

# What is bioproduction, and why is it interesting?

Biological drugs and products promise future targeted treatments for a range of conditions, having the potential to drastically improve health and quality of life. Traditional drugs, often consisting of chemically synthesized small molecules, are more and more complemented and/or replaced by biological components. The manufacturing of such “biologics”, the bioproduction, is a vital part within a company’s product development as it determines if a compound can be produced on a larger scale and reach patients in need. Some examples of biological drugs/products include vaccines, gene therapy and therapeutic proteins that can be designed to target diseases like cancer and many chronic illnesses.

In contrast to chemically synthesized drugs, a biologic drug is produced from living organisms or contain components from living organisms. A production process, typically performed in 50-8000L scale, is outlined below. It includes growth of cells, harvest and purification steps. Cytiva ([www.cytiva.com](http://www.cytiva.com), previously GE Healthcare Life Sciences) is one of the world’s leading facilitators within the bioprocessing industry with its read-to-process capabilities, scale-up instruments and leading protein purification technologies from lab scale experiments all the way to creating a mobile facility for large scale manufacturing.



The global market size of these new biological drugs is valued to reach approx. 400 Billion USD by the year 2025 with a yearly growth of 7 to 8 %, and the global pharmaceutical companies face great challenges including time and cost to bring products to market, quality of end-product, and production efficiencies. Looking at the global development pipeline, an increased number of drugs currently in development are new innovative biological drugs. Therefore, the need for quality-controlled and cost-efficient production will increase even further in the future.

There is also an extensive global societal challenge in making these drugs accessible to everyone. This all together requires implementation of a lot of new technologies and innovation in order to be able to produce drugs in a cost-efficient and quality-controlled manner.

For many of the challenges in the pharma industry, there is potential technology solutions - smart automation, cloud solutions, process integration, VR/AR, AI, modeling data analysis, sensor technologies, separation, new tools to monitor the quality processes, etc. Many of these, however, needs to be adapted to the bioprocess industry. At the Testa Center, we welcome all kinds of innovative solutions that have the potential to meet the future technology needs within bioproduction.

If you feel that your innovation could overcome this challenge or could help the process of making drugs accessible to everyone, then do not hesitate to contact us to discuss your technology/service and how it can be used in a bioprocess setting!