

Life Sciences Digital Services

This report assesses the use of technology innovation to assist in drug and device development.



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Life sciences companies are establishing new rules of engagement and operational strategies to overcome current crises resulting from the COVID-19 pandemic, supply chain and workforce disruptions, and other resource constraints. Rapid innovation, patient-centric models and regulatory expertise are table stakes. The industry leaders that were traditionally conservative are now actively pursuing opportunities to adopt innovation at scale to ensure growth in the market. The cost of innovation, which has always been steep, has further increased exponentially.

Many companies are focusing on improving the efficiency of their new business models using sophisticated, AI-empowered solutions. However, these solutions – new technologies, ways of working, and the partnerships, services and customer expectations that go with them – require investment at a faster rate than the traditional turnover cycle of medicines or medical technology. Life sciences innovators and suppliers rely on some elements to achieve efficiency, which include:

1. Increased pace of mergers, acquisitions and divestitures

2. Supply chain innovation that drives reliability
3. Non-traditional sources of innovation
4. Focus on the patient as both customer and partner
5. Creative thinking around monetizing non-traditional sources of revenue

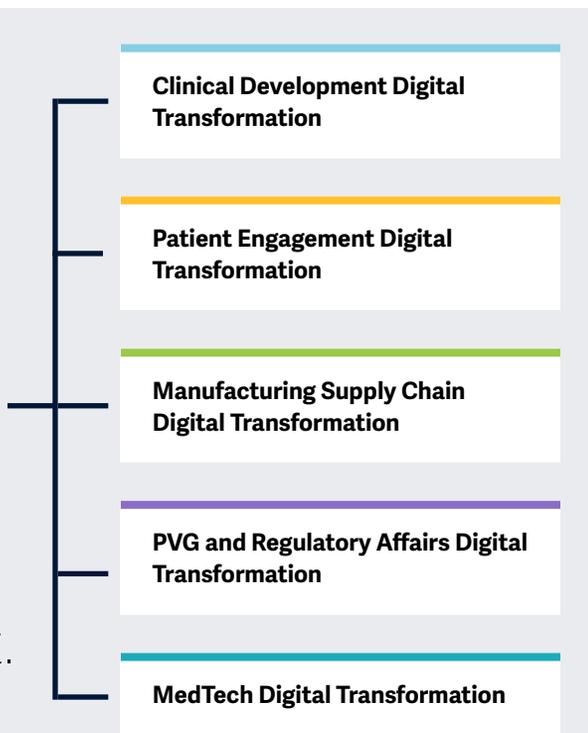
Digital transformation continues to be the backbone of many solutions. Enhanced connectivity, mobile engagement and advanced analytics have become operational necessities, and they support increased direct patient interactions.

Leading life sciences companies are relying on outsourced solutions for expertise, bandwidth and support. Traditionally, outsourcing was often perceived as supplemental – a means to increase resources in well-established functional roles. However, many life sciences companies are now focusing on partnering with external providers for strategic support and expert technology advice, especially in areas such as cybersecurity, automation, back-office efficiency and organizational change management (OCM).



The report assesses the use of technology innovation for drug and device development.

Simplified Illustration Source: ISG 2022



The ISG Provider Lens™ Life Sciences Digital Services Study offers technology decision-makers the following:

- Transparency on the strengths and weaknesses of providers in technology innovation, implementation and ongoing support for digitally enabled services
- A differentiated positioning of providers by services, experience and expertise in the specified life sciences areas
- A perspective on strengths globally and relevant expertise in specific markets if providers can show they are differentiated

Given the pace of change and levels of innovation required to support the stringent demands of activities in the life sciences throughout the development process, it is imperative for providers

to demonstrate their knowledge and investment in this area. Drug and medical device development continues to evolve both in terms of operations and expectations from regulators and patients (both play a role as consumers of new medical interventions).

This study provides an important element of the decision-making basis for positioning, key relationships and go-to-market considerations. ISG advisors and enterprise clients also use information from these reports to evaluate their current vendor relationships and potential engagements.



Clinical Development Digital Transformation

Definition

This quadrant assesses the capabilities of service providers in helping life sciences companies develop products during all clinical phases. The high cost and failure rates of clinical trials require life sciences companies to continuously seek innovations and services that improve efficiency. Technology provides a substantial mechanism for identifying patients, monitoring and managing patient safety, achieving treatment efficacy and adhering to regulatory compliance. Digital solutions also support quality and reporting requirements and the ability to use complex regulatory intelligence. AI-enabled solutions have also become key to achieving aggressive efficiency targets for these processes, as well as for accessing, managing and analyzing the significant volume of data generated from clinical trials.

Many life sciences innovators have accelerated the pace of their investment in AI-enabled solutions over the past year, after facing COVID-19-related challenges. They now increasingly leverage AI-powered solutions throughout the development lifecycle. Service providers play a crucial role in helping companies keep up with the pace of ongoing innovation. They partner with these companies to provide expertise, competitive intelligence, resources and technology, which would be cost- or time-prohibitive for innovators to develop independently. Service providers also significantly contribute to innovation throughout the clinical design process. Some of the innovations service providers offer for clinical trials are AI in trial design, digital monitoring using predictive analytics, and end-to-end automation for regulatory compliance and patient safety monitoring during clinical trials.

Eligibility Criteria

1. Demonstrated capability in assisting with implementation and support of clinical trial and/or **clinical data and analytics technology solutions**
2. Knowledge of **clinical trial** process and requirements with demonstrated experience providing technology support
3. Expertise in using technology solutions in **clinical development**
4. Ability to offer alternatives to in-person interactions of researchers and participants such as **mobile and internet-connected capabilities**
5. Established or emerging partnerships with clinical development technology and consulting firms
6. Capability to support, integrate and **modernize legacy systems**
7. Competencies in developing plans for **deploying appropriate technologies** and procedures
8. Ability to support, scale and **update technology tools** and platforms



Patient Engagement Digital Transformation

Definition

This quadrant assesses providers that focus on life science customer services using supporting processes and platforms. Life science companies are engaging directly with patients to deliver patient-centric services for medication and to improve their products and patient outcomes. This has increased patient interactions and expanded their role in decision-making in the treatment processes unlike the past, when the primary contacts of life science companies were the physicians. It is essential to improve patient experience during the development lifecycle all the way through outcomes, in collaboration with providers.

Driven by the experience of the recent pandemic, life science companies are leveraging remote monitoring for patient enrollment and engagement, while monitoring is done via connected sensors at home or in-care facilities. In addition to

enhancing enrollment and participation in clinical trials, improved patient engagement helps ensure compliance with therapies and reduces drop-out rates.

Digital medicine is also an emerging area, with broad use of smart pills and wearables. Robotics and drones have the potential for enhancing the collection and value of data and therapeutic delivery. The connected technologies require secure, efficient and compliant data exchange to inform stakeholders in the patient care lifecycle, while adhering to regulations. In addition, the use of advanced analytics to adhere to the high standards of data privacy can help companies gain better insights about the success factors that are directly related with patient interactions.

Eligibility Criteria

1. Ability to build a **differentiated patient experience**
2. Capability to select, implement and **manage patient engagement services** and platforms
3. Ability to develop **digital services** that provide consumer-friendly interactions
4. Deep knowledge of technologies, devices and their connectivity, including the ability to **develop suitable device strategies**
5. Strong competencies in device **security and data privacy measures**
6. **Ability to share data and analyses** in an integrated ecosystem for communication, education and marketing



Manufacturing Supply Chain Digital Transformation

Definition

This quadrant assesses service providers that work with their clients in life sciences to improve the operation of the manufacturing supply chain. With the recent COVID-19 pandemic, significant disruptions in the manufacturing supply chain are now well known. There have been shortages in personal protective equipment (PPE) and COVID-19 testing and treatments worldwide. Meanwhile, other global crises indicate that such disruptions may become a common and ongoing phenomenon. Hence, challenges such as restrictions in movement or changes in reporting requirements will most likely continue. For an industry dependent on ingredients from across the globe, disruptions in the supply chain are a major challenge. ISG expects life science companies to apply various measures, such as more emphasis on the localization of supply chains, to mitigate risk.

Many aspects of the manufacturing supply chain rely heavily on collaborative engagement between companies, and technology often provides the most effective mechanism to engage across incompatible systems or processes. Appropriate analytics and AI are required to quickly move inventory to the desired location.

Despite the advent of advanced technologies such as automation and AI, making accurate forecasts on production schedules or shipments is an ongoing challenge for logistics managers. Visibility of the supply chain is hampered by expensive and variable manual processes that reduce the accuracy of the forecast. Logistics managers also struggle to provide accurate and real-time estimated times of arrival because of the complexity of current transportation logistics. Flexibility in planning processes, to adapt to short-term disruptive events, becomes crucial for successful business operations.

Eligibility Criteria

1. **Capability to assess existing supply chains** and recommend strategy, process and technology changes to improve efficiencies, lower risk and reduce costs
2. Ability to transform manufacturing through digital methods and the IoT, using a variety of **automatic identification and data capture (AIDC) technologies**
3. Adept at providing **real-time visibility in logistics**, using sensors connected to systems that promptly provide status information (such as location or temperature) to the right people, while also changing routes as required and predicting problems
4. Ability to provide solutions for **complex supply chain structures**, including complex connectivity with **contract manufacturing** and **advanced technologies** to track and trace
5. Established or **emerging partnerships** with manufacturing supply chain specialists in life sciences and relevant technology providers
6. Expertise in **import/export compliance**



Definition

This quadrant assesses the capabilities of service providers offering life sciences services that support patient safety monitoring and reporting, compliance with global and local regulatory requirements, and reporting via processes and platforms. Life sciences companies are under increasing scrutiny, by both regulatory agencies and consumer watchdog groups, to ensure patient safety and monitor quality and compliance across their products and activities. The primary goal is to conduct all activities and deliver a quality-driven product, while ensuring patient safety and complying with all local and global reporting and regulatory requirements.

While there is already a successful history using AI to support some aspects of these activities, recent successes with natural language processing (NLP) and machine learning among life sciences enterprises have created opportunities for innovation and efficiency in these areas. Lessons from the pandemic are also resulting in improved patient outcomes, driven by enhanced services in pharmacovigilance and regulatory affairs. However, the changes due to digital medicine will also require more intensive and sophisticated reporting, and new technologies that manage the increased volume of data should be secure, efficient and compliant.

Eligibility Criteria

1. Ability to create, manage, monitor and continuously improve upon a **differentiated service offering** in one or both of these areas
2. Demonstrated expertise with global, **regional and local regulations**, reporting requirements, patient safety reporting processes and other compliance measures
3. Clearly delineated **quality and compliance** processes and related employee training programs
4. Capability to select, implement and **manage pharmacovigilance or regulatory** affair services and platforms
5. Ability to integrate with **internal service offerings** in adjacent areas and with external platforms
6. Deep knowledge of **relevant technologies** and ability to develop suitable strategies
7. Competencies in data, platform, and system **security and data privacy** measures
8. Ability to share data and analyses in an **integrated ecosystem** for communication, reporting and education
9. Potential to support organizational transformation needed to implement **digital transformation**



Definition

This quadrant focuses on service providers that support MedTech companies in their journeys to digitization of product development, engineering, production and logistics. The most recent technology trends, such as improved connectivity, including mobile enablement, the IoT, advanced analytics and machine learning, have led to a massively transformed MedTech industry. For instance, these enable significantly improved integration of medical devices and products into the respective process chains and enable the processing of large data volumes that are collected – to a large extent remotely – during the product lifecycle. The COVID-19 pandemic has, as for many other industries, accelerated this transformation process in the life sciences space. Many essential operational activities such as

maintenance or logistics operations can also be remotely executed to a large extent. Major functional areas that are considered in this quadrant are product lifecycle management, engineering services, logistics and distribution, and maintenance and repair.

Technology providers in this space are more often requested to deliver complete services across the various stages of the product development lifecycle and accept (co-)responsibility for self-contained parts of the business operations.

Eligibility Criteria

1. Ability to provide a **comprehensive service offering** in several of the functional areas mentioned above
2. Capability to conduct **IT-focused engineering services** and software development for medical devices
3. Deep **integration knowledge and capabilities** to develop enhanced connectivity for mobile devices, including mobile enablement
4. Competencies in applying **IT security technologies** and services along the entire product lifecycle of medical devices
5. Broad competency in **data management** and advanced analytics technologies
6. Potential to support **organizational transformation** needed to implement digital transformation
7. Strong capabilities in **product lifecycle management** and willingness to accept (co-) responsibility for significant parts of the development processes



Quadrants By Region

As part of this ISG Provider Lens™ quadrant study, we are introducing the following five quadrants for Life Sciences Digital Services 2022:

Quadrants	Global
Clinical Development Digital Transformation	✓
Patient Engagement Digital Transformation	✓
Manufacturing Supply Chain Digital Transformation	✓
PVG and Regulatory Affairs Digital Transformation	✓
MedTech Digital Transformation	✓



The research phase falls in the period between September and October 2022, during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in January 2023.

Milestones	Beginning	End
Survey Launch	September 12, 2022	
Survey Phase	September 12, 2022	October 7, 2022
Sneak Preview	December 2022	
Press Release & Publication	February 2023	

Please refer to the [link](#) to view/download the ISG Provider Lens™ 2022 research agenda

Access to Online Portal

You can view/download the questionnaire from [here](#) using the credentials you have already created or refer to instructions provided in the invitation email to generate a new password. We look forward to your participation!

Research Production Disclaimer:

ISG collects data for the purposes of writing research and creating provider/vendor profiles. The profiles and supporting data are used by ISG advisors to make recommendations and inform their clients of the experience and qualifications of any applicable provider/vendor for outsourcing the work identified by clients. This data is collected as part of the ISG FutureSource process and the Candidate Provider Qualification (CPQ) process. ISG may choose to only utilize this collected data pertaining to certain countries or regions for the education and purposes of its advisors and not produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of the information received directly from providers/vendors and the availability of experienced analysts for those countries or regions. Submitted information may also be used for individual research projects or for briefing notes that will be written by the lead analysts.



ISG Star of Excellence™ – Call for nominations

The Star of Excellence is an independent recognition of excellent service delivery based on the concept of “Voice of the Customer.” The Star of Excellence is a program, designed by ISG, to collect client feedback about service providers’ success in demonstrating the highest standards of client service excellence and customer centricity.

The global survey is all about services that are associated with IPL studies. In consequence, all ISG Analysts will be continuously provided with information on the customer experience of all relevant service providers. This information comes on top of existing first-hand advisor feedback that IPL leverages in context of its practitioner-led consulting approach.

Providers are invited to [nominate](#) their clients to participate. Once the nomination has been submitted, ISG sends out a mail confirmation to both sides. It is self-evident that ISG anonymizes all customer data and does not share it with third parties.

It is our vision that the Star of Excellence will be recognized as the leading industry recognition for client service excellence and serve as the benchmark for measuring client sentiments. To ensure your selected clients complete the feedback for your nominated engagement please use the Client nomination section on the Star of Excellence [website](#).

We have set up an email where you can direct any questions or provide comments. This email will be checked daily, please allow up to 24hours for a reply. Here is the email address: ISG.star@isg-one.com.



Contacts For This Study



Rainer
Suletzki

Lead Analyst, Global



Frances
Grote

Lead Analyst, Global



Sandya
Kattimani

Research Analyst



Pragathi
Thimmaiya

Global Project
Manager



ISG Provider Lens™ Advisors Involvement Program

ISG Provider Lens™ offers market assessments incorporating practitioner insights, reflecting regional focus and independent research. ISG ensures advisor involvement in each study to cover the appropriate market details aligned to the respective service lines/technology trends, service provider presence and enterprise context.

In each region, ISG has expert thought leaders and respected advisors who know the provider portfolios and offerings as well as enterprise requirements and market trends. On average, three advisors participate as part of each study's quality and consistency review team (QCRT). The QCRT ensures each study reflects ISG advisors' experience in the field, which complements the primary and secondary research the analysts conduct.

ISG advisors participate in each study as part of the QCRT group and contribute at different levels depending on their availability and expertise.

The QCRT advisors:

- Help define and validate quadrants and questionnaires,
- Advise on service provider inclusion, participate in briefing calls,
- Give their perspectives on service provider ratings and review report drafts.

ISG Advisors to this study



Jenn
Stein

**Partner, Life Science
Practice Lead**



Sameer
Nanda

Director, Life Sciences



Invited Companies

If your company is listed on this page or you feel your company should be listed, please contact ISG to ensure we have the correct contact person(s) to actively participate in this research.

* Rated in previous iteration

4C Pharma Solutions

Accenture*

Apexon*

Arriello*

Arvato

Asphalion

Atos*

AWS

Birlasoft*

CANCOM

Capgemini*

Catalyst Clinical Research

Cerner

CGI*

Catalyst Clinical Research

Cigniti

Coforge (formerly NIIT Technologies)

Cognizant*

Computacenter

Conduent*

CTI

Deloitte

Deutsche Telekom

DHC Herterich

DXC Technology*

Excelya

EXL

Flexential

Fujitsu

Genpact*

Google

HARMAN*

HCL*

HEPAprint

Hexaware Technologies*

HTC Global Services

IBM*

ICON*

Ideagen

Infinite

Infogain

Infosys

Integras

IQVIA*

ITC Infotech

LabCorp

Lachman Consultants

Lonza

LTI*

LTTS*

Marlabs

MEDIKURA

Medpace

Microsoft

Mindtree

Mphasis*

Navitas*

NTT DATA*

Optum

Oracle



Invited Companies

If your company is listed on this page or you feel your company should be listed, please contact ISG to ensure we have the correct contact person(s) to actively participate in this research.

Parexel	Tepsivo
Persistent*	Thales
Pharmya	ThermoFisher
PPD*	T-Systems
ProPharma Group*	Unisys
Pvpharm	UST
SGS Group	V2Soft
Siemens AG	Verizon*
Softtek	Virtusa
Stefanini*	Virtuoso Medical Management
Sutherland	Worldwide Clinical Trials
Syneos*	Wipro*
TCS*	WuXi
Tech Mahindra*	Zensar Technologies*
TEKsystems	



*ISG Provider Lens™

The ISG Provider Lens™ Quadrant research series is the only service provider evaluation of its kind to combine empirical, data-driven research and market analysis with the real-world experience and observations of ISG's global advisory team. Enterprises will find a wealth of detailed data and market analysis to help guide their selection of appropriate sourcing partners, while ISG advisors use the reports to validate their own market knowledge and make recommendations to ISG's enterprise clients. The research currently covers providers offering their services across multiple geographies globally.

For more information about ISG Provider Lens research, please visit this [webpage](#).

*ISG Research™

ISG Research™ provides subscription research, advisory consulting and executive event services focused on market trends and disruptive technologies driving change in business computing. ISG Research delivers guidance that helps businesses accelerate growth and create more value.

ISG offers research specifically about providers to state and local governments (including counties, cities) as well as higher education institutions. Visit: [Public Sector](#).

For more information about ISG Research subscriptions, please email contact@isg-one.com, call +1.203.454.3900, or visit research.isg-one.com.

*ISG

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Founded in 2006, and based in Stamford, Conn., ISG employs more than 1,300 digital-ready professionals operating in more than 20 countries—a global team known for its innovative thinking, market influence, deep industry and technology expertise, and world-class research and analytical capabilities based on the industry's most comprehensive marketplace data. For more information, visit www.isg-one.com.





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