IDC MarketScape

IDC MarketScape: Worldwide Life Science R&D ITO Services 2021 Vendor Assessment

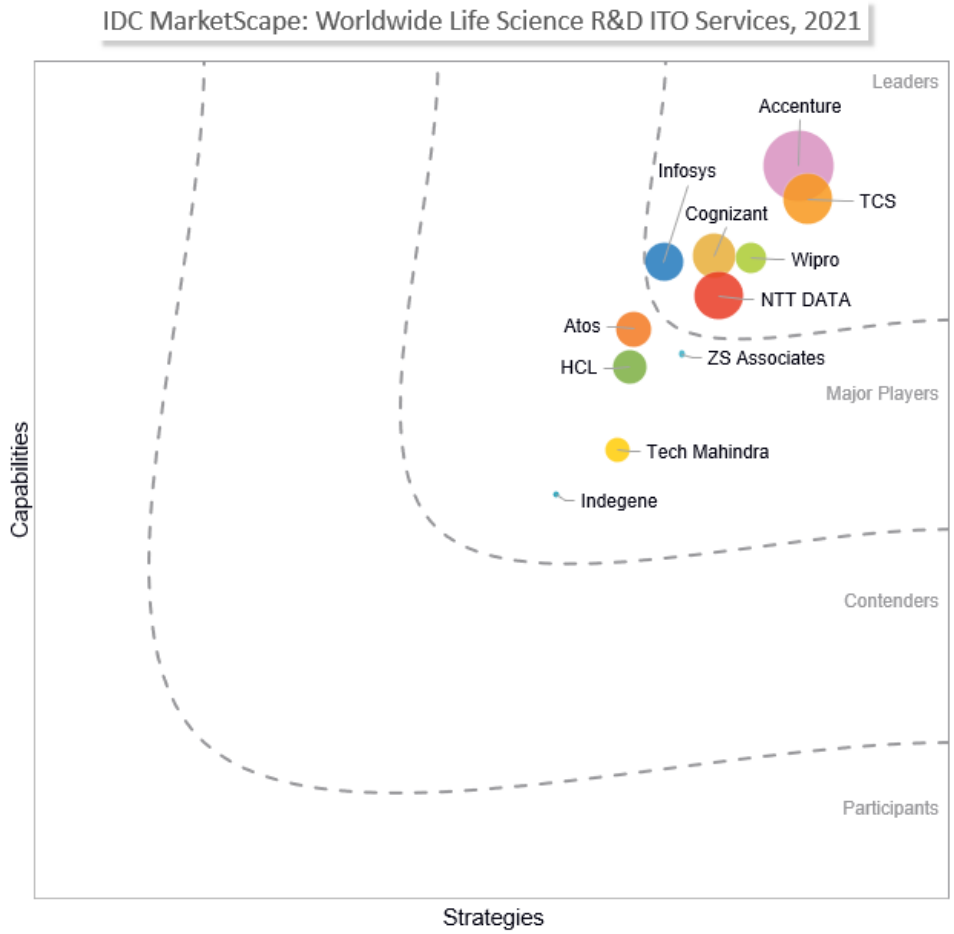
Nimita Limaye

THIS IDC MARKETSCAPE EXCERPT FEATURES ZS ASSOCIATES

IDC MARKETSCAPE FIGURE

FIGURE 1

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



Source: IDC, 2021

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

August 2021, IDC #US47455021e

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide Life Science R&D ITO Services 2021 Vendor Assessment (Doc # US47455021). All or parts of the following sections are included in this excerpt: IDC Opinion, IDC MarketScape Vendor Inclusion Criteria, Essential Guidance, Vendor Summary Profile, Appendix and Learn More. Also included is Figure 1.

IDC OPINION

There has been a significant change in the role of IT service providers in the past one and a half years. From service providers that would support much of the day-to-day IT infrastructure management, the COVID-19 pandemic has caused life science companies to lean on their IT service providers to provide strategic direction in ensuring business continuity during this critical time. The ability to "keep the lights on" has almost become a business-critical need, and those IT service providers that could not meet those criteria during the pandemic have come under the radar, and continuity of these partnerships may now be reevaluated.

The ask, however, has been more than that. The life science industry has looked at IT service providers to transition into being true partners that can provide mindshare in helping them craft their future road map to drive digital resiliency and provide innovative strategies and technologies to help them accelerate growth. As the world adopted a disaggregated care model and "patient centricity" gained critical importance, experience and expertise in implementing decentralized clinical trial solutions and in crafting remote patient engagement solutions have gained importance. The steady shift in focus on real-world data (RWD) from commercial to R&D had heightened the importance of partners that have capabilities in driving electronic data capture (EDC)-electronic health record (EHR) integration. As data has become the new gold, life science companies are now looking at their IT vendors to truly partner with them in helping them think through their strategies around data governance and data acquisition, including answering questions such as whether they should obtain data, or insights, or a data analytics platform, as well as with which companies should they be establishing strategic partnerships. IT service providers are slowly stepping into the territory which once used to be owned purely by strategic consulting companies, as life science companies value the ability of their IT partners to provide them with both the strategic direction and help them with integrating data and technology within existing workflows. Thus it is an interesting time, where IT service providers are seen to be building their strategic consulting portfolio to complement and enhance their IT offerings, while strategic consulting companies are growing their digital and data and analytics footprint.

IT services providers are now exploring newer territories such as *in silico* drug discovery, drug repurposing, the digitalization of labs to build the lab of the future, and the development of digital twins. The pandemic has brought to the fore the importance of collaboration and co-innovation and has led to the evolution of digital ecosystems. Thus expertise in implementing federated learning platforms and in providing data fabrics that can enable the secure and real-time sharing of data between cross-functional teams serves as a differentiator.

The life science industry, having seen a vaccine being successfully brought to the market in less than a year, is hungry to replicate these models and to accelerate innovation for other therapeutics. Therefore, partners with expertise in integrating robotic process automation (RPA) and AI/ML into their solutions and with well-established partnerships with cloud providers are becoming partners of choice.

Experience in agile implementation strategy has become a necessity, not a "nice to have," as speed and flexibility have become the need of the hour.

While the life science industry seeks IT service providers that can partner with them to provide accelerated and scalable solutions, a lot of the industry is wary about increasing its IT spend right now, given the challenges that the pandemic has posed. Thus the industry is looking for partners that can provide flexible modular solutions that can be rapidly integrated within existing workflows, without requiring significant investment in new platforms and solutions and the need to shelve existing legacy platforms.

The pandemic has served as a wake-up call to the life science industry. As the industry struggled to sustain and recoup, it has taken note of the partners that rapidly moved in to provide support and that made a true difference in these challenging times. One may expect to see a phase of consolidation, as pharma and biotech companies narrow down their partnerships, complementing these with partnerships with some of the many smaller start-ups that leveraged an excellent opportunity to bring in innovative solutions, which were the need of the hour. Thus IT service providers are also moving fast to establish these partnerships themselves to address this need.

While there are routinely a number of vendors with sufficient experience to effectively compete for RFIs, RFPs, and other service requests, it is important for companies to shrink the broad list of prospective vendors to a short list of three to five finalists based on a balanced scorecard that accurately captures specific company requirements and needs. Successful selection of a single (or limited number of preferred) service providers depends on careful consideration of key criteria. Building on contributions from 11 major life science R&D IT outsourcing (ITO) service providers (including the top 5 vendors by R&D ITO market share), 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. This is the third of three IDC MarketScape documents (BPO, ITO, and strategic consulting) examining IT outsourcing in the life science R&D space. When evaluating vendors, the key criteria IDC believes that life science companies should consider 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 ability to accommodate different types and sizes of life science clients
- Diligent vetting of customer references to examine vendor capabilities surrounding project management, IT technical skills, account management, and overall value delivery to clients

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. Further research and due diligence were then conducted to narrow

the list of vendors to only those that IDC views as legitimate contenders for future deals within the life science R&D ITO services space. Eleven life science R&D ITO vendors were selected to participate in this study:

- Accenture
- Atos
- Cognizant
- HCL
- Indegene
- Infosys
- NTT DATA
- Tata Consultancy Services (TCS)
- Tech Mahindra
- Wipro
- ZS Associates

ADVICE FOR TECHNOLOGY BUYERS

The pandemic has accelerated growth of IT outsourcing in the life science industry. It has also changed the lens through which the life science industry looks at IT service providers. Priority is being given to those that could ensure seamless business continuity during the time of the pandemic. The next most important criterion is the ability to accelerate innovation by providing strategic direction, complemented by technology implementation. Accountability, demonstrated through risk-sharing and outcome-based pricing models, is another driving factor.

All of these are complemented by the ability of IT service providers to provide solutions that will help them quickly adapt to evolving business models and drive new product development while complying with increasingly complex and growing regulatory compliance requirements. The life science industry is also monitoring the investment in R&D that IT service providers themselves are making to develop innovative solutions in newer areas, as these will be the partners that will provide technologies that will help them differentiate themselves. Hence, IT service providers are also continuously scanning the radar to stay ahead of the curve and build both technology and thought leadership, upskilling their internal teams and upgrading their technology portfolio.

As the life science R&D sector is literally exploding with innovative technologies and implementation models, it has become apparent that partnerships are key. Life science companies are choosing IT vendors that not only have strong internal capabilities, but those that have made the right choices in terms of their strategic partners, so that the partnership with the IT service provider brings compounded value to the table.

In an industry which is not currently interested in making major investments in IT, IT service providers that can provide flexible, modular solutions, agile implementation strategies, and outcome-based pricing models will be partners of choice. In a time of struggle and survival and in an industry that is trying to return to normal, IT service providers should cut the slack, move beyond transactional activities and conventional business models, prove their worth, and truly take their partnerships to the next level. This is an opportunity not to be lost.

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

- 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
- Flexibility in resourcing on a global basis, including availability of onshore/onsite for some needs and shadow resources to accommodate anticipated attrition
- 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

IDC recommends that life science companies also consider the following during their vendor selection include:

- The ability to regionally source external outsourcing resources in emerging regions as life science companies expand globally
- The ability to work effectively with multiple stakeholders (including competing service providers) to drive IT operational efficiency and effectiveness across organizational boundaries
- 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
- 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
- Established strategic partnerships with key players
- The ability to demonstrate accountability through outcome-based/risk-sharing pricing models

VENDOR SUMMARY PROFILE

This section briefly explains IDC's key observations resulting in a vendor's position in the IDC MarketScape. While every vendor is evaluated against each of the criteria outlined in the Appendix, the description here provides a summary of the vendor's strengths and challenges.

ZS Associates

After a close evaluation of ZS Associates' offerings and capabilities, IDC has positioned the company in the Major Players category in this 2021 IDC MarketScape for worldwide life science R&D ITO services.

Founded in 1983, ZS Associates (ZS) has been serving the life science industry for the past 38 years. The company, headquartered out of Illinois, United States, has a strength of over 9,000 employees, with 7,300 dedicated to life science and over 70% being functionally (domain) focused, demonstrating

ZS' strong domain orientation. ZS' ability to work at the intersection of technology, data sciences, and business serves as its differentiator. It has over 400 certified data scientists, big data and cloud technologists, and clinical and real-world data practitioners and over 100 MDs and life science Ph.D.s with R&D experience in more than 120 disease areas. Over 500 of its leaders have an average of 12 years in the life science industry. ZS does not have a sales team and focuses on true partnership development. ZS has invested over $75 million in R&D and is serving over 310 clients, with two-thirds representing pharma and biotech companies and one-third representing medical devices companies, with 50 clients specifically associated with R&D engagements.

ZS has a presence in 70 countries, with 28 delivery centers globally. Approximately 90% of its customers have revenue of over $1 billion. ZS Associates derives over 96% of its revenue from its life science business, with roughly 8% of this revenue coming from R&D-focused engagements and has shown a healthy CAGR of 16% over the past 20 years.

Strategic Initiatives

Clinical development excellence, medical affairs, real-world evidence, biomedical research, and global health economics outcomes and research are key focus areas for ZS. ZS has built an advisory board of pharma leaders to help guide its strategy. The company is integrating life science, information sciences, and management science to guide its strategic capability. It has launched a data science and AI/ML center in India to strengthen these capabilities and is investing in building its expertise in digital and connected health.

M&As

ZS has made three small acquisitions to enhance its products and offerings. In March 2017, ZS acquired Meetings Analytics, a boutique consulting company. In December 2017, ZS acquired certain assets related to BASES Pharmaceutical Forecasting for use in its business. In February 2018, ZS acquired Braincase, LLC, a consulting company focused on consumer behavior and marketing strategies. ZS recently acquired Medullan, a leader in digital health and digital medicine strategies, to enhance digital health solutions for better patient outcomes.

Pricing Models

ZS primarily leverages a fixed fee model. Less than 5% of its contracts currently involve risk sharing.

Strengths

ZS focuses on building strategic advisory relationships, working with clients from ideation through prototyping and the development of reusable accelerators and focusing on a flexible engineering approach and deep UX consideration, frequently co-investing in accelerator development.

ZS' three key areas include R&D, analytics services, and digital and technology, complemented by its strategic consulting capability, and they account for one-fourth of ZS' life science spend. ZS' differentiators include its strength in niche areas such as predictive modeling, therapeutic/disease area strategy, translational research strategy, clinical study and budget management, integrated study design feasibility, IT system blueprinting, and analytics/BI application development and data mining. While ITO represents one-third of ZS' business, ZS is focused on innovation, with over 50% of its ITO business including an innovation and an IP component and one-fourth of its R&D ITO work powered by AI. ZS' strength lies in the proprietary AI and advanced analytics-based accelerators that it has developed for diverse applications ranging from protocol digitization and biomarker intelligence for clinical trial feasibility optimizer (CTFO), cloud-based feasibility data hub and design optimizer

solutions (Design Intelligence and Study Design Optimizer [SDO]and Clinical Trial Enrollment Modeling and Prediction [c-TEMP]), NLP-based insights for medical affairs, algorithms for rare disease patient identification (RareBERT), auto-ML modules for patient event prediction (ZS Plug-n-Predict), applications in clinical trials, clinical decision support, and health economics and outcomes research (HEOR), and modules for site and investigator identification for clinical trials. ZS has accelerators, such as CDC (Clinical Design Center) — its most mature product that more than 15 medium-sized and large pharma companies are currently using; Latitude (its registry platform); ZS_CDR-SCE (its next-generation clinical data repository and statistical computing environment leveraging a data sciences approach), which is being used for data transformation of data sets to Study Data Tabulation Model (SDTM) and Analysis Data Model (ADaM) compliant data sets; and REVO Evidence (its real-world evidence solution). The Clinical Design Center, which is ZS' most advanced product, encompasses design intelligence, study design optimizer feasibility optimization, enrollment modeling, and a control tower module. ZS's Patient Analytics Cloud offering has patient journey mapping, plug and predict, opinion leader intelligence (OLI), concept builder, cohort builder, and data explorer. All of these solutions are built on a common components framework (CCF) ingesting data from diverse sources, enabling flexibility and reusability of multiple components powering the work bench. ZS has implemented a data sciences AI-enabled platform to automate clinical data review as well.

ZS follows a unique, dual heart and mind strategy with CDC serving as the brain and Trial Launch Catalyst serving as the heart, enabling sponsors to assess the feedback of sites and patients on trial design and to derive a "patient centricity" index and drive equitable access. ZS also runs a feasibility consortium, currently including 12 sponsors, and is guiding sponsors on how to increase diversity of trial participants. ZS also runs other consortia, with 15+ sponsors in medical affairs and R&D technology, as well as a biometrics consortium with 15+ sponsors.

ZS provides a 24-hour regional and client-specific staffing model, with more than 80% of its teams co-located with its clients (prior to the COVID-19 pandemic). ZS has developed more than 10 enterprise data lakes, including three research data lakes supporting discovery through translational research, including an award-winning RWD lake. ZS has the capability to generate insights from rich multidimensional data, augmenting its own data sets through its partnerships with data providers such as Symphony, Optum, Practice Fusion, HealthVerity, Citeline-Informa, CMS, and Evaluate Pharma. ZS is providing guidance on data integration strategy and data governance as well as technology strategy and solution architecture and systems integration support for COTS solutions for biometrics as well as decentralized trials. The company has its own technology accelerator, ZS VITA, to provide virtual reality services for clinical trials. Other insights provided include digital endpoints selection, decentralized protocol design, and digital needs mapping of sites. ZS reengineered the feasibility decision-making process for more than 320 studies for a top U.S. pharma in the light of COVID-19. ZS Associates is known for its strength in commercial but has gained significant credibility in the R&D space over the recent years.

To quote a top global pharma, which needed to run analytics across therapeutic areas for hundreds of studies, including new disease areas, "ZS was an odd ball in the RFI — we chose them with no experience at all — they stood out with their domain expertise. Portfolio, scale, workflow, accelerators, and a strategy — the expertise showed up there. They understood my needs. Such a trusted partnership."

Challenges

While ZS' core strength has been in the commercial space, only 10% its life science staff are focused on R&D. It should scale that success in the R&D space and leverage synergies between its commercial and R&D practices. While it is perceived as an analytical powerhouse, only one-fourth of the company's ITO solutions leverage AI. ZS could strengthen its ITO solutions by increasing the use of AI/ML in its solutions. ZS is also seen as strong in systems integration but should build its capabilities in software development. From a service offering perspective, ITO services positioned for further development by ZS include areas such as IDMP, laboratory systems integration, investigator/sponsor portal development, and RIM services.

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 purposes of this study, ITO includes outsourcing of all IT services, including integration of IT solutions, app development and maintenance, application portfolio rationalization, infrastructure management, consulting and package implementation services aligned to business imperatives, and support from data governance, IT security, cloud implementation, and intelligent automation solutions.

Market Overview

A turbulent year and a half had the life science industry dealing with the suspension and the discontinuation of multiple clinical trials and had businesses coming to a staggering halt. This is where IT service providers have differentiated themselves, have worked round the clock, and have come up with innovative technologies and business models to help their life science customers ensure business continuity, roll out new clinical trials, and accelerate innovation to bring new therapies and vaccines to the market at a speed unheard of before. The IT service providers have helped their life science customer successfully implement decentralized clinical trials, complemented by the use of the Internet of Medical Things (IoMT) and telemedicine, while developing innovative solutions to ensure continued patient engagement in a remote, disaggregated care model. Undoubtedly, all of this has been enabled by the support of regulators across the globe.

While patient expiries and the loss of blockbuster drug revenue were the key drivers in the past, the newer drivers referenced previously have resulted in IT service providers being looked at through a different lens. The life science industry is no longer looking only for tactical support and externalizing noncore competencies, but is looking for partners, that can bring in true thought leadership and innovative solutions, to drive business agility. As the borders between life science and healthcare are blurring, and connected health gains increasing importance, the life science industry is looking for partners that can help it connect the dots and develop more holistic solutions, providing a complete view of the patient across not only the continuum of care but the continuum of research and care.

With data becoming the new currency, insights are defining the new net worth of an organization and life science companies are leaning on their IT partners to help them navigate the path. As the industry attempts to figure out its cloud strategy, its data governance models, and its digital transformation road map, IT service providers have an increasingly important role to play. As the life science industry remains hungry to recover and grow, one has seen the growth of digital ecosystems and the use of federated learning platforms and regulatory-compliant collaborative IT infrastructure to fuel co-innovation.

The industry is rapidly exploring the use of AI/ML, NLP, computer vision, and AR/VR to transform R&D. High-performance computing is gaining increasing importance, and the ability of GPU-powered transformer models and the use of digital twins to exponentially accelerate *in silico* drug discovery will disrupt the industry. IT service providers that have acquired expertise in these technologies and have the appropriate partnerships will lead the way.

While ensuring digital resiliency and driving accelerated innovation remain the key objectives of this industry, the life science industry is still keeping a cautious eye on budgets. While it may move toward vendor consolidation, it is going to look for cost-effective and modular solutions that can be easily integrated within existing workflows.

Key R&D areas where ITO services have expanded include *in silico* discovery, the use of digital twins, regulatory compliance and intelligence, the increased importance of RWE in R&D, expertise in decentralized clinical trial solutions and telemedicine, and expertise in strategy and technology to support M&As. Areas anticipated for ITO growth will likely include AI/ML-enhanced ITO solutions, remote patient monitoring solutions, and RWE and regulatory-compliant collaborative IT infrastructure.

IDC expects that when combined with BPO and strategic consulting services, the total IT services market will continue to grow at double-digit rates over the next five years, across the entire life science R&D value chain.

LEARN MORE

Related Research

- *IDC MarketScape: Worldwide Life Science R&D Strategic Consulting Services 2021 Vendor Assessment* (IDC #US48159321, forthcoming)
- *IDC MarketScape: Worldwide Life Science R&D BPO Services 2021 Vendor Assessment* (IDC #US48126821, August 2021)
- *IDC Health Insights: Knowledge-Based Medicine Digital Transformation in Life Sciences, July 2021* (IDC #US48069421, July 2021)
- *Leveraging Telehealth to Accelerate Clinical Trials* (IDC #US48024721, July 2021)
- *The Future of Intelligence for Life Sciences: Transcending Boundaries* (IDC #US47730821, June 2021)
- *GPU-Powered Transformer Models Poised to Accelerate Drug Discovery and Disrupt Drug Development* (IDC #US47660321, May 2021)
- *IDC TechScape: Worldwide Life Science R&D Machine Learning and Cognitive Computing Landscape, 2021* (IDC #US47482121, March 2021)

Synopsis

This IDC study is the third of a three-part life science R&D IDC MarketScape series focused on IT outsourcing. 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 noncore IT activities. 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 at IDC, noted, "The COVID-19 pandemic has brought to the fore the importance of the ITO service providers to the life science industry. Their role has transitioned beyond that of serving as tactical providers to that of strategic partners that will help steer the implementation of agile innovation models, drive digital resiliency, and fuel accelerated business growth. It is for the ITO service providers to build their internal capabilities, strengthen their digital ecosystems, and provide both the technology and the mindshare that will help them truly leverage this momentous opportunity."

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. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

Global Headquarters

140 Kendrick Street
Building B
Needham, MA 02494
USA
508.872.8200
Twitter: @IDC
blogs.idc.com
www.idc.com