Marc Funk – CEO, Recipharm & Younès Hillali, General Manager, MARBIO



The end goal is to help create a sustainable network which fulfils the mission of creating vaccine and medicine manufacturing resilience in Africa Marc Funk

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MARBIO, a new vaccine manufacturing joint venture in Morocco, is the result of a partnership between the BAB banking consortium (Bank of Africa, Banque Centrale Populaire, and Attijariwafa Bank), Swedish CDMO Recipharm and the Mohammed VI Fund. Recipharm CEO Marc Funk and MARBIO General Manager Younès Hillali outline the scale and scope of the project, the key challenges in building up capacity and capability, and their hopes for contributing to Morocco and Africa's vaccine independence.

How did the decision to establish MARBIO come about and at what stage is the project today?

Marc Funk (MF): The Moroccan government, with the full support of His Majesty King Mohamed VI, signalled its commitment to building a centre of excellence in biotechnology manufacturing in the country by signing a four-page document on July 5th, 2021. The location for the site in Benslimane, located between the major cities of Casablanca and Rabat, was previously farmland, meaning that the entire project is being built from scratch: a greenfield project

Regarding the rationale behind MARBIO, on the part of Recipharm it will mean a new arm for our global CDMO network. Additionally, Recipharm will become the only CDMO in Africa from a Western country, giving us an early-mover advantage over our competitors. Our first client will be the

Moroccan Ministry of Health (MoH). For Morocco, this is a major project to build up its capability and capacity in vaccine production to serve both domestic and continental needs.

Why was a joint venture rather than a technology transfer chosen as the model for this partnership?

MF: Morocco, like the rest of Africa, lacks a track record in sterile aseptic manufacturing. Recipharm wanted to bring this knowledge to Africa while retaining its status as a private revenue-generating company and a joint venture was the best way to achieve this. The partnership means that Recipharm is a minority shareholder in the new company but with total managerial responsibility and the duty to bring technology transfer and capacity knowledge to bear here. Ultimately, once we are serving our first client, the MoH, and prove that we can produce at Western standards in Morocco, we will then embark on more CDMO activity and bring international clients here.

What have been the biggest challenges that you have faced in building up this project thus far?

Younès Hillali (YH): The biggest initial challenge was to build this biotech facility during the COVID pandemic. Having done so in just one year was amazing and something very few companies or countries would have been able to achieve. This was achieved in a multicultural environment with engineers and technicians from Morocco, France, Germany, the US, the UK, India, etc., which is a fantastic mix of culture and also a challenge.

The second challenge was upgrading technical capabilities. Morocco is lucky to boast plenty of engineers and pharmacists, but aseptic processing and sterile fill and finish are niches in which Moroccans do not have a lot of experience, something that Recipharm is helping address.

The COVID-19 pandemic and subsequent vaccine access challenges led many emerging economies to try and localise more elements of the vaccine production process to safeguard supply. However, given how challenging this has proved thus far, how is Morocco approaching the situation?

MF: Discussions around helping developing countries, especially in Africa, to achieve a greater degree of manufacturing resilience soared post-pandemic. However, these discussions showed that

building greater capacity goes far beyond investing money and building a plant. It is a complex challenge that, unlike Recipharm, most companies have shied away from attempting to solve. Here in Morocco, we are starting from scratch with a four-page document and questions to be answered on everything from the business plan to talent attraction and the regulatory framework. Our role is a pioneering one. A strong level of support from the state – which we thankfully have – is vital, and such transformations can only be achieved via robust public-private partnerships.

How do you foresee MARBIO's customer base evolving over time?

MF: Our first customer will be the MoH, which needs vaccines. MARBIO will manufacture the sterile fill and finish part of the MoH's vaccine needs based on the requirements they lay out.

The second customer segment will be public sector actors across the wider African continent. Vaccines manufactured in Morocco can be exported under the 'in Africa, for Africa' label to serve Africa's needs.

Thirdly, once these first two customer bases are established, MARBIO can become part of our global CDMO network, serving both the large pharmaceuticals and biotech companies that are already part of Recipharm's client portfolio as well as new customers. These companies will be able to see the track record that we will have established and use the site as they would with any other CDMO site around the world.

These three customer segments align with the predicted development of the African market over the next two to three decades, and the needs that we see emerging. Moreover, while the new site's initial focus will be on sterile fill and finish solutions, once credibility has been established, we will certainly move into other drug and vaccine substances.

How optimised is the Moroccan regulatory framework for Morocco-made pharmaceuticals and vaccine products to be exported and used abroad?

MF: There are several types of regulation to consider. What is within our remit is ensuring that the plant can be approved by local, European, and US regulatory bodies. Given that we have designed the plant ourselves from scratch to meet our exacting global standards, we are confident that this can be achieved.

We must build competence throughout the organisation to ensure that this adherence to global standards is maintained. This includes putting the correct training programs in place and establishing standard operating procedures. However, this does not happen overnight but will be a continual process with Recipharm leveraging its global network to help bring this Moroccan site to the right level and maintain it there.

Beyond our scope is the Moroccan state's regulatory framework. According to World Health Organisation guidelines, a country's regulation needs to be 'maturity level three' for it to be able to export. The Moroccan MoH recognises the importance of attaining this accreditation and is working to elevate the country's regulatory framework.

How important will establishing relationships with organisations like Gavi, the Vaccine Alliance and UNICEF be in creating a vaccine export hub for Africa, given that these are some of the continent's largest vaccine suppliers today?

MF: Success will be impossible without striking good partnerships with these institutions, as well as others like Africa Centres for Disease Control and Prevention (Africa CDC). Creating strong collaborations and relationships is part of the beauty of the challenge ahead of us.

We need to build credibility in the minds of global institutions and assure them that we can manufacture for the populations they aim to serve. Several high-level visits have already taken place, and discussions about how to make good use of our industrial facility are ongoing.

Given that the costs of labour are lower in Morocco than in Europe, for example, will Moroccan manufacturing have a positive impact on the company's profit and loss (P&L)?

MF: For plants that follow Western regulatory standards there is no difference in terms of costs between Morocco and anywhere else, including Western Europe. The CAPEX invested will be roughly the same. Indeed, as this Moroccan plant was constructed during the supply chain disruption caused by COVID, it probably cost a little more than a standard plant.

Additionally, labour arbitrage is not a criterion for us. We aim to build a certain level of quality, which is what the client ultimately wants, so that they can rely on high-quality products manufactured in Africa, for Africa. Once we have achieved a certain level of manufacturing maturity in five to ten years, then we can look at decreasing prices through implementing

operational efficiencies, but we are not there yet.

Our competitors will face the same challenges, whether in Morocco, Ghana, Rwanda, Egypt, or elsewhere. All will need to start with a mixture of expats and locals. It is possible to establish a fully local-run manufacturing site in India, but our vision is more global than that. Moreover, at a European site we require only a third of the staff that an Indian site manufacturing the same product would; meaning that while India might have lower wages than Europe, there is less differentiation in terms of overall costs.

Is your hope that more companies and institutions follow Recipharm's lead and invest in Moroccan vaccine manufacturing, thus establishing more of an ecosystem in the country?

MF: Absolutely, and discussions on this topic are ongoing. It is worth mentioning that our site contains 45 hectares of dedicated land, the equivalent of 61 football stadiums, but MARBIO only uses a tenth of it. What is being built here follows a much larger vision of creating a more interconnected ecosystem where new entrants are very welcome.

Recipharm's role will be to develop the plant and bring more competence, capability, and business to the region. The state's responsibility will be to attract more investments from other firms, in a similar way to that of economic development boards in countries like Singapore.

On a personal level, what have you taken from this journey thus far?

MF: This has been one of the most difficult but rewarding experiences of my entire career in terms of fulfilling a mission and purpose. It is a beautiful challenge to help increase medicine and vaccine access across the African continent. Perhaps the lesson is that the harder a challenge is, the more rewarding it will ultimately be.

Do you have a closing statement for our international audience?

MF: We have already spent a couple of hundred million euros on this project, but the most important thing is building up capabilities and convincing other parties to partner with us. The end goal is to help create a sustainable network which fulfils the mission of creating vaccine and

medicine manufacturing resilience in Africa. We can be very confident, based on the work that has already been done that this will become a reality in the coming years.

YH: On a pan-African front, the African Union is expecting over 17,000 biotech jobs to be created in the next five years, so building up capabilities and people will be crucial not just for our own success, but that of the entire continent. There are ambitious goals in place to move from one percent of all vaccines for Africa made in Africa today to 30 percent by 2030 and 60 percent by 2040, and more skilled people will be needed to bolster Africa’s quality and ultimately its credibility as a vaccine hub. This will support healthy and sustainable Vx manufacturing ecosystems that enable the localization of vaccines on the African continent.

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