

# Gene Therapy Vectors

ANMD-MRS9-082 · Advanced Therapeutics & Biomanufacturing

A Global Sustainability Due Diligence & Market Research Study

History 2020–2024 · Base Year 2025 · Forecast 2025–2032 · Outlooks 2035 / 2040 / 2050 · Currency US\$

## WHY THIS REPORT

Gene therapy vectors are the delivery vehicles of the genetic-medicine era — the AAV, lentiviral, adenoviral and non-viral/plasmid systems that carry therapeutic genes into patients and cells. This decision-grade study sizes the global market three ways — value, doses/patients enabled and vector volume — across vector type, production system and application, across seven regions and four scenarios to 2032, with outlooks to 2050.

## SUSTAINABILITY & SDG IMPACT — THE ANMD LENS

Sustainability is this report's backbone, not an afterthought. Gene therapy vectors enable measurable curative and durable therapies, with manufacturing yield and cost central to access, while scaled GMP vector supply broadens patient reach and strengthens the health-equity story.

Mapped Sustainable Development Goals:

<b>SDG 3</b> Good Health	<b>SDG 9</b> Industry & Innovation	<b>SDG 10</b> Reduced Inequalities	<b>SDG 12</b> Responsible Consumption	<b>SDG 17</b> Partnerships for Goals
-----------------------------	---------------------------------------	---------------------------------------	--	---

Measurable sustainability outcomes assessed:

- Curative and durable genetic-medicine delivery
- Higher titre and lower cost-of-goods
- Broader patient access through scaled supply
- Single-use plastics, process energy and supply-chain ESG as material risks

**Framework alignment:** Double materiality mapped to GRI, SASB, ISSB, TCFD, TNFD, CSRD and the EU Taxonomy, with greenwashing and SDG-washing screens applied throughout.

## WHAT'S INSIDE AT A GLANCE

<b>53</b> Chapters	<b>9</b> Report Parts	<b>7</b> Regions Covered	<b>40+</b> Country Markets
<b>2025–32</b> Forecast Horizon	<b>4</b> Forward Scenarios	<b>25+</b> Companies Profiled	<b>5</b> SDGs Mapped

## REPORT COVERAGE

**Geographic scope:** North America, Europe, Asia Pacific, Latin America, Africa, Middle East and Rest of World — with named country intelligence. North America is the value leader (United States) on pipeline depth and CDMO capacity; Europe is the technology leader (Germany, United Kingdom, Switzerland) on platforms and manufacturing; Asia Pacific is the scale engine; other regions assessed on their own merits.

## MARKET OVERVIEW

### From manufacturing chokepoint to scaled supply — where vectors go high-titre, GMP and CDMO-backed.

Vectors are the manufacturing chokepoint of gene therapy. Demand is driven by an expanding clinical pipeline, the scale-up to commercial supply, and the race to raise titre and lower cost-of-goods — with CDMO capacity central to availability. The market is read three ways — value, doses/patients enabled and vector volume — and forecast under four scenarios, each region reported separately.

- **North America is the value leader** — United States, on gene-therapy pipeline and CDMO capacity
- **Europe is the technology leader** — United Kingdom, Germany and France, on vector platforms
- **Asia Pacific is the scale engine** — China, Japan and South Korea, on manufacturing build-out
- **Titre and scale are the differentiators** — high-yield production systems plus GMP vector platforms

## REGIONAL OUTLOOK

Across seven reporting regions, the report separates early commercialisation leaders from high-growth and emerging markets — each profiled in full rather than aggregated into Rest of World.

Region	Stage	Lead Markets & Drivers
North America	Value leader	United States — pipeline depth, CDMO capacity, reimbursement
Europe	Technology leader	Germany, United Kingdom, Switzerland — platforms, manufacturing
Asia Pacific	Scale engine	China, Japan, South Korea — biomanufacturing, build-out
Middle East	High-growth	Saudi Arabia, Israel, UAE — biotech investment, access
Latin America	Emerging	Brazil, Mexico — biologics access, manufacturing
Africa	Emerging	South Africa, Egypt — access, local manufacturing

## KEY MARKET DRIVERS & RESTRAINTS

Drivers	Restraints
<ul style="list-style-type: none"> <li>• Pipeline-expansion + commercial-scale-up convergence</li> <li>• Titre &amp; cost-of-goods value</li> <li>• Policy &amp; reimbursement support (gene-therapy pathways)</li> <li>• CDMO capacity &amp; supply-security economics</li> <li>• Stable-producer, transient &amp; baculovirus gains</li> </ul>	<ul style="list-style-type: none"> <li>• Manufacturing yield &amp; cost-of-goods pressure</li> <li>• Regulatory &amp; GMP-qualification burden</li> <li>• Capacity-constraint &amp; supply-bottleneck risk</li> <li>• Single-use plastics &amp; sustainability scrutiny</li> <li>• Talent, scale-up &amp; analytics gaps</li> </ul>

## SEGMENTATION SNAPSHOT

<b>By Vector Type</b>	AAV vectors · lentiviral vectors · adenoviral vectors · non-viral / plasmid · retroviral vectors
<b>By Production System</b>	Transient transfection · stable producer cell line · baculovirus / Sf9
<b>By Application</b>	Oncology · rare / genetic disease · immunology & infectious disease
<b>By End User</b>	Hospitals · pharma / biotech · CDMOs · academia
<b>By Business Model</b>	Product sales · CDMO services · licensing
<b>By Scale</b>	Clinical · commercial

## TABLE OF CONTENTS — PARTS & CHAPTERS

The full report is organised into nine parts across 53 chapters, listed below. Detailed sub-headings, country tables and directories are provided in the full report.

### Part I — Report Foundation, Discovery and Strategic Intelligence

- › Chapter 1. Scope, Methodology and Report Architecture
- › Chapter 2. Industry Discovery Summary — Gene Therapy Vectors
- › Chapter 3. Executive Intelligence and Decision Dashboard
- › Chapter 4. Strategic Findings, Materiality and Investment Verdict Preview

### Part II — Market Intelligence, Sizing, Forecasting and Segmentation

- › Chapter 5. Industry Overview and Market Evolution
- › Chapter 6. Market Dynamics
- › Chapter 7. Global Market Size and Forecast, 2020–2032
- › Chapter 8. Market Segmentation Analysis
- › Chapter 9. End-User and Demand-Side Intelligence
- › Chapter 10. Pricing, Cost and Commercial Model Intelligence

### Part III — Regional and Country Intelligence

- › Chapter 11. Global Regional Intelligence Framework
- › Chapter 12. North America Market Intelligence
- › Chapter 13. Europe Market Intelligence
- › Chapter 14. Asia Pacific Market Intelligence
- › Chapter 15. Latin America Market Intelligence
- › Chapter 16. Africa Market Intelligence
- › Chapter 17. Middle East Market Intelligence
- › Chapter 18. Rest of World Market Intelligence

### Part IV — Technology, Innovation and Category-Specific Intelligence

- › Chapter 19. Technology Landscape and Architecture
- › Chapter 20. Emerging and Next-Generation Technology Intelligence
- › Chapter 21. Category-Specific Intelligence Module
- › Chapter 22. Research, Innovation and Funding Landscape

## Part V — Company, Competition, Patent and Project Intelligence

- › Chapter 23. Competitive Landscape
- › Chapter 24. Company Profiles
- › Chapter 25. Mergers, Acquisitions, Partnerships and Ecosystem Intelligence
- › Chapter 26. Patent Landscape and Intellectual Property Intelligence
- › Chapter 27. Project, Deployment and Case-Study Intelligence

## Part VI — Sustainability, ESG, SDG, Climate and Natural-Capital Intelligence

- › Chapter 28. Sustainability Intelligence Suite
- › Chapter 29. ESG Intelligence and Double Materiality
- › Chapter 30. ESG and Sustainability Framework Alignment
- › Chapter 31. SDG Intelligence
- › Chapter 32. Carbon, Net-Zero and Climate-Mitigation Intelligence
- › Chapter 33. Water, Biodiversity and Natural-Capital Intelligence
- › Chapter 34. Circular Economy and Resource-Security Intelligence
- › Chapter 35. Social Impact, Human Capital and Community Intelligence
- › Chapter 36. Climate Risk, Adaptation and Resilience Intelligence

## Part VII — Supply Chain, Policy, Legal, Economics and Finance

- › Chapter 37. Value Chain, Supply Chain and Geopolitical Intelligence
- › Chapter 38. Policy, Regulation and Incentive Intelligence
- › Chapter 39. Legal, Contracting and Risk-Allocation Intelligence
- › Chapter 40. Unit Economics, CAPEX, OPEX and Return Analysis
- › Chapter 41. Investment, Sustainable Finance and Bankability Intelligence

## Part VIII — Scenario, Future Intelligence and Final Due Diligence Verdict

- › Chapter 42. Scenario Analysis and Future Intelligence
- › Chapter 43. Sustainability Due Diligence Framework and Data-Room Index
- › Chapter 44. Risk Register, RAG Rating and Anti-Greenwashing Screen
- › Chapter 45. Bottom-Line Verdict and Strategic Recommendations
- › Chapter 46. Implementation Roadmap and Stakeholder Playbooks

## Part IX — Annexes, Directories and Reference Material

- › Chapter 47. Methodology Annex
- › Chapter 48. Corporate Directory and Company Intelligence Annex
- › Chapter 49. Patent Directory and Patent Intelligence Annex
- › Chapter 50. Project Intelligence Annex
- › Chapter 51. Forecast Annex
- › Chapter 52. Sustainability KPI Annex
- › Chapter 53. Reference Annexes

## COMPETITIVE & INVESTMENT SNAPSHOT

The competitive field spans global biopharma majors, specialist gene therapy vectors makers, and emerging innovators. Deal activity — M&A, technology acquisition and platform expansion — signals a market consolidating around scalable, scaled, GMP-ready platforms.

### Representative players profiled in the full report:

Thermo Fisher Scientific Inc. · Lonza Group AG · Catalent, Inc. · Charles River Laboratories International, Inc. · WuXi Advanced Therapies (WuXi AppTec Co., Ltd.) · Oxford Biomedica plc · Sartorius AG · and 20+ further profiled players across specialists, CDMOs and challengers and emerging innovators.

**Investment intelligence:** venture, infrastructure, development, climate and blended finance, green bonds and sustainability-linked loans — culminating in a bankability assessment and a Go / No-Go / Conditional-Go investment verdict.

## KEY QUESTIONS THIS REPORT ANSWERS

- ? How large is the global gene therapy vectors market, and how fast will it grow to 2032?
- ? Which regions, countries and segments offer the strongest risk-adjusted opportunity?
- ? How do manufacturing cost, scalability and access change value versus incumbent therapies?
- ? Who leads, and where is the competitive and patent white space?
- ? Is the investment case bankable — and under what conditions?
- ? How does the category align with the SDGs, health-equity and patient-access and disclosure regulation?

## WHY ANMD — THE DIFFERENCE

*Most market studies stop at units and revenue. This report is built as a sustainability due diligence instrument — fusing market sizing with ESG, SDG, climate, water and natural-capital intelligence and a decision-ready bankability verdict in a single architecture.*

- **Triangulated sizing** — every market read three ways so value, volume and production-volume views reconcile rather than conflict.
- **Region-honest forecasting** — Latin America, Africa and the Middle East reported in full, never hidden inside Rest of World, every forecast resolved to the 2025 base year.
- **Integrated evidence base** — company, patent and project databases linked to the analysis, with published-filing patents and FTO treated as an indicator, not a legal conclusion.
- **No-fabrication discipline** — every estimate carries a data-confidence rating and disclosed sources; gaps are flagged for further diligence, never filled with invented numbers.
- **Anti-greenwashing rigour** — SDG-washing and greenwashing screens plus claim-substantiation checks built into the ESG and project analysis.
- **Decision-first structure** — 9 Parts and 53 Chapters culminating in stakeholder playbooks and a clear Go / No-Go / Conditional-Go investment verdict.

## WHO SHOULD BUY THIS REPORT

Investors and life-sciences / PE funds, pharma and biotech companies, CDMOs and CROs, hospitals and treatment centers, tools and consumable suppliers, payers and regulators, and corporate strategy and ESG teams, plus strategic corporate planners and decision-makers.

### Access the Full Report

The complete report delivers all 53 chapters in full, with every sub-heading, country table, company and patent directory, forecast model and due diligence checklist.

Purchase at [www.anewmarketdynamics.com](http://www.anewmarketdynamics.com) · Standard & Premium licences · Single-Site (SSL) and Global-Site (GSL) options at checkout.

### Want the Complete Detailed Table of Contents?

This prospectus lists the nine parts and 53 chapters. The complete detailed table of contents — every sub-heading, country table, exhibit, company and patent directory and annex — is available on request to registered users. To receive it, register with your official company email at [www.anewmarketdynamics.com](http://www.anewmarketdynamics.com). The full detailed table of contents will be sent directly to your registered company email address.