

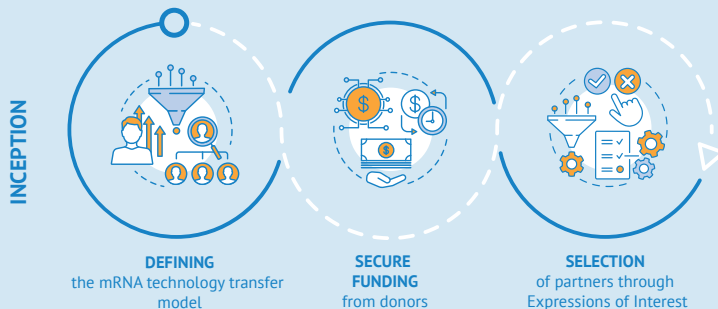


mRNA Technology Transfer Programme

A global initiative that supports the scaling-up of global mRNA vaccine and therapeutic manufacturing through the establishment and the expansion of capacity in **low- and middle-income countries**.

**Increasing health security
through empowerment.**

mRNA TECHNOLOGY TRANSFER CHRONOGRAM



LMICs = Low-and middle-income countries

The mRNA Technology Transfer Programme was set up to address the inequalities in access to vaccines in low- and middle-income countries (LMICs) that emerged during the COVID-19 pandemic.

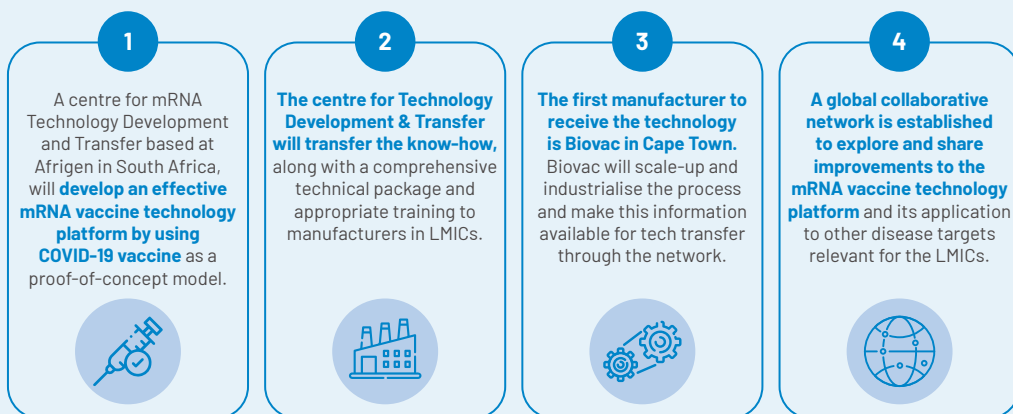
The objectives of the Programme are to support the establishment of sustainable mRNA vaccine manufacturing capacity and to develop skilled human capital in the regions where mRNA vaccine manufacturing capacity is established or can be enhanced.

THE KEY PRINCIPLES

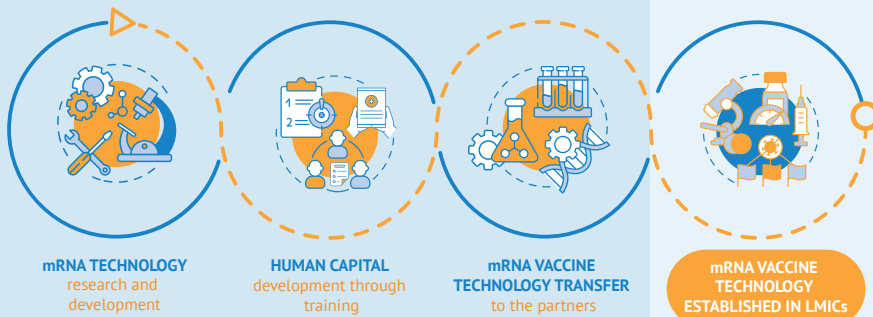
leading the Programme activities are:

- 1) Equitable access to mRNA technologies suitable for pandemic response.
- 2) Create value and share intellectual property through open access to innovation.
- 3) Promote sustainable capacity to produce mRNA vaccines with coherent policies and adequate investments.

THE PROGRAMME OPERATING MODEL is a global collaborative network driven by multilateral technology transfers

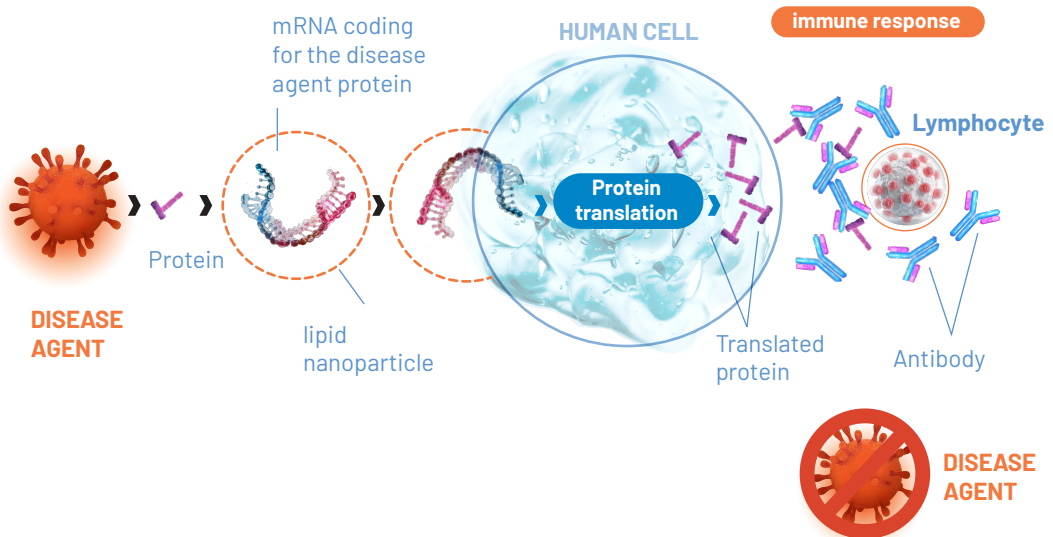


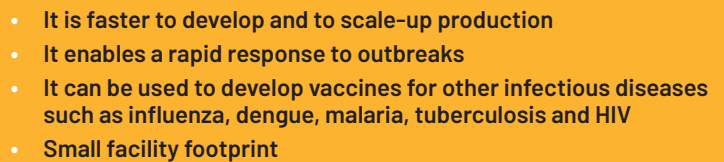
IMPLEMENTATION CYCLE



How do mRNA vaccines work?

For an mRNA vaccine to be effective, the mRNA that encodes a protein has to be able to enter into human cells; this is achieved by including the mRNA in lipid nanoparticles (LNP). Once the mRNA has entered into the cells, the cellular machinery uses the mRNA sequence to synthesise the protein, which is then recognised as a “foreign substance” by the human immune system. This triggers the production of antibodies that are protecting the vaccinated person against the disease when infected.



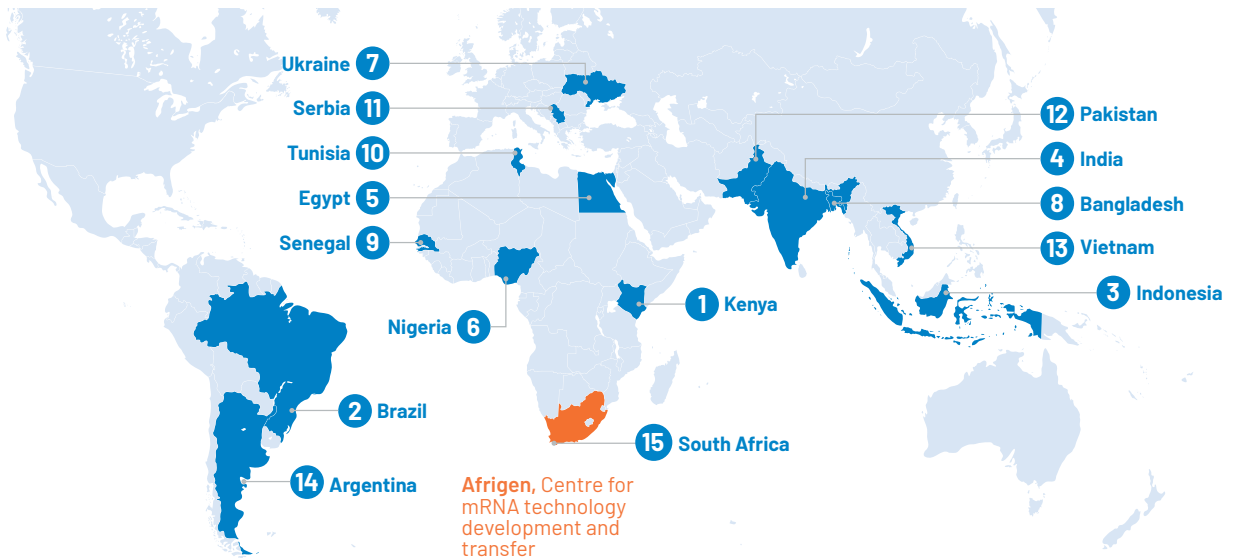


Sharing expertise across the global collaborative network

Sharing is an essential component of sustainability. The Programme has created an environment supporting joint research and development projects. The sharing of expertise and technology, and the co-development of new technologies and disease targets, has been shared across the network.

As new technologies emerge from the collaboration it will lead to decreased cost of goods and improved vaccine characteristics (e.g. thermostability) and products that are readily available and better suited to LMICs.

WHO has selected 15 manufacturers to join the mRNA Technology Transfer Programme.



The 15 Programme Partners

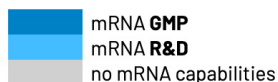
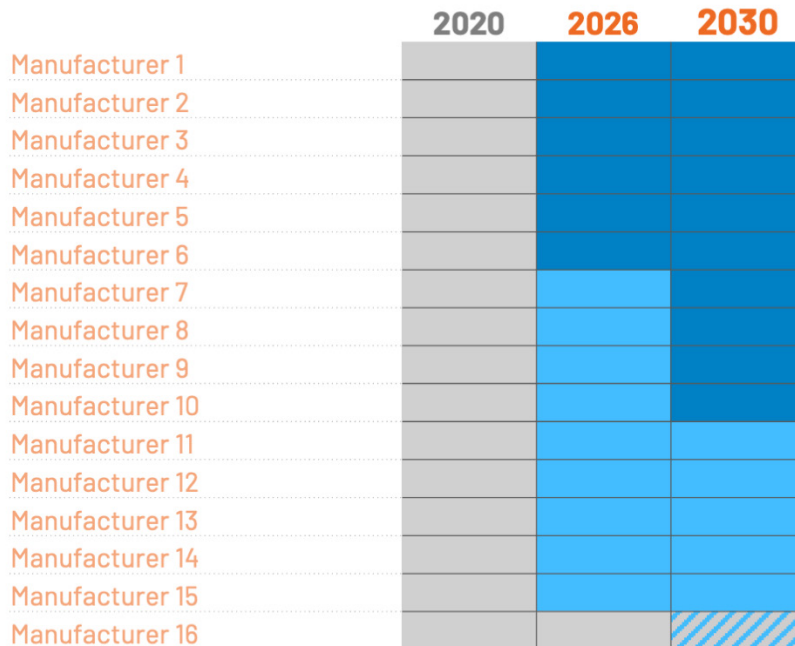
1 BioVax	6 Biovaccines Nigeria Limited	11 Institut Torlak
2 Bio-Manguinhos/Fiocruz	7 Darnytsia	12 National Institute of Health
3 Biofarma	8 Incepta Vaccine Ltd	13 Polyvac
4 BiologicalE	9 Institut Pasteur de Dakar	14 Sinergium Biotech
5 BioGeneric Pharma S.A.E	10 Institut Pasteur de Tunis	15 Biovac

Phase 2.0: Delivering Sustainable Impact by 2030

Building on the foundational achievements of Phase 1.0 – which focused on transferring mRNA technology, training scientists and technicians, and establishing platform readiness in Partner countries—the mRNA Technology Transfer Programme has now entered Phase 2.0, a transformative stage aimed on transitioning LMIC-based manufacturers from technology acquisition to sustainable, sovereign production.

This next phase marks a shift from transfer to delivery and sustainability. Programme Partners will focus on advancing mRNA product pipelines, designing viable business models for long-term commercial success, scaling up GMP-grade manufacturing capacity, and delivering real-world health impact.

By 2030, the Programme aims to establish up to **11 GMP-certified mRNA manufacturing facilities across 10 countries**, with an additional 5 more sites anticipated in subsequent years. Collectively, these manufacturers will have the capacity to produce around **140 million doses annually under routine conditions**, and scale up to approximately **2 billion doses during a declared pandemic**.



Industrialization & Scale up to 10L IVT

- 30µg mRNA / dose
- 1 batch a week, 45 weeks



(10L IVT: 313k doses/batch)

Process industrialization & scale up.:

- In progress at Biovac
- To be completed 2026

Technology integration* to support PANDEMIC RESPONSE

- 5µg mRNA / dose
- 2 batches a week, 50 weeks



(10L IVT: 1.9M doses/batch)

*Dose sparing technology e.g.: Self amplifying RNA

To reach this goal, the Programme is targeting innovative technologies (such as self-amplifying RNA and intradermal delivery) to reduce cost of goods, while supporting partners to secure long-term investment and business viability. Phase 2.0 also strengthens pandemic response readiness, fosters co-development and licensing pathways, and promotes the integration of mRNA production into regional supply chains and procurement systems.

These ambitions will be realised through a diverse and expanding network of public, private, and academic partners that the Programme has brought together – spanning manufacturers, research institutions, funders, regional platforms, and global health agencies. Ultimately, the Programme aspires to be recognised under the WHO Pandemic Agreement (PABS) as a viable and replicable model for multilateral technology transfer, empowering LMICs to innovate, manufacture, and deliver mRNA vaccines and therapeutics sustainably.

To know more about the 15 Programme Partners and their achievements, the interactive offers country-specific information:



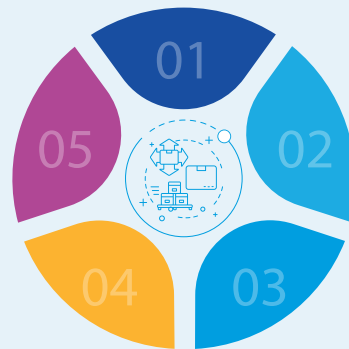
What is Technology Transfer?

Technology Transfer is the process of sharing knowledge, skills, scientific and technological developments between governments, organisations, or manufacturers to ensure products and technologies are available to those who need them.

Despite sounding simple, it is not – the requirements are far ranging and must align to be successful.

Technology Transfer is
not instantaneous and
cannot occur in a vacuum

Pandemic readiness needs pre-existing
infrastructure and know-how



01. Ecosystem

A robust and reliable infrastructure is essential for local manufacturing to thrive. This includes governments, transportation networks, energy systems, communication networks, health care system, the people, etc.



02. Research and Development

can help to create an ecosystem that promotes innovation, entrepreneurship, and the development of new technologies



03. Education and skill development

A skilled workforce is critical to the success of local manufacturing and technology development. Developing countries need to invest in education and training programmes to ensure that their citizens have the skills and knowledge required to participate in the modern economy



04. Access to technology and innovation

Developing countries need to have access to the latest technologies and innovations in order to remain sustainable



05. Foster regional and international collaboration

Regional and international collaboration is needed to ensure that everyone has access to the vaccines and other medical products they needed. This includes sharing information, technology, and resources to achieve common goals as well as encourage investment and build resilience through demand signals and procurement models that prioritise locally produced vaccines

A success based on partnerships and sustainability

The Programme is long-term and constructed with sustainability in mind. It is co-led by WHO and MPP. The organisations participating in the consortium are: Afrigen – Biovac – the first Partner, SAMRC – working on the research and training aspects, South African Department of Science and Innovation and Africa CDC. The 14 other manufacturing partners are also part of the collaboration along with leading research institutions.

The Consortium engages regularly with stakeholders, as this Programme is inclusive and relies on partnerships. The Programme keeps stakeholders updated on developments and provides an opportunity to input and build its success. These include consultations with funders, biomanufacturing companies and civil society organisations.

The Programme Funders

The Programme continues to receive exceptional support both from high-income countries and LMICs.

The Programme is funded by:

- France
- Canada
- European Commission
- Germany
- South Africa
- Belgium
- Norway
- ELMA Foundation



South America – disease areas

- Dengue
- Influenza
- Rabies
- Viral Haemorrhagic Fevers (VHF)

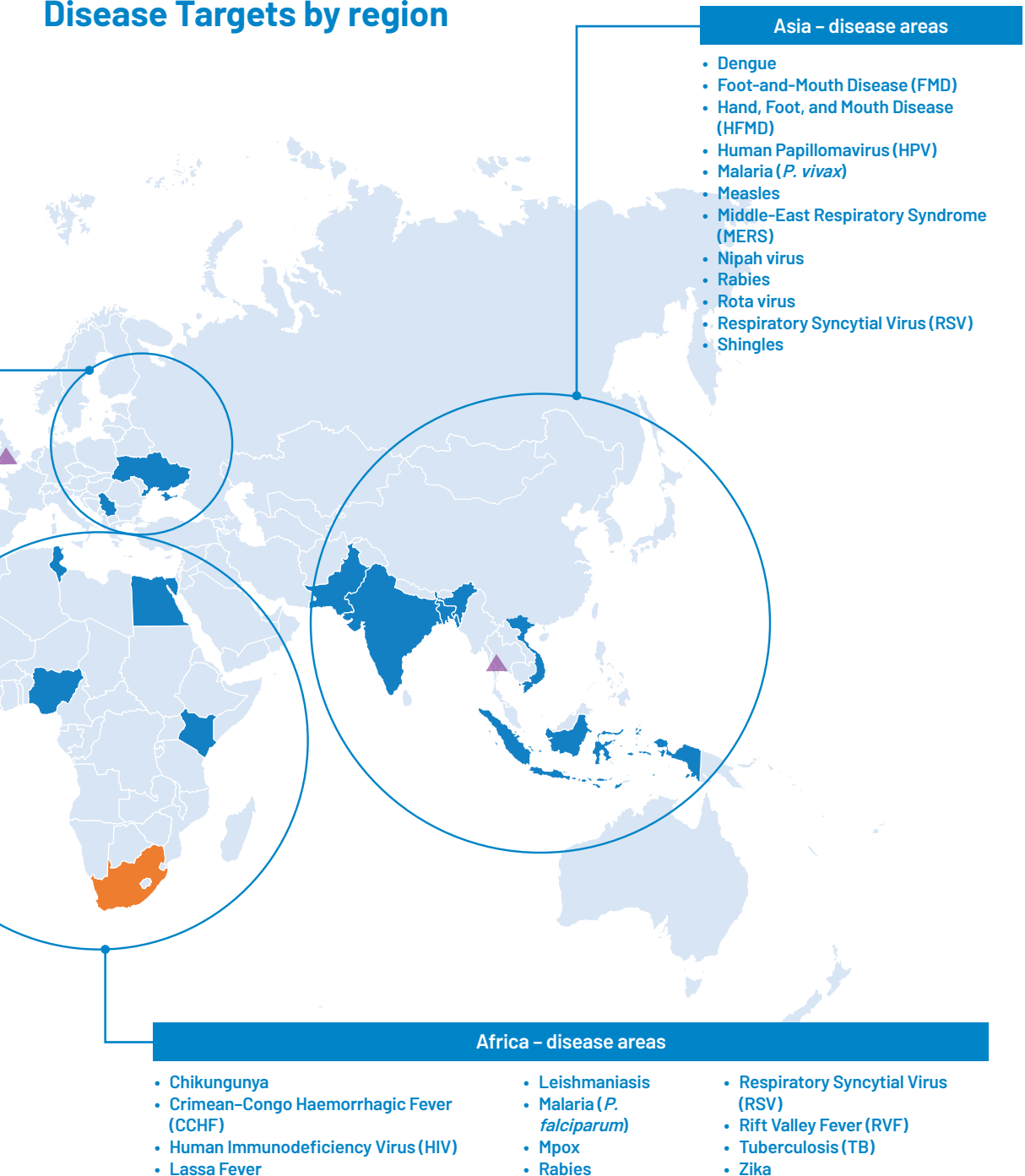
Europe – disease areas

- Influenza
- Tuberculosis (TB)
- Rabies
- RSV
- West Nile virus

The creation of R&D consortia focuses on developing vaccines for diseases relevant to LMICs. These consortia bring together Programme Partners, companies, research centres, and universities to collaborate on the development of vaccines and therapeutics using the mRNA platform.

▲ Research partners sharing technology for noncommunicable diseases (as of Oct 2025)

Disease Targets by region





20th April 2023
Cape Town, South Africa



EXPANDING ACCESS TO PUBLIC HEALTH

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