

Digital Manufacturing Market for Biologics: Distribution by Type of Technology (Process Analytical Technology, Data Analysis Software, Manufacturing Execution System and Digital Twin), Deployment Options (Cloud-based and On-premises), Type(s) of Biologic(s) Manufactured (Antibodies, Cell Therapies and Gene Therapies, Proteins, Vaccines, and Others), and Key Geographical Regions (North America, Europe, Asia-Pacific, Latin America, and Middle East and North Africa): Industry Trends and Global Forecasts, 2023-2035

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Abstracts

The global digital manufacturing market is anticipated to grow at a CAGR of 18% during the forecast period 2023-2035.

The pharmaceutical industry has exhibited substantial interest in undergoing digital transformation, encompassing the comprehensive integration of digital technologies across its operational spectrum. These technologies have wielded a considerable influence on diverse facets, spanning from initial drug discovery and clinical development phases to the intricacies of manufacturing processes. The emergence of the COVID-19 pandemic has intensified the urgency for biopharmaceutical companies to expedite production timelines and augment manufacturing capacity while maintaining stringent adherence to product quality standards. Moreover, heightened global morbidity rates and increased interconnectivity of equipment have placed additional strain on manufacturing operations. Numerous factors, including amplified competition, dynamic

pricing mechanisms, inflationary pressures, rapid technological advancements, and the evolving landscape of regulatory standards, have further impacted this industry, compelling a departure from traditional manufacturing methodologies. This transition has prompted the adoption of Industry 4.0 technologies within the pharmaceutical sector.

The incorporation of digital technologies into biopharmaceutical manufacturing, commonly referred to as digital biomanufacturing or bioprocessing 4.0, revolves around the integration of physical equipment with digital software and platforms. These encompass Process Analytical Technology (PAT), Data Analysis Software (DAS), Manufacturing Execution Systems (MES), and Digital Twin technology. The primary goal is to streamline the biomanufacturing process by bolstering monitoring, analytical, and computational capabilities. Digital bioprocessing, in conjunction with cutting-edge technologies such as artificial intelligence (AI), machine learning, and the Internet of Things (IoT), is poised to transform fundamental manufacturing paradigms, impacting process development, operational facets, logistics, and the management of supply chains. The implementation of these technologies is anticipated to effectively address bioprocessing challenges, substantially fortify process resilience, and elevate product quality standards to a remarkable extent.

Report Coverage

The report conducts an analysis of the digital manufacturing market, categorizing it by technology type, deployment options, types of biologics manufactured, and primary geographical regions.

It evaluates factors—such as drivers, restraints, opportunities, and challenges—affecting market growth.

The report examines the potential advantages and obstacles within the market, providing insights into the competitive landscape for top players.

Forecasting the revenue of market segments across five major regions is a key focus.

A comprehensive executive summary distills research insights, offering a high-level overview of the current digital biomanufacturing market and its projected evolution in the medium to long term.

The introduction delves into digital biomanufacturing, exploring the diverse technologies supporting bioprocessing while addressing key challenges and future prospects related to digital technology integration.

A detailed evaluation of the digital manufacturing market landscape centers on companies providing digital biomanufacturing technologies, encompassing establishment year, company size, headquarters location, service types, platform and software capabilities, biologic types, and end-user categories.

Thorough competitive analysis of digital biomanufacturing technologies examines supplier strength, technology portfolios, manufactured biologic types, and other relevant factors.

Elaborate profiles of leading digital manufacturing companies in the biomanufacturing industry, established prior to 2012, detail company overview, digital technology capabilities, recent advancements, and future prospects.

A benchmark analysis showcases companies' expertise across various biologic manufacturing platforms within industry peer groups.

An analysis of recent partnerships between industry stakeholders from 2018 to 2022 is presented, considering partnership types, technology focus, active players, and regional distribution.

Detailed assessment of market concentration among key industry stakeholders across different regions is conducted based on entry years, company size, technology types, platform offerings, and partnership engagements.

An industry lifecycle analysis delineates stages from emergence to potential decline, aiming to gauge the current industry position and predict future growth drivers. It examines historical trends, partnership activities, and investments to forecast short-term and long-term impacts on digitalization adoption in biomanufacturing.

Key Market Companies

AspenTech

Bioreactors.net

Dassault Syst?mes

FUJIFILM Diosynth Biotechnologies

GE Healthcare

K?rber

Merck

Sartorius

Thermo Fisher Scientific

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