ISG Provider Lens™

2020

Next-gen Application Development & Maintenance (ADM) Services 2020

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 more than 75 of world's top 100 enterprises, 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; 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 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.

Table of Contents

Definition

Application outsourcing continues to evolve, and service providers are increasingly adopting agile development practices for their service delivery driven by velocity, frequency of updates and feature led intuitive and interactive digital applications. Although the application outsourcing market continues to have waterfall-based traditional development engagements, the incorporation of disruptive agile-based operating models continues to outpace the former, thereby making core development model a direct competitive advantage for many enterprises. Enterprise customer requirements are currently being led by mobile and other emerging technologies, which, in turn, are fueling the transformation of the application services landscape.

Enterprises are adapting to this changing environment through faster releases and deployments of application services. Of course, not all application outsourcing is the same, because not all buyers and users have the same needs. The typical application development and maintenance (ADM) services include application consulting, designing, custom development, packaged software integration, operations, quality assurance, security and testing. However, the elements related to speed and faster releases in this traditional approach are coming from DevOps and agile methodologies. Service providers are leveraging application programmable interface (API), microservices and utilizing low code no code platforms, containers, and cloud native approach to build nimble, manageable applications and accomplish their speedy release.

ISG has been witnessing contracts where clients are looking to new ways to leverage software capabilities to solve business problems and gain competitive advantage, coupled with the increasing need for speed-to-market. Service providers are augmenting their traditional ADM base with these emerging methodologies, technologies and collaborative frameworks to meet their clients' objectives. ISG terms such contract types as next-gen ADM contracts. This study focuses on understanding client objectives and assessing provider capabilities to deliver on next-gen ADM contracts.

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

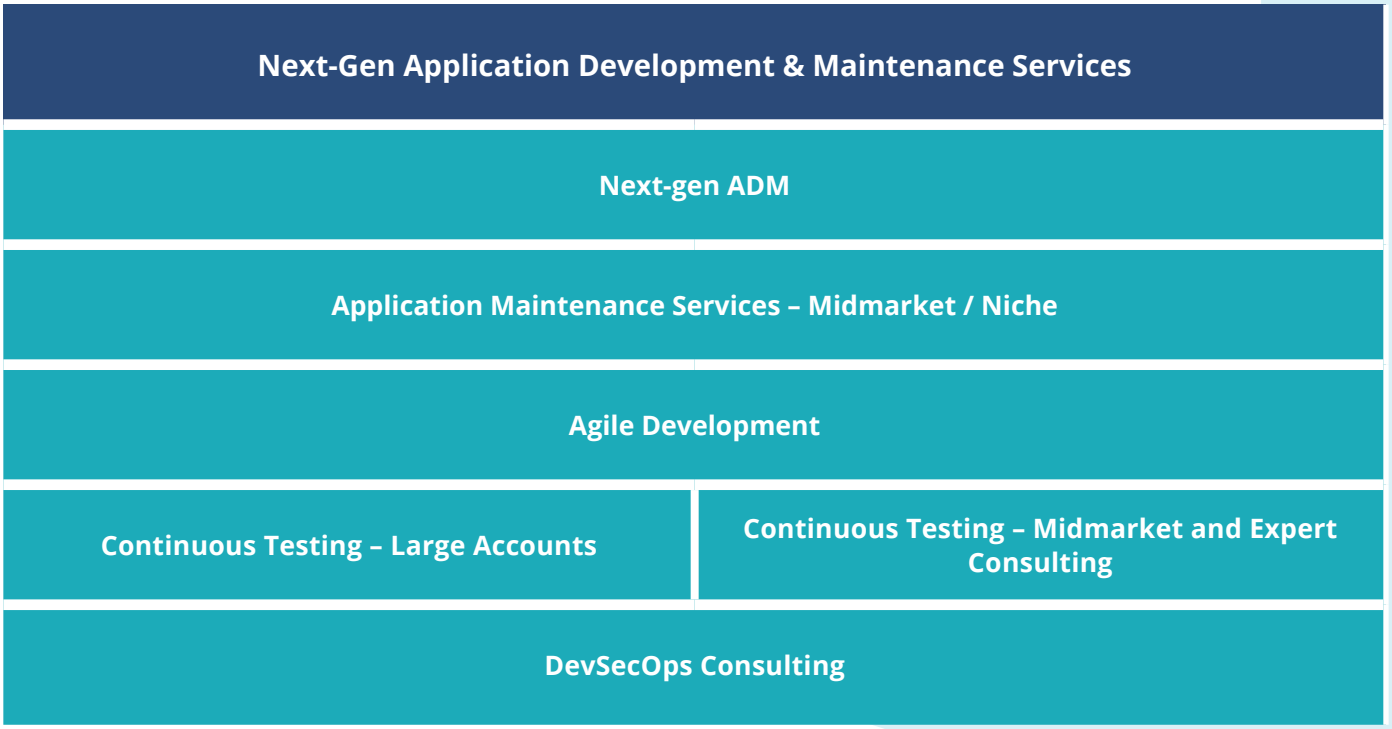
- Transparency on relevant provider' strengths and weaknesses;
- A differentiated positioning of providers by segments;
- Focus on different markets, including the U.S., Germany, the U.K., the Nordic countries and Brazil.

Our 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 new engagements.

Quadrants Research

As part of this ISG Provider Lens™ quadrant study, we are introducing the following six quadrants on Application Development and Maintenance Services:

Simplified illustration



Source: ISG 2020

Next-gen ADM

Like traditional application services, next-generation ADM includes consulting, design, custom development, packaged software integration, DevOps, agile, operations, security (including application security, governance and other related areas), application maintenance and testing. However, the scope, delivery mechanism and outcome for such contracts pivot around a value-based approach where the focus is on achieving enterprise agility and solving business problems. This quadrant will assess service providers based on their capability to augment traditional ADM services with emerging technologies/methodologies like agile development, DevOps, automation, data analytics and artificial intelligence and digital and modernization techniques to deliver application lifecycle projects. It will also assess provider capabilities in incorporating new approaches to deliberately focus on business results during development and delivery of applications.

Eligibility criteria:

- Capabilities to offer the lifecycle of ADM services, including design, development, integration security and testing along with consulting by using automation, intellectual assets, frameworks / methodologies, open source technologies and third party tools.
- The provider should also showcase the execution and use of emerging technologies/methodologies like agile, DevOps, chaos re-engineering and automation in their ADM processes.
- Capabilities and frameworks to offer digital and modernization techniques for legacy application modernization, application portfolio rationalization, custom application development, upgrade and replacement.
- The provider can handle large-scale application development and maintenance teams with robust governance and processes that enable quality assurance, team-performance SLA and remote delivery with nearshore or offshore capacity.

Application Maintenance Services – Midmarket / Niche

Application maintenance services comprises of end-to-end managed services covering Application Support and Maintenance functions. Some of the functions include application monitoring, manage changes to applications, scripts delivery to integrate patches and release, defect identification and resolution and database management. AMS services spanning monitoring, bug fixing and troubleshooting are spread across L1, L2 and L3 support areas. Services in application maintenance are delivered using SLAs and adhere to ITIL and other standards. This quadrant also includes niche providers that have specialized in selected technologies (programing languages, frameworks or platforms) or niche packaged applications.

Eligibility Criteria:

- Service provide should have carried out SLA led system monitoring, application assessment, application audit, root cause analysis, incident investigation, change request management, defect management, patching and upgrades roll outs, application enhancements, bug fixing, dedicated support and troubleshooting management services for at least 5 clients.
- The provider can deliver services in collaboration with other service providers when working for large accounts.
- The AMS services to be delivered from a local / regional base and not necessarily have an offshore setup

Agile Development

Agile development mainly focuses on the frameworks and principles of agile, a collaborative way of working together in uncertain circumstances. In the software development domain, it showcases the incremental and iterative approach to application development with ability to adapt and respond to change as the key tenets. Because agile encompasses frequent, short development cycles and early releases of the software product, it is being viewed by enterprises as a medium for attaining enterprise agility and includes frameworks such as Scrum, extreme programing, feature-driven development (FDD) and the dynamic systems development method (DSDM).

Led by business needs such as feature rich, interactive applications and faster time to market, application development is being transformed by the onset of several new technologies such as APIs, microservices, cloud native technologies, low code no code platforms and containers. APIs and microservices are used to break monolithic enterprise applications into smaller independent loosely coupled re-usable services which reduces complexity and makes applications easier to manage. Low code no code platforms allows creation of application without the need to write code by using a visual development environment to develop mobile and web applications by dragging and dropping components and connecting them. These technologies are being integrated in their agile development approach by providers to meet the objectives of simplified application code base, resiliency and manageability.

This quadrant will assess capabilities of a provider to deliver tangible results through the use of various agile methodologies like Scrum, Kanban, Crystal, extreme programming (XP) and others. It will also look at the focus a provider has toward use of agile development with respect to its overall application development practice.

Eligibility criteria:

- Ability to deliver tangible results through use of various agile methodologies like Scrum, Kanban, Crystal, extreme programming (XP) and others.
- Capabilities and dedicated team of agile certified Scrum masters with certifications such as PMI-ACP, Scrum Alliance SCM, SAFe, EXIN and others
- Capacity to scale agile outsourcing to enterprise-grade clients
- Provider should have carried out API lifecycle management functions comprising of library maintenance, usage statistics, performance monitoring, updates, security, re-use patterns, and documentation along with security of APIs for a minimum of 10 clients
- Microservices should have been used to redefine the monolithic application architecture in at least three industry domains / verticals.
- Providers should have demonstrated capabilities to manage, monitor and test microservices
- Provider should offer some form of a low-code no-code platform or asset for application development and have carried out live implementations for clients using the platform

Continuous Testing – Large Accounts

Continuous testing focuses on delivering quality assurance at speed. 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, in terms of people and processes, it goes beyond automation-based testing. Thus, it accomplishes higher collaboration among QA and development teams to sync with sprint cycles, feature-driven testing, responsiveness to change, creating a feedback loop and greater client involvement. Continuous testing is gaining momentum specially to help enterprises keep pace with their agile and DevOps initiatives.

Eligibility criteria:

- Providers should exhibit execution using test-driven development (TDD), behavior-driven development (BDD) and other approaches.
- Capabilities exhibiting provision and use of service (test) virtualization processes, test case management.
- These providers can handle large-scale testing and continuous integration demands of complex systems such as ERP, multi-site ecommerce, multi-country solutions and other systems with a large number of test-cases.

Continuous Testing – Midmarket and Expert Consulting

Continuous testing focuses on delivering quality assurance at speed. 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, in terms of people and processes, it goes beyond automation-based testing. Service providers with their focused operations help achieve clients achieve cost efficiencies on application testing functions. The providers serve niche testing requirements comprising of various types of testing such as automated, regression, functional and performance testing. The service providers serve as a one stop for testing requirements for clients and also work with large service providers to execute application testing requirements for them.

Eligibility Criteria:

- Providers should have a minimum / threshold base of testing practitioners in the local region. The provider's experts should provide consulting around testing methodologies, demonstrating in-depth expertise rather than fabric-type testing solutions.
- Providers should exhibit execution using test-driven development (TDD), behavior-driven development (BDD) and other approaches.
- Capabilities exhibiting provision and use of service (test) virtualization processes, test case management.

DevSecOps Consulting

DevSecOps is a type of software development practice that combines development and technology operations in tandem to shorten the SDLC lifecycle and integrates Security within the entire application development lifecycle. To achieve this objective, it involves three key principles: system thinking, feedback loops, and continuous experimentation and learning. Some of the methodologies involved in DevOps include lean management, continuous delivery, and people over process over tools. Cloud native applications are built end to end and managed on cloud using technologies such as containers and APIs. Containers, as a part of the continuous integration continuous development (CI / CD) methodology, are being used to decrease the infrastructure dependencies to develop applications faster.

Eligibility Criteria:

- Providers should be implementing methodologies such as infrastructure as a code, continuous improvement, people over process over tools, feedback loops, lean, Kaizen and other principles.
- Provider should offer development teams with over two to three years trained in scripting languages such as Python, Perl, Shell and Ruby as well as operating systems like Linux and Unix.
- DevOps teams should have application level understanding of Git, Bucket (for source control), Jenkins, Bamboo (continuous integration), infrastructure automation (Chef, Puppet, Ansible), Docker (container) and Kubernetes, Mesos and Swarm (orchestration) among other areas.
- DevOps teams should be able to implement automation technologies and tools at any level ranging from testing and operations to development.
- Provider should guide clients to improve how they manage and migrate applications to cloud (public, private or hybrid) using multiple container technologies such as Docker and Kubernetes.

Quadrants by Region

Quadrants	U.S.	Germany	U.K.	Nordics	Brazil
Next-Gen ADM	√	√	√	√	√
Application Management Services – Midmarket / Niche	√	√	√	√	√
Agile Development	√	√	√	√	√
Continuous Testing – Large	√	√	√	√	√
Continuous Testing – Midmarket / Niche	√	√	√		√
DevSecOps Consulting	√	√	√		√

Archetype Report

This strategic report supports improved awareness, knowledge and decision making on the capabilities and positioning of IT and business service providers. The new ISG Provider Lens™ Archetype studies provide a means to align sets of ISG-identified client requirements with known provider capabilities.
The report will identify four to six archetypes that represent buyer characteristics and buying requirements for IT or business process outsourcing service lines:

- Globally focused.
- Represent ISG advisor perception of client buying patterns.
- Non-prescriptive nor rank based.
- Help align buy-side needs with provider-side capabilities to reduce costs for both sides.

Figure 1: Sample ISG Provider Lens™ Study Provider Listing

Traditional Archetype Archetype Leaders	Staff Augmentation Focus	T&M Pricing Focus	Packaged Technology Capabilities	Custom Development Focus
A	◕	●	◕	◑
B	◕	◕	◕	◑
C	●	◕	◕	◕
D	●	●	●	◔
E	◕	●	●	◔
F	◕	◕	◑	●
G	●	●	◑	◕
H	◕	◕	◔	●

● Score 4 out of 4 ◕ Score 3 out of 4 ◑ Score 2 out of 4 ◔ Score 1 out of 4

Schedule

The research phase falls in the period between **June and September 2020**, during which survey, evaluation, analysis and validation will take place. The results will be presented to the media in **October 2020**.

Milestones	Beginning	End
Survey phase	July 1, 2020	July 24, 2020
Sneak previews	October 1, 2020	October 21, 2020
Content provisioning	October 1, 2020	October 9, 2020
Press Release	November 2020	

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!

Please refer to this link to view/download the ISG Provider Lens™ 2020 research agenda.

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 work identified by the 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 to produce ISG Provider Lens™ reports. These decisions will be made based on the level and completeness of 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 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.

AutoRabit

1E Limited

3CON

a1qa

Accenture

Alegri

ANS Group

AppSphere AG

Arvato Systems

Aspire

Atos

Avenga

Aveva Group PLC

Axians

Bacancy Technology

Belitsoft

Birlasoft

BJSS

Blujay Topco Limited

Bottomline

Bravura Solutions (UK) Limited

BRQ Soluções em Informática S/A.

Cancom

Capgemini

CAST GROUP

CCS Media Limited

Cegeka

CenturyLink

CGI Group

CHP Software And Consulting Limited

CI&T

CIBER

Cigniti Technologies

Cisilion (Group) Limited

Cloudsense Ltd

Cognizant

Cohort PLC

Columbus

Computacenter

Connectcom

Conviso Application Security

Cumulocity

Cybage

Cyient

D4t4 Solutions PLC

Data One GmbH

DataArt

DATAGROUP

Datamatics

DBServer

Delaware consulting

Deloitte

Deloitte Brasil

Diebold Nixdorf

Digital Business

Digital Intelligence Systems, LLC

Dimension Data

DXC Technology

Eccox Technology

Eficode

Elastic.io

Elaxy

Eleks

EMC Deutschland

Emis Group PLC

Endava

Epam

Equal Experts UK Limited

everis (NTT DATA)

Ewave do Brasil Informática Ltda

FH Consultoria Empresarial Ltda

Flexera

Freudenberg IT

Fujitsu

Gedys IntraWare

Getronics

Getronics Services UK Limited

GRASS-MERKUR GmbH & Co. KG

Grupo Assa

Happiest Minds

HCL Technologies

HDI

Hetzner Online AG

Hewlett-Packard GmbH

Hexaware

IBM

Ignitho

ilegra

Imbus

Indra

Infinite Computer Solutions

Infor (Deutschland) GmbH

Infosys

Inmetrix

Investis Topco Limited

ITC Infotech

itelligence

iTeste

ITS - Tecnologia Informação Ltda.

Jfrog

Kellton Tech

KMD

Koni

KPIT

Lionbridge Technologies Inc

LTI

Luxoft

Magna Sistemas Consultoria S/A

MariaDB Coporation

Materna

Meta

MI MONTREAL INFORMATICA S.A

Microfocus

Mimecast

Mindtree

MJV

Mphasis

msg Systems

MTP Internacional

MZP

NashTech Global

Nasstar PLC

Ness Digital Engineering

NetApp Deutschland GmbH

Nexxera

NIIT Technologies

Northdoor PLC

NTT DATA

Objective Group

Oracle

Pactera

Persistent Systems

Pitang Consultoria e Sistemas S/A.

Plusoft Informática S/A

Prime Control Consultoria LTDA

PrimeUp Soluções em TI LTDA

Probrand Limited

QA Consultants

Qcentris

QualiTest

Quality Software

Quallis

Quinnox

Release Teams

Riministreet

RM Education Ltd

R-Performance

RSI (rsinet.com.br)

Saxonia

ScienceSoft

Senior Sistemas S/A

Sistema Technologies

SOFIST

Softeq

Softserve

Softtek

Sonata Software

SONDA

Sopra Steria

SPREAD

SQS

Stefanini

SVLabs

SysMap

T&M Testes

t2m

tapQA

TCS

Tech Mahindra

TestGroup

TestingXperts

TestMatick

Tieto

TIVIT

TQI Consultoria e Desenvolvimento Ltda

TREND MICRO Deutschland GmbH

Triad Group PLC

Trianz

Tricentis

TSG

T-Systems

Ultranauts

Unisys

UST Global

Vala group

Validata

Verotthi Consultores

Vilmate

Virtusa

Wipro

Yaman

Yash Technologies

Zensar

Zero-Defect

Contacts for this study

Kartik Subramaniam
Lead Author – Archetype, Nordics and U.S.

Arul Manoj M
Enterprise Context and Global Overview Analyst

Oliver Nickels
Lead Author – Germany and UK

Phani K R
Global Project Manager

Pedro L Bicudo Maschio
Lead Author - Brazil

Do you need any further information?

If you have any questions, please contact us at isglens@isg-one.com.