# DIGITISING LOGISTICS IN AFRICA

## HOW TECHNOLOGY COMPANIES ARE IMPROVING AFRICA'S SUPPLY CHAIN AND GOODS DELIVERY

SEPTEMBER 2019

BRITER BRIDGES

lateral capital

# DIGITISING LOGISTICS IN AFRICA

## THE ROLE OF TECHNOLOGY AND INNOVATION

## About Briter Bridges

Briter Bridges is a data-driven research organisation focused on collecting and visualising information on markets across underserved markets. Founded in 2018, it has released the largest collection of visual maps portraying Africa's technology ecosystems.

## About Lateral Capital

Lateral Capital is a mission-driven private investment firm focused on early-stage and growth ventures in Sub-Saharan Africa. It deploys patient, long term oriented equity and debt capital to opportunities in three key verticals: commerce, human capital and real assets.

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KEY TOPICS AND AREAS FOR FURTHER RESEARCH

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# EXECUTIVE SUMMARY

The "**Digitising Logistics in Africa**" report is the first of its kind by Briter Bridges. It investigates the role of up-and-coming logistics companies in the region and explores the dynamics between contextual challenges and innovation. The report was made possible by collaborating with over 40 businesses active in the logistics sector across African markets, as well as desk research sourced from the thousands of companies listed in Briter's databases.

Market failures are affecting the ease of doing business in Africa, dramatically increasing transaction costs due to high price volatility, poor or inconsistent regulation, and an endemic lack of transparency. The research explains that connectivity, reliability and optimisation, as pointed out by most of the contributors to this study, have emerged as desirable objectives for businesses that are looking to leverage innovation to overcome inefficiencies. Technology proves to not only be a convenient tool to reduce managerial and operational costs, but also a way to fill market gaps - e.g. the underutilisation of existing assets such as trucks and cargo space. This implies that the emergence of success stories across the continent are likely to be a function of the ability of companies to address market failures and, as a consequence, provides more fertile ground for investors to enter the sector.

## THE ROLE OF INNOVATION

Progressively more businesses operating in African markets are adopting digital solutions to monitor their supply chain or broaden their core business. This applies to startups and large, established corporations such as DHL, who recently ventured into the e-commerce space. The **120+ companies** showcased in this report reflect the sense of optimism that is being detected across the logistics sector, as investors and businesses begin acknowledging that the digitisation wave in Africa is nothing short of an extension of the increase in connectivity worldwide and the increasing affordability of mobile technology across the continent. In this sense, the improved connectivity in Africa represents a key factor towards the integration of the continent's supply chains into the global market.

Although traditional carriers still vastly dominate the logistics industry, technology-enabled services, from delivery apps to warehousing management platforms, are becoming increasingly popular in the sector for the simple fact that they improve service efficiency by crowding out intermediaries, cutting burdensome operational processes, and optimising supply chains. The survey reveals that 80% of the companies were founded in 2016 or later, and 2019 has so far been the year seeing the highest levels of investment in the sector.

## RESEARCH SCOPE

This study specifically focuses on logistics services that are aimed at allowing or facilitating the movement of goods, and differs from mobility services, which are understood as services permitting the movement of people. Similarly, the study chooses to omit e-commerce - albeit recognising the role it plays in providing an incentive and a business case for logistics companies, as well as vertical-specific startups focusing only on services such as food, grocery, medical deliveries.

# DIGITISING LOGISTICS IN AFRICA

## UNDERSTANDING LOGISTICS IN AFRICA

Logistics is defined in this study as the organisation and coordination of operations that concur to the distribution of goods - that is, the journey of a product from its development to the delivery to the end-user. Although Africa's share of global trade remains low, the proliferation of logistics-related services illustrates an important step towards building companies that could help the continent's economies take a greater share of the global market.

## INFRASTRUCTURE GAP AND COSTS

Africa's infrastructure financing gap floats between $67 and $107 billion a year and represents one of the fundamental constraints to both time and cost efficiency in the logistics sector. Infrastructural development, in this sense, is not limited to fixing roads and physical links, but also creating accountable mechanisms that enable transparent and flawless movement of goods.

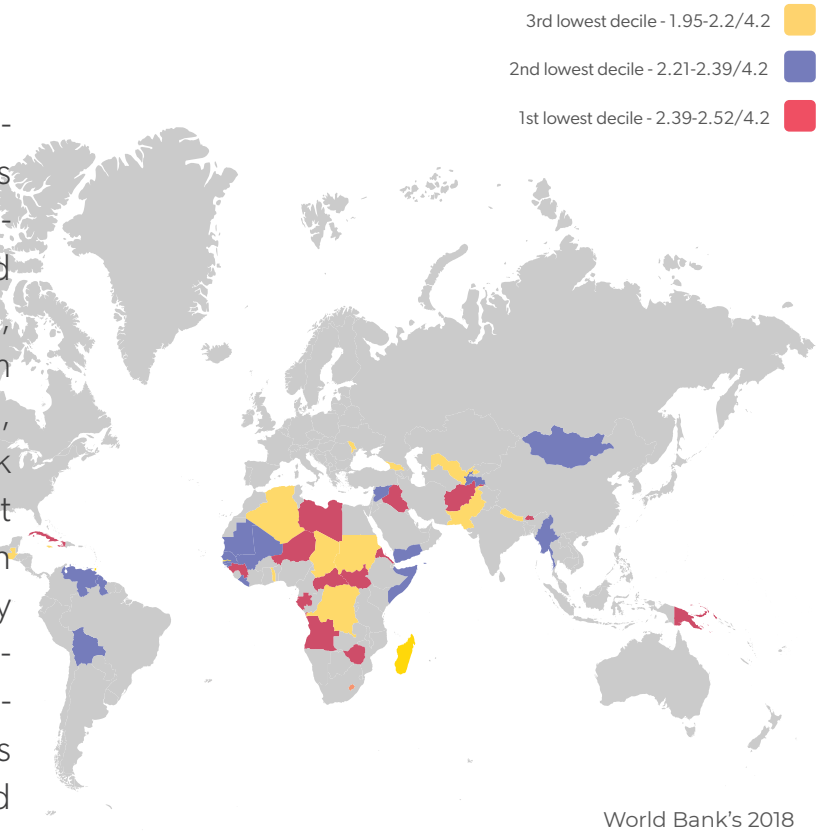
The lack of adequate infrastructure not only hinders local trade, but also decreases African businesses' competitiveness in relation to multinational and transnational companies. "*About 40-60% of the cost of a good in a store can be attributed to logistics-related costs, meaning that African goods can not be competitive on international markets, which is a major hindrance to trade and growth*" explains Johnny Falla from Lori Systems, one of the fastest-growing digital forwarding companies active in East Africa.

*"In many parts of Sub-Saharan Africa, most of the basic infrastructure and institutions that businesses require to run smoothly are not really in place or not properly functioning. The fact that boda riders own a driving licence does not mean that they are automatically suited to drive according to traffic laws or observe all safety measures, especially when it comes to taking care of passengers... [As a business owner], you have to invest significantly in the enabling infrastructure that is required for you to guarantee a high quality of service".*

Adetayo Bamiduro, Co-founder of MAX.NG

# MARKET FRAGMENTATION AND AfCFTA

Whilst Africa is often - mistakenly - thought of as monolithic, the logistics sector highlights the diversity and fragmentation of its 55 countries. The World Bank's Logistics Performance Index, which looks at indicators such as custom clearance processes, quality of trade, infrastructure, and consignments' track and trace mechanisms, suggests that about 70% of the three lowest deciles in the ranking are located in Africa. Many African countries are on par with disaster-affected countries such as Afghanistan and Haiti, sharing similar rankings for lack of supply chain reliability and predictability, as well as poor resilience against disruptions.




World Bank's 2018
Logistics Performance Index: 3 Lowest Deciles

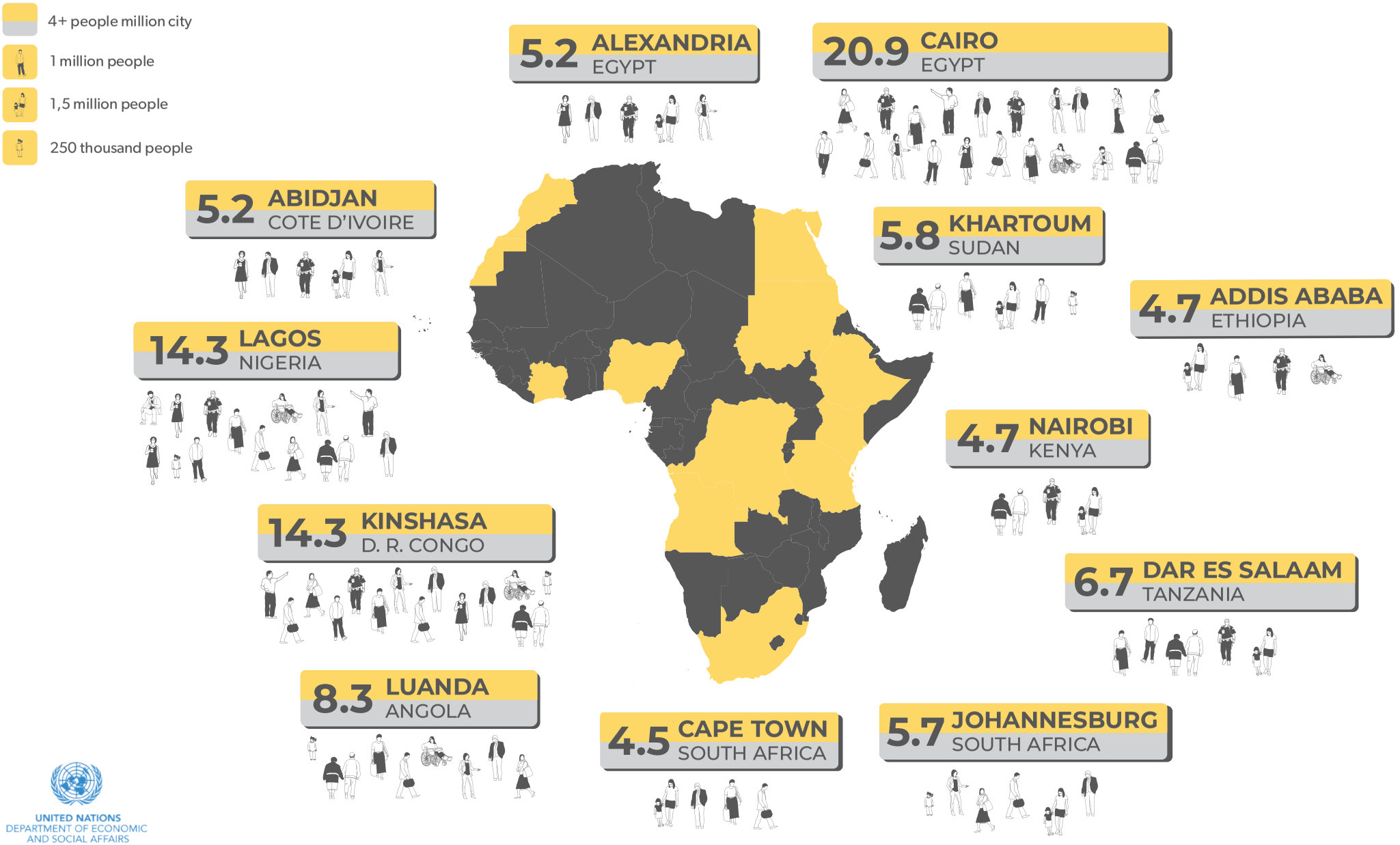
The fragmentation characterising African countries lies at the core of widespread inefficiencies such as burdensome border crossing or disproportionately high prices of transport compared to the value of the goods. Recent pan-African initiatives such as the African Continental Free Trade Agreement (AfCFTA), which came into force in July 2019 after hitting the minimum threshold of 22 ratifications, have great potential to integrate the continent's value chain and promote intra-Africa trade, as well as facilitating more efficient cross-border processes and cohesive regulatory frameworks.

## THE RISE OF AFRICA'S MEGACITIES: OPPORTUNITIES IN URBAN LOGISTICS AND TRADE

Though logistics services have been the backbone of goods distribution for centuries, it could be argued that rapid urbanisation in African countries and the growth of e-commerce and on-demand cultures have laid the foundations for the rise of consumer (B2C) logistics, especially in cities. The combination of urbanisation and growth in an on-demand culture is particularly important as it seems to defy the small consumption power of large parts of Africa's population, as e-commerce and courier models tend to leverage economies of scale. Low purchasing power remains a prominent socio-economic hindrance in African markets, with two thirds of the continent's population still living in rural areas. However, the rise of cities with over 4 million people (even excluding megacities such as Cairo, Lagos, and Kinshasa) is opening up the possibility of having viable economics for urban services such as parcel delivery.

A side effect of rapid urbanisation, expansion of informal settlements and unaccountable addressing systems, is an opportunity for companies such as M-Post, a Kenyan startup that allows people to convert mobile phones into digital addresses in the absence of traditional street numbering, to enter the market. As M-Post's co-founder Abdulaziz Omar explains, "*the majority of the population lacks an official postal address largely due to the fact that the capacity of the postal corporations [who should be in charge of creating addresses across the country] has not been able to keep up with the growth of the population*". As digital identities and mobile technology reach even the most remote settlements, the traditional addressing paradigm is witnessing significant disruption, going beyond the advancements in urban areas to also reach previously underserved groups.

# AFRICA'S LARGEST CITIES BY POPULATION

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Department of Economic and Social Affairs

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# STATE OF PLAY:
# EXPLORING THE LOGISTICS-TECH LANDSCAPE ACROSS AFRICA

## FIRST NECESSITY AND RURAL OUTREACH:
### HOW TECHNOLOGY SOLUTIONS ARE TARGETING THE BOTTOM OF THE PYRAMID

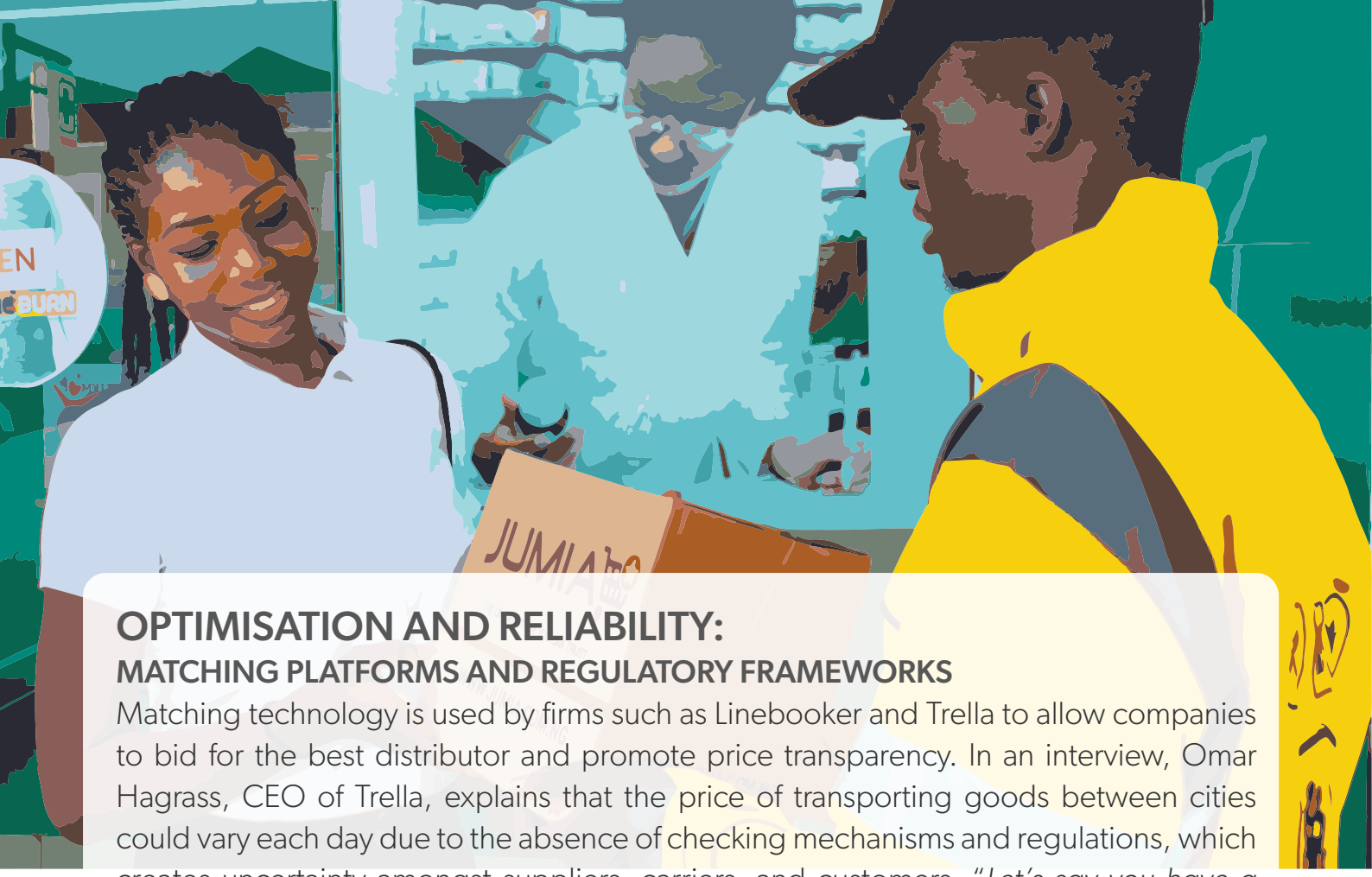
Service delivery in rural areas is often more costly than in urban areas due to sparse population density, greater distances to be travelled for transport, and a lack of adequate road infrastructure. Africa remains a predominantly rural continent, with over two thirds of its population living in rural areas, according to the UN (2018), which means that the focus on urban delivery implies that large swathes of the population still lack access to efficient logistics services.

The increasing number of private actors working towards improving the industry could for that reason help bridge the urban-rural gap, increase connectivity, and enhance market access and inclusion. Companies such as Twiga Foods and Sokowatch in Kenya, that provide access to markets by linking farmers and consumers, are contributing to creating functioning supply chains, whilst organisations such as LifeBank in Nigeria offer delivery of medicines to rural areas.

The scarcity of suppliers serving rural areas often comes down to the lack of resources and know-how. As founder and CEO at LifeBank, Temie Giwa-Tubosun, explains, "*there is magic in doing the hard things - distributing what no one wants or has the expertise to distribute. That is where the magic happens - focusing on something that is neglected, something that is potentially impactful and that matters*". Taking it one step further, established players such as the US-company Zipline, now active in Rwanda and Ghana, and Nigeria's Arone, distribute blood and medical equipment via drones.

## "UBER FOR TRUCKS"

Transferring decision-making, processes, and navigation to software can substantially increase the efficiency of service delivery and the organisation and management of the supply chain. Kobo360, the Nigerian startup that became the most funded logistics startup on the continent after raising $20 million in a round led by Goldman Sachs in August 2019, started out by claiming to build the "*Uber for trucks*" and is now expanding into all-rounded logistics management systems and B2B technology. Kobo is the latest company making it to the headlines, but several organisations across the continent such as Lori Systems and Senga in East Africa and Musanga Logistics in Zambia are also prominent funded players in the space. A key success factor for 'Uber for trucks' models across Africa, is the ability to match existing drivers and riders of underutilised and often informal assets such as trucks and motorcycles with customer needs via a distribution platform. As a significant share of logistics services across the continent leverages informal suppliers and networks, it is important to highlight the role companies play in matching cargo suppliers and carriers with customers through digital platforms, as they represent an opportunity to formalise and optimise services.



## OPTIMISATION AND RELIABILITY:

### MATCHING PLATFORMS AND REGULATORY FRAMEWORKS

Matching technology is used by firms such as Linebooker and Trella to allow companies to bid for the best distributor and promote price transparency. In an interview, Omar Hagrass, CEO of Trella, explains that the price of transporting goods between cities could vary each day due to the absence of checking mechanisms and regulations, which creates uncertainty amongst suppliers, carriers, and customers. "*Let's say you have a truck carrying furniture from Cairo to Alexandria. One day, the toll drivers have to pay is 100 Egyptian Pounds. The next day, travelling with the same car, the same load will be asked to pay double that amount. This is due to subjective pricing which is allowed by the lack of standards*" . By building a transparent cargo marketplace, and by enabling carriers to bid for shipments, it is possible to dramatically reduce arbitrary pricing.

## ON-DEMAND DELIVERY AND COURIER APPS

Courier apps are among the most widely discussed themes across Africa's startup ecosystems. With over 75 on-demand couriers (excluding food and grocery delivery companies) identified in this research, the growth of the on-demand culture, fuelled by a combination of fast urbanisation and mobile phone penetration, now represents an established paradigm in almost all major African cities, from Lagos to Nairobi. Although motorbikes - boda or okada - have been gaining market share due to their vast availability and lower prices, cars and trucks remain widely used for delivery.

Another growing trend is the rise of super apps - a concept steered by Asian companies such as WeChat and GoJek - consisting of applications providing one-stop-shop platforms for multiple services. Although no African startup has come near the size and versatility of the two Asian companies, recent developments have witnessed ride hailing start-ups such as SafeBoda in Uganda and Max.ng and O-Ride in Nigeria, that are integrating delivery options, mobility services and financial products in one mobile application.

# THE RESEARCH

## METHODOLOGY

The ***Digitising Logistics in Africa*** report is based on thorough primary and secondary research, including vetting Briter Bridges' internal databases, which count thousands of African companies and ecosystem players, surveying over 40 leading logistics startups from Cairo to Cape Town, carrying out 7 in-depth interviews, and engaging with industry experts and investors to get qualitative insights and anecdotes about the sector and its development. A decision was made to exclude vertical-specific delivery services such as medical and food deliveries - which will be a part of forthcoming maps.

Mobility: companies offering services that allow or facilitate the movement of people

Logistics: companies offering services that allow or facilitate the movement of goods

The aim of this research is to put forward the standpoint of stakeholders who are actively driving change in the sector and working to solve local challenges. The intention is also to showcase the role of 'new' players in the space, that being the activities of startups leveraging technology to deliver their services.

## HOW TO NAVIGATE THE MAP

### PRODUCTS AND SERVICES

SHIPPING/FREIGHTING
Organisations that provide shipping or freighting of goods in bulk by trucks, trains, ships or aircrafts.

COURIER SERVICES & LAST MILE DELIVERY
Organsations that offer on-demand delivery and transport of commercial goods and food products, or delivery to the final mile.

COLD CHAIN
Organisations that offer temperature-controlled transport or storage of perishable goods.

FREIGHT FORWARDING OR MANAGEMENT
Organisations that that organise shipments for individuals or companies from production to the end-user, or offer management solutions and networks for the supply chain.

STORAGE & WAREHOUSING
Organisations that offer storage facilities where raw materials or manufactured goods can be stored prior to further distribution or collection.

ADDRESSING SYSTEM
Organisations that faciliate, deliver or manage post related services.

### WHAT IS NOT INCLUDED

FOOD & GROCERIES DELIVERY

E-COMMERCE PLATFORM

MOBILITY & TRANSPORT

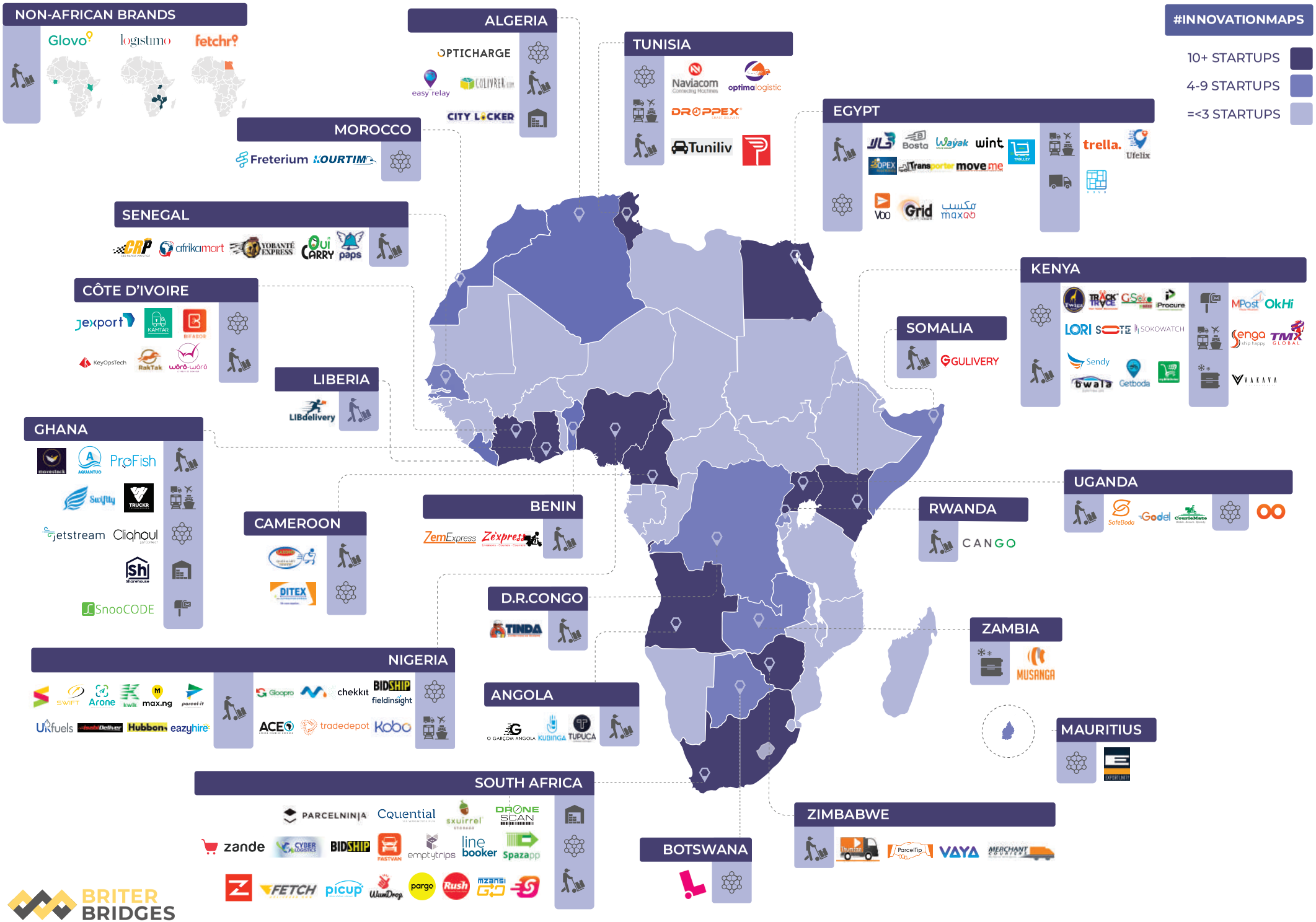
PHARMATECH & MEDICAL SUPPLY DELIVERIES

### COLOUR KEY

5+ STARTUPS

1-4 STARTUPS

NO STARTUPS

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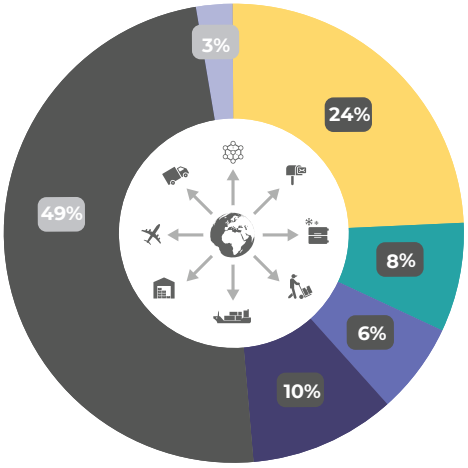
## SURVEY FINDINGS

In order to guarantee the provision of updated and reliable information, over forty startups comprising the most relevant players across the logistics-tech sector were surveyed between June and August 2019.




Supply Chain Management & Freight Forwarding

Trucking

Shipping/Freighting

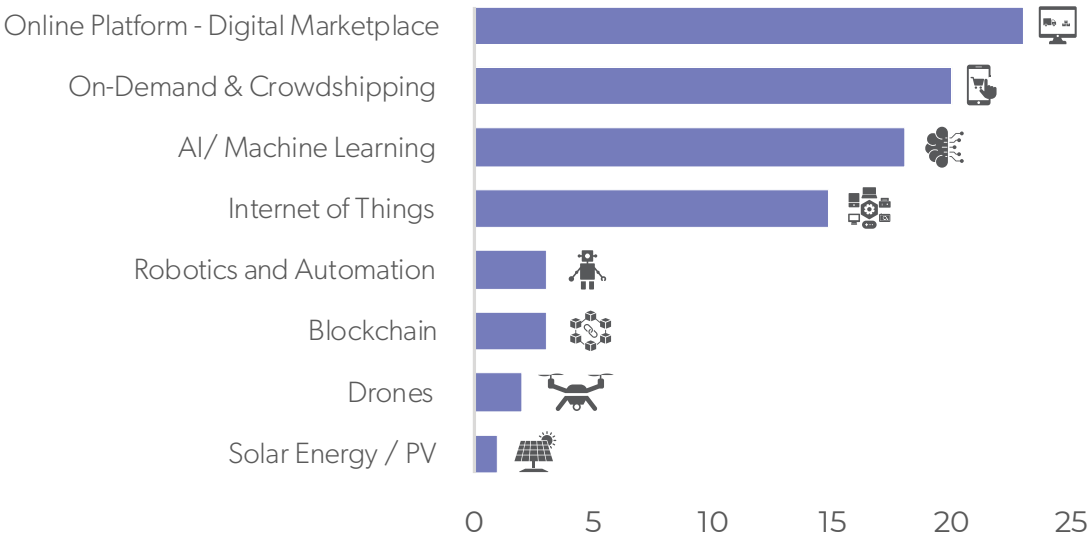
Courier Services and Last Mile Delivery

Storage and Warehousing

Cold Chain

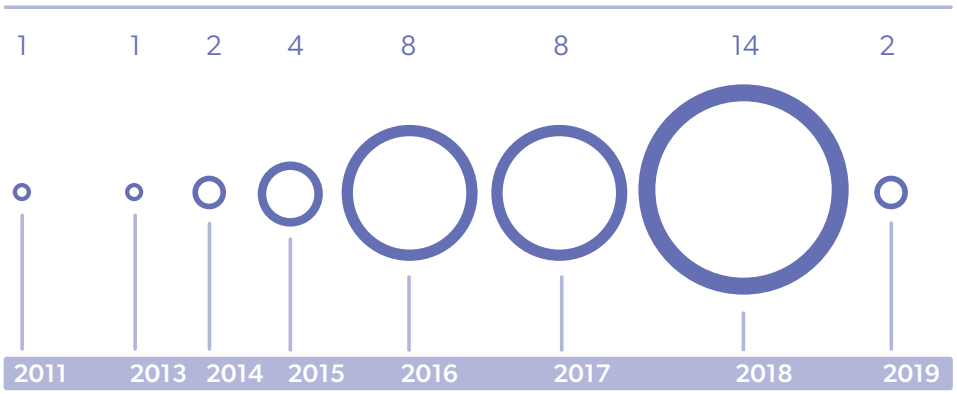
## COMPOSITION AND SERVICES PROVIDED

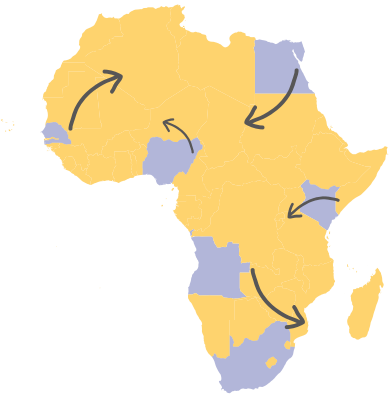
Almost half self-identified as courier and last-mile delivery services, while 25% of the respondents included supply chain management and freight forwarding companies. Just below 15% described their organisation as strictly trucking or shipping. The rise of digital platforms is reflected in the number of respondents either identifying their offering as marketplaces for carriers and shippers, or as platforms for courier services (from medicine to grocery distributors). This is arguably due to the availability of mobile technology which has enabled better supply chain management and faster communications. In addition, high internet penetration has laid the ground for the growth of e-commerce and online retail, which have positively impacted the number of on-demand services, predominantly in urban areas. Faster communication and cloud services have also led to a proliferation of supply chain management platforms at 24%. A smaller proportion of respondents are exploring technologies such as drones and robotics for warehouse management and optimisation, and using clean energy technology to power cold storages for perishable goods.



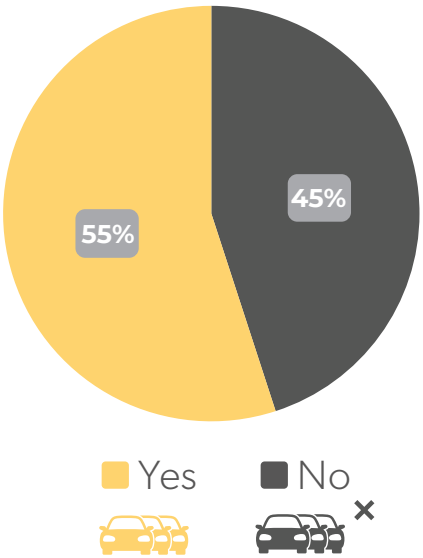
## DEMOGRAPHICS AND GEOGRAPHIES

SINCE 2016, THE LOGISTICS SECTOR HAS REGISTERED A SPIKE IN THE NUMBER OF STARTUPS FOUNDED. One-third of all respondents founded their firms in 2018, while 16 companies set up shop between 2016 and 2017. With an average age of 2.5 years, most of the surveyed companies have already expanded operations to more than one market.



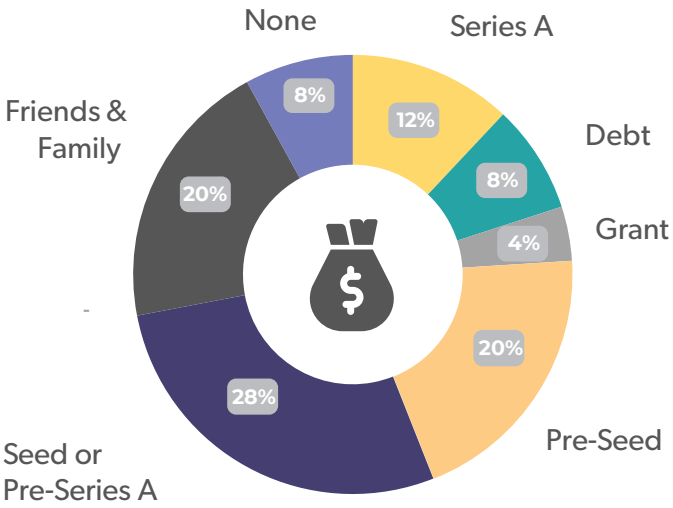
THE MAJORITY OF THE RESPONDENTS count between 10 and 24 employees, with only 15% of the total sample being represented by micro-enterprises - i.e. less than 5 employees. However, as shown below, thanks to the increasing large ticket investment in the sector, predominantly in Seed and Series A funding, growth across Africa's logistics-tech landscape is not likely to slow down over the course of 2020.




One of the major findings of this research is that tech startups working in the logistics space do not necessarily operate their own fleet but rather offer products or services that allow existing businesses or individual distributors to use their own vehicles. Following a similar platform model used by Uber and AirBnb, which leverages existing assets and matches them with the demand, several startups have been positioning themselves as digital platforms that act as marketplaces for cargo.

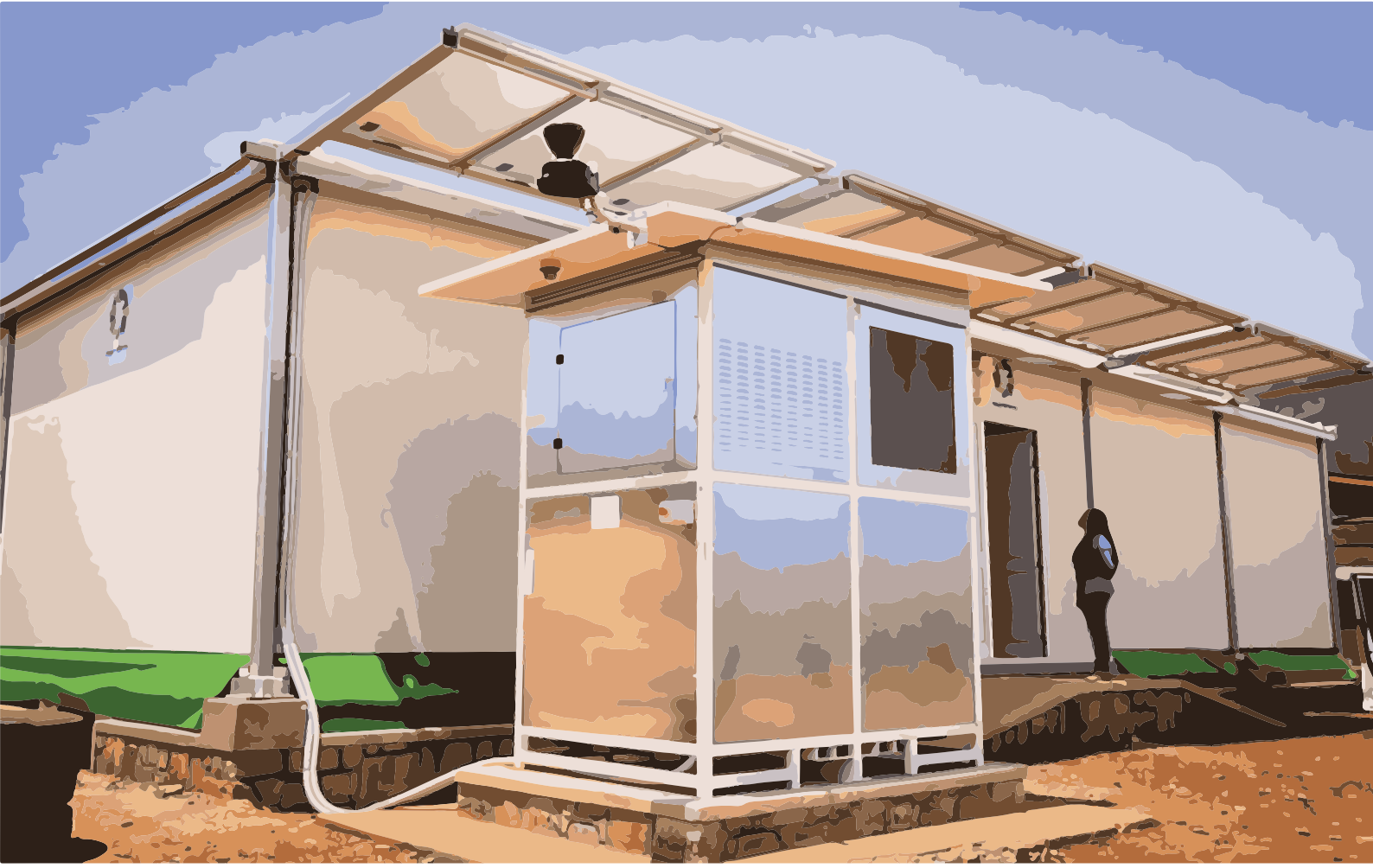
## FUNDING LANDSCAPE

AS COMPANIES USING TECHNOLOGY IN LOGISTICS SERVICES BECOME MORE APPEALING TO INTERNATIONAL INVESTORS, the sector is witnessing fast growth. The five top funded companies have cumulatively raised over $60 million, with Kobo360's latest round amounting to 20$ alone. Lori Systems, Max.ng, Sendy, and TradeDepot follow as the startups who raised the highest Series A. Glovo, a Spanish on-demand courier who raised $100+ million, was not included in the count as the funding raised was not exclusive to its expansion to Africa. Although Series A remain limited, 28% of the companies surveyed declared raising at least a Seed round and only 8% have not raised any funding.




## FLEET COMPOSITION

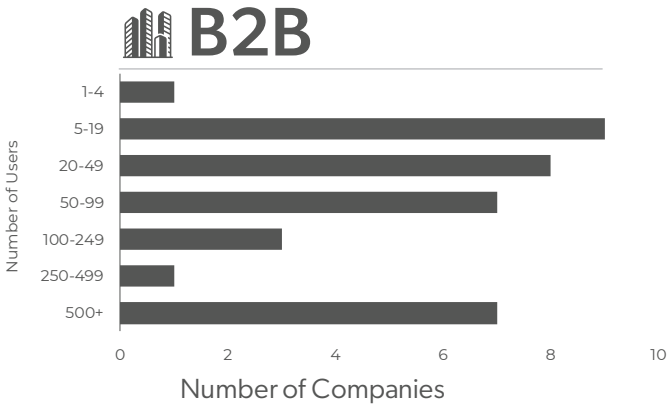
| 3% | 6% | 22% | 22% | 3% | 41% | 3% |
|---|---|---|---|---|---|---|



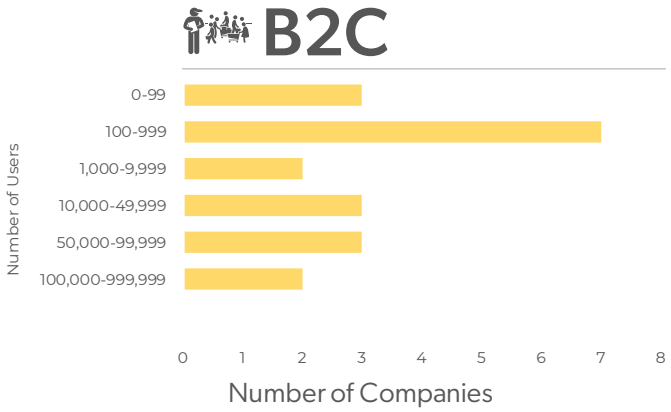
## MARKET FOR BUSINESS TO BUSINESS (B2B)

According to the 40 surveyed companies, 87% adopt business-to-business models, while 50% address both B2B and B2C. A mere 5%, including newly-entered Glovo, only targets consumers. In order to avoid biasing the data and the results, it should be observed that sector-focused delivery startups such as food and medical couriers have been excluded from the survey, as they will be explored in a separate study. These numbers reflect two of the problems that have been highlighted by several of the contributors - the low demand for consumer goods due to low purchasing power, and the lack of reliable addressing.

**87% B2B**




**50% B2C**



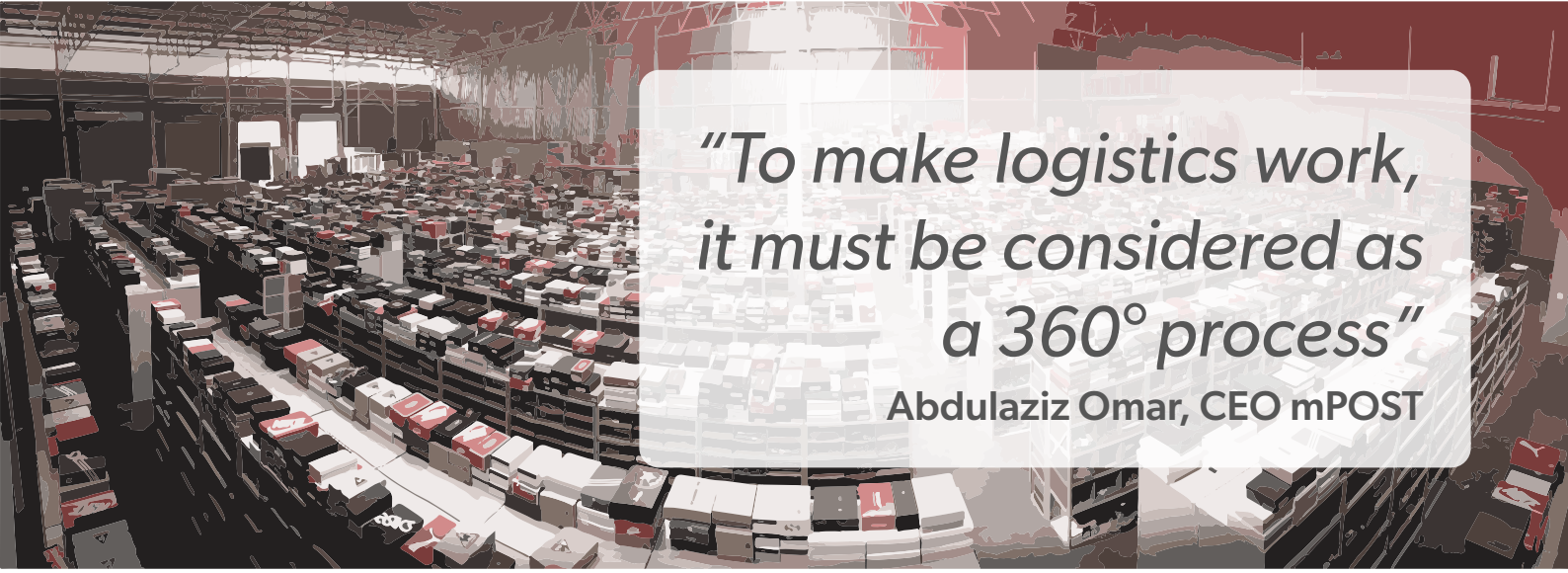
## TYPE OF GOODS AND COLD STORAGE

Although this report deliberately excludes startups whose services are limited to food delivery only, perishable and manufactured goods represent the two largest categories of the surveyed companies, with each distributed by 25%. The growing market for food and perishable goods distribution could be considered as a proxy for safer cargo capacity and improved cold chain and storage. Companies such as InspiraFarms, Cold Hubs, FreshBox, and Solar Turtle have devised a solution to address the lack of reliable electricity across rural areas by powering cold storages through solar panels. This represents a major milestone in the effort to build continuity along the supply chain, in that it allows farmers to retain their unsold produce for a longer period and maintain food safety by preventing hazardous bacteria from developing.

## WAREHOUSING AND INVENTORY INNOVATION

Although innovation for storage and warehousing remains off the mainstream, this area is witnessing a significant disruption. Drones and robots are being used in warehouses to locate, organise, and distribute goods, while inventory management platforms are being used to optimise space and restocking. Aside from the fact that warehousing businesses imply significant upfront costs, Justin Drennan, co-founder of ParcelNinja, explains, "*There are several daily challenges that an actor operating within this space might need to deal with at a managerial level, including strikes, lack of electricity, different courier companies using different formats, theft, staff management and so forth.*"

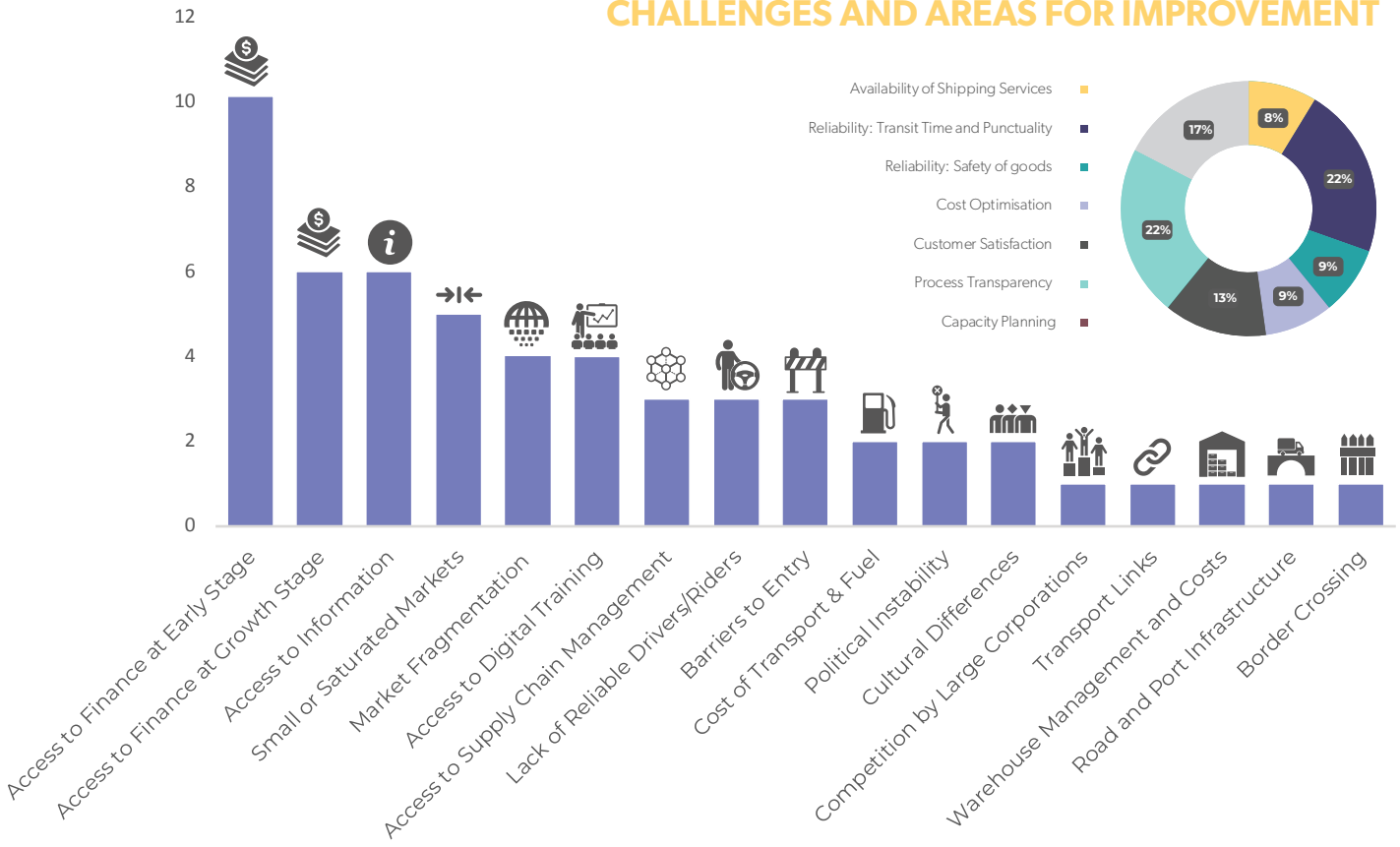
Because of the interconnectedness of the supply chain and the high upfront costs of building functioning and reliable storage and distribution systems, individual successes across the sector are likely to largely depend on the success of peer players along the value chain. As much as one could argue that the e-commerce boom and the development of an on-demand culture trickled down to several other sectors ranging from manufacturing to agriculture and food production, smart warehousing is being affected by the dramatic changes that logistics is undergoing.



*"To make logistics work, it must be considered as a 360° process"*

**Abdulaziz Omar, CEO mPOST**

## CHALLENGES AND AREAS FOR IMPROVEMENT




**THE MOST-CITED CHALLENGES** across the surveyed companies could be broken down into:

**ACCESS TO FUNDING** at both early and growth stage. Only 40% of the surveyed startups declared to have raised either a seed or Series A round.

**MARKET-RELATED** challenges, involving a lack of information or a limited consumer base for specific goods or services.

**INFRASTRUCTURE-RELATED** challenges, from dangerous roads to inefficient port and lack of process transparency

**MANAGEMENT-RELATED** challenges which span from warehousing and inventory costs to lack of reliable riders and drivers.

# INTEGRATING THE SUPPLY CHAIN

The health of the overall supply chain is closely dependent on the functioning of each single link along the chain. This means that, from the point of production, to the warehouse, through the management of carriers and shippers, locating addresses, and delivering to the end user, the communication between nodes is crucial. Since there exist sector-specific challenges that play a role in the quality of logistics services and are contextual to African markets, it is important to acknowledge the impact of external factors such as infrastructure development and regulation. In this sense, Johnny Falla of Lori summarises a key finding of this research by clarifying that "*adding the technology layers [to logistics solutions] helps to better coordinate and optimise operations*". Along these lines, it is crucial to point out that, as also highlighted by co-founder and CEO of Jetstream, Miishe Addy, factors such as uncertainty around prices, volume and quantity of the goods distributed, are all elements that create bottlenecks to the efficiency and growth of the sector. Technological solutions can provide an efficient and transparent way to optimise processes by minimising volatility and guaranteeing better service reliability, but external constraints such as inefficient regulatory frameworks need to be addressed.

## KEY TOPICS FOR FURTHER RESEARCH

Infrastructure gap and market fragmentation, which implies the existence of several, poorly communicating regulatory frameworks.

Mobile technology enables supply chain management platforms and optimisation of supply chain processes by allowing digital solutions such as virtual addresses.

Rapid urbanisation and the rise of an on-demand culture are opening up opportunities in e-commerce and B2C logistics services and across a range of verticals.

Through the use of technology, companies are looking at ways to promote more efficiency, optimise processes, create more transparency and reliability across the supply chain.

Larger ticket sizes are startingto be seen across logistics-tech companies, the 5 most funded companies cumulatively raised over $60M over the past two years, as of September 2019.

The concept of "super apps" (which allow several services in a single pla form) is being explored especially thanks to the involvement in Africa's tech nology ecosystem of some of the leading Asian players such as Go-Jek.

# FOR MORE INFORMATION

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