IDC MarketScape

IDC MarketScape: Worldwide Life Science R&D ITO Services 2024 Vendor Assessment

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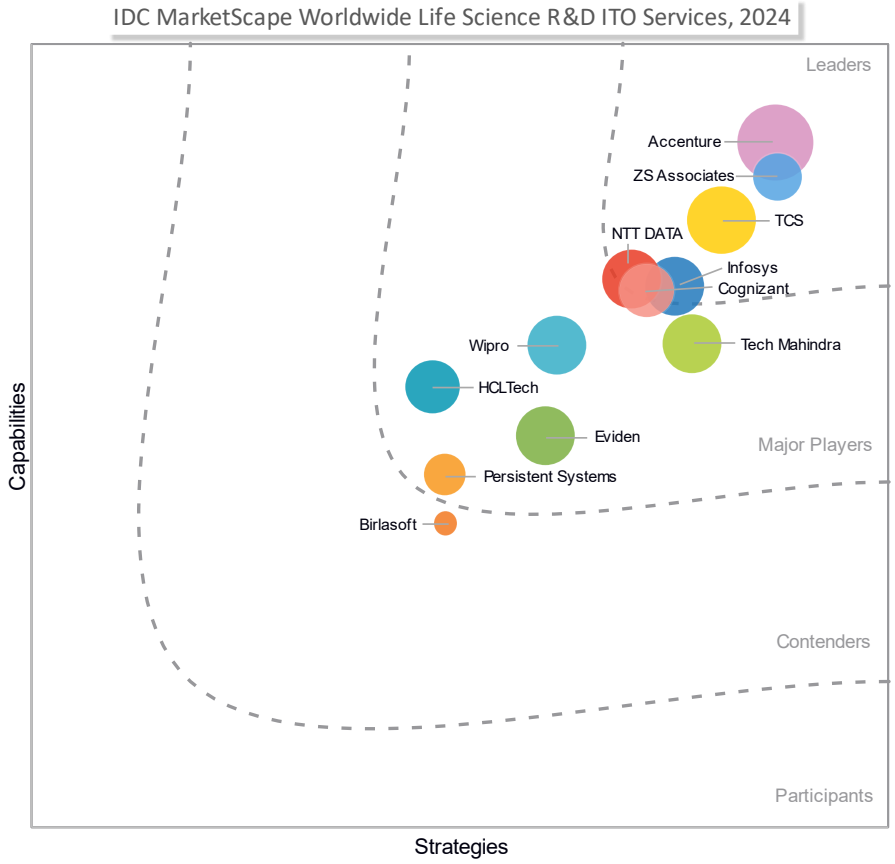
THIS MARKETSCAPE EXCERPT FEATURES NTT DATA AS LEADER

IDC MARKETSCAPE FIGURE

FIGURE 1

IDC MarketScape Worldwide Life Science R&D ITO Services Vendor Assessment



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Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

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IDC OPINION

If we thought that the storm was over post the COVID-19 pandemic, we were mistaken. These continue to be turbulent and disruptive times. The life science industry has been dealing with a multitude of challenges, including volatile macroeconomic trends, disappointing study results, patent cliffs, and M&A activity, leading to reorganizations/restructuring, resulting in budget cuts, and negatively impacting IT spending. This has also led to a focus on resiliency rather than on growth and innovation.

There is another revolution taking place as well, the GenAI revolution, which has certainly taken the world by storm. The expectations from IT partners are changing. There is an expectation that IT partners will step up and not only implement AI solutions but also serve as critical counsellors and partners for the life science industry, helping customers outline their overarching AI strategy, establish governance models, build frameworks to prioritize use cases, reengineer business processes, ensure data security and privacy, build responsible AI frameworks, and embed AI within the digital transformation process. While AI takes center stage, investment in predictive AI, followed by interpretive AI, continues to lead the way. Yet, two-thirds of the life science industry plans on increasing its spend on GenAI in 2025, as compared with 2024, with about 40% increasing it by 10–24% and about 20% increasing it by more than 25%. First, this indicates that while predictive AI still leads the way today, GenAI holds the promise for tomorrow and adoption is already scaling rapidly.

The current focus is on leveraging GenAI for low-risk, high-return use cases that scale productivity fast. The future vision is to leverage it to drive disruptive innovation in areas such as drug discovery. It's about multimodal and multimodel. The industry is figuring out the choice of the right models, potentially large commercial ones or open source ones for more transactional use cases and small proprietary ones for niche use cases. While the focus is still majorly on public clouds, there is a shift back to on premises or to private cloud for use cases that handle highly sensitive intellectual property (IP). Escalating costs have also become a major concern. In 2017, the cost for training the original transformer model was $900. Today, the training costs for

OpenAI's GPT-4 and Google's Gemini Ultra are estimated to be around $78 million and $191 million, respectively, as reported in the *AI Index 2024 Annual Report* by Stanford University.

Today, it's all about enterprise AI, it's about embedded AI, it's about AI platforms and AI agents, it's about the democratization of AI. And AI is all about data. From being described as a "patient centric" industry, the life science industry has become a very "data centric" industry. The availability of high-quality data is critical to training large language models. To quote Joshua Wang, head of IT and Digital at Sanofi, "Data readiness, data maturity, and data governance — the data foundation must be very strong to prepare for AI/GenAI implementation. If you're not there, don't talk about AI."

Sourcing data is another challenge. With regulators endorsing the use of real-world data (RWD), it has skyrocketed in importance. IT partners play a key role in building unified, multimodal data platforms to streamline data flows and drive interoperability, architect knowledge graphs that connect the dots, create function-specific packaged data and analytics solutions that generate real-time insights, and design the right data governance models. Concerns prevail regarding the paucity of data, and on the side, there is a focus on developing synthetic data to address this need.

Sustainability is also a critical focus area. A study conducted by the University of Amherst in 2019 indicated that training a single AI model would generate no less than 626,000lb of carbon dioxide. Companies need to establish strategies to evaluate the green "maturity" of their AI projects and implement "demand shifting" strategies, such as spatial shifting and temporal shifting.

Further, it is important to remember that this is an ecosystem play. One needs to bring in multiple players and multiple technologies. Multiple technologies are colliding to deliver outcomes. IT partners will need to bring in system thinking — the ability to integrate multiple technologies and to integrate them to unlock business value. Last, building trust and transparency is essential. To quote Kim Branson, PhD, global head of AI and ML at GlaxoSmithKline, "We need to make reasonable attempts to address all of the ethical issues, and that's before you even write a single line of code." IT partners need to demonstrate the use of explainable AI, and they have responsible AI frameworks in place to prioritize patient safety and improve clinical outcomes. These will be foundational to the success of a partnership.

IDC MARKETSCAPE VENDOR INCLUSION CRITERIA

IDC frequently has unique visibility into vendor selection processes within life science companies through clients and contacts in the industry. For a vendor to be considered

for inclusion in this study, the vendor's services must have been significantly evaluated for the potential to engage clients within the target IDC MarketScape space.

The key inclusion criteria included:

- Vendors should have at least 5 customers for their ITO offering for a duration of at least 12 months as of January 1, 2024.
- Vendors should have a minimum revenue of $200 million.

Further research and due diligence were then conducted to narrow down the list of vendors to only those that IDC views as legitimate contenders for future deals within the life science R&D IT outsourcing (ITO) services space. The 12 life science R&D ITO vendors selected to participate in this study were:

- Accenture
- Birlasoft
- Cognizant
- Eviden
- HCLTech
- Infosys
- NTT DATA
- Persistent Systems
- Tata Consultancy Services (TCS)
- Tech Mahindra
- Wipro
- ZS Associates

ADVICE FOR TECHNOLOGY BUYERS

Successful selection of a single (or limited number of preferred) service provider depends on careful consideration of key criteria. Building on contributions from 12 major life science R&D ITO service providers, this study examines the life science R&D IT outsourcing vendor landscape today with a view toward expected growth over the next three to five years.

In IDC's view of the ITO ecosystem, key attributes that life science companies are looking for in their preferred service providers include:

- Breadth of life science R&D ITO services offered; depth of related application, platform, and project experience; and number of customers the vendor has served

- Geographical footprint and global delivery capabilities, level of priority and focus by the vendor on the life science R&D sector, and the vendor's pace of investment in related life science–specific capabilities
- Depth of business-related, industry-specific knowledge and the ability to apply this knowledge to improving client performance and success
- Foundational IT service capabilities, corporate financial stability, and the ability to accommodate different types and sizes of life science clients
- System thinking capabilities
- The ecosystem of partnerships that the IT vendor brings to the table
- Experience of the vendor in strategy and implementation of AI/GenAI solutions
- Experience in ensuring data security and ensuring compliance with data privacy and data sovereignty requirements
- The ability to ensure business continuity and drive digital resiliency
- Deep, proven life science–specific ITO capabilities
- An understanding of the life science business at both company and tactical levels
- The ability to effectively scale up engagements in a timely fashion (both onshore and offshore)
- Strong referenceable clients
- Practical understanding of application, platform, and infrastructure best practices that can be quickly translated into engagements to efficiently and effectively develop, maintain, and advance both industry-agnostic and life science–specific data, application, and platform needs
- Emphasis on quality over cost at a foundational level
- The ability to deliver a unified service capability over multiple service or geographical areas
- Commitment to growing partner relationships with companies through investment and flexibility as processes change and evolve
- Experience in business model reinvention strategy
- The potential to seamlessly expand services delivered across the broader business process, IT, and strategic consulting outsourcing landscape as part of preferred vendor relationships
- Compatible corporate cultures
- The ability to demonstrate accountability through outcome-based/risk-sharing pricing models

FEATURED VENDOR PROFILE

This section briefly explains IDC's key observations resulting in NTT DATA position in the IDC MarketScape. The description here provides a summary of the vendor's strengths and challenges.

NTT DATA

After a close evaluation of NTT DATA's offerings and capabilities, IDC has positioned the company in the Leaders category in this 2024 IDC MarketScape for worldwide life science R&D ITO services.

Headquartered in Tokyo, Japan, with its U.S. headquarters in Plano, Texas, NTT DATA has served the life science industry for over 26 years and is present in 50 countries and has 50 delivery centers. NTT DATA employs over 57,000 people, with about 4,200 dedicated to life science, with half focused on tech. Half of its life science R&D staff come from the life science industry and have an average industry experience of 15 years. More than half of NTT DATA's life science business is derived from companies with revenues below $50 million, with one-fourth of its customers coming from Europe and half from the United States, with the remainder from Japan and APAC. NTT DATA has over 90 life science customers, two-thirds of which represent pharma and one-third representing medical devices. Further:

- **Strategic initiatives:** NTT DATA aims to significantly expand the use of AI and GenAI across the entire R&D value chain, increase the use of real-world data combined with a cloud-enabled data platforms and experienced data scientists, increase its focus on offerings related to personalized and specialized therapies, and leverage the benefits of smart manufacturing (Industry 4.0) and digital supply chain for clinical supply. It invests $3.6 billion annually in R&D. This includes a spend on clinical research, remote surgery research, and manufacturing. Its key locations for expansion include the United States, India, and Germany. It is investing $4.3 billion on GenAI, some of which will impact life science. NTT DATA has six innovation centers across the globe, including an Innovation Studio located in Plano.
- **M&As/partnerships:** In 2022, NTT DATA acquired Aspirent, a United States–based data analytics and advisory firm. In 2021, it acquired Hashmap, a company that brings in technical expertise across modern cloud data environments, and Chainalytics, a supply chain consulting and analytics firm.
- **Pricing models:** NTT DATA offers a diverse portfolio of pricing options, including time and material, fixed price, unit/transaction-based pricing, co-innovation and gain share, and managed service pricing models.

Strengths

NTT DATA's strengths include the company's wide digital transformation capabilities, the scale and adaptability of its wide portfolio of IT delivery capabilities, its partnership ecosystem, and its co-innovation strategy. Its key differentiators include its focus on innovation and investment in R&D, global coverage, and project execution capabilities. Some of its key initiatives are its life science COE, expansion into real-world evidence (RWE)–based R&D analytics, and digital twins for biopharma manufacturing process. It is continuing to invest in its ServiceNow-based pharmacovigilance and medical devices complaints management platform.

It is upskilling its staff with a global training and certification program on GenAI. Its top 3 use cases where it is implementing AI in life science are Dolffia (NLP) for the search and query of RWD, morphological analysis of unstructured data (NLP) for improved patient treatment, and structured and unstructured data analysis for improved, faster, and safer drug discovery and development using LLMs.

NTT DATA's key solutions include "HCLS Insights Powered by Nucleus" (NTT DATA's Nucleus Insights platform that helps access, integrate, and analyze clinical trial data), its Evidence platform for life science, its GenAI-enabled enterprise medical device management platform, and its "Intelligent Automation for R&D" (a range of intelligent AI–enabled automation services for the connected lab ecosystem of the future).

One of NTT DATA's most complex ITO engagements involved serving as the single strategic end-to-end service provider for all aspects of global workplace services needs of a top global biotech, headquartered in the United States, since 2016.

"We chose NTT DATA for level 2 and 3 desktop engineering support, deskside support service, service desk, maintenance management, knowledge management, hardware leasing, all level 1, level 1.5 end user app support, and end-to-end mobility engineering support. At the end of the day, NTT DATA is an established provider for desktop engineering and desktop support. They could provide us with a high-level offering at a lower price point. Their global ability at hardware management, procurement, and warehousing made them a preferred choice. Their collaboration, their ability to understand requirements and to deliver against the same, their openness to feedback. They do really take quality seriously. From a workforce perspective, they are fantastic. They keep the lights — they are good executors. We transitioned from another vendor — it was a very complex transition. The transition was seamless. Most employees didn't even realize that they had transitioned — they did it very well. They are very strong at knowledge transfer (KT) and do a very good job doing volume forecasting. Their India-based support is fantastic — very high quality of language understanding. They do very well in the manufacturing space and ensure compliance and have a strong understanding of IT in delivery across the life science domain. An innovative solution

that they developed was remote support kiosks, onsite vending machines to provision and support with tech resources. They also put together a remote resolution call center, a virtual hotline for support. They are exceeding their SLAs every single month. From a service delivery perspective, things are going fantastic. I couldn't be happier," said the director, Information Systems, Enterprise Service Management, of a top global biotech.

Challenges

While NTT DATA is seen as good at execution, it should strengthen its innovation capabilities and its reporting against performance. Areas where NTT DATA should strengthen its footprint include predictive modeling, social media development, investigator/sponsor portal development, bioinformatics and -omics, clinical data warehousing, drug safety, and digital patient recruitment.

Consider NTT DATA When

Consider NTT DATA when you are seeking support from an organization with strong spectrum of global IT delivery capabilities, wide global coverage, strong desktop engineering and desktop support, good project planning and resource forecasting, strong capabilities in manufacturing and supply chain, its "HCLS Insights Powered by Nucleus" platform, its evidence platform for life science, its GenAI-enabled enterprise medical device management platform, its "Intelligent Automation for R&D" services, and its connected digital lab ecosystem.

APPENDIX

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

For the purpose of this IDC MarketScape, IT outsourcing (ITO) refers to the external contracting of IT functions, services, or projects to enable a company to transform its IT-enabled business processes, application services, and infrastructure solutions and leverage novel technologies to drive improved business outcomes.

Market Overview

The life science industry's transformational journey is as follows:

- It is an industry in transition; it is an industry in flux. There are too many questions that need to be answered: which model, what data, which data provider, which IT partner, and which cloud partner, public or private, hybrid, or on premises.
- AI is the lighthouse to unlocking productivity and scaling innovation.
- The AI identity threat prevails — the fear of a lack of control and the fear of being replaced are still high.
- Yet, the promise that AI holds beats everything else. The majority of the industry is all in to ride the AI wave.
- There is a critical focus on driving responsible, explainable, and ethical AI strategies.
- No single technology will drive success. System thinking will be essential to drive synergies.
- Costs, infrastructure, and energy remain a high concern.

- The life science industry is moving beyond proof of concepts to deployment.
- It is the era of enterprise AI and the agentification of AI. One will see the evolution of multi-agentic workflows (agent swarms), which will compete and collaborate with each other.
- AI will be embedded throughout the digital transformation process.
- There is a lot of pressure on IT partners to demonstrate cost efficiencies in IT operations with GenAI.
- Governance models for data and AI will be key.
- There will be a critical need to reinvent and realign business processes with the new AI use cases that are being deployed.
- The lens will shift from productivity gains (that will be a given) to differentiated experiences. Design thinking to optimize patient and provider experiences will take center stage.
- Outcome-based contracts are gaining importance.

LEARN MORE

Related Research

- *IDC PeerScape: Critical Insights for the Implementation of Generative AI in the Life Sciences Industry* (IDC #US52683124, November 2024)
- *IDC FutureScape: Worldwide Life Sciences 2025 Predictions* (IDC #US52618924, October 2024)
- *IDC's Life Science Industry Generative AI Survey, August 2024* (IDC #US52643224, October 2024)
- *The Critical Importance of an Ethical, a Responsible, and a Sustainable AI Strategy for Pharma* (IDC #US52474924, August 2024)
- *Generative AI Use Case Taxonomy, 2024: The Life Sciences Industry* (IDC #US52320024, June 2024)
- *Is Synthetic Data Becoming a Reality for the Life Sciences Industry?* (IDC #US52367524, June 2024)
- *Drivers and Roadblocks for GenAI Adoption in the Life Science Industry* (IDC #US51965024, March 2024)
- *IDC MarketScape: Worldwide Life Sciences R&D Lab of the Future Technology Solutions and Consulting Services 2024 Vendor Assessment* (IDC #US51925324, March 2024)

Synopsis

This IDC study is a refresher of the IDC MarketScape for life science R&D ITO authored in 2021. With a specific focus on life science R&D ITO, this document seeks to compare major IT service providers with each other, based on operational, business, and market-centric criteria that should be important to life science companies when considering the selection of an external service provider to take over IT activities driving digital transformation. IDC MarketScape assessment of IT outsourcing in life science R&D was previously performed in 2011, 2013, 2015, and 2018.

Dr. Nimita Limaye, research VP, Life Science R&D Strategy and Technology, IDC, notes, "The life science industry is in a state of transition. There is an ebb and a flow between the desire to move forward with modernization and the desire to curtail spend owing to significant economic pressures. Cloud strategies are evolving as we speak. AI is being embedded in every aspect of the digital transformation process, fueling a huge unlock for productivity. IT implementation partners are playing a critical role in guiding their customers on the implementation of enterprisewide, AI-enabled digital transformation strategies. Identifying and implementing AI use cases that demonstrate sustainable business value will be key, and this will need to be complemented by business model reinvention to drive success."

"GenAI is redefining the art of the possible for the life science industry. It is personalizing experiences. The ability to provide differentiated patient and provider experiences, powered by AI agents, will distinguish the leaders from the followers in the life science industry."

ABOUT IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group (IDG, Inc.).

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