



Afrigen

Biologics & Vaccines

An Avacare Health & IDC Company

7 October 2021

***AFRICANDO TRADE AND INVESTMENT CONFERENCE
HEALTH IS WEALTH ROUND TABLE DISCUSSION
LOCAL MANUFACTURING OF COVID 19 VACCINES:
CHALLENGES/OPPORTUNITIES AND DIASPORA CONTRIBUTIONS***

***m-RNA TECHNOLOGY HUB FOR AFRICA:
AN INCLUSIVE PARTNERSHIP MODEL TOWARDS SUSTAINABLE
VACCINE PRODUCTION IN AFRICA***

PROF PETRO TERBLANCHE
MANAGING DIRECTOR
AFRIGEN BIOLOGICS AND VACCINES

PRESENTATION OVERVIEW

COVID 19
CURRENT REALITY

AFRICA VACCINE
MANUFACTURING
LANDSCAPE

TSUNAMI

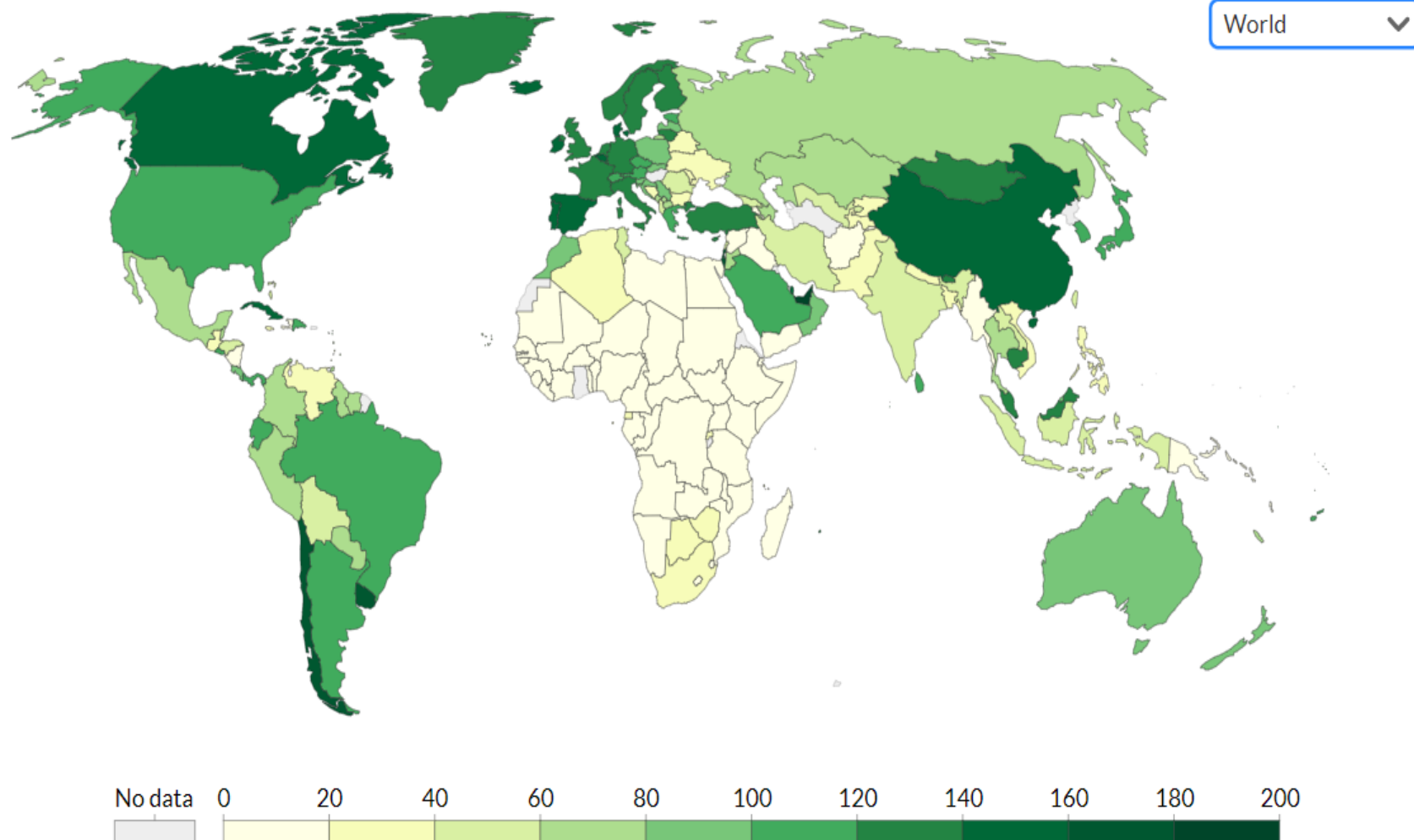
mRNA Hub in South
Africa in the context of
COVAX objectives

QUA VADIS AFRICA?

COVID-19 vaccine doses administered per 100 people, Sep 19, 2021

Our World
in Data

For vaccines that require multiple doses, each individual dose is counted. As the same person may receive more than one dose, the number of doses per 100 people can be higher than 100.



Africa faces 470 million COVID-19 vaccine shortfall in 2021



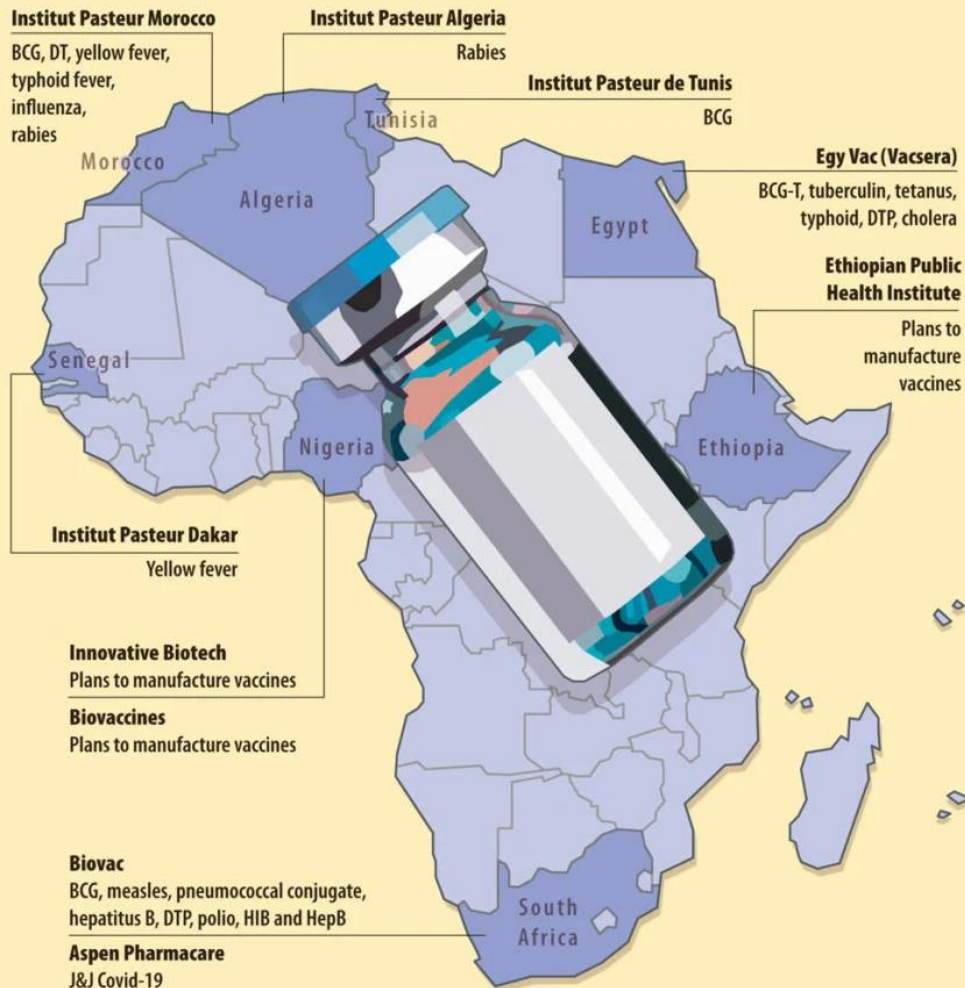
Image: <https://www.un.org/africarenewal/magazine/june-2021/limited-supplies-slow-covid-19-vaccination-africa>

- So far, around **2% of the nearly 6 billion doses** administered globally have been administered in Africa.
- Africa has been able to fully vaccinate some **50 million people = 3.6% of the continent's population.**

- The **470 million doses**, which are now expected to arrive by the end of December, are just enough to vaccinate just **17% of Africans** on the continent.

Source: WHO Afro <https://www.afro.who.int/news/africa-faces-470-million-covid-19-vaccine-shortfall-2021>

Vaccine manufacturing sites in Africa and their vaccines



Graphic: JOHN McCANN Data source: AFRICA CDC



AFRICA ACCOUNTS FOR ONLY 4% OF THE GLOBAL VACCINE MARKET BUT THE CONTINENT ONLY PRODUCES 1% OF ITS VACCINE REQUIREMENTS. THAT IN THE CONTEXT OF THE FACT THAT THE CONTINENT CONSUMES 25% OF GLOBAL VACCINES BY VOLUME.



VIRTUAL CONFERENCE:

AFRICA'S VACCINE MANUFACTURING FOR HEALTH SECURITY

Monday 12th & Tuesday 13th April 2021

Master of Ceremonies

Opening Session: Mr Stepples Muchimba, Ag Director, African Union Commission

Sessions 2-11: Mr Chaacha Mwita, Consultant, Health Communication



COVAX

CEPI



unicef

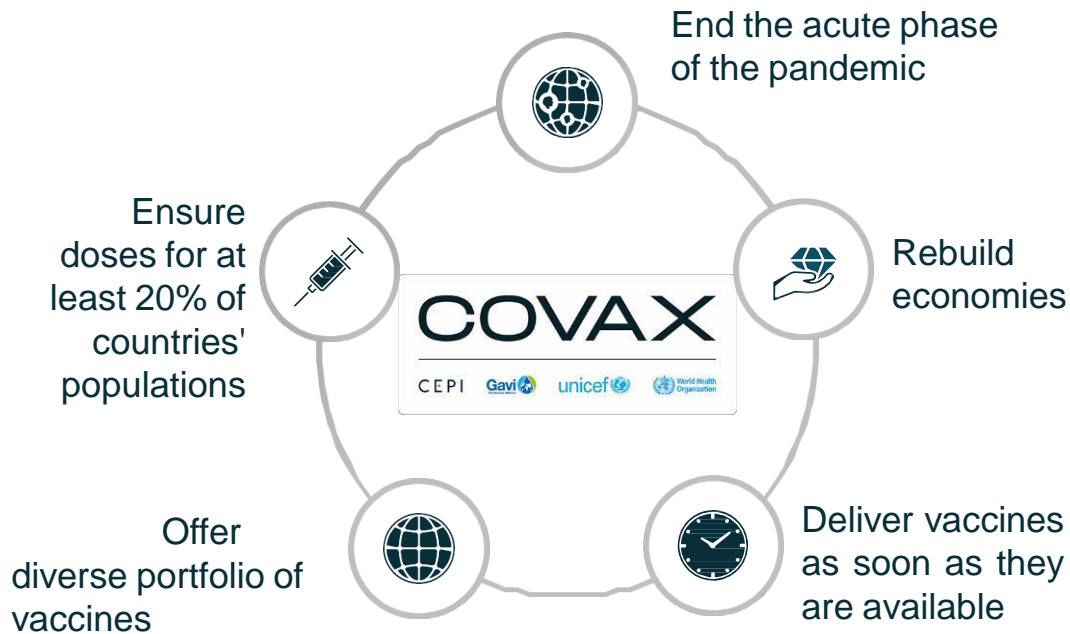


Supply Chain & Manufacturing Task Force – Workstream 3

South Africa Hub Working Group

July 6, 2021

access to COVID-19 vaccines



EQUITABLE

190 participating countries, incl. 92 low-and-middle income countries covered by free dose mechanism

\$9.7B pledges so far

119M doses delivered to **136** participants

COVAX



COVAX Supply chain & Manufacturing Taskforce vision and objectives

Strengthen vaccine manufacturing to secure more doses



Support COVAX mission to end acute phase of the pandemic by end 2021



Optimize the number of Vx doses manufactured in the short term



Prioritize doses for COVAX with a special emphasis on AMC92 to ensure greater equity



Mitigate unintended impact on other vaccines and health products



Initiate regional health security through establishment of sustainable regional long-term manufacturing of vaccines

First vaccine technology transfer hub identified in South Africa – Key takeaways from WHO announcement on June 21st, 2021

WHO Media briefing on June 21st, 2021

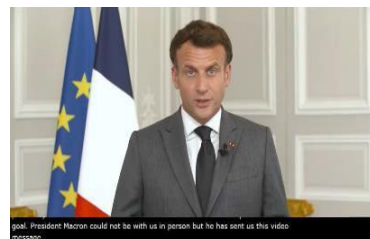
Through COVAX, WHO announced it is supporting South African consortium to establish first COVID mRNA hub



Dr Tedros Adhanom Ghebreyesus
OMS Director General



Cyril Ramaphosa
South African president



Emmanuel Macron
French president

Key takeaways



South African consortium comprises:

- Afrigen
- Biovac
- A network of universities



Follows WHO's call for EOI on April 16th, 2021

- 28 offers received to either provide technology or to host a hub or both

Tech being identified with 2-pronged approach

- "Late-stage" tech: fast & secured option (9-12 months) but with potential constraints
- "Early-stage" tech: lengthier & more uncertain, but offering broad scope / high program suitability

Next steps

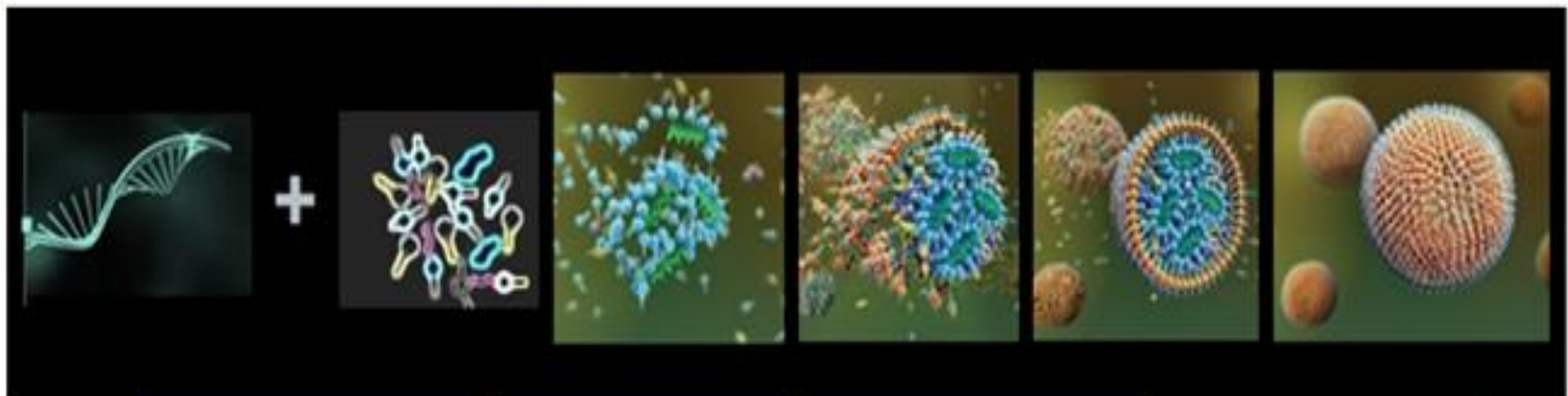
- Confirm technology donor
- Implement (governance, funding, etc.)
- Identify subsequent hubs, launch of EOI calls for other techs and recipients





mRNA


mRNA Vaccine Technology




NON-LIVE	SAFETY	IMMUNOGENICITY	MANUFACTURING
<ul style="list-style-type: none">• No live pathogens• Sequence specificity• Flexible product design• Well characterized	<ul style="list-style-type: none">• RNA does not integrate into the host genome and is degraded once the protein is made	<ul style="list-style-type: none">• Induces potent humoral and cell-mediated immune responses• Self-adjuvanting	<ul style="list-style-type: none">• <i>In vitro</i> transcription• No cell culture• Scalable to large capacity

WS3 aims at creating global tech transfer hub / recipients network


Envisioning a global network of technology transfer hub(s) / recipients dedicated to LMIC uptake

- 

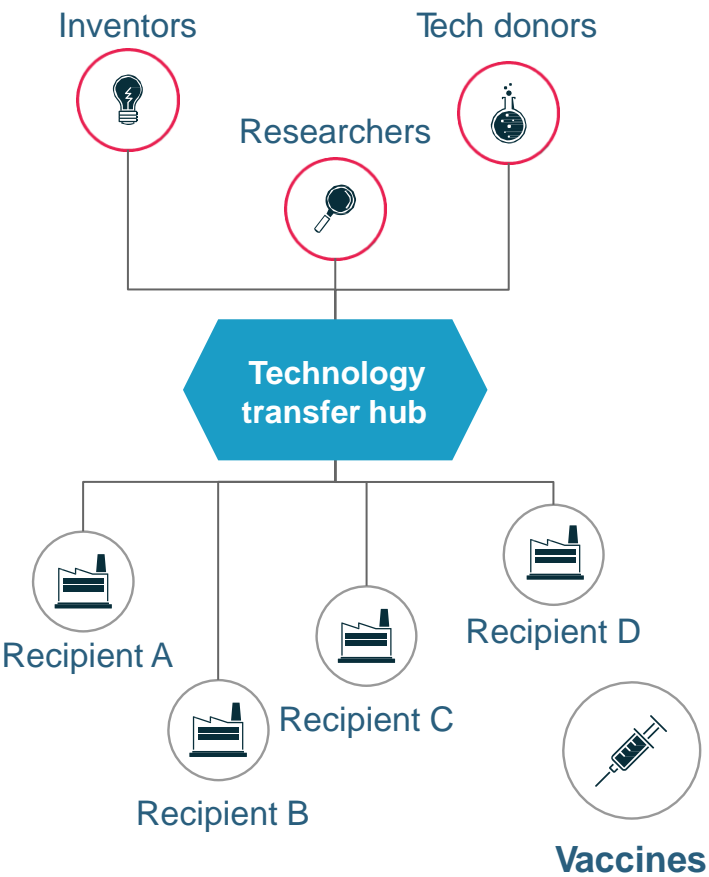
Centralized hub(s) to facilitate multilateral technology transfers to regionally distributed LMIC recipients

- 

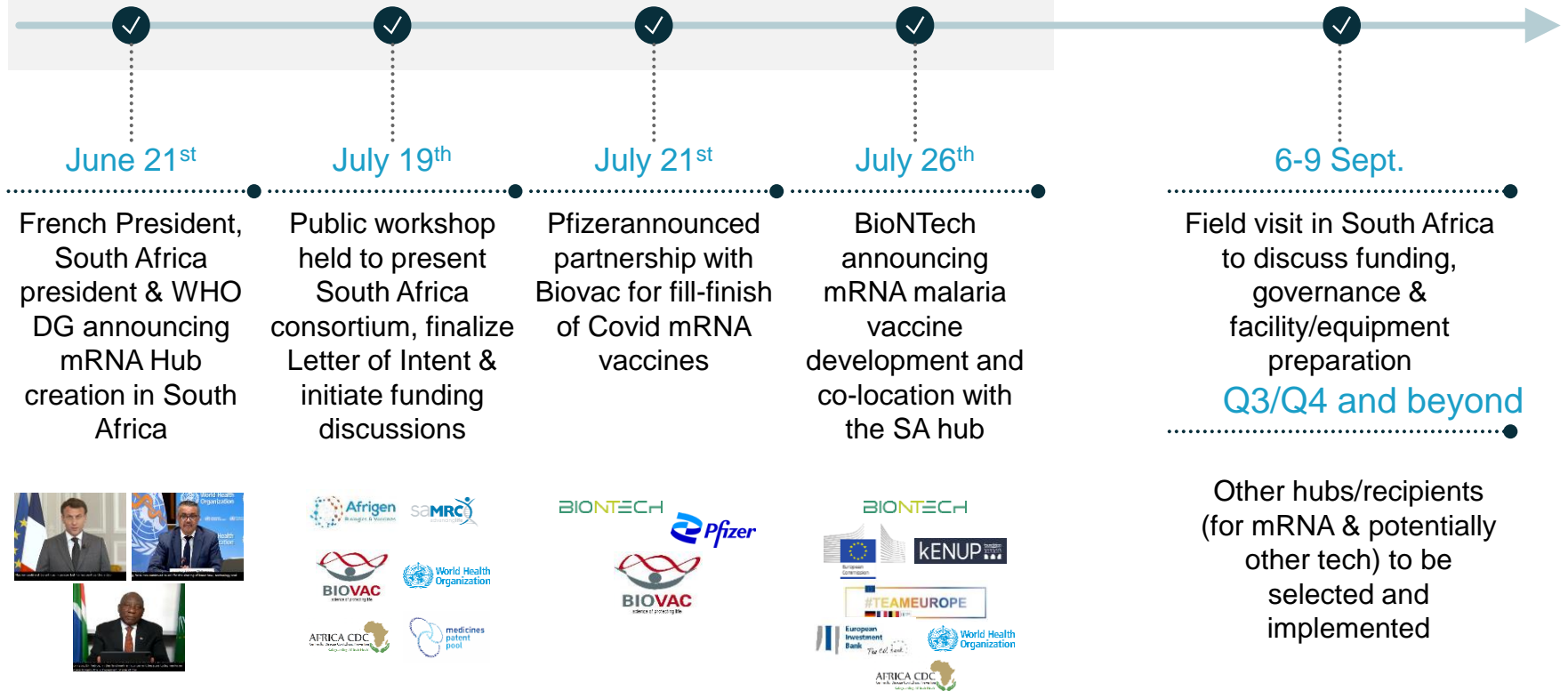
LMIC recipients acquire technology and rapidly scale up production during pandemics

- 

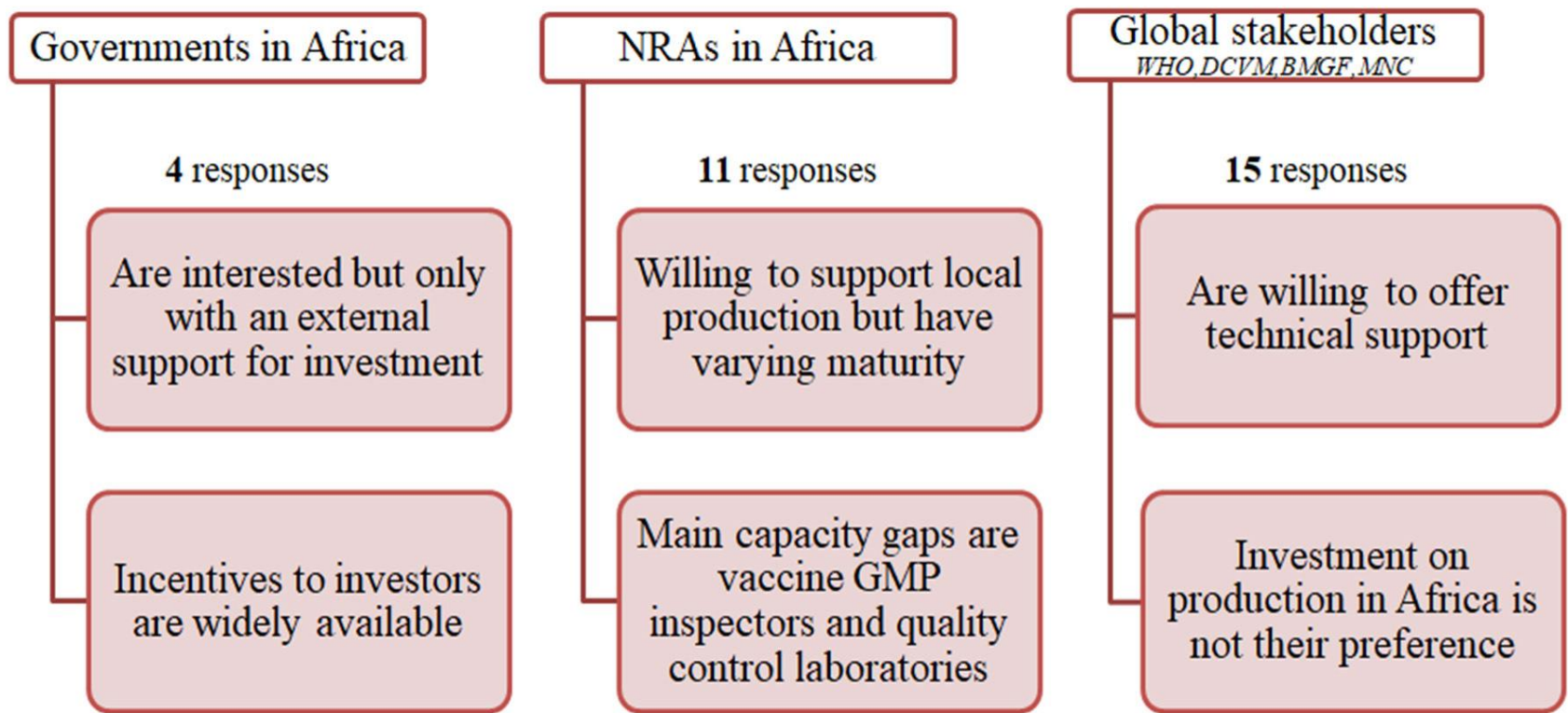
Recipient facilities pursue sustainable business models between pandemics



Status: Partners collocating around SA hub to synergize & address short, medium & long-term Vx manufacturing challenges



DISCONNECT?



NRA-National Regulatory Authority, WHO-World Health Organisation, DCVM-Developing Countries Vaccine Manufacturers, BMGF-Bill and Melinda Gates Foundation, MNC- Multinationals Company

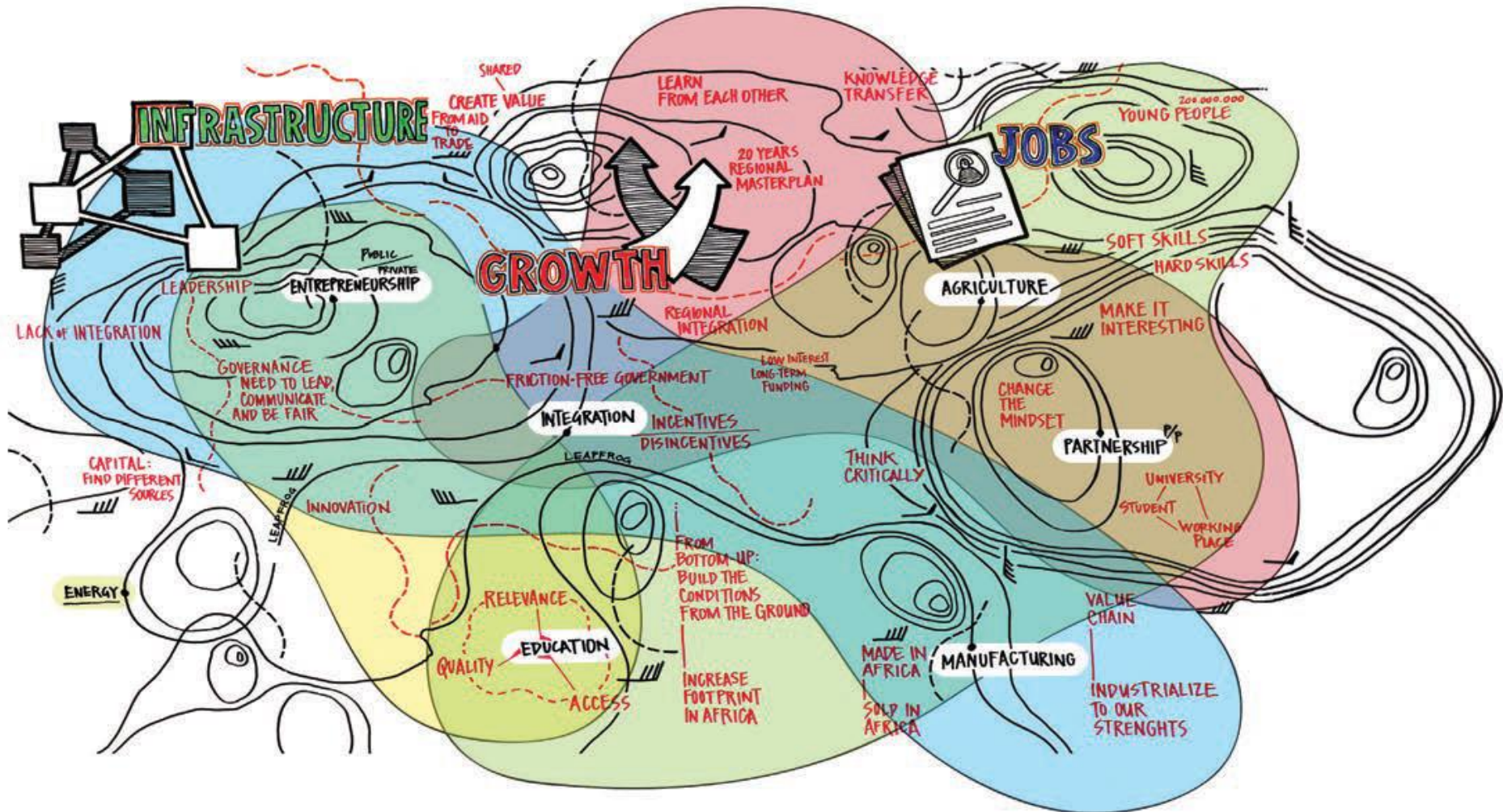
KEY DISCUSSION PIONTS

- The lack of infrastructure is a key factor hampering the continent's economic development, trade and jobs creation.
- *Prepare and Accelerate Public-Private Partnerships*
- Regional integration is a key vehicle for helping Africa to raise competitiveness, diversify its economic base and create enough jobs for its young, fast-urbanizing population.
- The time has certainly come for Africa to start talking about what it is going to do for itself.
- Integration, integration, integration: it will make Africa stronger and benefit the world.

HARNESS OUR TALENT: KEY DETERMINANT OF A DESIRED FUTURE

- Africa's greatest resource is, and always has been: it will have 1.1 billion people of working age by 2040, a workforce greater than China's.
- To capitalize on the economic opportunity, the continent must invest in developing its human talent. The latest United Nations Human Development Index, ranks just four African countries as having "high" human development indicators.
- Skills development is crucial for building Africa over the next 50 years and, by that time, should no longer be one of the key issues constraining African development.

MANUFACTURING CAPACITY: ONE KEY DRIVER



CREATING A CENTER OF EXCELLENCE: PARTNERSHIPS THE KEY



CONFIDENTIAL