

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

<https://marketpublishers.com/r/DD230BCAB625EN.html>

Date: March 2023

Pages: 254

Price: US\$ 4,799.00 (Single User License)

ID: DD230BCAB625EN

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

Contents

1. PREFACE

- 1.1. Introduction
- 1.2. Key Market Insights
- 1.3. Scope of the Report
- 1.4. Research Methodology
- 1.5. Frequently Asked Questions
- 1.6. Chapter Outlines

2. EXECUTIVE SUMMARY

3. INTRODUCTION

- 3.1. Chapter Overview
- 3.2. Overview of Digital Manufacturing for Biologics
- 3.3. Emerging Technologies that Support Digital Manufacturing
 - 3.3.1. Process Analytical Technology (PAT)
 - 3.3.2. Data Analysis Software (DAS)
 - 3.3.3. Bioprocess Digital Twin
 - 3.3.4. Manufacturing Execution System (MES)
- 3.4. Challenges Associated with the Adoption of Digital Manufacturing of Biologics
- 3.5. Future Perspectives

4. MARKET LANDSCAPE

- 4.1. Chapter Overview
- 4.2. List of Process Analytical Technology (PAT) Companies
 - 4.2.1. Analysis by Year of Establishment
 - 4.2.2. Analysis by Company Size
 - 4.2.3. Analysis by Location of Headquarters (Region-wise)
 - 4.2.4. Analysis by Location of Headquarters (Country-wise)
 - 4.2.5. Analysis by Type of Company
 - 4.2.6. Analysis by Number of Platforms Offered
 - 4.2.7. Analysis by Deployment Options
 - 4.2.8. Analysis by Platform Capabilities
 - 4.2.9. Analysis by Type(s) of Biologic(s) Manufactured
 - 4.2.10. Analysis by Other Compatible Platforms

- 4.2.11. Analysis by Type of End User(s)
- 4.2.12. Analysis by Year of Establishment, Location of Headquarters and Platform Capabilities
- 4.2.13. Analysis by Years of Experience, Location of Headquarters and Number of Platform Capabilities (Dot-Plot Representation)
- 4.3. List of Data Analysis Software (DAS) Companies
 - 4.3.1. Analysis by Year of Establishment
 - 4.3.2. Analysis by Company Size
 - 4.3.3. Analysis by Location of Headquarters (Region-wise)
 - 4.3.4. Analysis by Location of Headquarters (Country-wise)
 - 4.3.5. Analysis by Type of Company
 - 4.3.6. Analysis by Number of Software Offered
 - 4.3.7. Analysis by Deployment Options
 - 4.3.8. Analysis by Software Capabilities
 - 4.3.9. Analysis by Other Compatible Platforms
 - 4.3.10. Analysis by Type of End User(s)
 - 4.3.11. Analysis by Year of Establishment, Location of Headquarters and Software Capabilities
 - 4.3.12. Analysis by Years of Experience, Location of Headquarters and Number of Software Capabilities (Dot-Plot Representation)
- 4.4. List of Manufacturing Execution System (MES) Companies
 - 4.4.1. Analysis by Year of Establishment
 - 4.4.2. Analysis by Company Size
 - 4.4.3. Analysis by Location of Headquarters (Region-wise)
 - 4.4.4. Analysis by Location of Headquarters (Country-wise)
 - 4.4.5. Analysis by Type of Company
 - 4.4.6. Analysis by Number of Platforms Offered
 - 4.4.7. Analysis by Deployment Options
 - 4.4.8. Analysis by Platform Capabilities
 - 4.4.9. Analysis by Integrating Software
 - 4.4.10. Analysis by Type of Service(s) Offered
 - 4.4.11. Analysis by Analysis by Years of Experience, Location of Headquarters and Number of Platform Capabilities (Dot-Plot Representation)
- 4.5. List of Digital Twin Companies
 - 4.5.1. Analysis by Year of Establishment
 - 4.5.2. Analysis by Company Size
 - 4.5.3. Analysis by Location of Headquarters (Region-wise)
 - 4.5.4. Analysis by Location of Headquarters (Country-wise)
 - 4.5.5. Analysis by Number of Platforms Offered

- 4.5.6. Analysis by Area(s) of Application
- 4.5.7. Analysis by Type of End User(s)
- 4.5.8. Analysis by Years of Experience, Location of Headquarters and Area(s) of Application (Dot-Plot Representation)

5. TECHNOLOGY COMPETITIVENESS ANALYSIS

- 5.1. Chapter Overview
- 5.2. Assumptions and Key Parameters
- 5.3. Methodology
- 5.4. Technology Competitiveness Analysis: Process Analytical Technologies
 - 5.4.1. Process Analytical Technologies Offered by Small Companies
 - 5.4.2. Process Analytical Technologies Offered by Mid-sized Companies
 - 5.4.3. Process Analytical Technologies Offered by Large Companies
 - 5.4.4. Process Analytical Technologies Offered by Very Large Companies
- 5.5. Technology Competitiveness Analysis: Data Analysis Software
- 5.6. Technology Competitiveness Analysis: Manufacturing Execution System
 - 5.6.1. Manufacturing Execution Systems Offered by Small Companies
 - 5.6.2. Manufacturing Execution Systems Offered by Mid-sized Companies
 - 5.6.3. Manufacturing Execution Systems Offered by Large and Very Large Companies
- 5.7. Technology Competitiveness Analysis: Digital Twins

6. COMPANY PROFILES

- 6.1. Chapter Overview
- 6.2. AspenTech
 - 6.2.1. Company Overview
 - 6.2.2. Financial Information
 - 6.2.3. Technology Portfolio
 - 6.2.4. Recent Developments and Future Outlook
- 6.3. FUJIFILM Diosynth Biotechnologies
 - 6.3.1. Company Overview
 - 6.3.2. Financial Information
 - 6.3.3. Technology Portfolio
 - 6.3.4. Recent Developments and Future Outlook
- 6.4. Merck
 - 6.4.1. Company Overview
 - 6.4.2. Financial Information
 - 6.4.3. Technology Portfolio

- 6.4.4. Recent Developments and Future Outlook
- 6.5. Thermo Fisher Scientific
 - 6.5.1. Company Overview
 - 6.5.2. Financial Information
 - 6.5.3. Technology Portfolio
 - 6.5.4. Recent Developments and Future Outlook
- 6.6. Bioreactors.net
 - 6.6.1. Company Overview
 - 6.6.2. Technology Portfolio
 - 6.6.3. Recent Developments and Future Outlook
- 6.7. Sartorius
 - 6.7.1. Company Overview
 - 6.7.2. Financial Information
 - 6.7.3. Technology Portfolio
 - 6.7.4. Recent Developments and Future Outlook
- 6.8. Dassault Systèmes
 - 6.8.1. Company Overview
 - 6.8.2. Financial Information
 - 6.8.3. Area(s) of Application
 - 6.8.4. Recent Developments and Future Outlook
- 6.9. GE Healthcare
 - 6.9.1. Company Overview
 - 6.9.2. Technology Portfolio
 - 6.9.3. Recent Developments and Future Outlook
- 6.10. Kärber
 - 6.10.1. Company Overview
 - 6.10.2. Financial Information
 - 6.10.3. Technology Portfolio
 - 6.10.4. Recent Developments and Future Outlook

7. BENCHMARKING ANALYSIS

- 7.1. Chapter Overview
- 7.2. Methodology and Key Assumptions
- 7.3. Competitive Benchmarking by Company Size and Region
 - 7.3.1. Competitive Benchmarking: Small Players based in North America (Peer Group I)
 - 7.3.2. Competitive Benchmarking: Mid-sized Players based in North America (Peer Group II)

7.3.3. Competitive Benchmarking: Large and Very Large Players based in North America (Peer Group III)

7.3.4. Competitive Benchmarking: Small Players based in Europe (Peer Group IV)

7.3.5. Competitive Benchmarking: Mid-sized Players based in Europe (Peer Group V)

7.3.6. Competitive Benchmarking: Large and Very Large Players based in Europe (Peer Group VI)

7.3.7. Competitive Benchmarking: Small, Mid-sized and Very Large Players based in Asia-Pacific (Peer Group VII)

7.4. Competitive Benchmarking: Pockets of Innovation and White Spaces

8. PARTNERSHIPS AND COLLABORATIONS

8.1. Chapter Overview

8.2. Partnership Models

8.3. Digital Biomanufacturing: List of Partnerships and Collaborations

8.3.1. Analysis by Year of Partnership

8.3.2. Analysis by Type of Partnership

8.3.3. Analysis by Year and Type of Partnership

8.3.4. Analysis by Type of Technology

8.3.5. Analysis by Year of Partnership and Type of Technology

8.3.6. Most Active Players: Analysis by Number of Partnerships

8.3.7. Analysis by Geography

8.3.7.1. Intracontinental and Intercontinental Agreements

8.3.7.2. International and Local Agreements

9. MARKET CONCENTRATION ANALYSIS

9.1. Chapter Overview

9.2. Assumptions and Key Parameters

9.3. Methodology

9.4. Market Concentration Analysis: Top Digital Biomanufacturing Providers

10. INDUSTRY LIFECYCLE ANALYSIS

10.1. Chapter Overview

10.2. Industry Lifecycle Analysis

10.3. Digital Biomanufacturing: Historical Timeline of Key Events

10.4. Digital Biomanufacturing: Start-up Activity

10.5. Digital Biomanufacturing: Established Players Activity

- 10.6. Digital Biomanufacturing: Partnership and Collaboration Trends
- 10.7. Digital Biomanufacturing: Funding and Investments Trends
- 10.8. Current Barriers to Wider Adoption of Digitalization in Biomanufacturing
- 10.9. Future Outlook of Digital Biomanufacturing
- 10.10. Industry Lifecycle Analysis: Digital Biomanufacturing

11. MARKET FORECAST AND OPPORTUNITY ANALYSIS

- 11.1. Chapter Overview
- 11.2. Forecast Methodology and Key Assumptions
- 11.3. Global Digital Manufacturing Market for Biologics, 2023-2035
- 11.4. Digital Manufacturing Market for Biologics: Analysis by Type of Technology
 - 11.4.1. Process Analytical Technology Market for Biologic Manufacturing, 2023-2035
 - 11.4.2. Data Analysis Software Market for Biologic Manufacturing, 2023-2035
 - 11.4.3. Manufacturing Execution System Market for Biologic Manufacturing, 2023-2035
 - 11.4.4. Digital Twin Market for Biologic Manufacturing, 2023-2035
- 11.5. Digital Manufacturing Market for Biologics: Analysis by Type of Deployment Options
 - 11.5.1. Market for Cloud-based Deployment Options, 2023-2035
 - 11.5.2. Market for On-premises Deployment Options, 2023-2035
- 11.6. Digital Manufacturing Market for Biologics: Analysis by Type(s) of Biologic(s) Manufactured
 - 11.6.1. Market for Antibodies, 2023-2035
 - 11.6.2. Market for Cell and Gene Therapies, 2023-2035
 - 11.6.3. Market for Proteins, 2023-2035
 - 11.6.4. Market for Vaccines, 2023-2035
 - 11.6.5. Market for Others, 2023-2035
- 11.7. Digital Manufacturing Market for Biologics: Analysis by Geography
 - 11.7.1. Market in North America, 2023-2035
 - 11.7.2. Market in Europe, 2023-2035
 - 11.7.3. Market in Asia-Pacific, 2023-2035
 - 11.7.4. Market in Latin America, 2023-2035
 - 11.7.5. Market in Middle East and North Africa, 2023-2035

12. CONCLUDING REMARKS

13. INTERVIEW TRANSCRIPTS

13.1. Chapter Overview

13.2. BioIntelligence Technologies

13.2.1. Interview Transcript: Joel Sirois, Chief Executive Officer and President

13.3. Yokogawa Insilico Biotechnology

13.3.1. Interview Transcript: Klaus Mauch, Managing Director and Chief Executive Officer

13.4. Aizon

13.4.1 Company Snapshot

13.4.2. Interview Transcript: Tudor Munteanu, Vice President of Operations and Strategic Initiatives

13.5. MasterControl

13.5.1 Company Snapshot

13.5.2. Interview Transcript: Ciaran O'Keeffe, Director, Business Development and Channel Sales, and Isura Sirisena, Quality and Manufacturing Digitization Specialist

13.6. Trunovate

13.6.1 Company Snapshot

13.6.2. Interview Transcript: Yaron Halfon, Director of Sales

13.7. Dassault Syst?mes

13.7.1 Company Snapshot

13.7.2. Interview Transcript: Barbara Holtz, Business Consultant

14. APPENDIX I: TABULATED DATA

15. APPENDIX II: LIST OF COMPANIES AND ORGANIZATIONS

I would like to order

Product name: 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

Product link: <https://marketpublishers.com/r/DD230BCAB625EN.html>

Price: US\$ 4,799.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/DD230BCAB625EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970