

A collage of several skyscrapers with glass facades, viewed from a low angle looking up. The buildings are arranged in a staggered, overlapping pattern, creating a sense of depth and architectural complexity. The colors range from cool blues and greys to warmer yellows and oranges.

***ISG** Provider Lens™

2021

Next-Gen Application
Development and Maintenance
Services 2021

imagine your future®

ISG (Information Services Group) (NASDAQ: III) is a leading global technology research and advisory firm. A trusted business partner to more than 700 clients, including 75 of the top 100 enterprises in the world, ISG is committed to helping corporations, public sector organizations, and service and technology providers achieve operational excellence and faster growth. The firm specializes in digital transformation services, including automation, cloud and data analytics; sourcing advisory; managed governance and risk services; network carrier services; technology strategy and operations design; change management; market intelligence and technology research and analysis. Founded in 2006 and based in Stamford, Conn., ISG employs more than 1,300 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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Definition

Application outsourcing continues to evolve, and, driven by the velocity of market growth, the frequency of updates and increase in feature-led intuitive and interactive digital applications, service providers are increasingly adopting agile development practices for their service delivery. Building cloud-native applications has become a de facto service while scoping application modernization projects. Security is becoming integral to application development cycles from the outset and is being included in DevOps and throughout the CI/CD pipeline.

End-user requirements are being shaped by the need for enhanced customer experience (CX), quick access to information, elimination of data silos and to enable faster decision making through the use of technology. Enterprises are adapting to changing requirements through faster release cycles and the frequent deployment of application services. A typical application development and maintenance (ADM) service includes consulting, design, custom development, packaged software integration, operations, quality assurance, security and testing. These traditional services are being rendered through new innovative and advanced approaches built on emerging technology stacks such as AIOps.

On the commercial side, enterprises, bearing the brunt of the pandemic, are, more than ever, focused on cost savings. In the past 12 months, flexibility in pricing the application outsourcing contracts has become the main parameter for defining client-provider relationships.

Leveraging software capabilities to solve business problems and gain enterprise agility is the sine qua non for application outsourcing contracts. Service providers are augmenting their traditional ADM offerings with advanced technologies (AI in operations or microservices-based development) and tailor-made roadmaps (combining digital, operational and technology goals) to meet their clients' objectives. ISG calls such contracts next-gen ADM contracts. This study focuses on the recent developments that have taken place across three de facto components of ADM, namely, application development, application maintenance and quality assurance. The study will examine and evaluate provider offerings and strengths in the aforementioned areas.

The ISG Provider Lens™ study offers IT-decision makers:

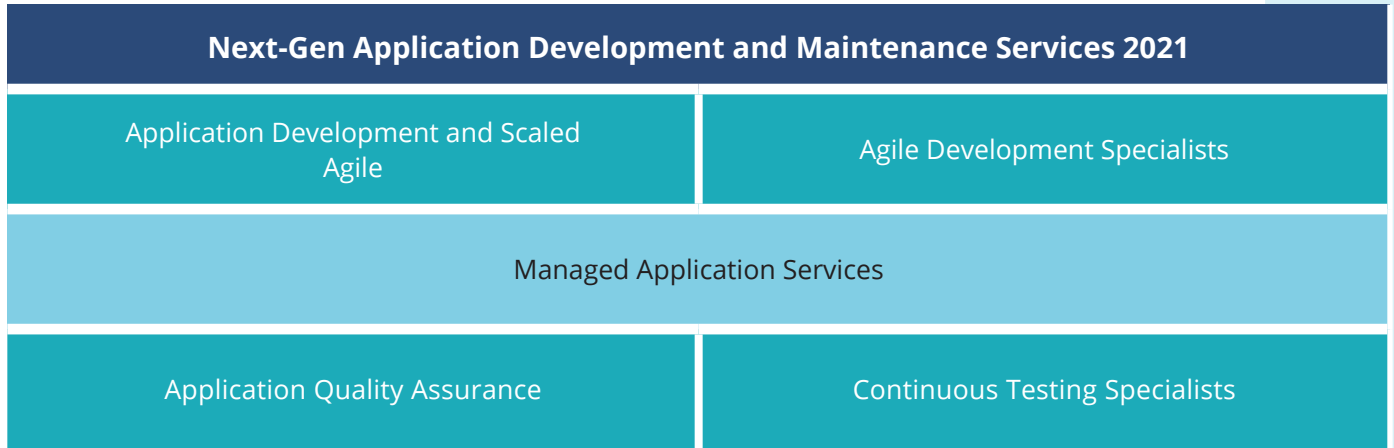
- Transparency on the strengths and weaknesses of relevant providers.
- A differentiated positioning of providers by segments.
- Focus on different markets, including Global (for the archetype report), the U.S., the U.K., Germany, the Nordic countries and Brazil.

This study serves as an important 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.

Quadrants Research

In the ISG Provider Lens™ Next-gen ADM quadrant study, we are introducing the following five quadrants:

Simplified illustration



Source: ISG 2021

1. Application Development and Scaled Agile

This quadrant assesses service providers that offer application expertise with the use of different technologies, spanning several industry verticals. The assessment determines the way these service providers use project management tools to support and coordinate resource allocation, portfolio management, backlog prioritization, agile methods, waterfall methods, system integration, application modernization, cloud-native application development and other management services to optimize the performance of the development teams working simultaneously in a client's environment.

A participant in this quadrant typically has the consulting expertise and high-end technology partnerships to implement CI/CD pipelines, and application testing and DevOps to enable clients to achieve high performance and improve application development capacity, with reduced time-to-market.

Eligibility criteria:

- Manages more than 20 squads for a single client or can scale up to more than 1,000 developers, working simultaneously, in several projects.
- Possesses the ability to rapidly scale up or down and add more than 100 developers in a week to meet the demands of a client, as necessary.
- Certified to transform and deploy agile teams under frameworks such as Scale Agile Framework (SAFe) and Large-scale scrum (LeSS).
- Employs certified practitioners in more than two of the following methodologies: Scrum, Kanban, Extreme Programming (XP), Lean Development or Crystal.
- Established partnerships with development platform providers, including AWS, Microsoft, Google and IBM and can deploy a development workbench for a new client.
- Offers testing services and product development workshops in areas such as design thinking. It is not expected to offer organizational change management, but this capability can add to its credibility.

2. Agile Development Specialists

This quadrant evaluates service providers that offer agile application development based on expertise. These service providers add specific knowledge around areas such as programming language, vendor certification, data analytics, artificial intelligence/machine learning, customer experience and system architecture; most organizations find it difficult to scale these and other specialized areas. These providers may also specialize by industry verticals (e-commerce, sales automation for B2B, car insurance or retail banking); function-specific knowledge (fraud detection, credit score, payment systems, online training tools or virtual reality for fashion retail and others); and methodologies (product-oriented development, object-oriented programming, functional programming or interactive programming).

The participants in this quadrant have expertise in a few or several areas, and typically work on short-term projects for specific outcomes. Clients select them based on their consultation capabilities and the expertise of its team that can be assigned to a particular project. The service provider selection process includes determining a talent acquisition program; establishing a work environment to retain their consultants; selecting training programs; noting their contribution to industry associations; and evaluating their research centers, knowledge and use of specialized media.

Eligibility criteria:

- Projects undertaken are under US\$5 million (less than US\$2 million for regions such as Brazil) and for durations under 18 months. Large projects are exceptions and most likely have staggered releases.
- Showcases case studies or referenceable clients to demonstrate tangible results (case studies, outcome-based deals, digital products delivered, POD-based delivery).
- Provides squads for client-managed application development units.
- Engages many squads to support a client, but does not manage the combined squads as one deal output. Each squad has its own goals, costs and service level agreements (SLAs).
- Manages squad size and provides experts according to throughput targets; the commercial business model centers on squads and not headcount. Application staff-augmentation services are excluded from this quadrant.
- Specializes in at least one of the following methodologies: Scrum, Kanban, XP, Lean Development and Crystal.
- Offers optional quality assurance services and product design workshops (such as design thinking).

3. Managed Application Services

This quadrant assesses service providers that take the responsibility of managing clients' applications. The services include application support, platform upgrades, application security, bug fixing, troubleshooting, application improvement and merging of improvement and development backlogs under Kanban or similar methodologies. Some service providers include application monitoring, release management, version control, defect identification and resolution and database query performance in their service offerings. Typical service parameters include time taken to resolve an incident or service request, service availability, defect rate, user satisfaction and user experience.

The participants in this quadrant include service providers that can manage a client's entire application portfolio (all applications running in production, but excluding infrastructure and cloud services). Service transition, when a provider onboards a new client, should include application documentation, service ticket records, knowledge transfer and expert transfer (in some cases). Ongoing service delivery, after the transition period ends, includes quality improvement programs and service knowledge refresh, under the scope of work.

Eligibility criteria:

- Demonstrates expertise in deploying and operating service platforms for team performance monitoring and defect management, including troubleshooting;
- Integrates more than two service platforms such as Atlassian Jira, ServiceNow, SAP Solution Manager, service desk tools and application development platforms (AWS, Microsoft Azure, Google Anthos or IBM Rational);
- Includes a service management platform to handle application tickets, service requests and track service levels. Also, service providers using clients' tools should demonstrate certifications and expertise in integrating and managing commercial-grade platforms;
- Possesses quality improvement capabilities, where the service provider can commit to quality improvement programs to reduce incidents that include applying lean methodologies and artificial intelligence/machine learning (AI/ML) for analytics (trends and predictions) with incident/service request automation;
- Offers fixed service fees or outcome-based contracts, providing clients with options. Staff augmentation is the exception.

4. Application Quality Assurance

This quadrant assesses service providers that enhance the application lifecycle management process for clients with a comprehensive quality assurance program, involving the assessment, design, implementation and operation of application.

Quality assurance encapsulates multiple tasks, including setting requirements, estimations, project planning, documentation, fixed sprint execution timelines, setting the functional criteria for a product to be deemed complete, and testing to identify bugs or defects in a product.

Quality assurance defines procedures and processes to attain a desired product or service quality at the project level, ideally covering a client's complete application portfolio. Under this quality assurance program, developers, testers and operators share the responsibility of ensuring that the overall product/service meets the desired quality.

The participants in this quadrant would also be evaluated on their ability to provide infrastructure resiliency, digital testing, security, selection of quality assurance artifacts, products and vendor tools, quality strategy and comprehensive quality frameworks.

ISG would also assess a provider's ability to leverage production logs to provide insights for improved application quality and performance, integrate application performance management tools to extract insights for the quality assurance program, and use AI/ML over logs and monitoring data to predict the quality of new applications.

Eligibility criteria:

- Possesses a centralized quality assurance unit laying down quality standards for all projects.
- Maintains a comprehensive quality assurance framework, encapsulating planning, implementation, monitoring, review and improvements.
- Uses technology (performing analytics over logs and use of AI) for continuous improvement in results.
- Uses proprietary tools and accelerators for faster time-to-market.
- Leverages vendor partnerships around quality monitoring, application performance tools and testing tools.

5. Continuous Testing Specialists

This quadrant assesses providers of automated testing services. These companies develop testing strategy and scope, and the methods and scripts before automation and test execution. They have the skills to deploy automation and execute testing cycles, producing the necessary evidence to support compliance auditing.

Continuous application testing focuses on delivering quality in tandem with the speed of agile development. In terms of technology, it encompasses various aspects of automated testing such as shift-left and end-to-end automation across testing phases, and at every phase of the continuous delivery process. However, it goes beyond automation-based testing in terms of people and processes — it accomplishes better collaboration between quality assurance and development teams, and in sync with sprint cycles, feature-driven testing, responsiveness to change, creation of a feedback loop and more client involvement. Continuous testing is gaining importance, specially to help enterprises keep pace with their agile and DevOps initiatives.

Eligibility criteria:

- Engages qualified professionals for test-driven development (TDD), behavior-driven development (BDD) and other approaches.
- Handles large-scale testing and continuous integration demands of complex systems such as enterprise resource planning (ERP) and e-commerce with many test-cases.
- Portfolio includes unit testing, system testing, regression testing, compliance testing, performance/load testing, user-acceptance testing and smoke testing.
- Offers consulting services that include test automation implementation, integrated with the development and DevOps tools of clients. Also, the service provider should help clients optimize their continuous testing performance to reduce testing time.
- Continuous services include testing data and test coverage assessments, enablement of automated tests across many continuous integration pipelines, and the management of testing artifacts for high reutilization of such artifacts.
- Help clients to replicate testing practices and use automated testing on multiple projects.

Quadrants by Region

Quadrants	Brazil	Germany	Nordics	U.K.	U.S.
Application Development and Scaled Agile	✓	✓	✓	✓	✓
Agile Development Specialists	✓	✓	✓	✓	✓
Managed Application Services	✓	✓	✓	✓	✓
Application Quality Assurance	✓	✓	✓	✓	✓
Continuous Testing Specialists	✓	✓	✓	✓	✓

Next-gen ADM Archetype Study

Simplified illustration



Source: ISG 2021

The next-gen ADM Archetype report would aim to encapsulate the varying demands of enterprise clients — looking to outsource their ADM functions — in the form of three client “archetypes.” It would also deep dive into finding resonating provider capabilities to cater to these three client archetypes. The final output would be a prescribed list of providers (Leaders), per archetype. The scope of this report would be global.

Following three client archetypes are identified for this year’s Next-gen ADM study:

1) Enterprise Modernization: The client is looking for an overhaul of legacy systems to gain enterprise agility. The objective is to integrate various application touchpoints and silos, build cloud-native applications, implement advanced technologies, and ensure quicker time-to-market and enhanced CX.

2) Operational Excellence: The client aims to reduce cost and bring in efficacy in apps management. The scope of work includes leveraging automation, ticket resolution, incident elimination and preempting app failures. Furthermore, the objective of such clients is the implementation of sophisticated maintenance philosophies such as AIOps, app upgrades and the reduction of discretionary apps maintenance expenditure over time.

3) Packaged Software Implementations: The client aims to either upgrade or move from one commercially off-the-shelf application/packaged technology ecosystem to another. It includes upgrading to the latest version of the current product suite or moving from one product technology vendor to another. It includes greenfield and/or brownfield implementations of one or more of software categories such as ERP modules, customer relationship management (CRM), customer data platforms, big data and analytics, web content management, collaboration software suites and commerce websites.

Schedule

The research phase falls in the period between **May and August 2021**, during which survey, evaluation, analysis, and validation will take place. The results will be presented to the media in **September 2021**.

Milestones	Beginning	End
Survey phase	10 May 2021	11 June 2021
Sneak previews	19 July 2021	20 August 2021
Content provisioning	19 July 2021	30 July 2021
Press release	15 September 2021	30 September 2021

Please refer to the [link](#) to view/download the ISG Provider Lens™ 2021 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.

Partial list of companies being invited for the survey

Are you in the list or do you see your company as relevant provider that is missing in the list? Then feel free to contact us to ensure your active participation in the research phase.

1E Limited	CCS Media Limited
Accenture	CenturyLink
ACL Digital	CGI
Aiven	CGI Group
Alegri	CHP Software And Consulting Limited
AlgoWorks	CIBER
ANS Group Limited	Cigniti
AppSphere	Cision (Group) Limited
AppSphere	Cocus
Arvato Systems	Coforge
Aspire Systems	Cognizant
Aspiresys	Cohort PLC
Atos	Compasso UOL
Aveva Group PLC	Computacenter
Axians	Concentrix
Base2 Tecnologia	Concentrix
Birlasoft	Congruent
Blujay Topco Limited	Connectcom
Bottomline	Connectis
Bravura Solutions (UK) Limited	Contino
BRQ Soluções	Contus
BT	Cybage
CANCOM	Cygnat
Capgemini	Cyient

Cyient

D4t4 Solutions PLC

Datagroup

DATAGROUP

Deal

Deloitte

Diebold nixdorf

Digital Intelligence Systems, LLC

DXC

Emis Group PLC

Endava

Endava Limited

EPAM

Equal Experts UK Limited

Everis

Ewave do Brasil

Expleo

Fcamara

Flux7

Fujitsu

GAVS

Getronics

Getronics

Globant

Happiest Minds

HCL Technologies

Hexaware Technologies

HPE

HTC Global Services, Inc

IBM

Ignitho

iLAB

ilegra

Infinite Computer Solutions

Infogain

Infosys

Inmetrics

Innominds

Innovations ON

Investis Topco Limited

ITC Infotech

Itelligence

Iteris Consultoria e Software Ltda

ITS - Tecnologia Informação Ltda.

KPIT Technologies

Leading Agile

Lionbridge Technologies Inc

LTI

Magna Sistemas
Marlabs Inc.
Materna
MI MONTREAL INFORMATICA
Micro Focus
Mindtree Ltd.
Minsait (Indra)
Monitora Soluções
MOVILE
Mphasis
msg group
Nasstar PLC
Nebularworks
NetApp
Northdoor PLC
NTT DATA
NTT DATA (everis)
NTT DATA (FH)
NTT DATA (itelligence)
Objective Solutions
Oracle
Pactera
Perficient
Persistent Systems
Pitang Consultoria

Prime Control
Prime Control Consultoria LTDA
PrimeUp
Probrand Limited
Pythian
QA Consultants
Qintess
Qualitest Group
Quinnox
Reply
RM Education Ltd
RPerformance
RSI
Shippable
Sigma Software
Siili
SLK
Smart IT
Softserve
Softtek
SONDA
Sopra Steria
Squadex
Stefanini IT Solutions
SVLabs

Synopsys

Syntax Systems

SysMap Solutions

Tavant

TCS (Tata Consultancy Services)

Tech Mahindra

Testing Company

TestingXperts

Thoughtworks, Ltd

TIETO

TO THE NEW

TQI Consultoria

Trianz

T-Systems

Unisys

UST

Valuelabs

Veritis

Virtusa

Vortigo

Wipro Technologies

XenonStack

Yash Technologies

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