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Saudi Arabia's bold biotech plan

Saudi Arabia targets global biotech leadership by 2040 with a four-pillar strategy.

Nick Taylor

Saudi Arabia is orchestrating an ambitious industrial transformation. Historically defined by oil, the Gulf state is investing in vaccines, biomanufacturing, and genomics with the aim of being a leading global biotech hub by 2040.

The plan will turn Saudi Arabia from a passive consumer of medicines into an active participant in the global biotech industry. Details of the policy emerged in early 2024, when it published a national strategy designed to further national objectives, such as localizing non-oil sectors and address supply chain vulnerabilities exposed by the COVID-19 pandemic.

Building end-to-end capabilities

Saudi Arabia's strategy has four pillars: vaccines, biomanufacturing and localization, genomics, and plant optimization. The vaccine and biomanufacturing pillars have overlapping objectives, to develop end-to-end capabilities that equip the country to satisfy local demand, and create an export sector.

The Public Investment Fund (PIF), Saudi Arabia's sovereign wealth fund, is supporting the policy. Backed by the PIF, the contract development and manufacturing organization, Lifera, is establishing sites capable of making medicines to international standards. Novo Nordisk reached an agreement with Lifera to make GLP-1 obesity and diabetes drugs in Saudi Arabia. Pfizer is also working with Lifera to localize production.

Lifera's infrastructure investments are part of a push to establish capabilities across the pharma life cycle. Saudi Arabia has created specialized clusters, such as Riyadh Biotech City, a drug development hub which brings government, academia, and industry together in a single location.

The hub is next to King Faisal Specialist Hospital & Research Centre (KFSHRC), a leading clinical institution and translational research location. KFSHRC is responsible for breakthroughs such as the first CAR-T cell therapy to be made and administered in Saudi Arabia. While technically demanding, localizing CAR-T production could increase access to advanced therapies by reducing manufacturing costs.

Saudi Arabia's decision to establish genomics as one of the four pillars of its biotechnology strategy could support further breakthroughs. It is investing in genomics to support access to treatments such as cell and gene therapies, particularly important given the population's unique genomic profile, and the prevalence of certain diseases in Saudi Arabia.

Through the Saudi Genome Program, the state is creating a comprehensive national database to support preventive and

personalized medicine. The genomics pillar is supported by a regulatory environment that fosters innovation. Policies that support genomics research and facilitate access to data form part of a broader push to create a favorable environment for the biotech industry.

The genomics pillar complements the work of the Hevolution Foundation, a healthy ageing initiative that has distributed hundreds of millions of dollars to support research at more than 200 global laboratories. As the second largest global funder of geroscience, the foundation has established partnerships with leading US scientific institutions while investing to make Saudi Arabia a hub for ageing biology research.

Scientists need access to capital to turn breakthroughs into drug development programs. Riyadh-based IB Ventures launched with \$50 million to invest in biotech in the kingdom. Saudi Arabia-focused Sarat Ventures Y Innovations Biotech Fund also outlined plans to invest \$50 million.

The kingdom is supporting its current startups through a Biotech Accelerator that launched in 2025, set up with leading global incubator BioLabs. The accelerator will give biotech companies training, tailored support, and access to advanced research labs. Eight companies were selected in its first cohort, including plant-based insulin manufacturer Plansulin, next-generation vaccine startup SAGEbio, and precision diagnostic developer, Novo Genomics.

Setting targets for growth

The diverse range of initiatives underway in Saudi Arabia points to its ambitious goals. Investments in genomics research, clinical development, and end-to-end manufacturing capabilities, coupled with the emergence of a venture capital scene, give the state the building blocks for a complete, globally competitive biotech hub.

Saudi Arabia's work to create such a hub is ongoing. It needs to establish a sustainable pool of skilled professionals, address infrastructure deficiencies, and continue cultivating a strong funding ecosystem to move closer to its goal.

Officials have set targets for the pace of progress. By 2030, the kingdom wants a biotech sector that employs 11,000 people, and is recognized as the leading hub in the Middle East and North Africa. Growth could accelerate through 2040, when Saudi Arabia's plan outlines a sector that employs 55,000 people, generates \$34.6 billion, and is the world's leading biotech hub.

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