



Intelligent Logistics - in the midst of a storm

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Agenda

- Where it all started.
- Challenges: juggling between modes of transport
- PPE overload!
- Panic Pandemic
- Some normality
- The Vaccine Race
- Vaccines: South Africa
- Vaccines: Africa
- What does the future hold?





But we made it here!



COVID-19 

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D **WN**

Where is all started.

Where it all started.

November - December 2019



We all experienced turmoil when COVID-19 Pandemic started, we all knew it was sink or swim. As the Pandemic evolved, we had to find very creative ways to ensure we could supply emergency and lifesaving Cold Chain Pharmaceuticals and other Healthcare items. DSV being a leader in the Cold Chain Supply network very quickly developed strategies around the crisis we were facing, not only in South Africa, but also in Africa. We realized that we had to consider multi-model strategies, incorporate strategic partners and execute at a rapid pace.

November – December 2019

Procurement changes

- Pharmaceutical companies procurement pattern changes
- Massive influx of medicines and raw materials planning starts
- Capacity constraints in terms of storage starts
- SAA grounded aircraft added to capacity constraints
- Price increases on products of high demand such as flu medication, flu vaccines, vitamin c, zinc, Aspirin and paracetamol



Challenges: juggling between modes of transport

January – March 2020

Transport Mode Changes

- Specialised equipment out of Far East (India and China)
- Airfreight rate increases by 60 - 70%
- Time critical stock
- Companies not involved in the Pharmaceutical space starts entering the market – Threat of the unknown!
- Educating companies on risk and how to mitigate risk



PPE overload!

January – March 2020

PPE Overload

- Masses of Personal Protective gear imported and cause a major bottleneck at ORT
- Increase in crime around the airport and theft as masks become a “sought after” item.



PANIC Pandemic

March - July 2020

Panic Pandemic

- Everything became SUPER urgent, which required an agile supply chain. - Intelligent Logistics was borne.
- Business for South Africa and COVID board initiated early plans to enrol and procure vaccines.
- Shift in transport modes took place
- Man on the street started stocking up on all sorts of items and medicines
- Panic buying added strain on all supply chains and logistics around the Globe, this led to unnecessary errors made in supply chains.
- Airfreight carriers, re-configured passenger aircraft to accommodate more space, to allow more air capacity.



Moving masks from China to South Africa

Intelligent logistics



Some normality

September – November 2020

Some Normality

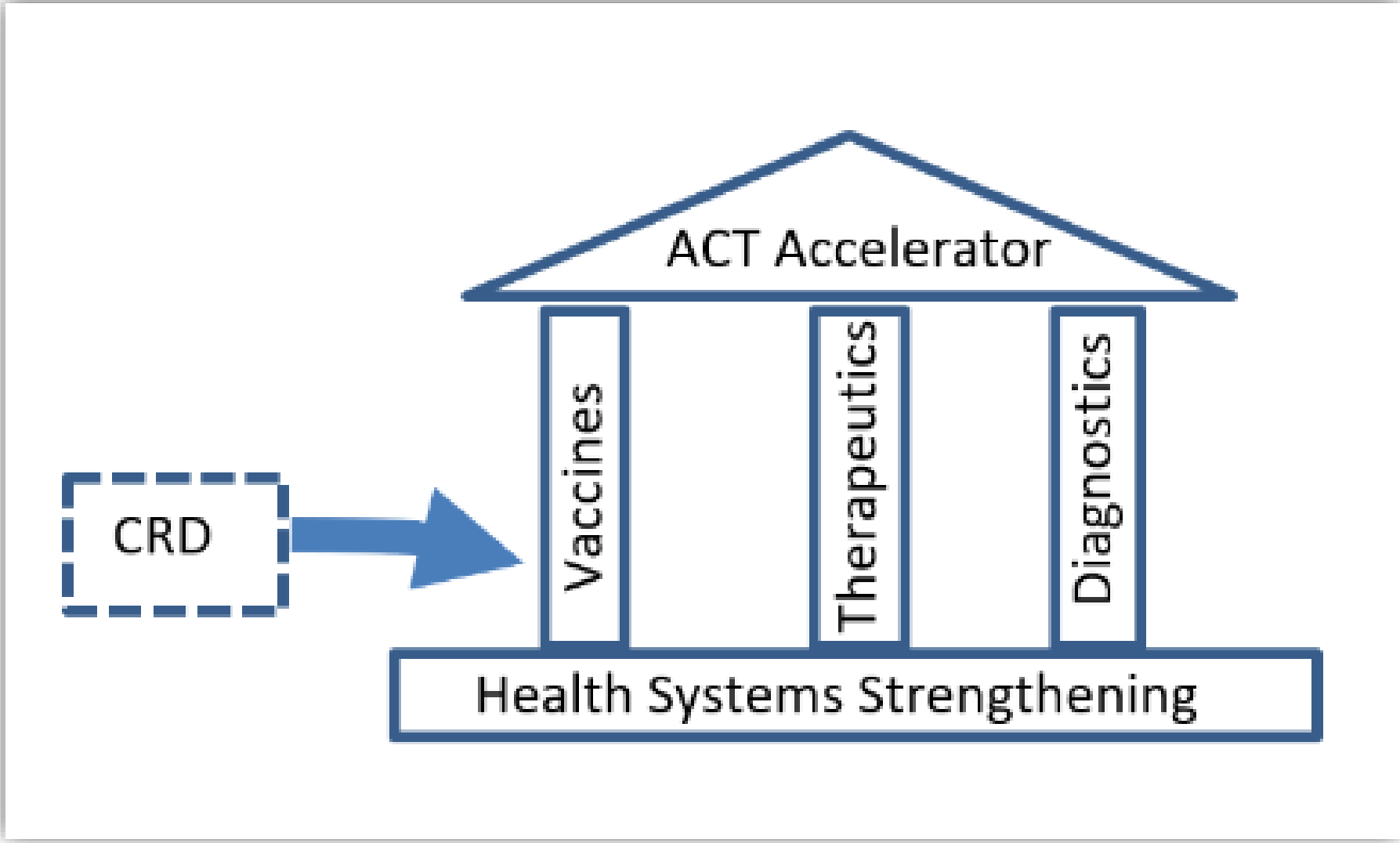
- People start returning to workplaces, traffic on roads increased during peak times and we all started thinking about a HOLIDAY!
- Procurement started normalising, but items such as COVID test kits and other test kits, such as HIV kits increased remained in high demand.
- Sanitisers, gloves and potential “cures” started making its way to the markets.
- Airfreight rates and ocean equipment prices remain in high.
- Less travel restrictions, which allows smoother road transportation across SSA region.



THE Vaccine Race

COVID-19 Vaccine Race

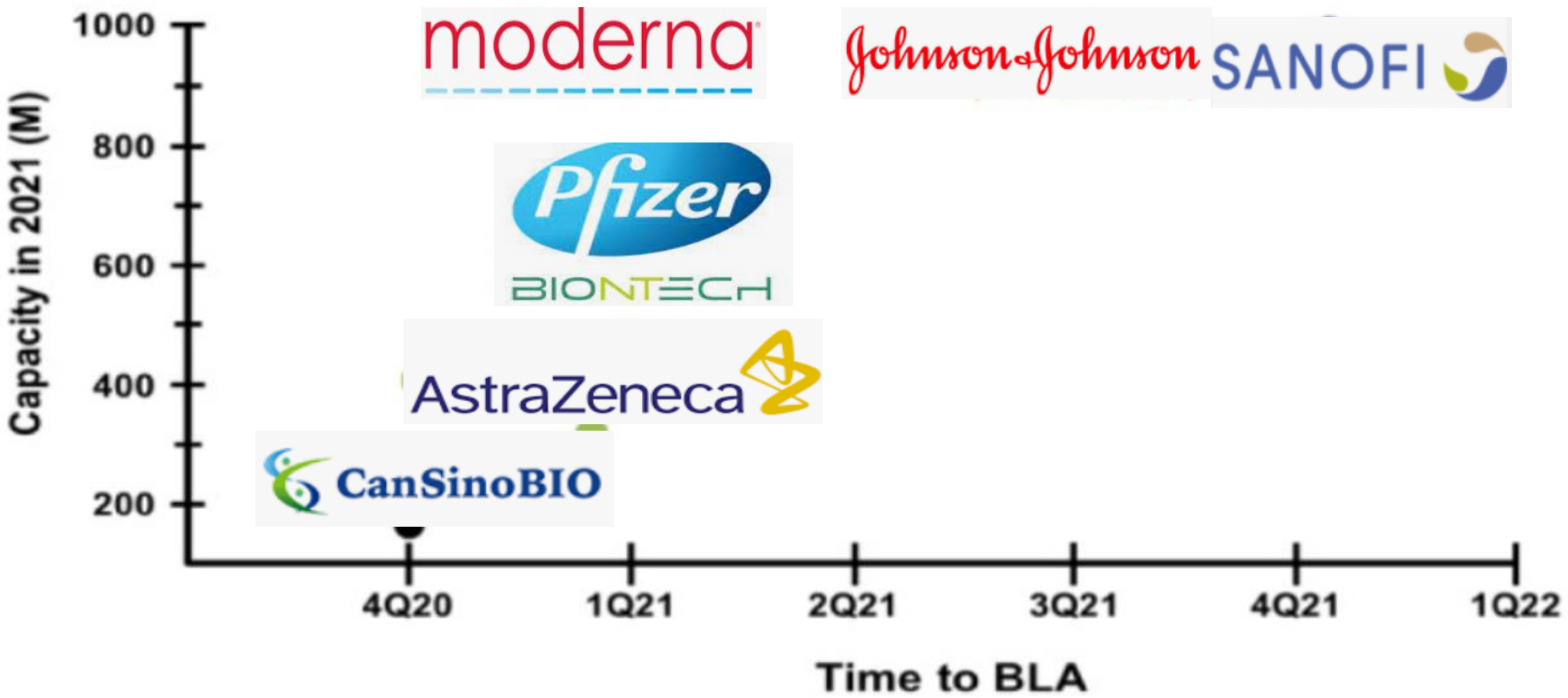
Who can do it first?



COVID-19 Vaccine Race

Who can do it first?

Exhibit 1: Potential Vaccine Timeline and Production Capacity

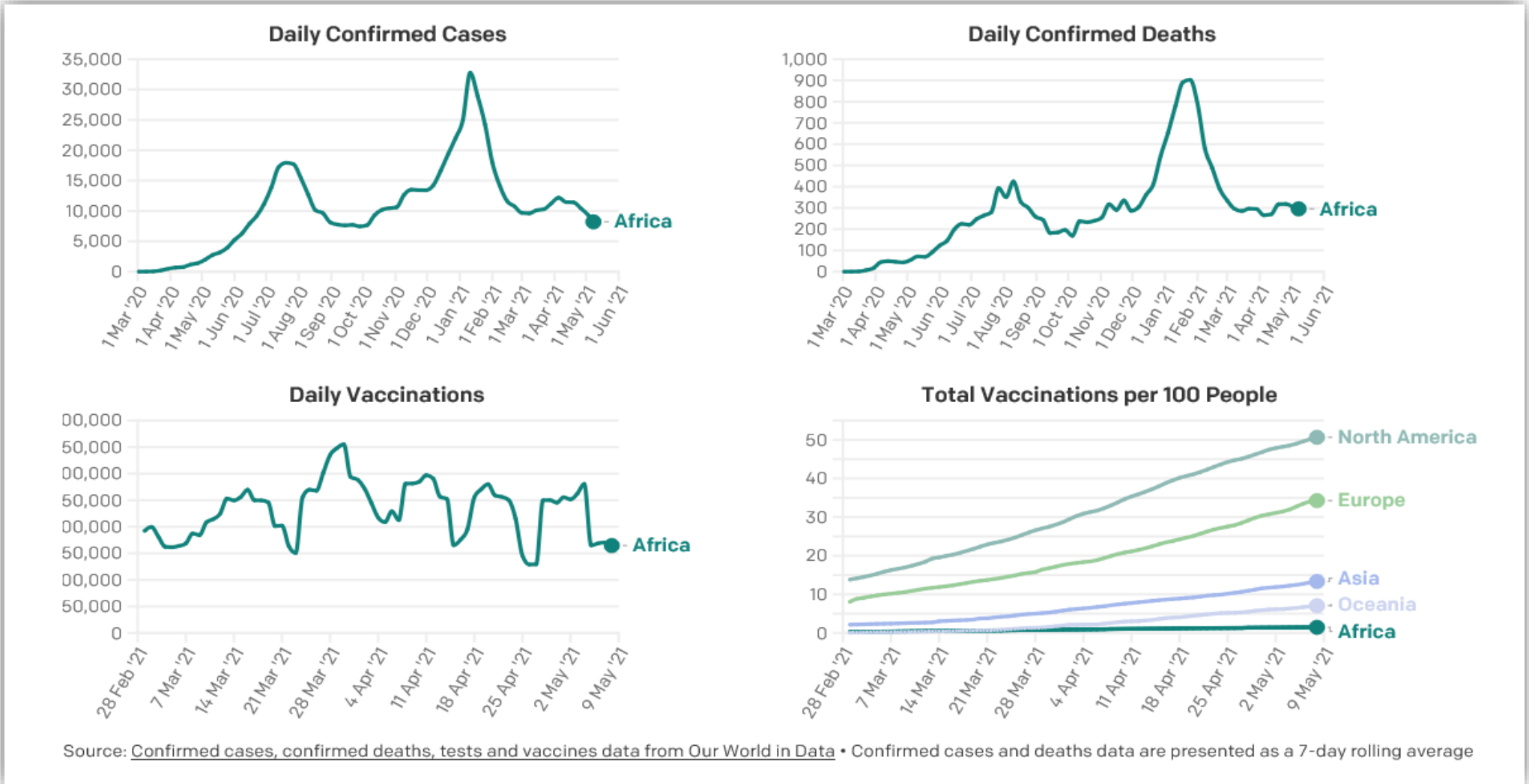


Source: Morgan Stanley Research, Company reports

BLA: Biologics Licence Application

COVID-19 Vaccine Race

Who can do it first?



Vaccines: South Africa

COVID-19 Vaccine Race

Vaccines: South Africa – Cold Chain Management

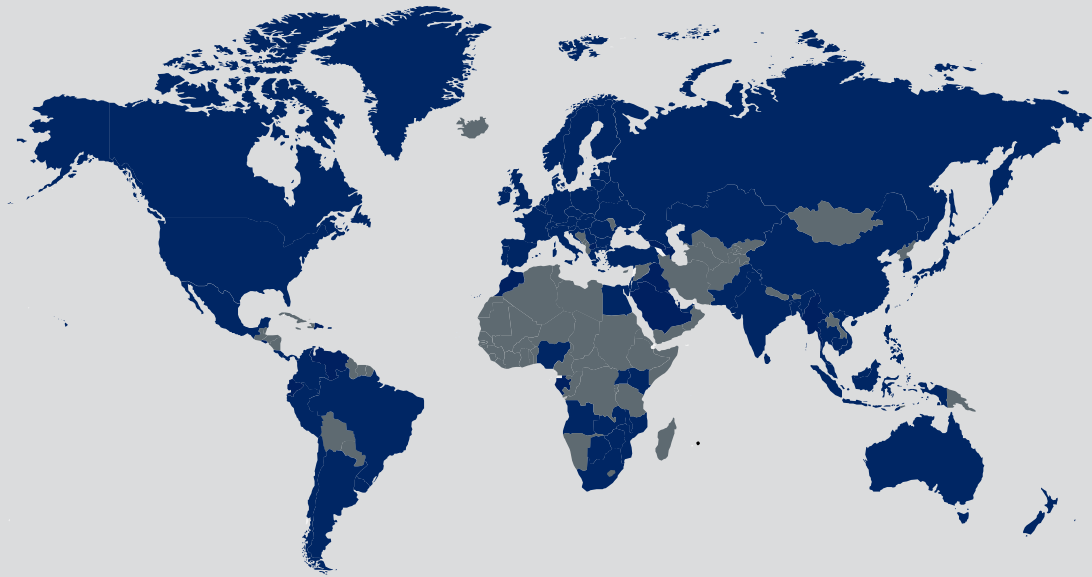
Complete cold chain solution



**WAREHOUSING
DISTRIBUTION**



Aid & Relief: Africa



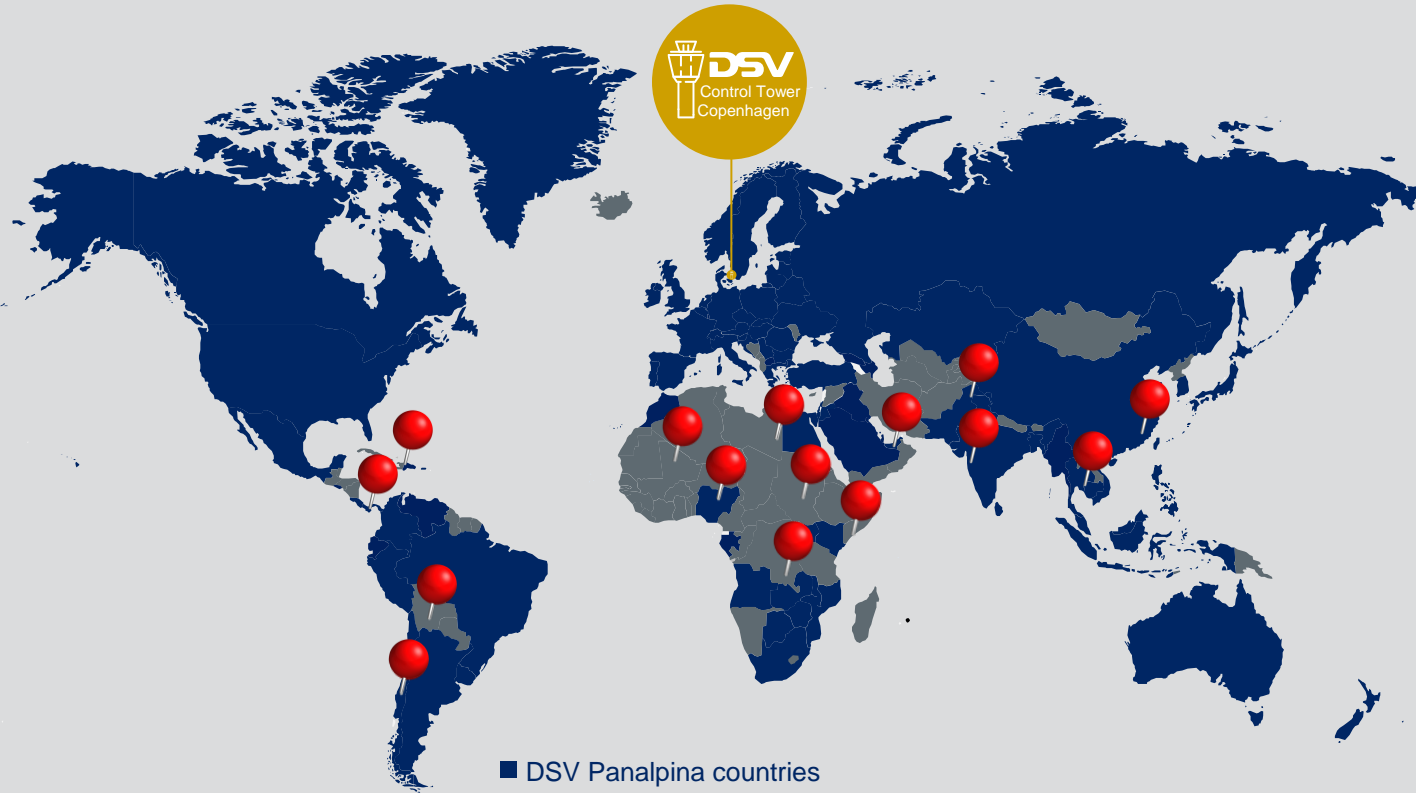
- DSV Panalpina countries
- Coverage by partners

As the 3rd  **largest** freight   forwarder in the world

3rd largest  on air freight & 3rd largest  on ocean freight

DSV is a **fast, flexible, efficient and reliable partner**  to aid providers and NGO's





■ DSV Panalpinia countries
 ■ Coverage by partners

In case of **emergency** 
 time is a **critical factor** –
 DSV is **close** to **any**
location in the world:

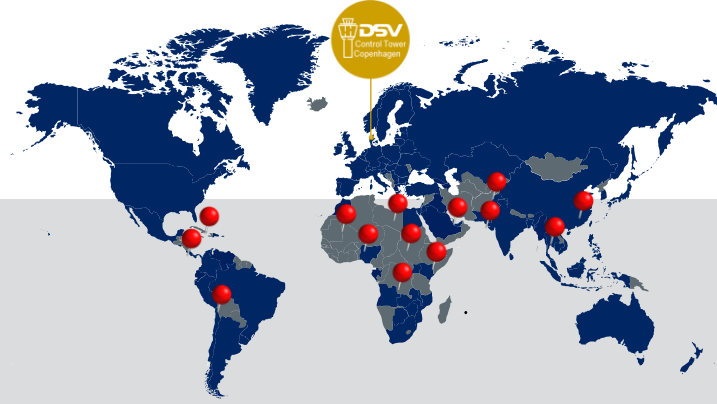
 **92**
 countries

 **1500**
 offices and logistics facilities

 **70.000**
 employees



Aid & Relief



The DSV Way

Control Tower

Our Aid & Relief team of **passionate experts** are surveilling all shipments and develops efficient **standing operating procedures**

This ensure both **compliance** and **efficiency** at the same time

We have expertise in larger projects, vehicle movements, 24/7 charter and emergency service



24/7

Each shipment is assigned to a **single point of contact**

However a **back-up team** are available **24 hours**



DSV has **specialist teams** and state of the art **warehouses** to handle **pharma, food** and other **perishable** aid shipments

Ease of use & Full transparency



Plug & Play

We offer market leading user-friendly IT solutions that makes transportation easy



Track & Trace

With myDSV provides you with live data tracking any shipment. We proactively notify any deviations from the planned delivery



High Hit rate

The concept we are offering is a success.

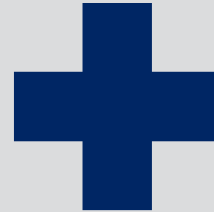


We are proud and humble



United Nations

+30 UN organization choose DSV to facilitate transportation including air, ocean and road



DANISH
RED CROSS

DSV is special **partner** to Danish **Red Cross**



We have a global network of **+100 onsite partners**



5 May 2021





Food and Agriculture Organization of the United Nations



UNHRD
Humanitarian Response Depot



unicef



Stop TB Partnership

Our partner promise



We mobilize all our logistic expertise, capacity and quality to help you deliver measurably more aid on time



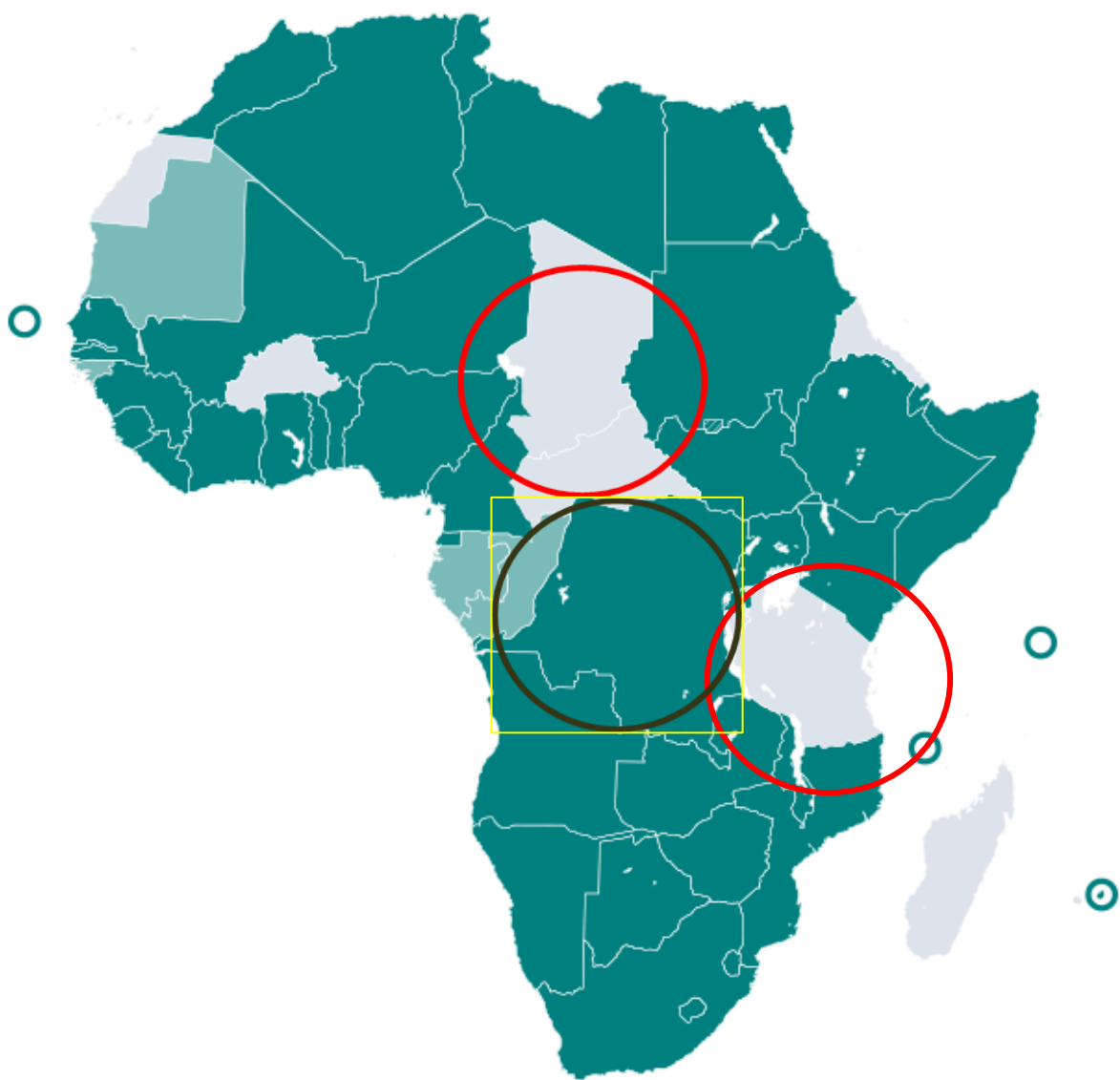
15 May 2021



Vaccines: Africa

Covid-19 vaccine rollout in Africa

- Countries that have received vaccines
- Countries that have begun vaccinations



unicef

*Data as of April 19, 2021

Source: WHO, GAVI, Reuters, BBC Research

**What does the future
hold?**



The DSV vaccine supply chain



Transported to airport and flown with pre-approved airlines to Johannesburg in **temperature-sensitive containers**.



DSV Healthcare caters for **pharma grade storage** across a range of storage conditions, being: ambient (15-25°C), cold (2-8°C), frozen (-20°C). Cold chain packaging enables us to deliver at ultra-frozen (-70°C).



Importantly, our **validated packaging allows transport at required storage conditions for up to 100 hours** with various payload capacities.



Rigid monitoring, track and trace and security measures on all DSV Healthcare fleet reduces the risk of security breaches and product being compromised. Additional **security measures** available for high value/volume loads.



DSV Air & Sea collects shipment in temperature-controlled vehicles.

Shipment pre-alerted and cleared upon arrival in Johannesburg to ensure on-time drawing of the temperature sensitive Pharma shipment at **DSV Cold**, a specialised Pharma cold chain facility at OR Tambo International Airport.

A specialised **Polar Cabin** is used to unload the vaccines from the aircraft to protect the temperature and minimise temperature exposure from the tarmac.

DSV Cold is a **secure facility** so the cargo is safe as it is processed to meet all customs and regulatory requirements. It is then loaded onto temperature-controlled vehicles and transferred to DSV Healthcare's state-of-the-art healthcare facility in Johannesburg. Once there, post importation samples are taken, inspections are conducted, and product received into an **automated warehousing system**.

Once at DSV Healthcare's facility, the vaccines will be **stored, picked and packed according to the order call off** in preparation for delivery.

Additional **bulk/overflow storage solutions** include reefer containers validated at 2-8°C as well as -20°C. Passive Kryotrans storage locations are validated to -70 degrees.



DSV Healthcare's last mile delivery options – temperature managed vehicles, direct loads to larger facilities, milk-runs in larger metros and validated packaging – will ensure the vaccines are kept at a consistent temperature until final delivery. We have a vast fleet of vehicles which could be involved in the project.



DSV Healthcare currently delivers to more than 6,000 healthcare facilities, hospitals, clinics, doctors, state health depots and pharmacies, mostly on a daily basis, but at least weekly to remote facilities. Additional delivery points will be added if needed.



Our Just in time and cross dock deliveries are also available to ensure speed to market and reduce lead time to healthcare facilities or vaccination centres.

Thank you.

Questions