularly in Chapter 4, it is worth noting that the supporting role of Chinese financial institutions, such as the China-Africa Development Fund, has featured on numerous occasions. It also means that, as the case studies show, China's involvement in African supply chains is relatively diverse and covers all sub-regions within Africa.

5.2 Three key recommendations for Chinese investors

What do these conclusions mean for the future? Experts have provided China with 3 key recommendations.

First, we recommend that Chinese stakeholders should continue to engage in this area and ramp up their investment in African supply chains. The experience of China's own supply chain transformation, and business models that have been designed to solve gaps in the China's supply chain or markets, is extremely useful for African growth. Moreover, Chinese support has the potential to help Africa disrupt long-standing supply chain patterns originating from its colonial past.

To achieve this, a more concrete action plan needs to be formulated by both China and Africa to guide and effectively track supply chain development.

Second, Chinese partners must foster sustainable development capacity in Africa, and integrate into the sustainable development of African supply chain. It is crucial to link more African companies to Chinese-initiated industrial parks and Special Economic Zones (SEZS), allowing these companies to access resources such as Chinese financing, logistic services, technical skills, and partnerships. It is crucial for Chinese firms to partner with local African businesses to deepen their understanding and therefore thrive in the market. This cooperation has great potential and may deliver remarkable long-term benefits.

Third, official and private financial investment institutions, and private investment promotion platforms from China should play a greater role. Supportive organisations such as CAD Fund, CAFIC and CABC are enabled to play a scaled-up role in this area. Their importance cannot be under-estimated.

BOX 31

China-Africa Private Investment Promotion Platform: Preparing to build the third investment platform for China-Africa Cooperation

At the 8th Ministerial Conference of the Forum on China-Africa Cooperation, President Xi Jinping proposed the establishment of a “China-Africa Private Investment Promotion Platform” and included in the Forum on China-Africa Cooperation – Dakar Action Plan (2022-2024) to encourage Chinese enterprises to invest in Africa.

This platform is the third announced by China to promote China-Africa economic and trade investment after the China-Africa Development Fund (CADFund) and the China-Africa Fund for Industrial Cooperation (CAFIC). It will be run by the All-China Federation of Industry and Commerce (ACFIC), encouraging Chinese private enterprises to carry out economic and trade investment cooperation with Africa. CABC will be fully engaged in this endeavor.

Through this platform, CABC will guide Chinese private enterprises to understand Africa’s needs, do due diligence, strengthen other related investment, improve post-investment management, and promote a number of high-quality, people-centered and sustainable investment projects for Africa.

At present, CABC, together with Holley International Co., Hangzhou Minzhi Investment Management Co., China-Africa Supply Chain (Zhejiang) Research Institute, is conducting research and cooperation with the International Finance Corporation of World Bank Group, Zhejiang Financial Assets Trading Center, Hangzhou Fuyu Investment Co. It is building a cross-border investment and financing platform through consulting and financing, and planning to invest in projects in the fields of fisheries, agriculture and forestry, industrial parks, supply chains, and medical and health care in its first phase.

Source: CABC

5.3 32 Suggestions according to the 8 key challenges

According to the eight cross-cutting actions referenced in Chapter 2 to meet the supply chain challenges in Africa, we provide a set of specific suggestions for both Chinese and African stakeholders. These suggestions are as follows:

1 Address tariff and non-tariff trade barriers and promote regional economic growth in Africas

Recommendations for African stakeholders:

- 1 Actively participate in and take advantage of the AfCFTA to boost intra-regional trade.
- 2 Promote trade facilitation incorporating efficient border measures and improved border customs solutions.
- 3 Use trade, investment and competition policy (including AfCFTA protocols) actively to discourage foreign firms (including from China) from investing in simple, extractive companies.

Recommendations for Chinese stakeholders:

- ④ Encourage Chinese enterprises to link with AfCFTA to promote intra-Africa trade.
- ⑤ Strengthen trade facilitation policies to make African goods more easily to import, for example, through an African-wide preferential trade agreement, building on the existing “green lanes” initiative under FOCAC.
- ⑥ Actively promote processed value-added African-made products and brands in the Chinese market and internationally, including via e-commerce.

② Localize mining and supply chains to improve the added value of products

Recommendations for African stakeholders:

- ⑦ Coordinate to devise business friendly economic policies that are attractive to supply chain players, such as preferential policies for exporting value-added and processed goods, or preferences for importing machinery that will be used for supply chain development.

Recommendations for Chinese stakeholders:

- ⑧ Encourage/finance Chinese and African enterprises to focus on value-added manufacturing (not simply extraction or assembly) and partner with more local players in processing their products.

③ Upgrade the quality of continental and regional infrastructure and improve regional trade

Recommendations for African stakeholders:

- ⑨ Coordinate to clearly identify African regional priority infrastructure projects.
- ⑩ Coordinate to clearly present African demands and expectations of Chinese activities when supporting regional infrastructure projects – e.g. local employment, environmental and social responsibilities, contract transparency, etc.
- ⑪ Explore opportunities to participate in infrastructure projects as service providers or material suppliers.

Recommendations for Chinese stakeholders:

- ⑫ Ensure a steady flow of financing and investment to build the cross-border infrastructure needed in Africa for supply chain development, such as roads, ports, special economic zones and priorities under PIDA and AU 2063 Agenda.
- ⑬ Encourage Chinese businesses to diversify their investment mechanisms to have more midterm PPPs with African companies in infrastructure projects.
- ⑭ Chinese companies should provide opportunities for African companies and allow them to participate in the infrastructure projects as service providers or material suppliers.

4 Develop local manufacturing capacity especially in public health

Recommendations for African stakeholders:

15 Expand cooperation with China in key manufacturing products, such as vaccines, pharmaceuticals, and value-added products.

Recommendations for Chinese stakeholders:

16 Encourage Chinese enterprises to connect more African companies to the manufacturing industrial chain through special economic zones and industrial parks.

5 Integrate foreign and local firms in the supply chain process and form strong complements

Recommendations for African stakeholders:

17 Encourage the formation of groups and unions of smaller manufacturing enterprises or accessory providers and connect them with Chinese companies or groups.

18 Create incentives for cooperation between local and foreign firms.

Recommendations for Chinese stakeholders:

19 Encourage Chinese companies to have more local firms involved in the supply chain process.

6 Prioritize training centres and promote local involvement

Recommendations for African stakeholders:

20 Form an information sharing system to regularly collect information about the needs of African companies.

21 Prioritize the establishment of training centres to cultivate talents and cooperate with Chinese companies and universities for knowledge and skill training (including Chinese language training).

Recommendations for Chinese stakeholders:

22 Encourage Chinese companies to increase knowledge and skill transfer through providing more training to employees (including African language training) and share experience with local companies.

23 Chinese companies should pay attention to the sustainability and relations with local communities and workers, which are beneficial for the long-term development of a company.

24 Encourage Chinese companies to partner with local universities in order to provide employment opportunities to professionals and talents.

7 Provide African companies with adequate financing avenues and bridge the funding gap

Recommendations for African stakeholders:

- 25 African governments should support their businesses to connect with Chinese firms and financing, such as CADFund, Chinese industrial parks and Special Economic Zones.
- 26 Provide credit evaluation services for African SMEs and provide government endorsements for the evaluation.

Recommendations for Chinese stakeholders:

- 27 Adjust or innovate financing instruments, invest in African firms directly and encourage Chinese firms to establish joint ventures with African firms.
- 28 Provide preferential financing or equity and supply chain financial services to encourage Chinese firms to invest in key supply chain industries in Africa including logistics, warehousing, manufacturing, and other value-added sectors.

8 Adopt more digital solutions to power supply chain growth

Recommendations for African stakeholders:

- 29 Create incentives for e-commerce platforms such as eWTP to expand digital infrastructure across borders and boost digital integration.
- 30 Encourage China-initiated e-commerce platforms to export African goods, especially value-added goods, to China and connect with other African digital solutions such as PAPPS.

Recommendations for Chinese stakeholders:

- 31 Support African countries in building an e-commerce infrastructure ecosystem for exports to China and ensure smooth payment systems between China and multiple African countries.
- 32 Chinese e-commerce platforms, such as Kilimall and Chinagoods, should focus their businesses on exporting value-added African goods to China and beyond.

5.4 32 Suggestions for the Chinese and African side

16 suggestions For African stakeholders

- 1 Actively participate in and use the African Continental Free Trade Area to promote intra-regional trade.

- 2 Promote trade facilitation, including incorporating effective border measures and improved border customs solutions.
- 3 Actively use trade, investment and competition policies (including the African Continental Free Trade Area Agreement) to discourage foreign companies (including companies from China) from investing in extractive industries.
- 4 Coordinate and formulate economic policies that are attractive to supply chain participants, such as preferential policies for exporting value-added and processed products, or preferential policies for imported machinery for supply chain development.
- 5 Identify priority infrastructure projects in Africa.
- 6 When supporting regional infrastructure projects, clearly communicate Africa's needs and expectations for Chinese activities – for example, local employment, environmental and social responsibility, contract transparency, etc.
- 7 Look for opportunities to participate in infrastructure projects as a service provider or material supplier.
- 8 Expand cooperation with China in the manufacturing of key products such as vaccines, medicines and value-added products.
- 9 Encourage the formation of groups of small manufacturing enterprises or parts suppliers, and establish links with Chinese companies or groups.
- 10 Create incentives for cooperation between local and foreign companies.
- 11 Establish an information sharing system to regularly collect information about the needs of African enterprises.
- 12 Prioritize the establishment of training centres to cultivate talent, and cooperate with Chinese enterprises and universities to carry out knowledge and skills training (including Chinese language training).
- 13 African governments should help their companies to connect with Chinese companies and access financing through means such as the China-Africa Development Fund, Chinese Industrial Parks and Special Economic Zones.
- 14 Provide credit evaluation services for African SMEs and provide government endorsements for the evaluation.
- 15 Create incentives for e-commerce platforms such as the World Electronic Trade Platform (eWTP), relying on cross-border digital infrastructure to boost digital integration.
- 16 Encourage Chinese-initiated e-commerce platforms to export African goods to China, especially value-added goods, and link to other African digital solutions such as PAPPS.

16 suggestions for Chinese stakeholders

- ① Encourage Chinese enterprises to connect with the African Continental Free Trade Area to promote intra-African trade.
- ② Strengthen trade facilitation policies to make it easier to import African goods, for example, by adopting a preferential trade agreement covering Africa on the basis of the existing “green channel” initiative of the Forum on China-Africa Cooperation.
- ③ Actively promote value-added African-made products and brands in the Chinese market and internationally through e-commerce and other means.
- ④ Encourage/fund Chinese and African companies to focus on value-added manufacturing (not mining or assembly) and cooperate with more local governments to process their products.
- ⑤ Ensure stable financing and investment flows to build the cross-border infrastructure needed for supply chain development in Africa, such as roads, ports, special economic zones, and the African Infrastructure Development Plan and other priorities under the African Union’s 2063 Agenda.
- ⑥ Encourage Chinese enterprises to diversify their investment mechanisms and conduct more PPP projects with African enterprises in infrastructure projects.
- ⑦ Chinese companies should provide opportunities for African companies to participate in infrastructure projects as service providers or material suppliers.
- ⑧ Encourage Chinese enterprises to incorporate more African enterprises into the manufacturing industry chain through special economic zones and industrial parks.
- ⑨ Encourage Chinese companies to involve more Africans and local companies in the supply chain process.
- ⑩ Encourage Chinese companies to increase knowledge and skills transfer by providing more training for employees (including training in African languages) and sharing experiences with local companies.
- ⑪ Chinese companies should focus on sustainability and relationships with local communities and workers, which will benefit their long-term development.
- ⑫ Encourage Chinese enterprises to cooperate with local universities to provide employment opportunities for professionals and talents.
- ⑬ Design or adjust financing instruments, directly invest in African companies, and encourage Chinese companies to establish joint ventures with African companies.
- ⑭ Offer preferential financing or equity to encourage Chinese companies to invest in key sectors of African supply chains, including logistics, warehousing, manufacturing, and all value-added sectors such as health and agriculture.

15 Support African countries to build an e-commerce infrastructure ecosystem for exports to China, and smooth the payment system between China and many African countries.

16 Chinese e-commerce platforms such as kilimall (a platform of Changsha Feituo Information Technology Co., Ltd.) and Chinagoods (official website of Yiwu Small Commodity Market) should focus their business on importing value-added African goods to China and beyond.

5.5 Opening and expanding

This pioneering and thorough report, while anchored in clear frameworks, analysis and real case studies and experience, is just a start. The analysis itself also has limitations and can be further improved in future reports or by other participants. For instance, it would be better to complete a more comprehensive mapping of Chinese businesses in Africa and classify their contribution to Africa's supply chains. Moreover, we were only able to reach out to a limited number of African stakeholders, but we know there are many more views that could be collected as well.

Despite these caveats and limitations, we hope that this analysis and recommendations lay a solid foundation for strengthening the contribution of China to Africa's supply chain development, and ultimately realizing poverty reduction and sustainable development on the continent.

Importantly – our key message is that achieving these goals certainly requires Chinese stakeholders to be more engaged, more innovative and to continue to scale up their financing. However, this alone is not sufficient. African governments and stakeholders must go well beyond simplistic ideas of trade or investment facilitation and provide China and other partners with the appropriate conditions, so that they can make disruptive and innovative contributions to Africa's supply chain development.

Annex

ANNEX 1:

Linking Agenda 2063 Flagship programmes to Supply Chain

Flagship Project	Objective and Elements	Linked to Supply Chain?
Integrated High Speed Train Network	Connect all African capitals and commercial centres through an African High Speed Train Network, thereby facilitating the movement of goods, factors, services and people	Efficient transport system is essential for a robust supply chain as it reduces turnaround time and thus contributes to reduced cost of doing business
Formulation Of An African Commodities Strategy	Aims to transform Africa from simply being a raw materials supplier for the rest of the world to a continent that actively uses its own resources to ensure the economic development of Africans	Value addition processes, provide backward and forward linkages and clear product strategies. This calls for reliance on the supply chain to ensure movement of raw materials and finished products.
Establishment Of The African Continental Free Trade Area	Intends to significantly accelerate growth of Intra-Africa trade and use trade more effectively as an engine of growth and sustainable development	Trade under the preferential AfCFTA terms will gradually reduce 90% of tariffs over 5 years. According to the UN, more than 81% of products are currently traded under preferential terms hence the AfCFTA signals a major effort towards a more integrated African regional economy as well as the will to better include Africa in the global supply chain. ²²²
The African Passport and Free Movement Of People	Removing restrictions on Africans ability to travel, work and live within their own continent.	Transport and logistics across Africa is managed hence the ease of personnel movement and obtaining work permits are essential for smooth operation of supply chain
Silencing The Guns By 2020	Work towards ending all wars, civil conflicts, gender-based violence, violent conflicts and preventing genocide.	Conflicts, insecurity and instabilities often negatively affect movement of goods, services, and people within countries and across regions experiencing conflict, hence have a negative impact on supply chains
Implementation Of The Grand Inga Dam Project	Development of the Inga Dam to generate 43,200 MW of power, to support current regional power pools	Efficient Energy is needed for production, a component of the supply chain

²²² Kuwonu, Franck. (2021). "Africa's free trade area opens for business." United Nations Africa Renewal. <https://www.un.org/africarenewal/magazine/january-2021/afcta-africa-now-open-business>

Flagship Project	Objective and Elements	Linked to Supply Chain?
Establishment Of A Single African Air-Transport Market (SAATM)	To ensure intra-regional connectivity between the capital cities of Africa and create a single unified air transport market in Africa, as an impetus to the continent's economic integration and growth agenda.	Open air arrangements boost traffic, drive economies, and create jobs. To date, 34 countries have signed up to the SAATM and they represent over 80% of the existing aviation market in Africa. ²²³
Establishment Of An Annual African Economic Forum	Forum to reflect on how to accelerate Africa's economic transformation harnessing its vast resources to support the development of the African people	The forum can be an important in showcasing ideas that can transform Africa's industrial development land scape.
Establishment Of The African Financial Institutions	accelerating integration and socio-economic development of the continent through the establishment of organisations which will play a pivotal role in the mobilization of resources and management of the African financial sector	Through the provision of trade finance.
The Pan-African E-Network	Putting in place policies and strategies that will lead to transformative e-applications and services in Africa, especially the intra-African broad band terrestrial infrastructure and cyber security.	The use of technology in supply chain management and the securing of logistical operations e.g. tracking goods is part of the e-network that needs a formidable framework and infrastructure. The aspects that this can manage includes e-clearance at the border , e- commerce .
Africa Outer Space Strategy	Strengthen Africa's use of outer space to bolster its development.	NO
An African Virtual And E-University	The use of ICT based programmes to increase access to tertiary and continuing education in Africa by reaching large numbers of students and professionals in multiple sites simultaneously.	Building capacity and strengthening the skills of professionals engaged in supply chains.
Cyber Security	Ensure that these technologies are used for the benefit of African individuals, institutions or nation states by ensuring data protection and safety online	
Great African Museum	Aims to create awareness about Africa's vast, dynamic and diverse cultural artefacts and the influence Africa has had and continues to have on the various cultures of the world in areas such as art, music, language, and science	NO
Encyclopaedia Africana	Provides an African worldview of the people, culture, literature and history of Africa and is a key tool to be used to educate, inform and set the records straight regarding the history, culture and contributions of African people throughout the world	NO

²²³ IATA. "The Single African Air Transport Market (SAATM)." <https://www.iata.org/en/about/worldwide/ame/saatm/>

ANNEX 2:

Linking Supply Chains and Agenda 2063 Aspirations

Framework	Priority Areas	Linkage of national / regional policies around to Framework and Supply Chain growth.
<p>Comprehensive African Agricultural Development Programme (CAADP)- continental initiative to help African countries eliminate hunger and reduce poverty by raising economic growth through agriculture-led development</p>	<ul style="list-style-type: none"> •Extending the area under sustainable land management •Improving rural infrastructure and trade-related capacities for market access; •Increasing food supply, reducing hunger, and improving responses to food emergency crises •Improving agriculture research, technology dissemination and adoption 	<p>Establishment of Investment Guidelines for Youth in Agri-food Systems in Africa to accelerate investments in and by youth in agri-food systems. The initiatives at ensuring the youth, who form the bulk of Africa's population, are agricultural and food production activities.²²⁴</p>
<p>The Programme for Infrastructural Development in Africa (PIDA)- common framework for African stakeholders to build the infrastructure necessary for more integrated transport, energy, ICT and trans-boundary water networks to boost trade, spark growth and create jobs</p>	<p>Facilitating continental integration through improved regional infrastructure and implementing it will help address the infrastructure deficit that severely hampers Africa's competitiveness in the world market</p>	<p>Development of connecting infrastructure are key in entrenching infrastructure integration. Notable projects under PIDA include the LAPSSET Corridor and the Cairo Cape town Highway</p>
<p>The African Mining Vision (AMV)- aims to optimize Africa's finite mineral resource endowments.</p>	<p>Establishing a competitive African infrastructure platform by maximising its propulsive local & regional economic linkages.</p>	<p>Tanzania is leading with transformative national mining policies. Tanzania adopted Mining Regulations on Local Content (2018). The Regulations require an 'indigenous Tanzanian company' to hold an equity participation of at least 20 per cent in a mandatory joint venture arrangement for supply of goods and services.²²⁵</p>

²²⁴ African Union. (2022). "Investment Guidelines for Youth in Agrifood Systems in Africa launches." <https://au.int/en/pressreleases/20220414/investment-guidelines-youth-agrifood-systems-africa-launches>

²²⁵ UNCTAD. (2018). "United Public of Tanzania. Adopting of Mining Regulations on Local Content, 2018." <https://investmentpolicy.unctad.org/investment-policy-monitor/measures/3209/adoption-of-mining-regulations-on-local-content-2018#:~:text=Tanzania%20adopted%20Mining%20Regulations%20on,supply%20of%20goods%20and%20services.>

Framework	Priority Areas	Linkage of national / regional policies around to Framework and Supply Chain growth.
<p>Science Technology Innovation Strategy for Africa (STISA), - places science, technology and innovation at the epicentre of Africa's socio-economic development and growth</p>	<ul style="list-style-type: none"> •Agriculture/Agronomy in terms of cultivation technique, seeds, soil and climate. •Industrial chain in terms of conservation and/or transformation and distribution. •Physical communication in terms of land, air, river and maritime routes equipment. 	
<p>Boosting Intra African Trade (BIAT), - provides for the assessment of Africa's overall trade flows and the potential for boosting intra-African trade</p>	<p>Addressing infrastructural bottlenecks, improving trade facilitation, increasing opportunities for intra-African trade through trade information networks, addressing financial needs of traders and economic operators through improved finance, addressing adjustment costs associated with FTAs and trade liberalisation to ensure equitable outcomes for Member States.</p>	<p>The AU is addressing Tax regimes and Tax Incentives as well as illicit financial flows with the aim of increasing productive capacity²²⁶</p> <p>The AfCFTA is promoting the AfCFTA programme to eliminate non-tariff barriers, increase regulatory transparency, and promote industrial diversification²²⁷</p>
<p>Accelerated Industrial Development for Africa (AIDA)- The strategy aims to mobilise both financial and nonfinancial resources and improve Africa's industrial performance.</p>	<p>Integration of industrialisation in national development policies especially in poverty alleviation strategies, development and implementation of an industrial policy with priority accorded to maximizing the use of local productive capacities and inputs, through value addition and local processing of the abundant natural resources of the country.</p>	<p>Rwanda's first National Strategy for Transformation (2017-2024) is more explicit about promoting industrialisation, job creation, and exports, while maintaining the ambition to become a service-led economy.²²⁸</p>

²²⁶ African Union. (2022). "The African Union Commission to fight illicit financial flows (IFFs) out of Africa and to harmonize continental tax policy on tax incentives." Press Release.

²²⁷ UNCTAD. "AfCFTA support programme to eliminate non-tariff barriers, increase regulatory transparency and promote industrial diversification."

²²⁸ Willem te Velde, Drik et al. "Five new ways to promote African industrialization." ODI. <https://odi.org/en/insights/five-new-ways-to-promote-african-industrialisation/>

ANNEX 3:
Regional Framework Data Source

		Most Recent Data Available	Source
Economic Performance	Average GDP growth in 2022	2022	IMF World Economic Outlook
Labor Force	Average Labor force Participation rate (% of total population ages 15+) (national estimate)	2017	
Trade Performance	Exports of goods and services (% of GDP)	2020	World Bank's World Development Indicators
	Imports of goods and service (% of GDP)	2020	
	Access to electricity (% of population)	2020	
	Internet Penetration	2021	Internet World Stats
Infrastructure	Freight volume by rail (Tonne km)	2018	Africa UN data
	Freight volume by road (Tonne km)	2018	
	Ports	2022	Ports.com
Logistic Performance	Average Logistics performance index (1=low to 5=high)	2018	World Bank's World Development Indicators
Economic relationship with China	Trade with China (as % of total trade between China and Africa)	2021	China's National Bureau of Statistics
	Chinese FDI stock in this region (as % of total Chinese FDI stock in Africa)	2020	China's Ministry of Commerce

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Corporate Information

Number	Name of the enterprise	Location	Website	E-mail	Tel
Companies shown in Case Studies					
1	Shanghai Greechain Information Science and Technology Ltd.	Room 2705-2708, 27th floor, No. 248, Yangshupu Road, Hongkou District, Shanghai	http://www.africhain.com	anna.wang@greechain.com	+21 3178 7013
2	Jielong Holdings (Tanzania) Ltd.	North side of Renmin West Road, Sheyang Economic Development Zone, Yancheng City, Jiangsu Province	http://www.jielong.cn	798135790@qq.com	+86 133 9073 4588
3	Alibaba Group eWTP	Yuhang District, Hangzhou City, Zhejiang Province No. 969, Wenyi West Road	https://www.alibabagroup.com/cn/global/home	leave message online	+86 571 8502 2088
4	KenFreight Group	MSC Plaza Moi Ave, Mombasa, Kenya	https://kenfreightgroup.com	bsteffen@kenfreight.co.ke	+254 734 699 697
5	Hisense S.A. (PTY) Ltd.	The Estuaries, Building 17, Oxbow Crescent, Century City, Cape Town, 7441	https://hisense.co.za/	aaron.wang@hisense.co.za	+11 314 7718
6	Wanbangde Pharmaceutical Group (WEPON)	West side of Baizhang Road, Loushan village, Chengdong street, Wenling City, Taizhou City, Zhejiang Province	http://en.wepon.cc/	pub@wepon.cc	+27 (12) 386 0012
7	Choice International	Room 2105, No. 11, Yiyi street, Xingang Middle Road, Haizhu District, Guangzhou, Guangdong Province	http://www.choices.com.cn/	steven@choices.com.cn	+86 191 2829 8060
8	Guangzhou SUNDA International Trading Co Ltd.	Room 4606, CITIC Plaza, No. 233, Tianhe North Road, Tianhe District, Guangzhou, Guangdong Province	https://www.sunda.com/	hr@sunda.com	+86 20 3890 0600
9	CHINT SOLAR (ZHEJIANG) Co., Ltd.	Floor 2, plant B, building 1, No. 1335, Bin'an Road, Binjiang District, Hangzhou, Zhejiang Province	https://energy.chint.com/	xiang.luo@Astronergy.com	+86 571 5603 1888
10	Greenroad International Logistics	Room 450, No. 188, Yesheng Road, Lingang New Area, China (Shanghai) pilot Free Trade Zone	http://www.greenroadlogistics.com	info@greenroad.com.cn	+86 188 0180 1524

Number	Name of the enterprise	Location	Website	E-mail	Tel
11	Yewhing Holdings Co., Ltd.	Room 4009/6, 40 / F, building a, Yihe international, No. 10, Hong Kong Middle Road, Qingdao, Shandong Province	http://www.yewhing.com	zhoulili@mdcshopping.com	+86 244 9312 72443
12	Zhejiang Herocean Pan-African Network Co., Ltd.	Room 474, building 4, No. 11, Keyuan Road, Wuyang street, Deqing County, Huzhou City, Zhejiang Province	http://www.herocean.com/	inacia.zhang@herocean.com	+86 244 9291 53888
Companies shown in Boxes					
1	China Gansu International Corporation for Economic and Technical Cooperation	No. 575, Xijin East Road, Qilihe district, Lanzhou City, Gansu Province	http://www.cgicop.com/	cgicop@cgicop.com	+86 931 221 6431
2	Inner Mongolia Kingdeer Cashmere Co., Ltd.	South of Donghe bridge, Bayantala street, Donghe District, Baotou City, Inner Mongolia Autonomous Region	http://www.kingdeer.com.cn/	yaorj@163.com	+86 472 411 2981
3	Wynca Sunshine Agric Products & Trading(GH)Co.,Ltd	No. 1, Xin'an building, Jiangbin Middle Road, Jiande City, Zhejiang Province	http://www.wynca.com	wynca.sunshine@yahoo.com	+86 233 3220 27038
4	Wanxin Doors & Windows Manufacturing	No. 818, Wanxin Road, Changcheng Industrial Zone, Yongkang City, Zhejiang Province	http://www.chinawanxin.com	sunny@chinawanxin.com	+86 138 6892 8111
5	Sanming Zhongxing Motorcycle Trading Co.	No. 115, building 20, No. 96, Lixin 12th Road, Xintang Town, Zengcheng District, Guangzhou, Guangdong Province	https://agirhuang.co.a0	KE88886@163.com	+86 020 3286 0115
6	SANY Heavy Industry Co., Ltd.	Sany Industrial Park, No.8 Beiqing Road, Huilongguan town, Changping District, Beijing	https://www.sanyglobal.com/	CRD@sany.com.cn	+86 400 609 8318
7	Dongfeng Liuzhou Motor Co., Ltd. (referred to as DFLZM)	No. 286, Pingshan Avenue, Liuzhou City, Guangxi Province	http://global.dflzm.com.cn/	huangsw@dfzm.com	+86 185 0772 8018
8	Kilimall	1608, building F2, Lugu Yuyuan, No. 27 Wenxuan Road, Changsha high tech Development Zone	http://www.kilimall.com.cn	13007318886@163.com	+86 130 0731 8886
9	China-Africa Rail-Sea Express Co., Ltd.	Room 809, 8th floor, Zhuzhou tongtangwan bonded logistics center (b), No. 199, Qingxia Road, Shifeng District, Zhuzhou City, Hunan Province	No website	Info@sinocan-logistics.com	+86 180 7334 8622
10	Tiantang Group	16 / F, Xianjian technology, Nanshan District, Shenzhen, Guangdong Province	https://www.tiantang-group.com/en/	paul_533808@163.com	+86 185 2623 8848

Number	Name of the enterprise	Location	Website	E-mail	Tel
11	China-Egypt TEDA Investment Co., Ltd.	Third and fourth floors, block B, TEDA Financial Plaza, No. 9 Shengda street, Tianjin Economic and Technological Development Zone	https://www.setc-zone.com/	suez@teda.com.cn	+86 022 6537 3510
12	Hangzhou KiKUU Information Technology Co., Ltd.	E601-1, e601-2, e603-1, e603-2, building 1, Wenyi West Road, Cangqian street, Yuhang District, Hangzhou City, Zhejiang Province	http://KiKUU.com	ke.wang@kikuu.com	+86 137 3818 9615
13	Hangzhou Chief Technology Co., Ltd.	Room 1803-3, building 1, Huanyu business center, No. 626, kekekeguan street, Xixing street, Binjiang District, Hangzhou, Zhejiang Province	http://www.chiefholding.com	ftd@chief.tech	+86 571 8373 8505
14	BGI Group	8th floor, building 11, Beishan Industrial Zone, No. 146 Beishan Road, Yangang community, Yantian street, Yantian District, Shenzhen	http://www.genomics.cn	xuna1@genomics.cn	+86 135 3007 9982
15	China Railway Engineering Group	920, building 1, yard 128, South Fourth Ring West Road, Fengtai District, Beijing	http://www.crec.cn/	webmaster@crec.cn	+86 10 5184 5225
16	China Civil Engineering Construction Corporation	No.4 beifengwo, Haidian District, Beijing	http://www.ccecc.com.cn/index.html	zongban@ccecc.com.cn	+86 10 5210 8888
17	China State Construction Engineering Group	15 Sanlihe Road, Haidian District, Beijing	https://www.cscec.com.cn/	zhibanyuan@cscec.com	+86 10 8649 8114
18	China National Fishery Corporation	101, floors 1-11, building 19, District 18, No. 188, South Fourth Ring West Road, Fengtai District, Beijing	https://cnfc.cnadc.com.cn/	ped@cnfc.com.cn	+86 10 8395 9988
19	Humanwell Pharma Mali	Bamako, Mali	http://www.en.humanwell.com.cn/	bd@renfu.com.cn	+86 27 8717 3710
20	Yuanshi Seed Industry High-Tech Co., Ltd.	Dayutang village, Chunhua Town, Changsha County	http://www.yuanshiseed.com/	1227305857@qq.com	+86 158 7313 9085
21	Jidong Development Group	East side of Linyin Road, Fengrun District, Tangshan	http://www.jidd.com.cn/	jidd@jidd.com.cn	+86 315 308 3406

Companies shown in the body of the report

1	Zhejiang-Africa Service Center	No. 113-115, building 4, Singapore Science and Technology Park, Xiasha, Qiantang new area, Qiantang District, Hangzhou, Zhejiang Province	No website	huyw@zasc.org	+86 187 5821 5256
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Number	Name of the enterprise	Location	Website	E-mail	Tel
2	Hunan Overseas Home Information Technology Co., Ltd.	Room g0474, Changsha CEC software park headquarters building, No. 39 Jianshan Road, Changsha high tech Development Zone	https://www.zhuwaizhijia.com/	Austin.lei@zone-link.com	+86 137 8712 1221
3	Hangzhou China-Africa Bridge E-Commerce Co., Ltd.	Room 118, East 1st floor, building 2, No. 198 Jiaogong Road, Xixi street, Xihu District, Hangzhou, Zhejiang Province	http://www.zhongfeiqiao.com/	987139998@qq.com	+86 188 6843 6788
4	China-Africa Supply Chain Research Institute	Room 478, No. 857, Shixin North Road, ningwei street, Xiaoshan District, Hangzhou City, Zhejiang Province	www.cascricn.com	cascricn@cascri.cn	+86 137 7743 5297
5	China Hasan International Holdings Co. Ltd.	2004, 2f, building 1 (1), No. 21, Guangshun South Street, Chaoyang District, Beijing	www.hasan.cc	chentingting@hasan.cc	+86 10 6539 8989
6	Development Reimagined	2503-5, 21st floor, building 1, No. 12, Guanghua Road, Chaoyang District, Beijing	https://developmentreimagined.com/	clients@developmentreimagined.com	+86 132 9950 9122
7	African Development Bank	Avenue du Dollar, Les Berges Du Lac II, Tunis 1053, Tunisia	https://www.afdb.org/en	asia.office@afdb.org	+225 2026 3900
8	Tanger Med Zones	Tangier Mediterranean Park, Tangier, Morocco	https://www.tangermedzones.com/en/tanger-med-zones/	contacts@tangermedzones.com	+212 539 39 34 05
9	Renault Tanger Med Zone	Tangier Mediterranean Park, Tangier, Morocco	https://www.tangermedzones.com/en/renault-tanger-med-2-2/	contacts@tangermedzones.com	+212 539 39 34 05
10	Groupe Renault	Plant of Flins, BP 203, Aubergenville, France	https://www.renaultgroup.com/	renaultgroup.media@renault.com	+33 1 76 84 67 89
11	Tanger Automotive City	Tangier Mediterranean Park, Tangier, Morocco	https://www.tac.ma/en/	contacts@tangermedzones.com	+212 539 39 62 14
12	Hands Corporation Ltd.	50, Gajeong-ro 37beon-gil, Seo-gu, Incheon, Korea	https://www.handscorp.co.kr/	leave message online	+82 32 870 9600
13	ZTT International Limited	Zhongtian Industrial Park, Hekou Town, Rudong County, Nantong City, Jiangsu Province	www.zttcable.com	sales@zttcable.com	+86 513 8010 0986
14	Tetouan Park	Tetouan, Morocco	https://www.tangermedzones.com/zh/zone_activites/tetouan-park/	contacts@tangermedzones.com	+212 539 39 34 05
15	DHL Express	Deutsche Post AG, Headquarters, Bohn, Germany	https://www.dhl.com/cn-en/home.html	ewout.blaauw@dhl.com	+86 400 888 3500
16	JTeckt Corporation	1-1 Asahi-machi, Kariya, Aichi Pref., 448-8652 Japan	https://www.jtekt.co.jp/e/	gdpr_jp@jtekt.co.jp	+21 2356 1008

Number	Name of the enterprise	Location	Website	E-mail	Tel
17	Robert Bosch GmbH	Robert-Bosch-Platz 1 70839 Gerlingen-Schillerhöhe Germany	www.bosch.com	careline.china@ bshg.com	+49 711 4004 0990
18	Huawei Technologies	Huawei headquarters office building in Bantian, Longgang District, Shenzhen	https://www. huawei.com/cn/	support_e@ huawei.com	+49 400 822 9999
19	Recipharm AB (publ)	Box 603, SE-101 32 Stockholm, Sweden	https://www. recipharm.com/	ir@recipharm. com	+46 8 602 52 00
20	Recipharm facility	Box 603, SE-101 32 Stockholm, Sweden	https://www. recipharm.com/ press-releases/ construction- works-launch- new-fill-finish- facility-morocco	marcus.smith@ recipharm.com	+46 8 602 52 00
21	NantSA vaccine manufacturing campus	Brackengate Business Park, Brackenfel, South Africa	http://www. cqssyy.cn/	leave message online	251 967 431 605
22	Sansheng Shares	Sansheng Town Street, Beibei District, Chongqing	http://www. cqssyy.cn/	sansheng_1997 @163.com	+86 23 6823 4428
23	Deloitte Touche Tohmatsu	Shanghai Office: 30 / F, thebund center, 222 Yan'an East Road, Shanghai, China	https://www2. deloitte.com/	leave message online	+86 318 8288 2888
24	LMC Automotive	Shanghai: room 1016j, 10th floor, building 1, No. 1728- 1746 (Shuang), Nanjing West Road, Jing'an District, Shanghai	https://lmc-auto. com/	forecasting@ lmc-auto.com	44 1865 797 603
25	African Development Bank	developpement 24eme Etage, Immeuble CCA, Plateau 01 Boite Postale 1387 Abidjan 01	https://www.afdb. org/en	asia.office@ afdb.org	+225 2026 3900
26	The Mamba Cement Plant	Wiphold House, 29 Central Street, Houghton, 2198	http:// mambacement. com/	orders@ mambacement. com	+861 01 7 418
27	China-Africa Development Fund	No.28 fuxingmennei st, Xicheng District, Beijing	https://www. cadfund.com/	shichangbu@ cadfund.com	+86 10 5956 6800
28	Women Investment Portfolio Holdings Ltd.	Wiphold House 29 Central Street Houghton, 2198 South Africa	https://www. wiphold.com/	ntlhaboloo@ wiphold.com	+27 11 715 3600
29	United Parcel Service	55 Glenlake Parkway Northeast Atlanta, GA 30328 United States	https://www.ups. com/us/en/Home. page	investor@ups. com	+1 404 828 6000
30	Kuehne+Nagel	Feldeggstrasse 5 8152 Glattbrugg Switzerland	https://home. kuehne-nagel. com/	knnl. exportflowers@ kuehne-nagel. com	+31 297 382 404
31	DB Schenker Logistics	Kruppstrasse 4 DE-45128 Essen Germany	https://www. dbschenker.com/ global	info.nl@ dbschenker. com	+31 13 462 51 11

Number	Name of the enterprise	Location	Website	E-mail	Tel
32	De Sammensluttet Vognmaend	Beijing Office: north side of Great Wall Hotel, No. 8, East Third Ring North Road, Chaoyang District, Beijing, China	https://www.dsv.com/	velizar.nikolov@bg.dsv.com	454 320 3074
33	Ethiopian Airlines	Ethiopia Addis Ababa Bolai International Airport	https://www.ethiopianairlines.com/	Corporate Communication@ethiopianairlines.com	+251 11 617 9900
34	Ethiopian Development Corporation	Bishangari Building, Comoros St, Addis Ababa, Ethiopia	https://www.ipdc.gov.et/	infos@ipdc.gov.et	+251 11 872 2313
35	Agility Logistics	Sulaibiya, Beside Land Customs Clearing Area P.O. Box 25418, Safat 13115, Kuwait	https://www.agility.com/	remoore@agilitylogistics.com	961 9 223 275
36	Africa Logistic Properties	MP6F+R95, Watermark Business Park, Nairobi, Kenya	https://africawarehouses.com/	info@africawarehouses.com	+254 714 954 103
37	Amazon	No.2111 7th Avenue, Seattle, Washington, USA	https://www.amazon.com/	leave message online	Not found
38	Neotel	44 Old Pretoria Main Road, Midrand, Johannesburg	www.neotel.co.za	EnterpriseService@liquidtelecom.co.za	+27 11 585 0000
39	Bharti Airtel Limited	Plot No. 16, Phase IV, Sector 18, Gurugram, Haryana 122015, India	https://www.airtel.in/	enterprise@in.airtel.com	Not found
40	Movicel	Movicel Telecomunicações, Business Park, Edifício Cuando Cubango, Belas, Luanda, Angola	https://www.movicel.co.ao/	Leave message online	222 692 000
41	Statista	3 World Trade Center 175 Greenwich Street; 36th Floor New York, NY 10007 United States	https://www.statista.com/	support@statista.com	+1 212 419 8294
42	Jumia	Nigeria, Ikeja, 109 Adeniyi Jones Ave	https://www.jumia.com.ng/	service@jumia.com.ng	0700 600 0000
43	African Finance Corporation	3a Osborne Road, Ikoyi Lagos State, Nigeria	https://www.africafc.org/	contact@africafc.org	+234 1279 9600
44	Huoyan FireEye Laboratory	8th floor, building 11, Beishan Industrial Zone, No. 146 Beishan Road, Yangang community, Yantian street, Yantian District, Shenzhen	https://www.genomics.cn/huoyan/index.aspx	linsy@genomics.cn	+86 400 706 6615
45	Dongfeng Motor Corporation	No.1, Dongfeng AvBenua, Wuhan Economic and Technological Development Zone, Wuhan, Hubei Province	https://www.dfmc.com.cn/index.html	IR@DFMC.COM.CN	+86 27 8428 5555

Number	Name of the enterprise	Location	Website	E-mail	Tel
46	Choice Int'l Forwarding Co., Ltd	Floor 4, building D, New Oriental Business Center, No. 95, Congyun Road, Baiyun District, Guangzhou	http://en.choicexp.com/	info@choicexp.com	+86 400 613 8844
47	China Association for Intercultural Communication	8 / F, block B, Financial Street Center, No.9 Financial Street, Xicheng District, Beijing	www.cafic.com.cn	cafic@cafic.com.cn	+86 10 66151699
48	Sino Uganda Mbale Industrial Park	34GQ+87Q, Tirinyi Road, Mbale, Uganda	http://www.zwmip.com/	service@zwmip.com	+256 700 271 691
49	King Deer Madagascar Cashmere Ltd.	Zone Industrielle Forello Tanjombato Antananarivo, 102, Madagascar	http://www.kingdeer.com.cn/	yaorj@163.com	+472 411 2981
50	Zhejiang E-port	Room 301, No. 22, Changcheng street, Shiqiao Road, Xiacheng District, Hangzhou, Zhejiang Province	www.zjport.gov.cn	zjb@zjport.gov.cn	+571 8785 0200
51	Yiwu China-Africa Business Council	3 / F, building 6, Yi'an Second District, Houzhai street, Yiwu City, Zhejiang Province			+86 135 1689 3442
52	Zhejiang Financial Asset Trading Center Co., Ltd	Floors 27-28, building 2, Qianjiang international times square, Zhejiang Province	https://www.zjfae.com/	mazhuan@zjfae.com	+86 136 0680 8891
53	Guangzhou Yushengyan Import & Export Trading Co.	No. 115, building 20, No. 96, Lixin 12th Road, Xintang Town, Zengcheng District, Guangzhou, Guangdong Province	https://agirhuang.co.ao	KE88886@163.com	020-32860115
54	AGIR HUANG Mechanical Electrical Company	6885+F5H, EN100, Luanda, Angola	https://agirhuang.co.ao/	agirhuang@gmail.com	+244 923 312 345
55	China-Africa Economic and Trade Expo	No. 118, Guozhan Road, Changsha County, Changsha City, Hunan Province	https://www.caetexpo.org.cn/	Contact online	Contact online
56	Hengtong Group	Qi Du Zhen Xin Tian Wan, Wujiang District, Suzhou City, Jiangsu Province	http://www.hengtonggroup.com/	info@hengtonggroup.com	+86 512 6395 7850
57	Aberdare Cables	181A Barbara Road Elandsfontein PO Box 1679, Edenvale 1610	https://www.aberdare.co.za/	info@aberdare.co.za	+27 11 396 8000
58	China-Egypt TEDA Suez economic and trade cooperation zone	Room 405, 4th floor, TEDA integrated service center building, Lot 3, Northwest Economic Zone, Gulf of Suez, Egypt	https://www.setc-zone.com/	suez@teda.com.cn	+86 22 6537 3510
59	China Jushi Co., Ltd.	No. 669, Wenhua South Road, Wutong street, Tongxiang City, Zhejiang Province	https://www.jushi.com/	info@jushi.com	+86 573 8818 1222
60	Honghua Drilling Co.	No. 99, information Park East Road, Jinniu District, Chengdu, Sichuan Province	http://www.hhcp.cn/	hhcp@hhcp.com.cn	+86 838 608 1123

Number	Name of the enterprise	Location	Website	E-mail	Tel
61	Huajian Group	No. 232, Hongtu Road, Nancheng District, Dongguan City, Guangdong Province	http://www.huajian.com/	server@huajian.com	+86 769 8863 9999
62	Zhejiang China Commodity Market Group Co., Ltd.	Ocean business building, No. 105 Futian Road, Yiwu City, Zhejiang Province	www.cccgroup.com.cn	scjt@yw.gov.cn	+579 8518 2800
63	Tmall Global	5th floor, building 3, No. 969, Wenyi West Road, Wuchang Street, Yuhang District, Hangzhou, Zhejiang Province	https://www.tmall.hk/	leave message online	+86 400 843 2288 +86 400 903 0119
64	Fliggy	Building 5, No. 969, Wenyi West Road, Wuchang Street, Yuhang District, Hangzhou City, Zhejiang Province	https://www.fliggy.com/	leave message online	+86 951 0208
65	DP World	X3MR+P7P Jafza 17 - Mina Jebel Ali - Jebel Ali Freezone - Dubai - United Arab Emirates	https://www.dpworld.com/	leave message online	+971 48 08 08 00
66	Mediterranean Shipping Company S.A	Shanghai Representative Office: 5 / F, China Shipbuilding building, No. 1 Pudong Avenue, Pudong New Area, Shanghai	https://www.msccargo.cn/	chn-info@msc.com	+86 216 104 3333
67	Hisense Company Limited	No. 17, Donghai West Road, Shinan District, Qingdao, Shandong Province	https://global.hisense.com/	hisenseintl@hisense.com	+86 400 611 1111
68	Elite Surgical Supplies Pty Ltd.	Elite Surgical, 54 De Havilland Cres, Persekor, Pretoria, 0020, South Africa	https://www.elitesurgical.com/	info@elitesurgical.com	+576 8068 9600
69	WEPON Group	West side of Baizhang Road, Loushan village, Chengdong street, Wenling City, Taizhou City, Zhejiang Province	http://en.wepon.cc/	pub@wepon.cc	+86 576 8068 9600
70	Tecmed Africa Pty Ltd.	Tecmed Centre, George Road, Erand Gardens, Midrand	https://www.tecmedafrica.com/	info@tecmed.co.za	+27 800 111 620
71	Guangzhou Automobile Group Co., Ltd.	23 / F, Chengyue building, No. 448-458, Dongfeng Middle Road, Yuexiu District, Guangzhou	https://www.gac.com.cn/cn/	webmaster@gac.com.cn	+86 20 8315 1139
72	DiDi Global Inc.	Courtyard 8, Dongbeiwang West Road, Haidian District, Beijing	https://www.didiglobal.com/	bd@didiglobal.com	+86 400 0000 9999
73	Long Tech	Cobenzlgasse 32, 1190 Wien, Austria	http://www.longtechcc.com/	xiaobing.liu@longtech.cc	+86 075 5 235 01350
74	International Finance Corporation	Bockenheimer Landstraße 43, 60325 Frankfurt am Main, Germany	www.ifc.org	JRosenberg@ifc.org	+202 473 1000
75	the Senegal Ceramic Factory	C2QC+8WG, N1, Mbour, Senegal	http://www.twyfordtile.com/index.html	dgmarket@hotmail.fr	+221 784 857 310

Number	Name of the enterprise	Location	Website	E-mail	Tel
76	Keda Clean Energy Co. Ltd	No 1, Huanzhen Xi Road, Guanglong Industrial Zone, Chencun, Shunde Foshan, Guangdong, China	www.kedachina.com.cn	kedazx@kedachina.com.cn	+86 757 2383 2999
77	Zhejiang CHINT Electrics Co., Ltd.	No. 1, Zhengtai Road, Zhengtai Industrial Park, beibaixiang Town, Yueqing City, Zhejiang Province	https://chintglobal.com/	services@chint.com	+86 400 817 7777
78	EGEMAC	1 Al Kablat, Al Amireyah Ash Shamaleyah, Amreya, Cairo Governorate 4513201, Egypt	http://www.egemac.com.eg/	sales_HV@egemac.com.eg	+202 02 2837873/2829605
79	Chint Egypt Logistics and Service Center	Electrical equipment manufacturer in the 6th of October City, Egypt	https://energy.chint.com/	xiang.luo@Astronergy.com	+571 5603 1888
80	ACWA Power	Business Gate Office Complex, Building 1	https://www.acwapower.com/en/	leave message online	+966 11 283 5555
81	Mundo Da Caza	Avenida Comandante Fidel Castro Ruz, Via Expressa - Kikuxi, Viana, Luanda, Angola	http://www.mdc.africa	zhoulili@mdcshopping.com	+244 931 272 443
82	FATIMA	Via expresso, Sentido Zango-Benfica, Estr. do Kikuxi, Luanda, Angola	http://www.mdc.africa	fatimamobiliario@hotmail.com	+244 927 980 250
83	FAUNUS	Via Expressa - Kikuxi, Viana, Luanda, Angola	http://www.mdc.africa	website@yewhing.com	+244 931 272 443
84	Zhejiang Holley international Development co., Ltd.	Administrative building, No. 181, Wuchang Avenue, Wuchang Street, Yuhang District, Hangzhou, Zhejiang Province	https://www.holleyintl.com/	jiliang.liao@holley.cn	+86 571 8930 1917
85	Hangzhou Minzhi Investment Management Co., Ltd.	Room 201-1, building 1, Qianjiang international times square, Jianggan District, Hangzhou, Zhejiang Province	https://www.tianyancha.com/company/3150360098	chenshaoying@zjfae.com	+86 136 0680 8891
86	Hangzhou Fuyu Investment Co., Ltd.	Room 119, building 6, west block, Xianghu Financial Town phase II, Xiaoshan District, Hangzhou, Zhejiang Province	https://www.tianyancha.com/company/3100708957	fuyutouzi@fuyucap.onaliyun.com	+571 8232 7851

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