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A That's Nice Brand

Our Update on, and Opinion of, the CDMO Landscape.

A Nice Insight Review 2025 Edition

About Nice Insight

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About Nice Insight

Nice Insight delivers specialized market research for scientists, conducted by scientists. Always on the cutting edge of the technical foundations of the industry, our expertise spans diverse scientific modalities. Whether you're exploring new technologies, assessing competitive landscapes, or identifying growth opportunities, our team can combine rigorous scientific methodology with market intelligence to offer actionable data and analysis that drive informed decision-making. Our pricing reports provide customers with the latest trends in the market, hard-to-find pricing, and analysis of important scientific innovation and challenges. These reports help innovators understand the price they'll pay for a contractor and what challenges they should anticipate, and allow CDMOs to evaluate their position in the market.

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Pharma's Almanac is the content community of Nice Insight, consisting of over 1,600 contributors, and the premier platform for thought leadership in life sciences. We use this platform to elevate brands' intellectual capital through content ghostwritten by our Ph.D. writing team. We have collaborated with hundreds of companies and thousands of SMEs to build a content presence that contributes to their brand recognition and perception in conjunction with other strategic efforts.

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30 years of experience and our depth of market research support effective consultancy for your business. Experienced consultants with real-world sector knowledge will work with your team on a project or ongoing basis to help you define and achieve key business goals. We also offer sector-specific analysis to position your company for investment, identify acquisition targets, or assist with divestments. We can support you with analysis of market conditions, company landscapes, and existing capacity to support your growth goals.

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About That's Nice

That's Nice works with both established and emerging Life Sciences brands to help their teams navigate the increasing market pressures associated with business transformations. We help shift business focus in response to the rapidly evolving Life Sciences market across all modalities and services. As expedited go-to-market strategies become the industry's new normal, our team supports clients in their efforts to optimize and streamline their communications. Launched in 1995, That's Nice is headquartered in NYC with 8 regional staff bases, exclusively serving the life science industry.

www.thatsnice.com

Daniel Smith, Ph.D.
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For more information, please visit
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Introduction

Since the establishment of the first contract development and manufacturing organizations (CDMOs) in the mid-1990s, these companies have played an increasingly important role in the pharmaceutical and biotechnology industry.

Innovative science and new therapeutic modalities continue to drive an increasingly diverse range of novel treatments. The risks are high for these innovators, but the overall promise of delivering life-changing benefits to patients continues to drive the sector forward. The growing complexity of novel therapies, global supply chain uncertainties, increased competition, intensified regulatory scrutiny, and compressed timelines all contribute to innovators' increasing reliance on CDMOs to deliver new workflows, new platforms, and new technologies, all while retaining flexible service offerings. However, a tough economic and geopolitical landscape put pressure on innovator funding in 2023/2024. This had a knock-on effect on CDMOs, causing significant headwinds throughout 2024, which are expected to continue into 2025.

In this report generated by Nice Insight, we review the global CDMO sector across 2024–2025, examining global outsourced manufacturing trends and charting the ebbs and flows of different therapeutic modalities. We comment on trends in the global CDMO landscape with respect to market dynamics and consolidation, global capacity changes, talent recruitment trends, and the ongoing innovation of manufacturing tools and technologies, identifying areas of opportunity and signs of cautious optimism leading into 2025.

David Alvaro, Ph.D.
Editor-in-Chief,
Pharma's Almanac

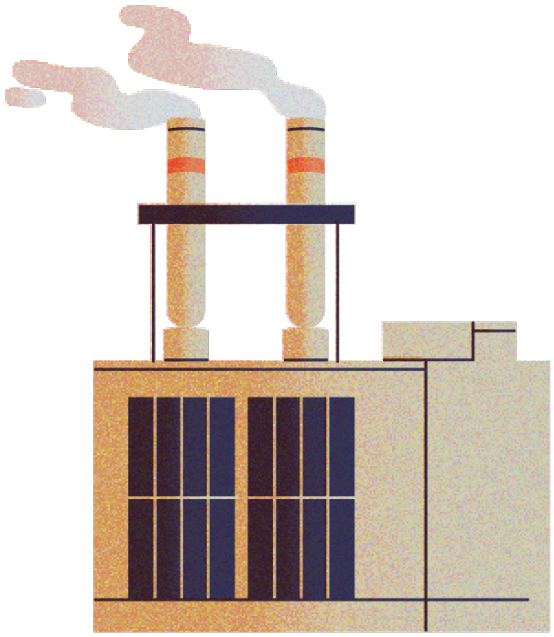
"The biopharma sector faces heightened uncertainty and volatility, owing to a mix of legislative, trade, and political pressures that could reshape industry dynamics, particularly for CDMOs and investors. The BIOSECURE Act, if passed, could disrupt supply chains and global partnerships, particularly for companies reliant on China-based manufacturing for raw materials, active pharmaceutical ingredients (APIs), and advanced biologics. The sector is already grappling with ongoing reshoring efforts and geopolitical tensions, and additional tariff threats could further increase costs for key inputs and slow international collaborations, making manufacturing localization more critical yet costly."

The Ups and Downs of the Global Therapeutic Pipeline

Overall, the global therapeutic pipeline remained strong during 2024. The U.S. FDA approved 50 new drugs, matching the average number of new approvals in recent years (2018–2023). The economic pressures facing the industry during 2024 did not affect all drug modalities equally.

Small molecule drugs accounted for over 63% of all new drugs approved in 2024. This was also a record year for monoclonal antibody (mAb)-based drug approvals; the FDA approved 13 mAbs, three of which were for bispecific antibodies, an emerging modality class. The approval outlook for both mAbs and small molecules remains positive, with predicted growth of high single-digits for small molecules, low double-digits for antibodies, and mid double-digits for bispecifics until 2030. Although no new antibody–drug conjugates (ADCs) were approved in 2024 (the most recent approval was in 2022), this is likely to change rapidly over the next few years owing to high-value investments in this modality during 2024.

The picture is less positive for advanced therapies, which had only six new approvals in 2024; one viral vector–based gene therapy, three gene-modified cell therapies, and one RNA-based therapy. This represents a 50% drop from the approval high reached in 2023.



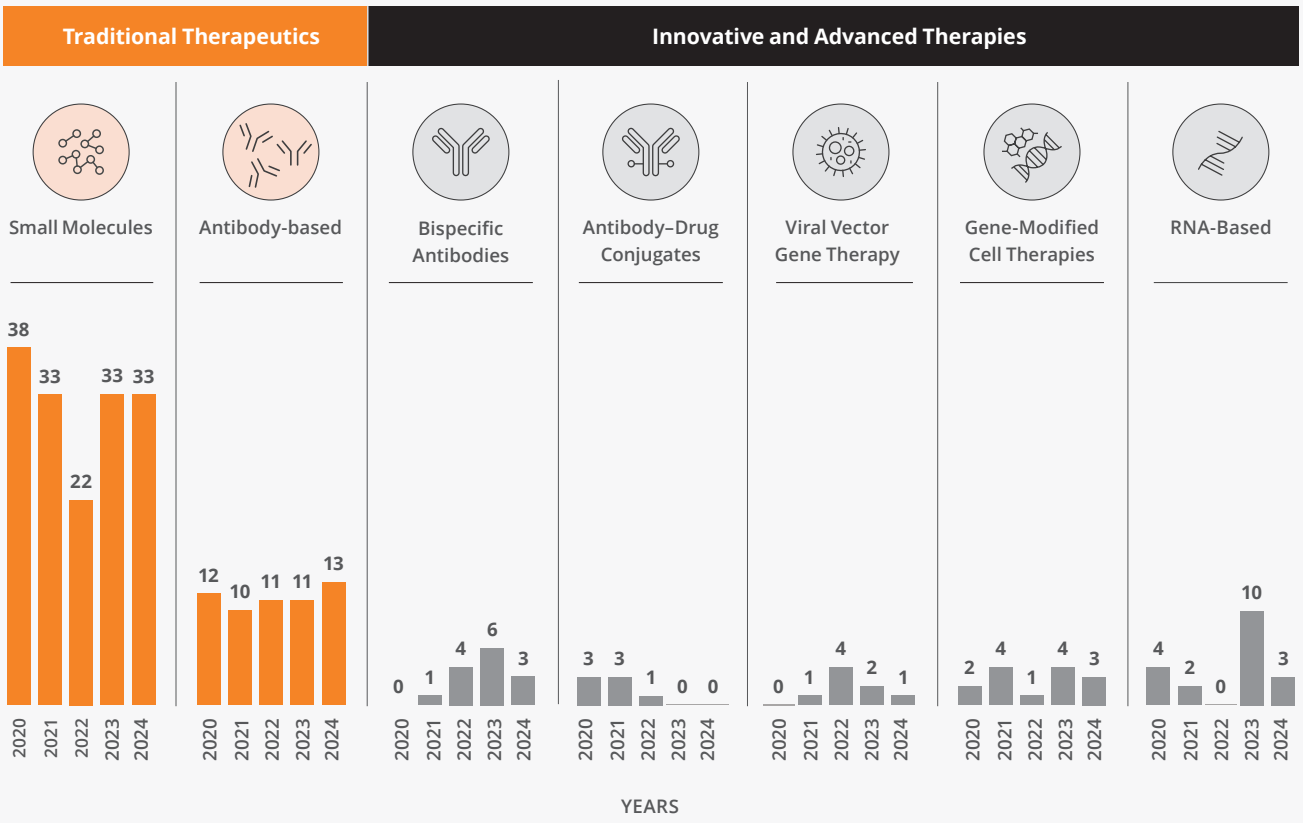
> Annual drug approvals are an indicator for the clinical pipeline and by extension a barometer for the health of the CDMO sector. For emerging therapies, approvals increasing year on year represent a healthy and growing pipeline and support a buoyant CDMO sector. For mature modalities with an established position, a steady state or a small increase in approvals results in a healthy CDMO sector. A decrease in the approval number for a modality can indicate trouble ahead for the CDMO sector serving that modality. Such CDMOs need to carefully consider the timing of the downturn, their competitive technology position, the overall capacity that exists within the market, and if — and then when — to pivot.

Daniel Smith, Ph.D.
Chief Scientific Officer, That's Nice

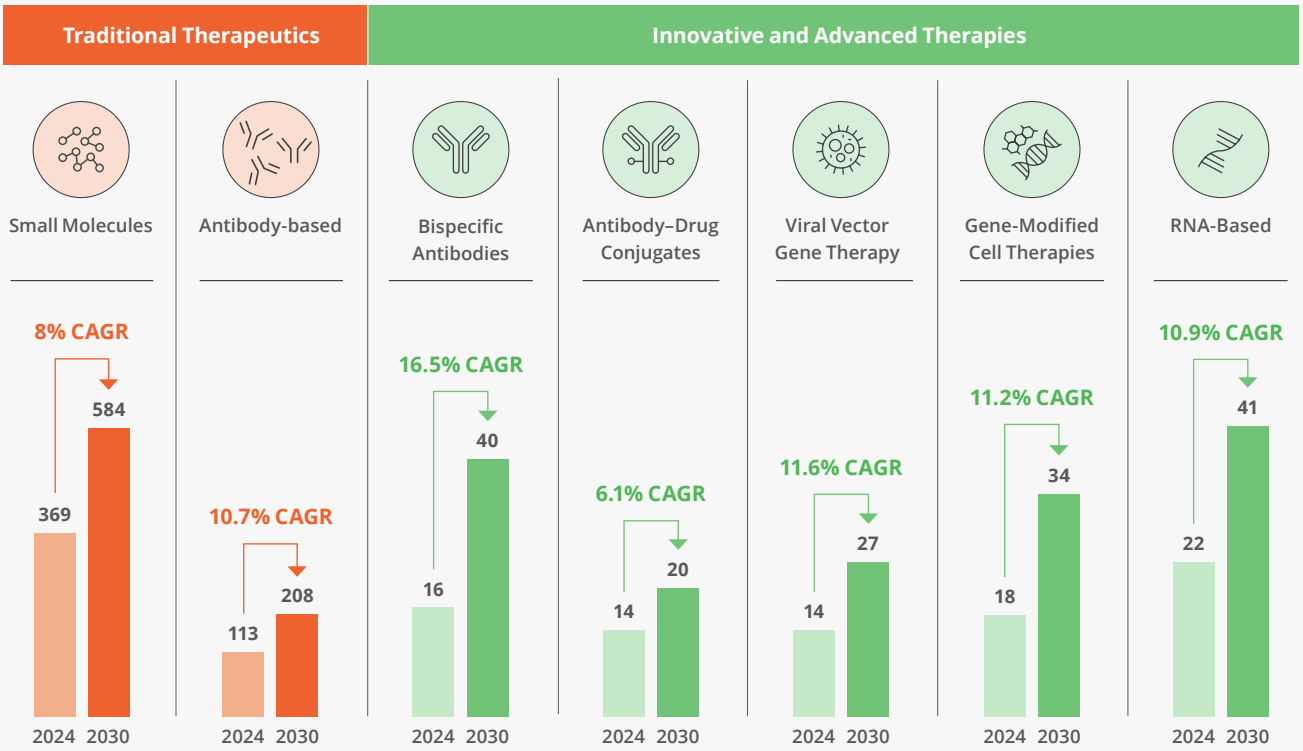
> The therapeutics pipeline reveals a trend toward more precise drug targeting, focused on smaller patient populations and more complex therapeutics than developed historically. This trend extends beyond the drugs we traditionally consider to be complex. to include small molecules and their close cousins, the peptides and small, synthetic oligonucleotides. We know biologics and advanced therapies are expensive, but increasing complexity of small molecules means they are rapidly commanding higher prices too. Advanced drug discovery technologies opened up "undruggable targets," and complicated chemistries are increasing the cost of manufacture and formulation. The added development and manufacturing expense must be borne by a smaller patient population, so we can anticipate the cost of novel small molecule therapeutics will continue to rise.

April Stanley
Senior Scientific Research Director, That's Nice

Number of therapies approved in each modality 2020–2024 FDA-approved



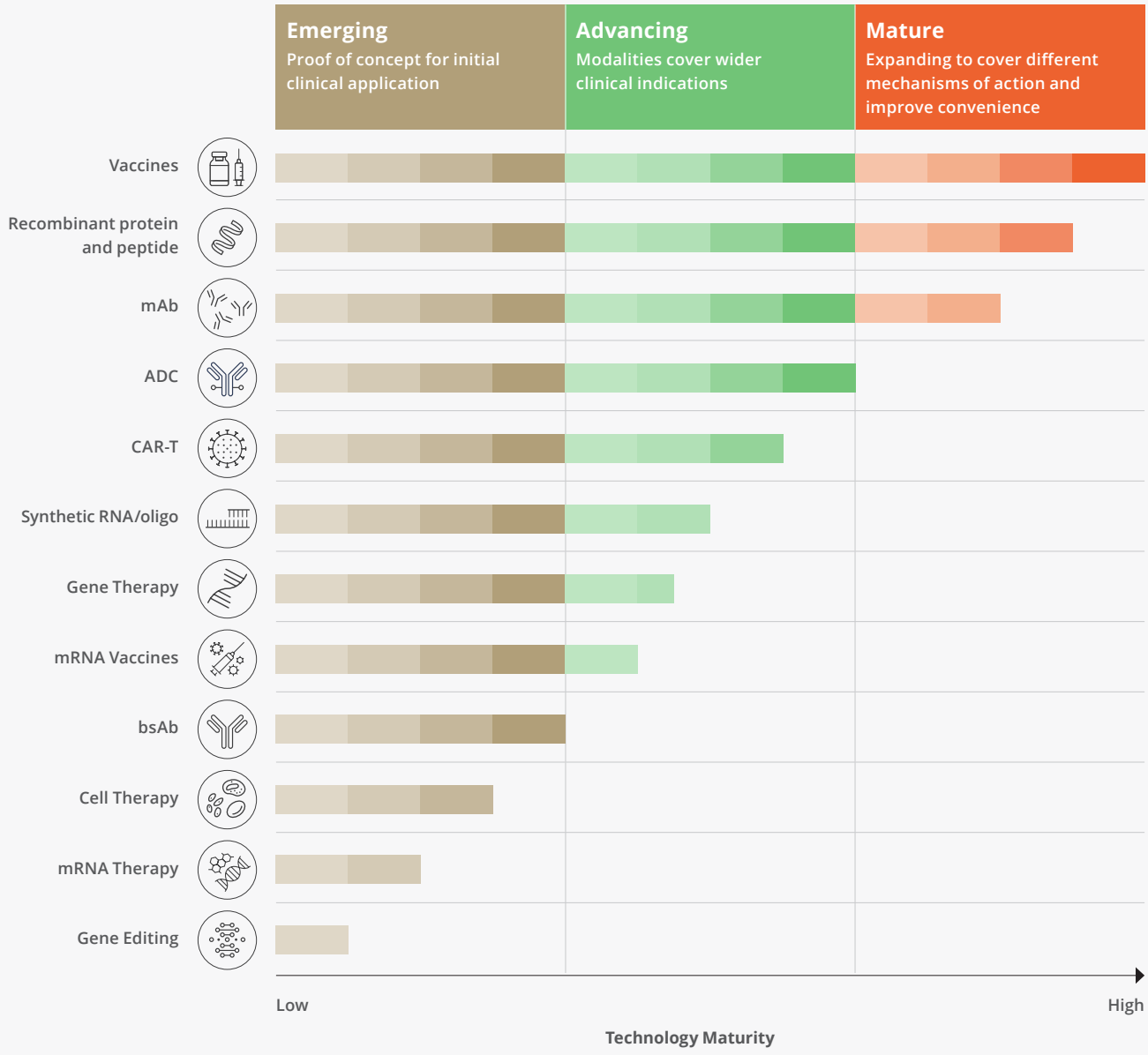
Total number of therapies approved globally in 2024 and projected for 2030 with predicted compound annual growth rate (CAGR)



The Foundational Platforms Underpinning the Funding Landscape

In the last 20 years, more than 15 different therapeutic modalities have been developed, resulting in an evolving continuum of new classes of therapeutic entities, first emerging, then advancing, but all ultimately striving to reach maturity. Each modality within this spectrum has specific manufacturing and operational challenges, which CDMOs must understand and overcome to successfully serve these sectors. In many cases, this requires manufacturing innovation to either improve the efficiency of traditional approaches or adopt completely novel technologies.

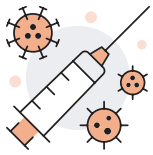
The evolving modality spectrum



Four fundamental manufacturing technology platforms support the continuum of new therapeutic modalities: small molecules and nucleic acids, viruses and other drug delivery systems, cell engineering, and antibodies and proteins. Success for CDMOs serving any of these "platform modalities" requires them to have specific competence in manufacturing, supply chain management, and compliance for that therapeutic type. Specialization in any of these platforms provides CDMOs the opportunity to evolve into experts and thought leaders in the sector. Additionally, once a CDMO has acquired the specific capabilities to serve one modality, the "ecosystem" nature of emerging modalities means that they should then be able to apply that knowledge and skill set to other, related modalities within the same foundational platform, thus broadening their reach and/or de-risking their business model.

Small Molecules and Nucleic Acids

This platform focuses on chemical synthesis (small molecules or oligonucleotides), with capabilities that span from traditional manufacturing approaches to new rapid developments in artificial intelligence (AI) and machine learning (ML) for process development and control. CDMOs need to embrace technology that drives continuous manufacture, as well as AI/ML-informed process design that aligns with the diversity of chemical entities emerging from preclinical discovery and development.



Viruses and Drug Delivery

This platform requires critical capabilities in support of gene, oncolytic virus, and cell therapies, as well as a deep understanding of viral genetic engineering, production, and immunogenicity (for *in vivo* therapies). CDMOs that focus on viral delivery should also develop novel nonviral delivery systems (e.g., lipid nanoparticles (LNPs)) to compete in gene therapy, mRNA, and gene editing.

Cell Engineering

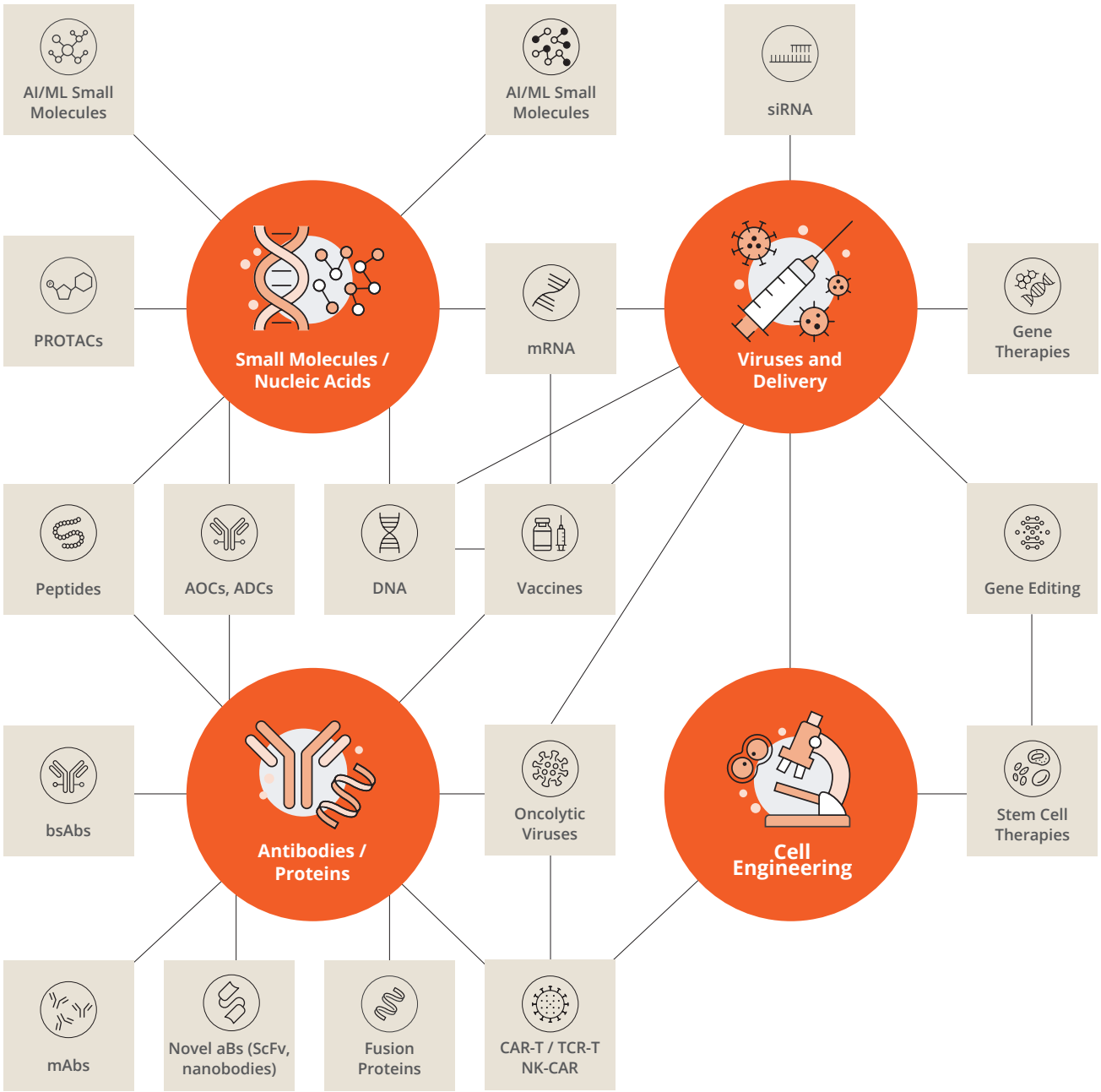
This platform focuses on cell culture and engineering for multiple cell types, including stem cells, induced pluripotent stem cells (iPSCs), and terminally differentiated cells. Chemistry, manufacturing, and controls (CMC) activities are critical, and CDMOs need to adopt closed systems and automation to support robustness and scalability.

Antibodies and Proteins

CDMOs with the capabilities required to develop mAbs, bispecific antibodies (bsAbs), fusion proteins, and other complex biologics could extend these capabilities to support novel modalities, such as oncolytic viruses and chimeric antigen receptor T (CAR-T) cells. To support the development and manufacture of antibodies specifically for ADCs, biologics-focused CDMOs will need to develop capabilities around chemical-based conjugation onto biological molecules and the subsequent downstream processing of the conjugate.

As well as developing the manufacturing capabilities to service these four platforms, CDMOs also need to act as innovators and technology adopters, driving forward the development and utilization of those tools and technologies that will increase quality and efficiency and ultimately reduce manufacturing costs. The CDMO industry needs to move away from the historical mantra of "capacity is king" and embrace a new era of innovative manufacturing tools, including closed-system processing, robotic and automated manufacture, biological-based technologies (gene-editing, targeted delivery), and *in silico* AI/ML prediction, to develop a differentiated market offering that provides a clear roadmap to their clients in relation to cost–benefit analysis for therapeutic production across the modality spectrum.

The foundational manufacturing platforms supporting a continuum of new modalities



April Stanley
Senior Scientific Research Director, That's Nice

"Investment into novel manufacturing tools and technologies, including targeted drug delivery systems and scalable and cost-effective cell therapy manufacturing solutions will be critical to the long-term commercial success of advanced therapy modalities. Hwowever, development of the technology is only the first hurdle: the much bigger challenge in a fundamentally conservative industry will be technology adoption. The ROI on the R&D investment required for such innovation may be too-long delayed for CDMOs to be the drivers of this movement. However, they should consider strategic partnerships with tools and technology companies, supporting and advising on technology development and encouraging adoption within innovator discovery and preclinical process development teams. They'll then be strongly positioned as early adopters when products manufactured using these technologies progress towards GMP."

Daniel Smith, Ph.D.
Chief Scientific Officer, That's Nice

"The biologics industry is undergoing a transformative era, driven by advancements in biotechnology, personalized medicine, and the increasing demand for complex therapies. CDMOs play a pivotal role in this ecosystem, providing the infrastructure and expertise needed to bring these therapies to market. However, as the industry evolves, CDMOs face significant challenges in adopting new technologies that could enhance efficiency, scalability, and product quality. Despite the clear benefits of innovation, technology adoption within biologics CDMOs is often hindered by a range of barriers. Understanding and addressing these obstacles is critical for CDMOs to remain competitive and meet the growing demands of the biopharmaceutical industry. In 2025, those companies developing enabling tools and technologies need to drive the narrative around technology adoption, focusing their actions on engaging CDMOs but also working earlier in the value chain to embed technology at the appropriate point within the preclinical space."

Cynthia Challener, Ph.D.
Senior Scientific Content Director, That's Nice

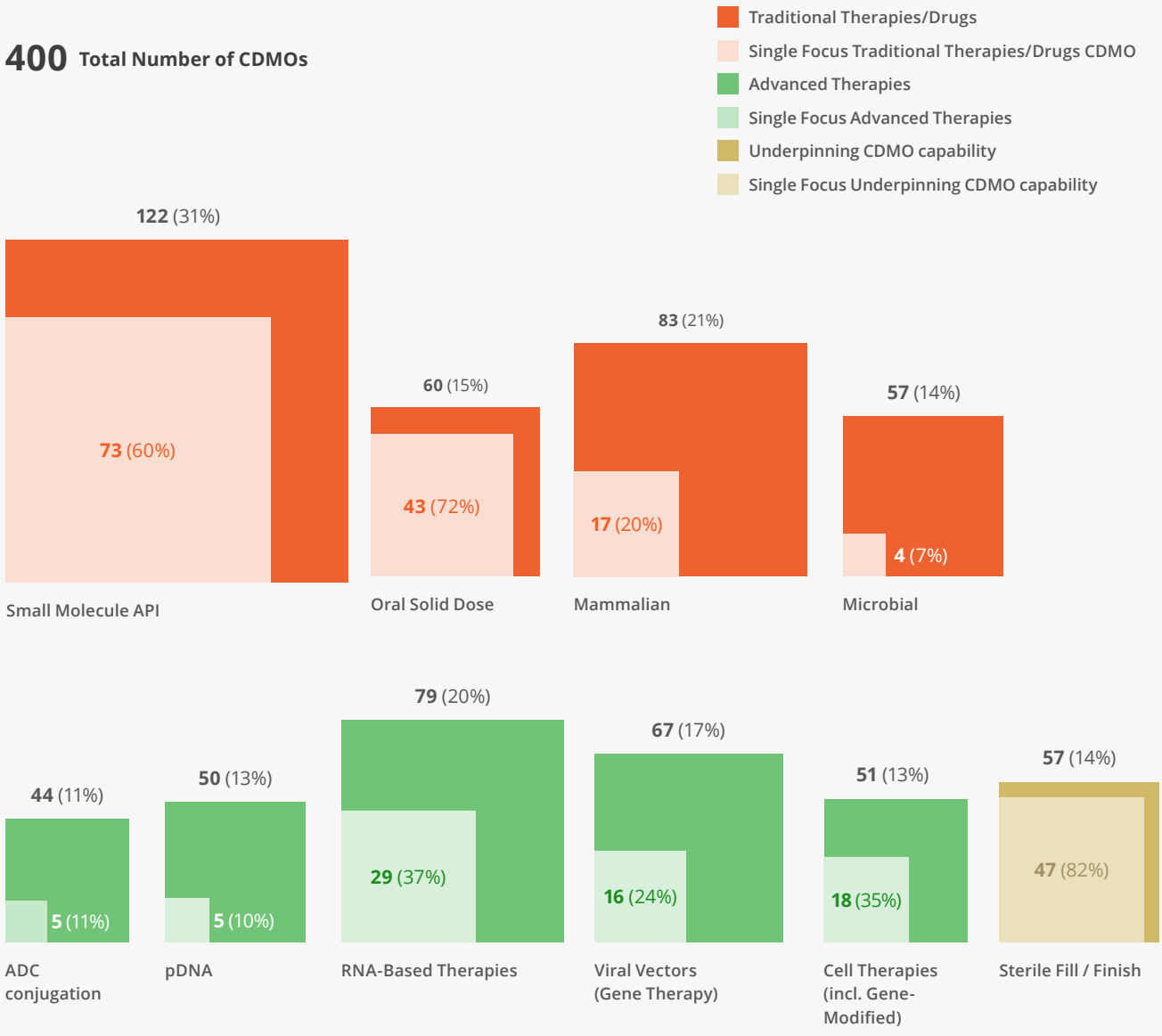
"The US benefited hugely from the exodus of academics from Europe in the late 1930s / early 1940s. This set the stage for innovations that sparked global dominance across multiple industries, including pharma and biotech. Now, universities in the EU, UK and Canada are responding quickly to threats to US research funding in fields including vaccine research and other topics now deemed controversial in the USA, offering the best and brightest American scientists attractive relocation packages and stable grant funding to conduct their research in Europe. This will have little immediate impact on the CDMO sector, but the whole life sciences pipeline begins with academic innovation, so this is a drop that could be causing ripples for years to come."

The Global CDMO Landscape

Nice Insight actively tracks around 400 CDMOs globally that support development and manufacture across the spectrum of therapeutic modalities, from small molecule and traditional biologics to newer advanced therapies. Overall, these CDMOs collectively operate 1,200 manufacturing sites globally (Americas, 37%; Europe, 36%; APAC, 27%). Throughout 2024 and into 2025, CDMOs, innovators, and investors in the biopharma sector are navigating a landscape defined by funding constraints, capacity overages in certain modalities and scarcity in others, evolving regulatory pressures, and a continued — if staggered — shift toward advanced therapies. Overall, the CDMO capability landscape closely follows the trends and challenges seen in the wider biopharma sector.

The Global CDMO "Metaverse"

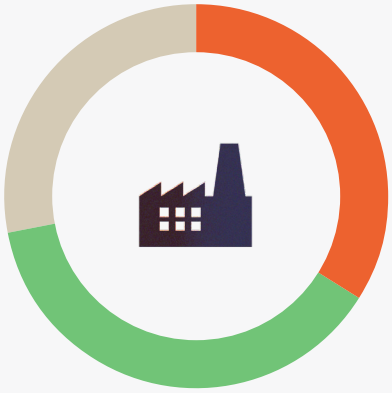
Total number and percentage of CDMOs per modality, and number and percentage of which focus on a single modality.



Geo Distribution of CDMO Manufacturing Sites

Global

1181 CDMO Manufacturing Sites



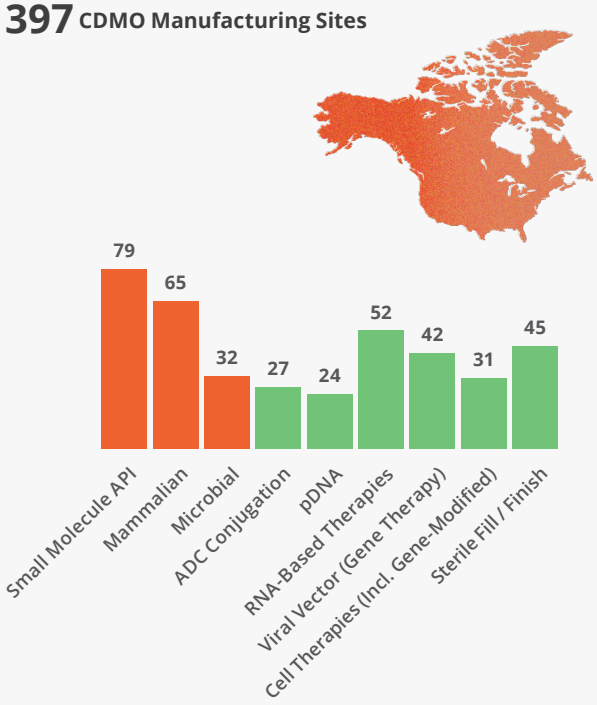
34% Americas

38% Europe

28% APAC

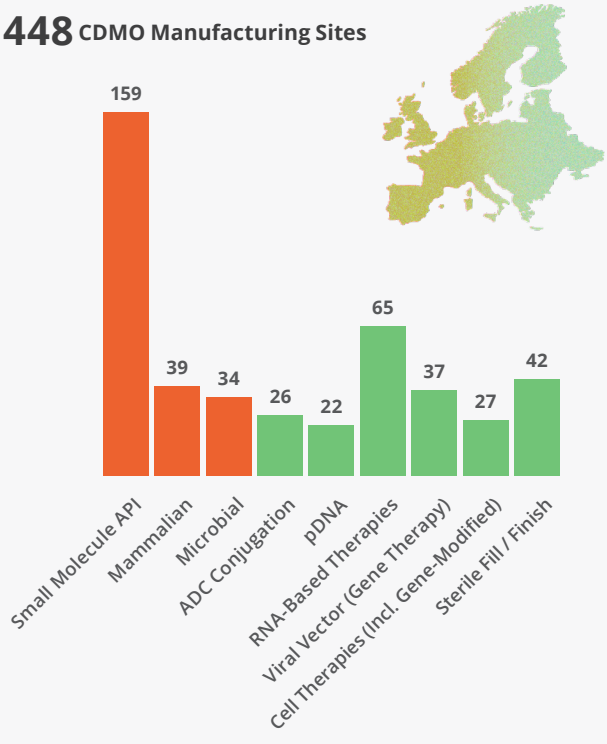
Americas

397 CDMO Manufacturing Sites



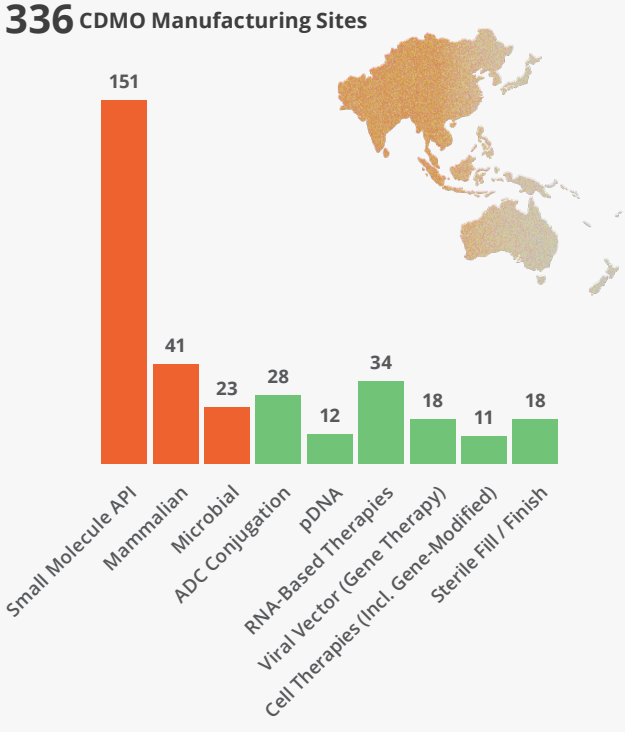
Europe

448 CDMO Manufacturing Sites



APAC

336 CDMO Manufacturing Sites



Small Molecule APIs

Small molecule active pharmaceutical ingredients (APIs), especially high-potency compounds, have experienced reshoring and increased demand, yet face price erosion and sustainability hurdles. It is no real surprise that 31% of CDMOs have the capability to manufacture small molecules, directly following the trend within the drug development space, dominated by this mature modality type. Of these small molecule CDMOs, 60% are solely focused on this single modality. Regionally, Europe and APAC dominate the landscape for API CDMOs, with less than 20% located in North America. Within APAC, 58% of API CDMOs are in India, with a further 31% in China. This geographic manufacturing distribution reflects the historical dominance of the European pharmaceutical sector and the presence of large-scale commercial API plants.

Nigel Walker
Founder, That's Nice

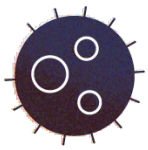
"Having fewer small-scale U.S.-based API CDMOs means that this market has almost reached critical mass, limiting innovators' choices for 2025. SK pharmteco, Cambrex, and Curia are really the only viable U.S. choices. The opioid crisis has driven generic pharma companies from U.S. production, while India has continued to grow in dominance globally."

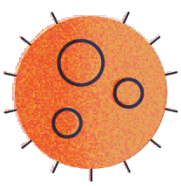
Sophie Lutter, Ph.D.
Scientific Strategy Director, That's Nice

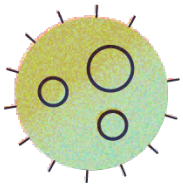
"While European facilities still dominate the API space, APAC is only just behind. I expect to see this switch in coming years, since the CapEx required to modernize older European facilities is extensive and may eventually price some players out of this market. Additionally, higher manufacturing prices in Europe have historically been considered a worthwhile investment for higher-quality output; however, this is no longer so clear cut, as manufacturers in other regions, most notably India, invest in state-of-the-art manufacturing equipment and quality management systems (QMS), while continuing to offer lower manufacturing costs."

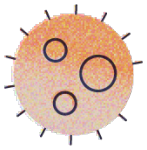
Daniel Smith, Ph.D.
Chief Scientific Officer, That's Nice

"The tariff war started by the new U.S. administration will result in winners and losers across the CDMO landscape during 2025 and beyond. Overall, the sector will reposition and develop sourcing options from multiple suppliers across different regions, seeking alternatives in Southeast Asia, India, or Latin America to reduce reliance on China. The development of certain modalities requiring small molecule APIs, such as ADCs, are already ahead of the curve, as a large number of CDMOs for the production of API already exist in low-cost geographies such as India, as well as the traditional CDMO base across Europe."









Sterile Manufacturing and OSD

Sterile fill-finish capacity remains constrained, driving investment in automated, flexible manufacturing for injectables, especially prefilled syringes. There are 57 CDMOs that offer dedicated sterile fill-finish and operate across 105 sites globally. This doesn't include a further 105 drug substance companies who offer fill-finish for their own clients or as a standalone service. Due to regulatory requirements for defining manufacturing country of origin, and the respective value associated with this important step in the manufacturing life cycle of a drug, 82% of these dedicated aseptic manufacturing sites are in North America (42%) or Europe (40%). In 2025, the biopharma industry — and by association its CDMOs — may need to reconfigure their global supply chains to maximize resilience around tariff challenges created by the new U.S. administration and potential retaliatory actions globally. Leveraging free trade zones to defer or reduce tariff payments will be especially valuable for those importing goods produced in low-tariff regions like India.

While the overrepresentation of fill-finish sites in the United States and Europe aligns somewhat with the distribution of manufacturing sites for advanced therapies, which exclusively use the sterile format (over 50% of CGT facilities are in the U.S.), OSD facilities are also overrepresented in the United States and Europe, especially if you consider that most API facilities are in India. This imbalance reflects a possibly underappreciated market trend towards onshoring drugs for tableting or capsule manufacturing.

The demand for OSD, especially modified-release and high-potency oral drugs, remains steady. The CDMO base for OSD production remains stable, and hot-melt extrusion manufacturing has the potential to become the next industry standard, not only as a solution to the escalating solubility issues in new pipeline APIs but also to simplify modified- and controlled release and abuse-deterrent formulations and fixed-dose combination tablets. 2025 could turn out to be a breakout year for OEB (Occupational Exposure Band) 3–5 capabilities, as cytotoxic formulations continue to provide high margins on smaller volumes. The United States and the European Union have all the capacity needed to supply demand with very few new facilities being required or built.

Nigel Walker
Founder, That's Nice

"2025 is the second year running for larger-than-expected capital investment from the private equity sector into sterile drug product CDMOs, with six new U.S.-based CDMOs receiving $200+ million in new funding for additional capacity, in addition to the $2 billion already committed from big pharma to support their pipelines. There has been a $50 billion announcement just from Lilly in the past 6 months, to build new facilities. This is by far most investment into any modality that we cover. However, expect a big shakeup in 2028, when GLP-1 drugs move to oral or capsule format."

James Grote
Research Director,
That's Nice

"Patient-centric focus of pharma companies, combined with the lower cost of at-home treatment has led to an increase in the use of pre-filled syringes (PFS). PFS manufacturing capacity is currently full, and investors are paying attention. A recent spate of acquisitions suggests more investments in sterile facilities are forthcoming. The popularity of PFS is also driving more work for the formulation development experts, as PFS formulations often require a higher concentration of biologic."

mAbs and ADCs

mAbs remain a stronghold, particularly with biosimilars and next-generation formats like bispecifics, but cost pressures and manufacturing scalability pose challenges. Globally, around 21% of the 400 CDMOs tracked by Nice Insight have the capability to manufacture mAbs, yet only 20% of these are focused solely on this modality.

ADCs are experiencing high demand, with ADCs emerging as an attractive investment due to a growing clinical pipeline and a slowly expanding roster of qualified manufacturers. CDMOs offering capabilities for ADC conjugation (44) make up just over 10% of the CDMO base, and the high demand for their services should make them relatively robust during 2025. Moreover, 90% of these CDMOs have other modality-based offerings as part of a diversified portfolio.

Despite the lack of new drug approvals in the last two years, the level of investment into ADCs means that manufacturing for this modality still represents a tremendous opportunity for CDMOs. Currently, there are only 10 CDMOs globally that have all of the mammalian, API, and conjugation capabilities required to manufacture an ADC, and even these organizations cannot serve all elements of the supply chain from a single country/location.

April Stanley
Senior Scientific Research Director, That's Nice

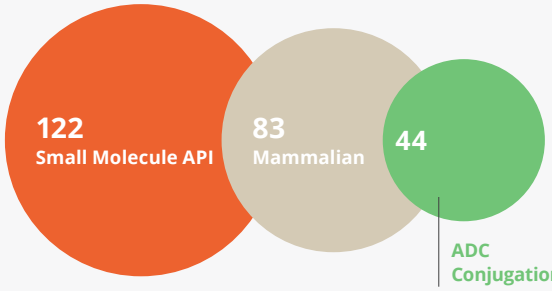
> "As an investor, I spent three years looking for a good drug delivery technology but never found one to recommend for the investment committee. The ideal tech would be simple, highly specific for a versatile range of targets, and applicable to a wide range of chemistries. Recent developments have led me to believe this tech is already well known to us: the antibody. Conjugating an antibody to a cytotoxin is just the beginning. Antibody–oligonucleotide conjugates (AOCs) have already entered the clinic. The chemistry of molecules we can conjugate appears to be unlimited, so I'm expecting to see new developments in the space for a wide range of indications far beyond oncology. One day, we may consider antibodies as our delivery mechanism more than the therapies themselves."

Daniel Smith, Ph.D.
Chief Scientific Officer, That's Nice

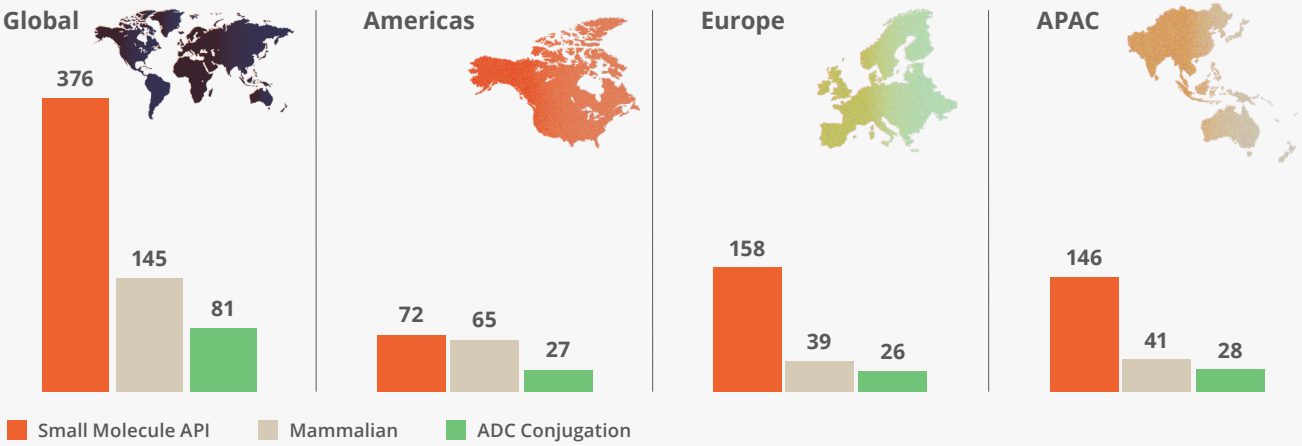
> "Market demand for the design, development and production of ADCs is expected to grow in 2025, and beyond, due in part, to a focus on enhancing tumor selectivity, potency, and overcoming resistance mechanisms. Those CDMOs that already offer integrated services for ADC development and production are predicted to succeed in the growing ADC market. CDMOs are now looking to bolt on, by partnership and acquisition, ADC design capabilities to help de-risk the supply and value chain for ADC commercialization."

Geo Distribution of ADC CDMO Manufacturing Sites

Number of CDMOs

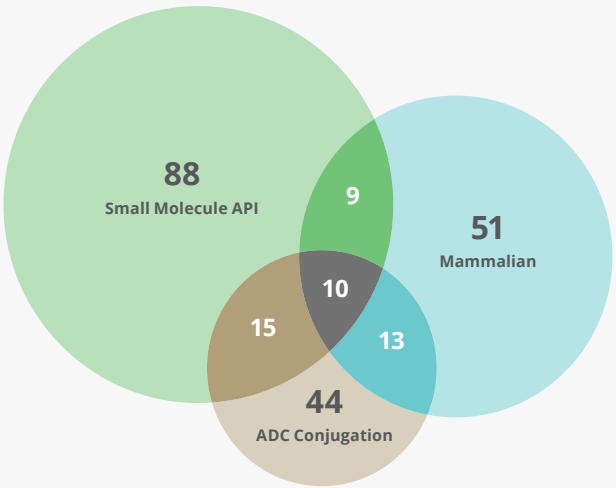


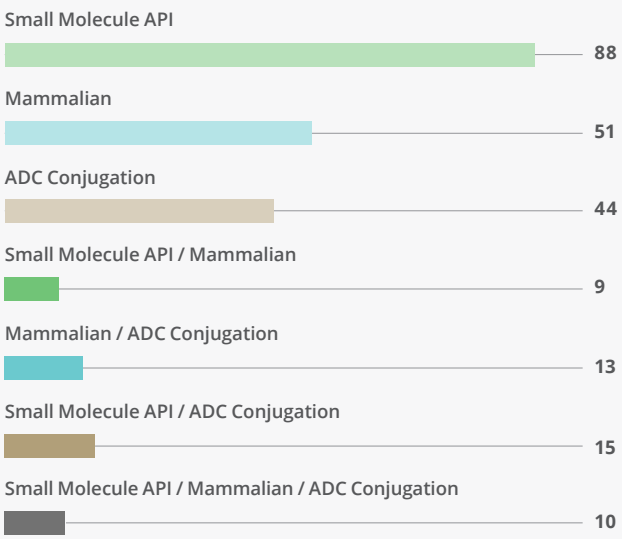
Av. Sites/CDMO

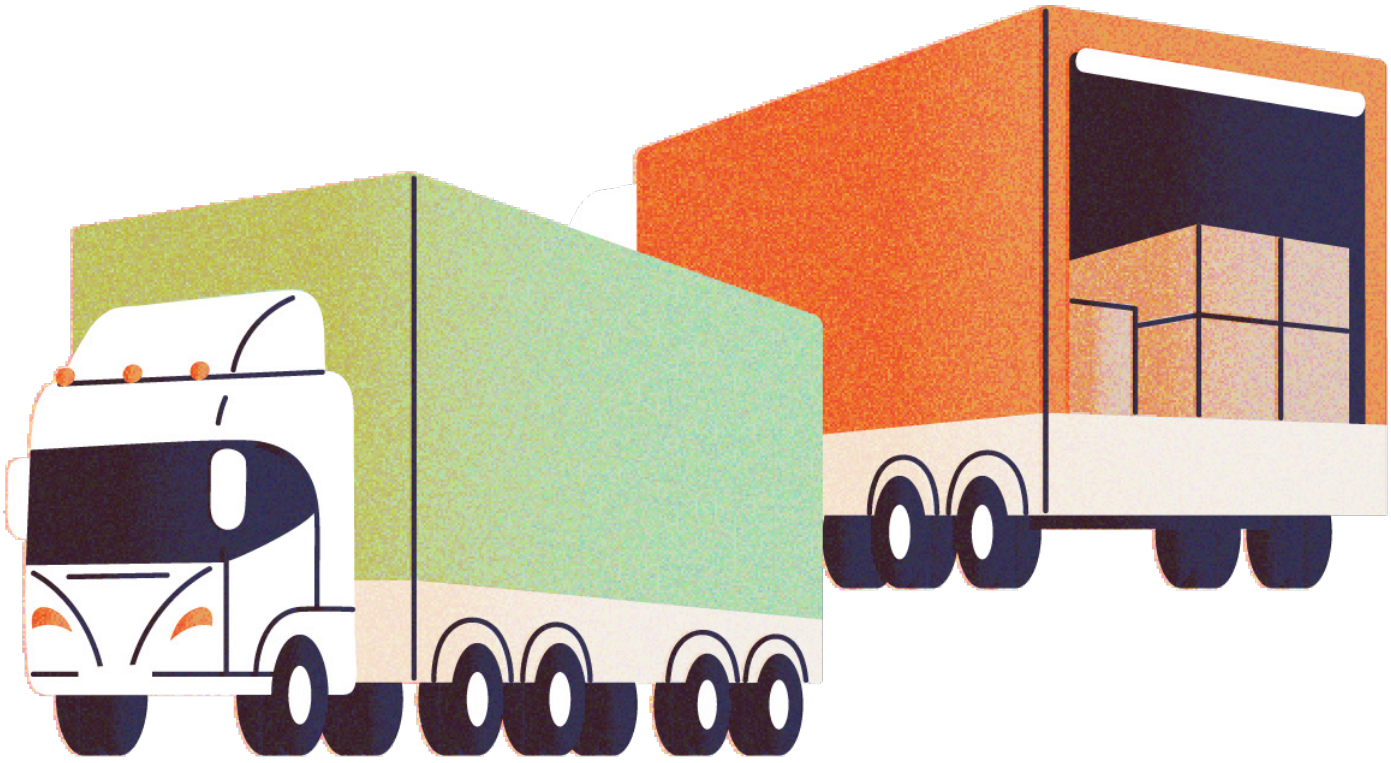


Supply chain for ADC manufacture

Bringing together all elements of ADC manufacture represents an untapped opportunity for CDMOs. Currently, only 10 CDMOs globally serve all aspects of the supply chain — none from a single location.







Tariffs and Trade Policy

Predictions and Pitfalls for CDMOs in 2025 and Beyond

Since the April 2 announcement of sweeping new tariffs on imports from China, India, the European Union, and other major trade partners, the rules of global pharmaceutical commerce have been in a near-constant state of flux. The situation has only grown more complex with the administration's recent decision to pause tariffs for 90 days on most countries — maintaining only the 10% broad tariff — while simultaneously escalating tariffs on Chinese imports. China's immediate retaliatory tariffs only deepen the uncertainty. This temporary pause offers little reassurance to CDMOs or their clients, as there is no clarity on what will follow when the 90-day window expires. It remains unclear whether the pause reflects a strategic de-escalation, a negotiation tactic, or merely a brief reprieve before a new wave of tariffs is implemented. While these tariffs may not yet directly target pharmaceutical products, their ripple effects are already being felt across supply chains, procurement strategies, and investment priorities.

CDMOs — already navigating constrained funding, regulatory headwinds, and shifting modality demand — must now further factor geopolitics and trade policy volatility, not to mention the profound unpredictability and seeming arbitrariness with which policies appear to be set, into their strategic planning. The threat of future duties on APIs, intermediates, and even finished drug products looms large, particularly for companies with deep reliance on operations or suppliers in regions newly subject to tariffs or retaliatory actions. Yet the challenge extends beyond the tariffs themselves. Conflicting statements from different arms of the administration — some framing the tariffs as a bluff to strengthen negotiating positions while others double down on their permanence — create an additional layer of uncertainty. This lack of coherence undermines the ability of companies to make confident long-term investments or develop stable mitigation strategies. Making matters more complex, the addition of new tariffs mere days after the sweeping April 2 announcement signals a willingness to escalate unpredictably.

Further compounding risk is the parallel political shift within U.S. health policy. The elevation of Robert F. Kennedy Jr. to lead the Department of Health and Human Services has triggered sweeping changes, including significant cuts to federal funding for life sciences R&D and the reorganization of agencies central to the regulation and development of new therapies. The administration's broad-brush approach to tariffs — seemingly disinterested in nuance or the role of carveouts for essential sectors like biopharma (over even agricultural products that simply cannot be grown in the United States) — only intensifies concerns that supply chain policy is being guided by myopic politics and personal grievance rather than pragmatism.

Even if finished drug products ultimately remain exempt from direct tariff enforcement — a point that remains fluid despite official assurances — the notion that this will insulate the industry from broader harm is dangerously simplistic. Virtually every pharmaceutical product — regardless of where it is formulated or packaged — depends on a vast and globalized network of inputs. Raw materials, APIs, excipients, processing equipment, chromatography resins, single-use systems, sterile filters, packaging components, shipping materials, and even software licenses are sourced globally. Many of these components originate in regions currently subject to the new tariffs, and there has been little evidence that such distinctions have been considered in the administration's trade planning. A White House fact sheet notes that pharmaceutical products will be exempt from higher country-specific "reciprocal tariffs," but a 10% broad-based tariff still appears to apply — and services provided by CDMOs are not covered by tariff protections at all. While India's pharmaceutical sector has welcomed a U.S. exemption from some targeted tariffs, and exemptions for other partners remain possible, this patchwork approach offers little assurance to global manufacturers.

Without a nuanced understanding of the biopharma manufacturing ecosystem, even well-intentioned exemptions for drug products may prove hollow. The cost, timing, and availability of the upstream components that underpin every dosage form remain vulnerable to disruption. For CDMOs and their clients, the challenge lies not only in anticipating tariffs that may directly affect them, but also in responding to the secondary impacts created by a system seemingly unwilling to accommodate complexity.

These developments reflect more than just a shift in U.S. policy — they mark a structural reordering of the global trade environment, with protectionism and national industrial strategies rising across the board. Whether or not biopharma remains directly in the crosshairs, the broader climate of economic nationalism and retaliatory trade behavior threatens to reshape sourcing strategies, compress margins, and challenge the foundational cost structures underpinning many CDMO business models.

Near-Term Implications

The most immediate consequence of the new tariff landscape is the likely increase in input costs for CDMOs, particularly for raw materials and active pharmaceutical ingredients (APIs) sourced from newly affected regions. While pharmaceutical ingredients may remain temporarily exempt, the interconnected nature of biopharma supply chains — where chemicals, reagents, consumables, and intermediates cross multiple borders — makes few organizations immune to trade disruption. Even the anticipation of tariffs has led some suppliers to preemptively raise prices, compounding uncertainty and budget strain.

CDMOs operating under long-term client contracts may be unable to pass these costs through immediately, compressing already-tight margins. This dynamic is particularly acute for high-volume, low-margin service providers, but even CDMOs supporting advanced modalities, such as antibody–drug conjugates (ADCs) or cell and gene therapies, may see rising costs and tighter delivery timelines. New customs requirements, inspections, and paperwork burdens may also delay key materials like sterile filters, single-use components, excipients, and specialty packaging. These delays are especially risky for sterile fill-finish operations and just-in-time production models, where even short disruptions can have knock-on effects throughout the value chain.

The lack of consistent guidance from federal leadership further complicates risk mitigation. Mixed signals regarding the longevity and scope of the tariffs inhibit strategic planning and stifle efforts to implement long-term solutions. CDMOs attempting to reconfigure their sourcing models or relocate manufacturing capacity find themselves gambling on policies that may shift with little notice.

Medium-Term Structural Adjustments

As the trade environment becomes less predictable, CDMOs and their clients are reevaluating geographic exposure and accelerating diversification strategies. While China remains a central player, the broader landscape now includes increased scrutiny of supply chains linked to India, the EU, and other high-volume trade partners. Companies are seeking sourcing alternatives in Southeast Asia, Latin America, and politically aligned countries that at least appear to be less vulnerable to trade retaliation or policy shifts. Well before April 2, domestic manufacturing initiatives had been gaining traction in North America. CDMOs with established infrastructure in the United States or Canada may benefit from sponsor efforts to localize critical production, supported in some cases by government incentives. However, the broader policy direction undercuts these incentives: massive R&D budget cuts, public skepticism of regulatory science, and a general lack of nuance in industrial policy threaten to make the United States less hospitable to advanced manufacturing, even as reshoring rhetoric intensifies.

Some firms are also expanding operations or partnerships in free trade zones and strategically favorable jurisdictions — such as Puerto Rico, Singapore, and Ireland — to maintain global reach while mitigating tariff exposure. These jurisdictions offer a blend of regulatory clarity, tax incentives, and logistical advantages that are becoming more valuable in the face of global fragmentation. Still, the rapid and erratic policy moves from Washington have made long-term investment decisions more difficult, even in these traditionally stable environments.

Winners and Losers

The emerging tariff regime is redrawing the competitive map for CDMOs. Those with geographic flexibility, technical depth, and digital transparency will likely be best positioned to navigate the turbulence ahead. CDMOs with operations spanning multiple jurisdictions are better insulated from unilateral trade shocks. Providers of high-value services such as high-potency API (HPAPI) manufacturing, viral vector production, and ADC conjugation benefit from limited substitutability and strong client dependence. North American CDMOs with capacity and regulatory readiness for onshoring may see increased demand, especially where reliability and political alignment matter.

On the likely losing end, at least with regard to servicing the U.S. market, will be CDMOs heavily concentrated in any single trade-exposed region, including China, India, or the EU, who face greater risk of disruption. Small to mid-sized firms with limited financial flexibility or supplier diversification may struggle to manage fluctuating costs or meet changing compliance expectations. Manufacturers lacking digital supply chain tools may be slow to detect and respond to shifts in lead times, costs, or material availability. And more broadly, all players suffer from the planning paralysis induced by inconsistent U.S. trade messaging and an absence of industry-specific policy nuance.

Industry Predictions for 2025–2028

The medium-term future will see CDMOs and sponsors investing more heavily in resilience and local supply chains. This will shape everything from partnership structures to infrastructure choices. We expect an increase in long-term strategic alliances focused not just on modality expertise but on regional flexibility and supply chain redundancy.

These partnerships will be built to withstand cross-border volatility and will include dual- or multisite manufacturing capabilities.

Modalities dependent on highly specific raw materials or consumables, such as viral vectors, specialty lipids, or advanced excipients, may be especially vulnerable to interruption. Many of these materials are produced in limited volumes by few suppliers, often in countries now caught up in trade disputes. Efforts to duplicate processes across multiple regions to hedge against trade instability will drive up the complexity and cost of tech transfers. Regulatory alignment, equipment standardization, and batch comparability will become higher hurdles, particularly in sterile manufacturing and biologics.

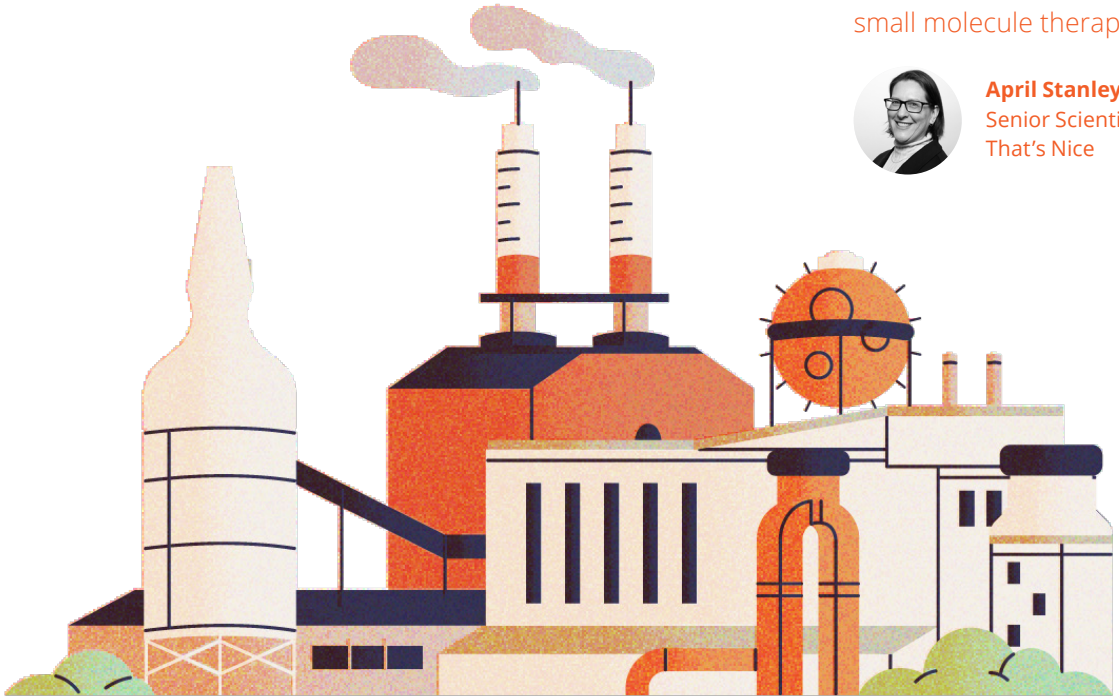
All of this will require a deeper, more proactive approach to regulatory engagement and operational planning. Companies that embrace complexity and build for flexibility — rather than simply reacting to short-term shocks — will be best positioned for sustained success.

Strategic Recommendations

In this era of trade fragmentation and political volatility, CDMOs must adopt a forward-looking posture to preserve competitiveness and client trust. The first step is to implement tariff scenario planning across multiple potential outcomes. Modeling direct and retaliatory tariffs, shifts in customs enforcement, and divergent regulatory interpretations can help identify vulnerabilities before they impact operations.

Second, CDMOs should prioritize supply chain redundancy. This means qualifying multiple suppliers across distinct regions, building strategic stockpiles where feasible, and avoiding overreliance on any one trade corridor. Geographic diversification should be supported by digital investments that increase transparency across tiers of the supply chain.

Third, digital infrastructure should be leveraged to track inventory, supplier performance, and logistics risks in real time. Integrated planning platforms and AI-based forecasting tools can help CDMOs pivot quickly when disruptions arise.



> The simple product origin labels belie a complicated supply chain. While media focus has centered on therapeutics, the consumables required to manufacture complex therapeutics represent their own supply chain web. Let's think about one as an example. Bioprocess bags are mostly made in the United States, but what about the specialized film, connectors, and tubing that comprise each bag? Some are made in the U.S., but major tubing and connector manufacturers are located in Europe. What about the raw materials comprising each of these components? The plastic pellets are often made in China from petroleum sourced in the U.S. or middle east. COVID highlighted a bottleneck for sterilizing the bags, as only a few companies provide gamma irradiation on this grand scale, and these are mostly located in Europe. If a bag is assembled in the U.S. and sterilized in Europe, is it "made in the USA" or is it subject to tariffs when it re-entered the U.S. market? Which of these raw materials or subunits will be subject to tariffs or incur an indirect price increase will be a difficult question to answer. The confusion around how tariffs are applied complicates costing forecasts for consumables — which can represent up to half of an early therapeutic batch and over 75% of a commercial small molecule therapeutic."

April Stanley
Senior Scientific Research Director,
That's Nice

The Rise and Fall of Advanced Therapies

RNA-based therapies and vaccines

RNA therapeutics are expanding beyond vaccines into oncology and rare diseases, requiring CDMOs with expertise in LNP formulation and cost-efficient manufacturing, although the ultimate commercial prospects remain in question.

Currently, there are around 80 CDMOs offering RNA-based services, either as a standalone capability (37%) or as part of other modality capabilities. The CDMO ecosystem for RNA-based services can be divided into three focus areas; those offering mRNA generation via *in vitro* transcription technology (IVT); those with chemical synthesis of oligonucleotide RNA; those offering formulation of non-viral delivery and encapsulation technologies exemplified by LNPs; or the respective combinations of the three.

A total of 45 CDMOs offer mRNA/IVT as a standalone service or combined with integrated LNP encapsulation services. However, only ~20% of these have large-scale capacity suitable for vaccine production. The remaining 80% have capacity that is best suited for therapeutic mRNA production.

RNA-based product development stalled in 2024, with only three approvals, down from 10 in the previous year, This was reflected in the CDMO market, where many mRNA-focused CDMOs were competing for a limited number of clients; a situation that will remain, and likely worsen, throughout 2025.

For the 30 CDMOs offering synthetic RNA services, the situation is not as bleak, as the antisense oligonucleotide (ASO) and RNA interference (RNAi) pipeline appears more robust, and production capacity overage is smaller than for mRNA. These CDMOs are perhaps more resilient, due to the differing cost structures involved in running banks of automatic chemical synthesizers typical for oligonucleotide production compared with operating a manual-based clean room approach for mRNA/IVT manufacture. It's notable that only five CDMOs are completely diversified across the mRNA, synthetic, and LNP capability space.

Nigel Walker
Founder, That's Nice

"2025 is all about survival for CDMOs or those divisions of companies suffering the decreased demand for mRNA or LNP drug substance. Since the 2020 COVID explosion into mRNA-based vaccines, the RNA therapeutic market just hasn't opened up and demand is very low. My advice is to diversify out of mRNA."

April Stanley
Senior Scientific Research Director, That's Nice

"Our survey of RNA-based clinical trials illuminated a bifurcation in the needs for mRNA manufacturing. Supply of mRNA for vaccines should more closely match the typical batch processing familiar to most biologics CDMOs, while supplying rare disease trials in tiny, infrequent doses could be served with a model approaching the CAR-T supply chain. I've wondered if the CAR-T CDMOs, many of which are currently struggling for clients, could find a surprisingly efficient bolt-on to their models by supplying mRNA for rare disease drug developers."

Geo Distribution of Advanced Therapies (RNA and Gene and Cell Therapies) CDMO Manufacturing Sites

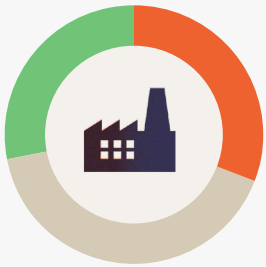
Number of CDMOs

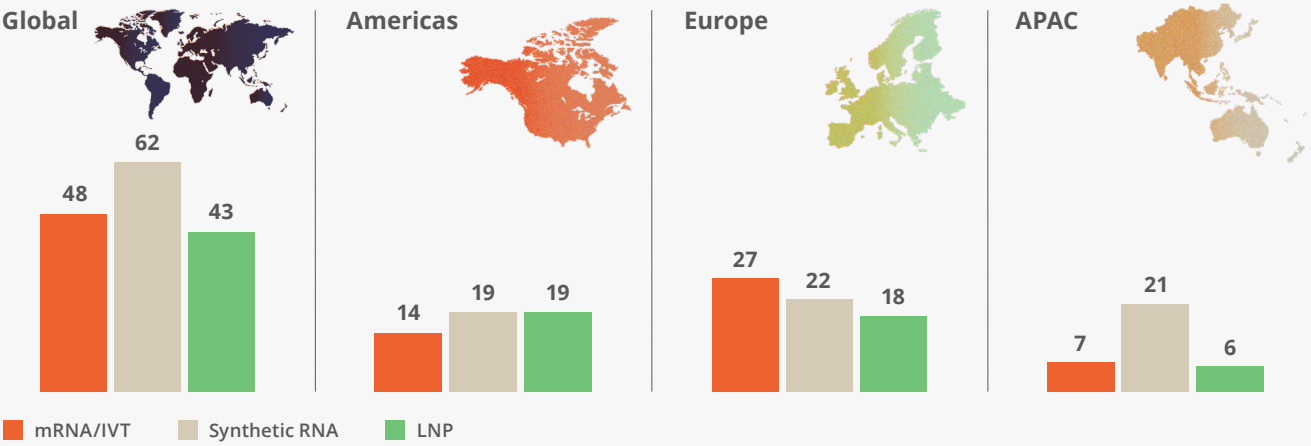
% sub-modality sites

31% mRNA/IVT

41% Synthetic RNA

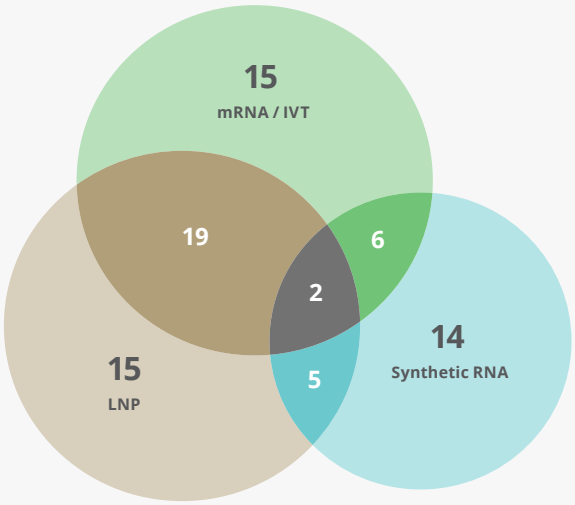
28% LNP

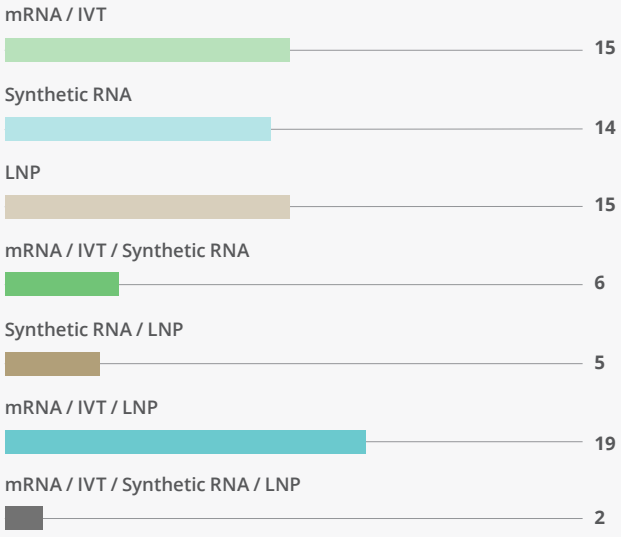




Integrated and Standalone Services Offerings

79 Total Number CDMOs





Cell and gene therapies

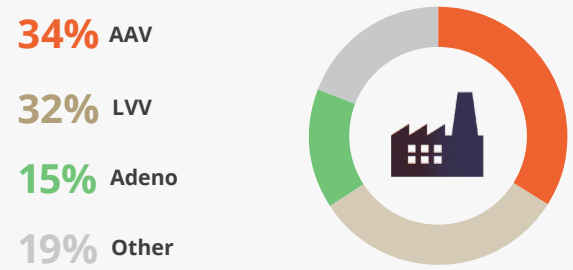
The global CDMO Landscape for cell and gene therapy (CGT) currently comprises 67 CDMOs offering viral vector–based capabilities from 92 manufacturing facilities, and 51 cell therapy CDMOs running 63 manufacturing sites. Since 2020, eight gene therapies have obtained commercial approval, compared with 14 cell therapies, and at the end of Q4 2024, nearly 60% of CGT products in the development pipeline were for *ex vivo* gene-modified cell therapies. Considering the manufacturing landscape, the funding conditions and the development pipeline, it would be simple to expect that those CDMOs offering cell therapy–based services should fare better than those offering gene therapy services during 2025. However, deeper analysis of the CGT CDMO sector reveals a more nuanced position, especially considering differences among the types of viral vector and the interdependent nature of pDNA and viral vector supply for *in vivo* gene therapy products, as well as that of pDNA, viral vectors, and cells for *ex vivo* gene-modified cell therapies.

The CDMO landscape for viral vector manufacture divides between those vector types more suited to *in vivo* gene therapy (adeno-associated virus (AAV), herpes simplex virus (HSV), adenovirus), and those employed mainly for *ex vivo* cellular modification (lentiviral vectors (LVV)). Ninety percent of CDMOs offer vector production for *in vivo* usage, and 80% offer LVV production for *ex vivo* modification, with 40% offering vectors across all types. This diversification across virus types provides a degree of robustness in today's market and supports establishment of a core capability set aligned with a fundamental technology platform. Most viral vector CDMOs also offer traditional viral-based vaccine manufacturing, which has kept their client base diversified in recent years. However, even this diversification may not be sufficient to weather the storm.

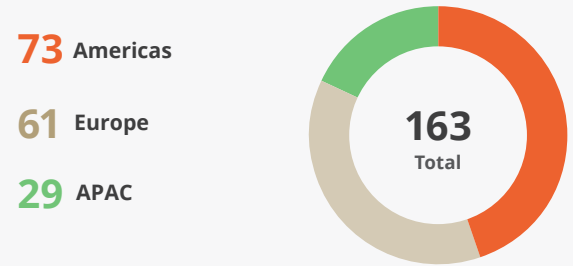
Many CGT CDMOs aimed to drive differentiation and build resilience by establishing integrated services across the supply chain. In the overall viral vector CDMO space, 31 companies offer an integrated pDNA and viral vector service. For *ex vivo* gene-modified cell therapies, 13 CDMOs provide the comprehensive set of pDNA, lentiviral vector, and cell therapy manufacturing services.

Geo Distribution of CDMO Manufacturing Sites

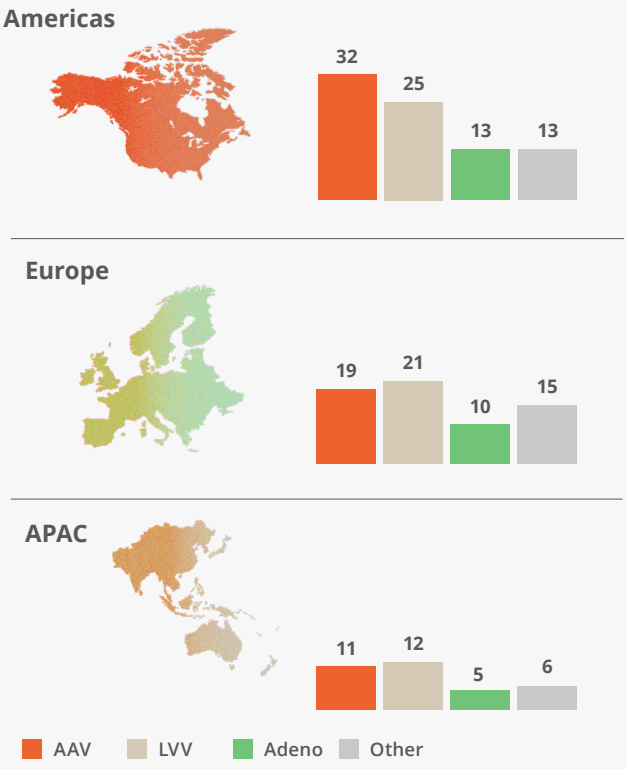
Facility split by viral vector type



Geo Distributions of Cell and Gene Therapy Sites

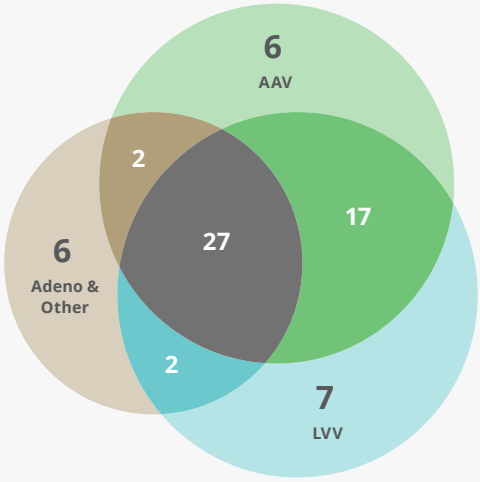


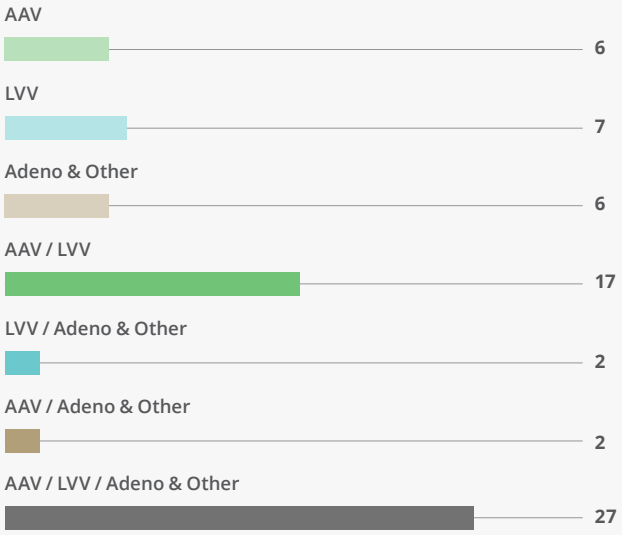
Geo Distributions of facilities split by vector type



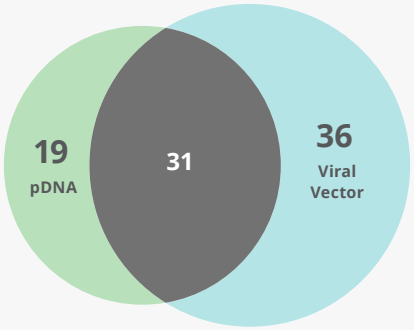
Viral vector capabilities

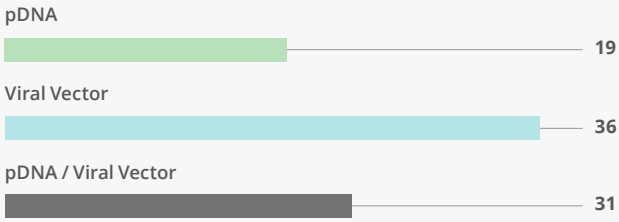
67 Total number of CDMOs



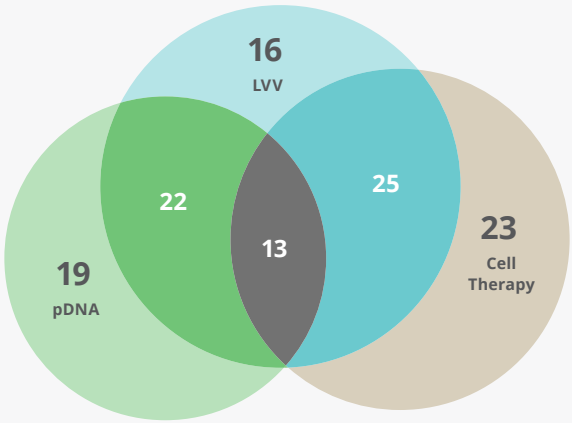


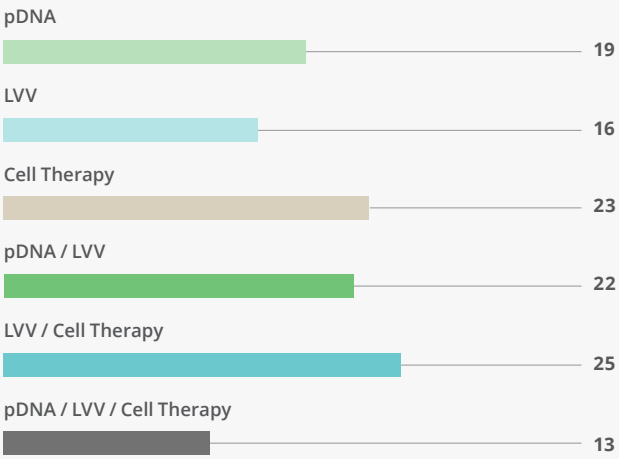
Supply chain integration for *in vivo* gene therapy





Supply chain integration for *ex vivo* gene-modified cell therapies



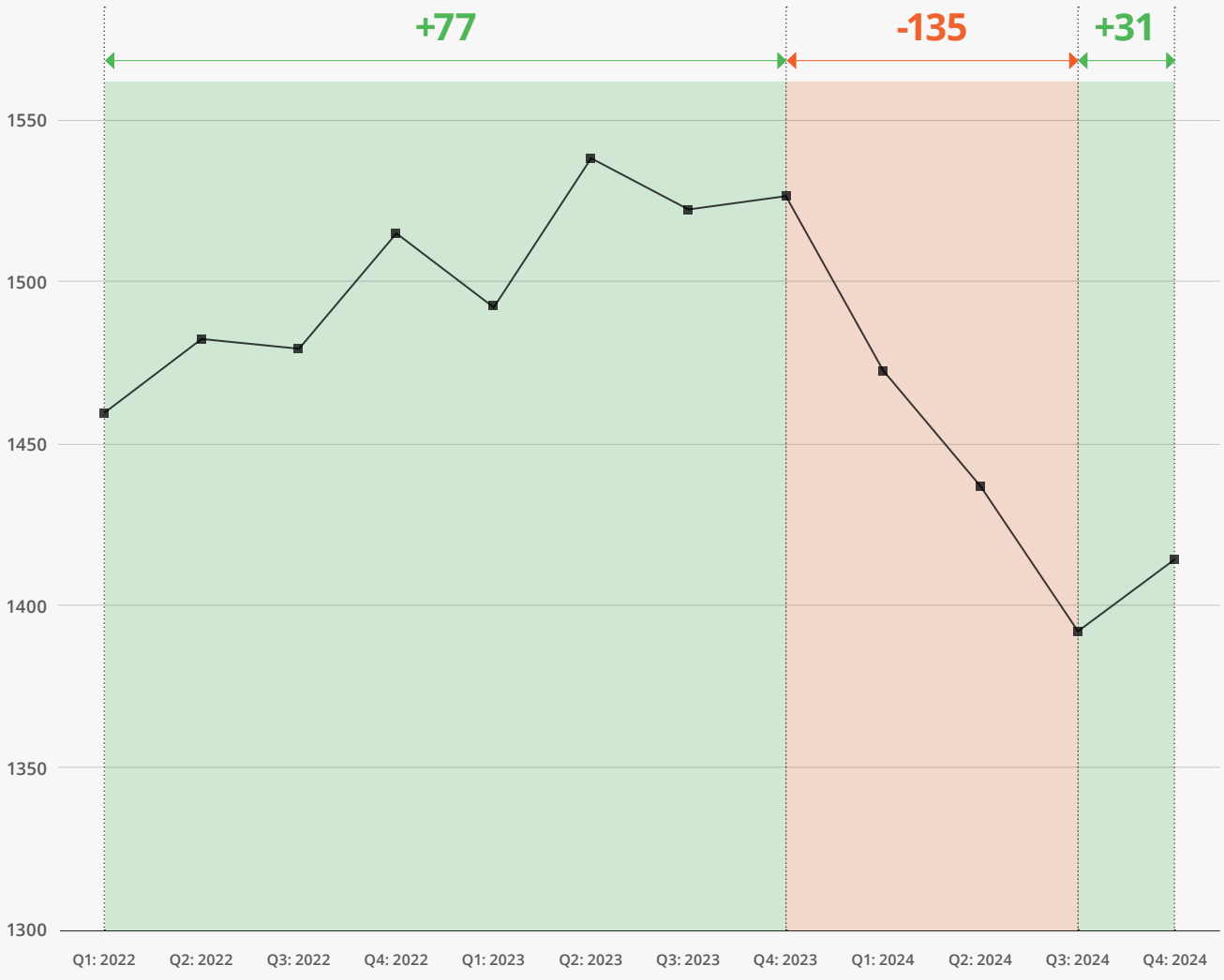


The CGT CDMO sector faced significant headwinds in 2023–2024 that are expected to remain well into 2025. Over a 12-month period starting in Q2 2023, the preclinical pipeline for CGT assets experienced a rapid 10% decline, reversing the trend seen in the previous years. It remains to be seen if a slight uptick in Q4 2024 indicates a path to recovery, and if so how rapidly the preclinical pipeline can restore clients to the CDMO sector.

David Alvaro, Ph.D.
Editor-in-Chief,
Pharma's Almanac

> Gene and cell therapy commercialization challenges remain, with pricing and reimbursement concerns slowing widespread adoption and no major solutions in sight. Allogeneic cell therapies, non-viral gene editing, and scalable viral vector manufacturing present opportunities for CDMOs with the right capabilities.

The cell and gene therapy preclinical pipeline 2022-2024



Daniel Smith, Ph.D.
Chief Scientific Officer, That's Nice

"The race to the bottom to promote faster timelines enabled by 'differentiated' AAV platforms touted by most gene therapy CDMOs during 2023 and 2024 was a low point for the sector. Any innovator worth their salt completely saw through the hype. Transient transfection will never be a robust, scalable, or cost-effective method for industrial AAV production. If we really want to drive more gene therapies through first-in-human trials and onto commercial approval while still realizing sufficient economic benefit to the buyers to enable patient access, CDMOs need to rapidly adapt their technology approach. CDMOs offering AAV services need to work together to standardized early phase transient processes, while enabling the adoption of innovative technologies for cost-effective, larger-scale AAV production. CDMOs must focus on driving down the cost of production while driving up product consistency, quality, robustness and yield. Forget about having the fastest platform on the block."

Sophie Lutter, Ph.D.
Scientific Strategy Director, That's Nice

"Viral vector CDMOs are currently experiencing a double whammy of trouble: a decrease in the preclinical pipeline and the consequence of overambitious capacity expansions following lucrative early exits for Brammer Bio and Patheon. The resulting market consolidation can be positive if it results in concentrating the still significant scientific expertise required to scale, manufacture, and commercialize these therapies into a smaller number of specialist CDMOs."

Nigel Walker
Founder, That's Nice

"The early-phase, clinical-focused CDMOs in AAV and LVV are expected to be flat for 2025. The winners are the companies like Genezen who have invested in commercial scale and acquired capacity to meet future demand. The organic growth model in gene therapy is proving very tough for companies like Forge Biologics and Andelyn Biosciences. Similar to gene therapy, 2025 is looking tough for cell therapies unless you have commercial or phase III contracts. The merger of Minaris and WuXi Advanced Therapies proves that the market is ready for consolidation."

The CDMO Talent Landscape

As medicine manufacturing becomes more advanced, CDMOs require a skilled workforce capable of operating and maintaining new technologies. Metric Search, a strategic partner to That's Nice, have provided the following insights into the CDMO recruitment landscape.

In 2024, CDMOs were heavily focussed on business development (BD) / sales recruitment. The combination of lack of funding and over-capacity meant that CDMOs had to rely on strong BD teams. Looking ahead to 2025, between funding increases, M&A, and leadership changes at large CDMOs, this will likely result in hiring for a greater variety of roles. As funding was restricted and layoffs in the biotech industry continued, on-site (technical and operational) recruitment was relatively easy in 2024. These roles may be harder to fill in 2025 as the industry stabilizes.

Aligned to the overall CDMO landscape, traditional biologics CDMOs are the most stable in the industry, and will continue to hire in line with steady growth. Similarly, small molecules remain a solid, low risk sector. Oligonucleotides, peptides, and ADCs offer career opportunities for a transition out of traditional modalities, as do mRNA and CGT (although these modalities are currently high risk). The biggest opportunities in 2025 are likely to be within sterile fill-finish, as Novo Nordisk's acquisition of Catalent removes a significant portion of U.S. fill-finish capacity. There are huge opportunities for expansion in this sector, with a correspondingly large talent gap.

Within the United States, Boston, San Francisco, and San Diego continue to be the most popular areas for commercial talent. These are therefore the most competitive and expensive markets. Meanwhile, Switzerland is the most expensive region to hire for (and the most complex for those without a Swiss entity) in Europe. Salaries in Switzerland are comparable to those in the United States, whereas salaries in all other EU territories outside of the DACH region (Germany, Austria, and Switzerland) are roughly 50–70% of those in the U.S. While many CDMOs still prefer BD team 'boots on the ground,' hiring commercial talent outside of key hubs to cover these territories could prove more cost-effective.

The BIOSECURE Act has significantly impacted the U.S. market for Chinese CDMOs, which has in turn created opportunities for Indian, Korean, and European CDMOs to expand their U.S. position. In turn, Chinese CDMOs are investing heavily in the European market, which may make hiring in the EU even more competitive.

Overall, we expect that mitigating risks to supply chains will lead to increased use of local partners in 2025, which may also impact M&A and site expansions and therefore hiring needs. An alternative strategy for innovators to manage supply chain risk is to partner with an end-to-end supplier rather than multiple specialist providers, which could result in a talent shift from single-focus CRO/CDMOs to comprehensive CRDMOs. Finally, 2024 was a big year for leadership changes at top CDMOs and large M&A deals, which means 2025 is likely to see structural and strategic personnel changes.

Sam McElroy
Global CDMO Recruitment Consultant, Metric Search

> "The best commercial talent will continue to be in demand in 2025. However, salary inflation is a real concern, so hirers could look at making variable offer packages more attractive to avoid a continued rise in base salaries. As the trend toward APAC based manufacturing continues, we'll start to see the consequences in the U.S. and EU markets in 2025."

The Role of Marketing in CDMO Valuation

While technological capabilities and operational excellence are critical to a CDMO's success, an often-overlooked factor in business sustainability and growth is the role of marketing and communication. As competition in the CDMO sector intensifies, differentiation is no longer solely based on technical capabilities but also on how well a company positions itself in the market. CDMOs that prioritize strategic communication and branding gain a distinct competitive advantage, enhancing both their client acquisition potential and overall company valuation.

A well-executed marketing strategy extends beyond conventional sales efforts, serving as a long-term investment in brand equity. By consistently showcasing thought leadership, engaging with key industry stakeholders, and clearly articulating their unique value propositions, CDMOs can strengthen investor confidence, attract high-value partnerships, and reinforce their market presence. The ability to effectively communicate expertise and innovation is now a crucial differentiator, particularly in an industry where trust and credibility are paramount.

Emilee Kudla
Associate Business Development Director, That's Nice

"In today's fiercely competitive CDMO landscape, consistent, clear, and compelling communication isn't just an option; it's a growth engine. Companies that define their brand with precision and lead the conversation not only build credibility but also attract key partnerships, command stronger valuations, and position themselves for long-term success."

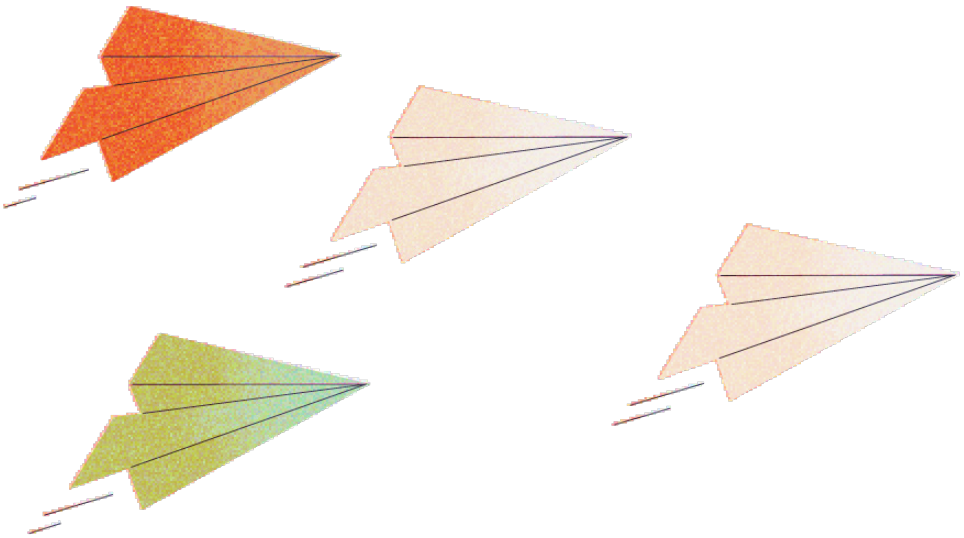
Sophie Lutter, Ph.D.
Scientific Strategy Director, That's Nice

"The CDMO landscape continues to be crowded, and true differentiators can be hard to come by. This is where brand marketing truly adds value; be bold, be memorable, and stand out from the crowd. Of course, what you say matters, but how loudly — and frequently — you say it can sometimes matter more. Not everyone will be looking for a CDMO all the time but staying visible and being memorable means, you'll stay top of mind when they do."

Conclusions and 2025 Outlook

Despite a tough 2024, demand for biologics services is still growing in the United States, according to GlobalData, while Evaluate Pharma forecasts that total R&D spend will increase by 4% in 2025. Biopharma funding also increased through the first half of 2024, so if this persists, and Federal Reserve interest rates continue to decline, it's likely that pipeline growth will gradually revert to historical norms in 2025. Taken together, this all supports a cautiously optimistic outlook for the CDMO industry in 2025.

Ultimately, established modalities, multi-modality CDMOs, and CDMOs supporting commercial products will find it easier to navigate the remaining market uncertainties. Meanwhile, single-focus CDMOs, especially those focused solely on advanced therapies — mRNA and viral vectors in particular — still have a challenging road ahead. We remain convinced that the development of new technologies to reduce manufacturing complexities and costs and to support targeted delivery of these advanced modalities will be key to unlocking the potential of these treatments and that CDMOs can play an active role in the necessary innovation.



Nigel Walker
Founder, That's Nice

"It looks like 2025 is the year for the synthetic/enzymatic DNA market to finally embrace the mainstream, with several CDMOs now offering this type of DNA production. Interestingly, the leading CDMO for microbially produced plasmid DNA, Aldevron, is entering this adjacent DNA production market."

Daniel Smith, Ph.D.
Chief Scientific Officer,
That's Nice

"Despite the various challenges and headwinds encountered during 2024 and those predicted for 2025, the medicines CDMO sector will continue to play an essential role in enabling new drugs to reach patients. However, CDMOs need to remain resilient in the short to medium term, and for some, continuing operations will be a matter of keeping their heads above water until such a time when funding returns in earnest. Inevitably, the sector will see more attrition in the CDMO base in 2025 and more downsizing in skilled talent and human resource"

The Nice Insight Team

Nigel Walker
Founder, That's Nice
nigel@thatsnice.com

Nigel founded That's Nice 30 years ago and has over 40 years' experience in entrepreneurial business management and sales and brand marketing and 10 years as an investor and M&A advisor to life sciences companies.

Prof. Daniel Smith, Ph.D.
Chief Scientific Officer, That's Nice
daniel@thatsnice.com

Daniel is a seasoned scientific business professional, with a dynamic 25 year career focused on driving innovation in the discovery, development, and manufacture of biologics and advanced modalities.

April Stanley, MS, MBA
Senior Scientific Research Director, That's Nice
april@thatsnice.com

April has 20 years' experience in life sciences biomanufacturing and venture capital, where she has gained a wealth of experience in corporate strategy, internal processes and workflows, due diligence and technical writing.

David Alvaro, Ph.D.
Editor-in-Chief, *Pharma's Almanac*
david@thatsnice.com

David has 17 years' experience in scientific publishing, including six at That's Nice, where he directs and generates market-relevant thought leadership content for *Pharma's Almanac.*

Sophie Lutter, Ph.D.
Scientific Strategy Director, That's Nice
sophie@thatsnice.com

Sophie has 12 years' experience in scientific communication, messaging, strategic marketing and content creation within the innovator biotech, CDMO and charity sectors.

Emilee Kudla
Associate Business Development Director, That's Nice
emilee@thatsnice.com

Emilee has spent 6 years at That's Nice, managing day-to-day relationships with strategic accounts and conducting new business development, with specialization in new product launches.

Cynthia Challener, Ph.D.
Senior Scientific Content Director, That's Nice
cynthia@thatsnice.com

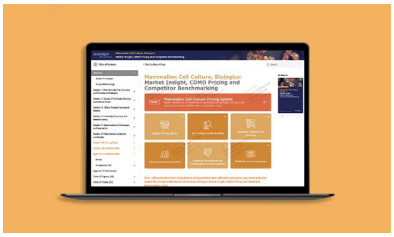
10 years at That's Nice. Over 30 years in pharma; Produces scientific content and assists in the selection of topics for *Pharma's Almanac*.

James Grote
Research Director, That's Nice
jim@thatsnice.com

Jim has spent nearly 30 years within the pharmaceutical industry on both the client and vendor sides of the business; in his 3+ years at That's Nice, he has handled primary & secondary market research, market analysis, and lead generation.

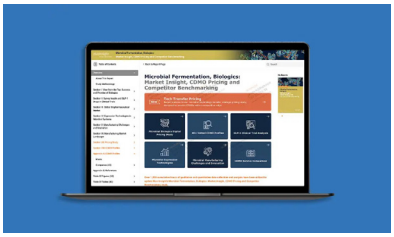
Nice Insight's Comprehensive over 400 Strong CDMO Digital Research Database

Nice Insight's advanced benchmarking database spans 10 critical Life Science modalities, profiling hundreds of CDMOs around the world and offering firsthand insight into your peers' and competitors' pricing. Licenses for each of these databases are available at 2, 5, and 10-seat packages, allowing your team to access an unparalleled wealth of industry information to refine portfolio strategies and identify market opportunities.



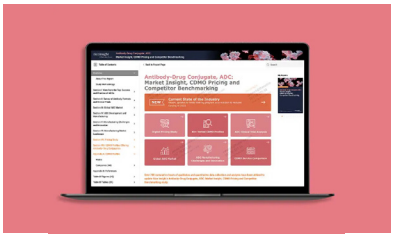
Mammalian Cell Culture Biologics Market Insight

+ 76+ CDMO profiles
+ Primary analysis of the mammalian clinical trial landscape, including payload types and the top sponsors
+ ADC manufacturing processes and areas of innovation



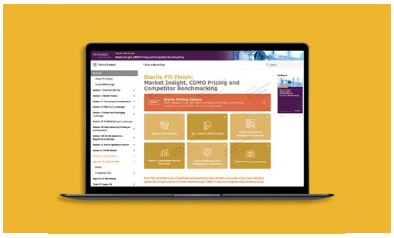
Microbial Fermentation Biologics Market Insight

+ 43+ CDMO profiles
+ Pricing for 80+ line items
+ Clinical trial analysis of insulin and GLP-1 agonists and top trial sponsors
+ Analysis of trends and challenges in microbial R&D and manufacturing



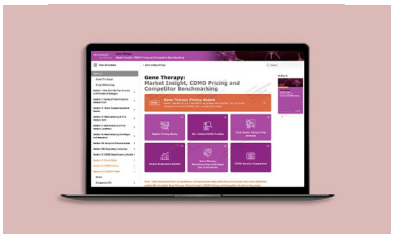
Antibody Drug Conjugate (ADC) Market Insight

+ 44+ CDMO profiles
+ Pricing for 82+ line items
+ Clinical trial analysis of bispecific modalities and top therapeutic targets
+ Analysis of trends and challenges in bispecific cell line development



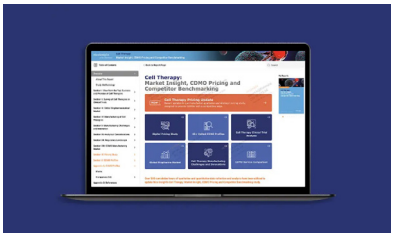
Sterile Fill Finish Market Insight

+ 70+ CDMO profiles
+ Pricing for 100+ line items
+ Detailed work package information on major NA/EU/APAC players
+ Insights into sterile fill regulatory challenges on the horizon



Gene Therapy Market Insight

+ 73+ CDMO profiles
+ Pricing for 66+ line items
+ Detailed work packages for major NA/EU/APAC players
+ Scientific analysis of gene therapy development applications

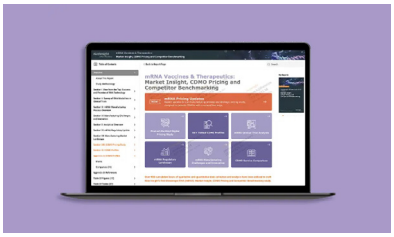


Cell Therapy Market Insight

+ 53+ CDMO profiles

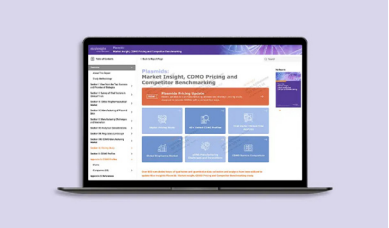
Pricing for both autologous and allogeneic cell therapy services

Scientific analysis of trends and new tools for cell therapy development and manufacturing



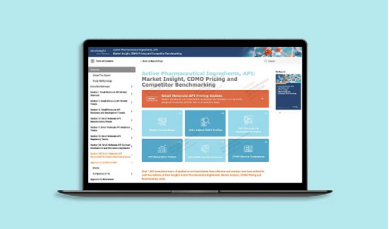
Messenger Ribonucleic Acid (mRNA) Market Insight

+ 74+ CDMO profiles
+ Pricing for 39+ line items
+ Survey of clinical trials currently being conducted
+ SME forecast of biotech fundraising



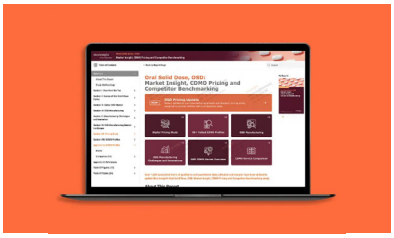
Plasmids (pDNA) Market Insight

+ 60+ CDMO profiles
+ Pricing for 4 grades of pDNA
+ Detailed work package information on major NA/EU/APAC players
+ Scientific analysis of pDNA as both a reagent and primary therapeutic



Active Pharmaceutical Ingredients (API) Market Insight

+ 116+ CDMO profiles
+ Pricing for 45+ line items (development through GMP)
+ 10,000-20,000 kg-scale case studies
+ Trend analyses around HPAPIs and the rise of small-volume manufacturing



Oral Solid Dose (OSD) Market Insight

+ 94+ CDMO profiles
+ Pricing for 14 OSD modalities with 3-8 manufacturing scales for each
+ Detailed work package information on major NA/EU/APAC players
+ Trends for high-demand OSD products

niceinsight

A That's Nice Brand

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New York, Chicago, Bristol, Raleigh, Oklahoma City, San Diego, Houston, London, Manchester, Frankfurt, Hangzhou