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How technology is making CDMOs more efficient for vaccine development?

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The CDMO sector has grown and innovated immensely over the years, and technology has acted as a catalyst in this transformational journey



The Indian contract development and manufacturing organization (CDMO) sector has been increasingly showing a greater willingness to embrace technological innovations over the years. Speed and efficiency have always been the top two factors that determine the success of CDMO operations, and investing in advanced technologies has certainly helped this sector achieve that.

In fact, innovations like biotherapeutics and monoclonal antibodies are a testimony to the augmenting capabilities of CDMOs in transforming the lives of patients across the globe, especially when it comes to curing serious medical conditions including cancer, rheumatoid arthritis and diabetes, among others.

Fast-forward to the ongoing COVID-19 scenario to understand how technology is making CDMOs more efficient than ever in terms of vaccine development.

While the entire country is grappled with the pandemic, which has led to a shortage of drugs and vaccines, more and more pharma players are turning to CDMOs for leveraging the benefits of outsourced services. Moreover, the switch from pharma to biologics has also brought about a significant change to the overall manufacturing requirements. This change also calls for advanced equipment that are highly efficient, easy-to-use and most importantly, be applicable throughout the process, that is, from development to scale-up levels.

The role of single-use technologies

The burgeoning demand for biologics involves smaller batch sizes, which in turn, requires more flexibility in manufacturing solutions. Due to this very reason, there is a need for switching from large manufacturing scales to small flexible facilities, making single-use and disposable technologies more relevant than ever at this juncture.

These advancements offer better opportunities to develop robust biomanufacturing processes at a much faster pace. For instance, it can enable a CDMO to evaluate their operations, deliver solutions, install them, and finally be prepared to kick off in around six to ten months or less, thus entering the market with a rapid go-to strategy and maintain a competitive edge in the overall biologics production.

Need for collaborations

At a crucial time like this when there is a shortage of development and delivery facilities, biotech companies and CDMOs should join forces and work together to address this issue. Doing so will benefit biotech companies in numerous ways.

It will help them lower their Capex and also leverage the latest technologies used by CDMOs to add flexibility to their overall biomanufacturing operations. The collaboration, if done at the early development stage, will also help these companies predict the quantity of material required for various purposes such as clinical trials, commercial launches and subsequent commercial supplies in multiple markets.

Besides, the government will also play a pivotal role here by deploying various localization initiatives to make CDMOs self-reliant. Initiatives like Production Linked Incentive (PLI) and Bulk Drug Parks are expected to promote domestic manufacturing of critical Key Starting Materials (KSMs) and Active Pharmaceutical Ingredients (APIs) in India. The country can achieve these goals faster if the partnerships between industry, CDMOs and academic institutions are strengthened further.

Summing up

The CDMO sector has grown and innovated immensely over the years, and technology has acted as a catalyst in this transformational journey. However, one thing is very clear that technology alone wouldn’t be adequate to catapult CDMOs to new heights. Collaborating with the government and other pharma players is equally important to maximize the potential of these companies. If all these factors go hand in hand, CDMOs and other players can together enhance the overall healthcare infrastructure of the country and make India capable enough to tackle unexpected odds, including black swan events like COVID-19.

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