^{*}ISG Provider Lens[™]

Next-gen Application Development & Maintenance (ADM) Services

</>

Agile Development

U.K. 2020

Quadrant Report

Customized report courtesy of:



A research report comparing provider strengths, challenges and competitive differentiators

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December 2020

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About this Report

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The research and analysis presented in this report includes research from the ISG Provider Lens[™] program, ongoing ISG Research programs, interviews with ISG advisors, briefings with services providers and analysis of publicly available market information from multiple sources. The data collected for this report represents information that ISG believes to be current as of November 2020 for providers who actively participated as well as for providers who did not. ISG recognizes that many mergers and acquisitions have taken place since that time, but those changes are not reflected in this report.

All revenue references are in U.S. dollars (\$US) unless noted.

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- **1** Executive Summary
- **6** Introduction
- **13** Agile Development
- 17 Methodology

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EXECUTIVE SUMMARY

Next-gen ADM Services

COVID-19, plus Brexit, hit the U.K. industry in a time of ever-increasing pressure on IT to deliver change and value at the same time. The challenging political and market situations globally and especially in the U.K. in 2020 are leading to a lot of uncertainty in business outlook and thus reduced spending on IT. Politically initiated insecurities about the exact procedures that companies need to follow for Brexit, continuing into November 2020, raise the demand for super-fast software development and agile change management. The COVID-19 pandemic make things worse, with added requirements for secure and fast home-office workplaces with higher software quality, huge demand for additional tools to be integrated quickly and seamlessly and the need for a much higher level of security for all employees. Many IT departments have been in mere reaction mode, facing changing demands every few weeks, and are working on optimizing their application base at the same time.

The market growth in next-gen ADM is driven by a strong demand for optimized software portfolios, continuous modernization at higher speeds to gain market advantages, and digital transformation to drive both employee productivity and the digital customer journey. Continued investment in technologies like IoT, blockchain, artificial intelligence (AI) and machine learning (ML) and others opens up new challenges for next-gen ADM providers. They are challenged both to manage integration into the client's IT landscape and to further develop and integrate features like AI and ML seamlessly into their offerings.

Automation has become a major driver of next-gen ADM services. Every large provider has been investing heavily in its own AI and ML technology stack, some of them offering it as-a-service to smaller providers and clients. Expectations are high but often cannot be met, both because of the complexity of the systems itself and because of the complexity of tasks they might face. AI systems are still strongest in pattern recognition tasks based on extremely large data sets, so most of the implementations are within large testing environments in production settings. True self-healing software and AI-driven business process improvements still lie in the future.

Along with the realization of digitalization projects - supported by an ever-expanding technology and tool stack - solving cultural issues is becoming more of the essence. Agile and DevOps technologies cannot be optimized until the company is ready to shift toward an agile culture and drive this shift both in business and in IT processes.

Application Maintenance Services – Midmarket / Niche

AMS providers focus strongly on code improvement and often work in industry-vertical environments. They cover application operations, support, maintenance, enhancements, change management and process improvement. Also, due to clients' requirements for reduced development and maintenance costs and improved system stability, they face a



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growing demand for security, reporting and dashboarding. Frameworks such as IT Information Library (ITIL) have become de facto standards to achieve services standardization and to establish reliability and accountability in AMS.

In the U.K., a strong demand for localized and industry-specific niche services drives a variety of new approaches from service providers to cover the midmarket. For the large Indian service providers, the U.K. has always been the first and foremost important European market and their base for expansion onto the continent. With Brexit, this might change – depending on what happens in an insecure political framework. Some large providers have started to serve smaller clients out of large client installations, thus offering geographically closer support. Others expand their offshore capabilities and put a strong emphasis on distributed, agile teams.

Automation is gaining speed. Service providers are also leveraging ML, natural-language processing (NLP) and robotic process automation (RPA), driven by a demand for faster error detection and improved problem-handling and automated provisioning.

Agile Development

In many respects, Agile remains a double-sided coin for enterprises. It can drive application and process development into new levels of creativity and speed, but it requires a change in culture that is difficult to execute. Agile changes the way large organizations behave and collaborate, but it is hard to scale and does not work well with offshoring in

every aspect. Therefore, providers look closely at the cultural aspect of Agile development, integrating virtual elements in collaboration and onboarding, and are using gamification, hackathons, ideation platforms and other workspace initiatives to drive the necessary cultural change.

Scaling Agile involves tools that facilitate knowledge management and collaboration, but also code-sharing, containers, container management and code repositories, as well as automation in all areas of development. Projects also are including proprietary frameworks and tools. Providers educate and drive their own workforces to offer Agile delivery, and they are partnering with bodies such as Scaled Agile Framework (SAFe) and automation tool providers such as Docker, Ansible and Jenkins and getting certifications from Scrum Alliance, Scrum.org, SAFe and Disciplined Agile Delivery (DAD).

Continuous Testing

With the COVID-19 crisis and many clients having their staff working from home, plus the changes that come with Brexit, the market is strongly demanding fast and reliable testing mechanisms and processes. Key drivers include a focus on resiliency and stability, the move to hybrid cloud environments and modernization of legacy systems. Testing is shifting left into earlier stages of production and becoming part of Agile development cycles. Teams are testing small parts of the software as early as possible instead of testing at the end of the sprint. Scaling Agile thus becomes an issue with testing, too.



Executive Summary

Al and ML are becoming state-of-the art technologies for testing environments, used to recognize patterns and correlations beyond what software engineers could possibly find out with their human means. Al also starts to show advantages in predictive analytics for software quality and performance. It creates more testing data by itself, so some providers have Al systems trained by other Al systems for dedicated tasks.

In the midmarket, the focus is on setting up a thorough continuous testing practice and integrating it with Agile and DevOps practices. Most midmarket companies face similar challenges as large corporations, just on a smaller scale and with less budget and often very limited knowledge and human resources. Metrics measurement, governance and security become focus aspects of continuous testing service providers. The multitude of tools - partly open-source and niche - requires a well-trained workforce, a clear go-to-market strategy and geographic presence.

DevSecOps Consulting

DevSecOps covers the three key areas of people, process and tools for continuous delivery of software development. It has developed out of DevOps practices that have integrated security as a key aspect of software development, delivery and operations. DevSecOps is rapidly merging with automation and continuous testing to deliver a complete software creation process.

Executive Summary

A wealth of tools, practices and models creates a very complex and confusing landscape. Clients will have to find their best pick for a set of tools that are unique to their enterprise. Large providers underline their capabilities by partnering with a large number of tools providers and educating their staff on a multitude of tools and models. Often, they develop and offer industry-related best practices to implement DevSecOps within the client's environment in order to accelerate development and delivery individually.



Introduction

	Simplified illustration			
Next-Gen Application Development & Maintenance Services				
Next-Gen ADM	Application Maintenance Services – Midmarket / Niche			
Agile Development	DevSecOps Consulting			
Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts			

Source: ISG 2020

Definition

Application outsourcing continues to evolve, and service providers are increasingly adopting Agile development practices for their service delivery. Changes are being driven by client demand for increased velocity, more frequent 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 Agilebased operating models continues to outpace the former, thereby making the 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



Definition (cont.)

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application consulting, design, 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 programming interfaces (APIs) and microservices and are utilizing low-code/no-code platforms, containers and a cloudnative 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, gain competitive advantage and address the increasing need for speed to market. Service providers are augmenting their traditional ADM offerings 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.

Scope of the Report

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.



Provider Classifications

The ISG Provider Lens[™] quadrants were created using an evaluation matrix containing four segments, where the providers are positioned accordingly.

Leader

The Leaders among the vendors/ providers have a highly attractive product and service offering and a very strong market and competitive position; they fulfill all requirements for successful market cultivation. They can be regarded as opinion leaders, providing strategic impulses to the market. They also ensure innovative strength and stability.

Product Challenger

The Product Challengers offer a product and service portfolio that provides an above-average coverage of corporate requirements, but are not able to provide the same resources and strengths as the Leaders regarding the individual market cultivation categories. Often, this is due to the respective vendor's size or their weak footprint within the respective target segment.

Market Challenger

Market Challengers are also very competitive, but there is still significant portfolio potential and they clearly lag behind the Leaders. Often, the Market Challengers are established vendors that are somewhat slow to address new trends, due to their size and company structure, and therefore have some potential to optimize their portfolio and increase their attractiveness.

Contender

Contenders are still lacking mature products and services or sufficient depth and breadth of their offering, while also showing some strengths and improvement potentials in their market cultivation efforts. These vendors are often generalists or niche players.

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Provider Classifications (cont.)

Each ISG Provider Lens™ quadrant may include a service provider(s) who ISG believes has a strong potential to move into the leader's quadrant.

Rising Star

Rising Stars are usually Product Challengers with high future potential. Companies that receive the Rising Star award have a promising portfolio, including the required roadmap and an adequate focus on key market trends and customer requirements. Rising Stars also have excellent management and understanding of the local market. This award is only given to vendors or service providers that have made extreme progress towards their goals within the last 12 months and are on a good way to reach the leader quadrant within the next 12 to 24 months, due to their above-average impact and innovative strength.

Not In

This service provider or vendor was not included in this quadrant as ISG could not obtain enough information to position them. This omission does not imply that the service provider or vendor does not provide this service. In dependence of the market ISG positions providers according to their business sweet spot, which can be the related midmarket or large accounts quadrant.

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Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 1 of 3

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
Accenture	• Leader	• Not in	• Not in	Not in	Not in	Not in
Birlasoft	Contender	 Contender 	• Not in	Contender	Not in	Contender
Cognizant	• Leader	• Leader	• Leader	• Leader	• Leader	• Leader
LTI	Rising Star	Product Challenger	Rising Star	Product Challenger	Product Challenger	Rising Star
Hexaware	Product Challenger	Rising Star	Product Challenger	Not in	Not in	Not in
Capgemini	• Leader	Not in	• Leader	• Leader	Not in	• Leader
UST Global	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Not in	Product Challenger
Infosys	• Leader	• Leader	• Leader	• Leader	• Leader	• Leader
Coforge	Product Challenger	Product Challenger	Product Challenger	Not in	Product Challenger	Product Challenger
Persistent	 Contender 	Not in	• Not in	Product Challenger	Not in	Product Challenger
IBM	• Leader	Not in	Product Challenger	Not in	Not in	• Leader
DXC	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Product Challenger	• Leader



Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 2 of 3

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
YASH Technologies	Contender	 Contender 	Contender	 Contender 	• Not in	• Not in
TCS	• Leader	• Leader	• Leader	• Leader	Product Challenger	Product Challenger
Mphasis	Product Challenger	Product Challenger	 Contender 	 Contender 	Not in	Not in
Zensar	Contender	 Contender 	Not in	 Contender 	Product Challenger	Product Challenger
HCL	• Leader	Product Challenger	• Leader	Rising Star	Rising Star	Product Challenger
Atos	Product Challenger	Product Challenger	Product Challenger	• Leader	Product Challenger	Product Challenger
Mindtree	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Product Challenger
Wipro	• Leader	• Leader	• Leader	• Leader	• Leader	• Leader
Tech Mahindra	• Leader	Not in	Product Challenger	Product Challenger	Not in	Market Challenger
Ciber	Contender	Product Challenger	Not in	Not in	Not in	Not in
Aveva	Not in	Not in	Not in	Not in	Not in	Not in
Getronics	Contender	Product Challenger	Not in	Not in	Not in	Not in

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Next-gen Application Development & Maintenance (ADM) Services - Quadrant Provider Listing 3 of 3

	Next-gen ADM	Application Maintenance Services – Midmarket / Niche	Agile Development	DevSecOps Consulting	Continuous Testing – Midmarket and Expert Consulting	Continuous Testing – Large Accounts
Endava	Contender	Product Challenger	 Contender 	Product Challenger	• Not in	• Not in
EPAM	Not in	Not in	Product Challenger	• Not in	 Not in 	• Not in
BJSS	Not in	Not in	Product Challenger	 Contender 	Not in	• Not in
Cognizant	Not in	Not in	Not in	• Not in	Not in	• Not in
TestingXperts	Not in	Not in	Not in	Not in	Product Challenger	Not in
SopraSteria	Not in	Not in	Not in	Not in	 Contender 	 Contender
SLK Group	Not in	Not in	Not in	Not in	Product Challenger	Product Challenger
a1qa	Not in	Not in	Not in	Not in	 Contender 	 Contender
BT	Not in	Not in	Not in	Product Challenger	Not in	Not in
Validata	Not in	Not in	Not in	Not in	 Contender 	Contender
Fujitsu	Product Challenger	Not in	Not in	Not in	Not in	Not in
CGI	Contender	Not in	Not in	Not in	Not in	Not in





ENTERPRISE CONTEXT

Agile Development

This report is relevant to enterprises across industries in the U.K. for evaluating providers offering Agile development services.

In this quadrant report, ISG highlights the current market positioning of providers for Agile development in the U.K. based on depth of service offering and market presence.

Many enterprises, due to changing business needs, want to develop applications with greater speed, shorter time to market and shorter release cycles in order to increase efficiency. Enterprise application development has evolved at a rapid pace and now is moving toward cloud-based platforms, owing to the factors like easy scalability and integration. Enterprises now want to develop applications that fit the overarching technology landscape. Also, ISG observes increasing demand for APIs and reusable components to enable easy integrations across solutions. These enterprises have specific IT infrastructure needs, such as security, agility, scalability, and integrity. A service provider can support an enterprise client by addressing all these needs. Also, the enterprise clients need to evaluate the providers not only on their capabilities but also on the frameworks developed and different methodologies used during the course of development.

Who should read the report:

IT and technology leaders should read this report for a clear understanding of the strengths and weaknesses of service providers in their ADM practice and to understand how they integrate the latest technologies/capabilities into their service offerings to find a competitive edge in the market.

Line-of-business industry leaders should read this report to understand the relative positioning of the partners that can help them effectively procure the application services for their business/industry and to ensure return on investment.

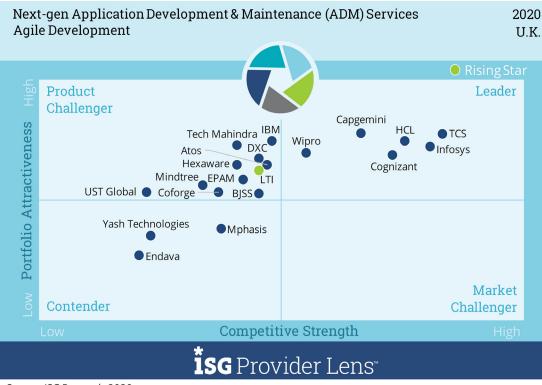


AGILE DEVELOPMENT

Definition

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, Agile showcases an incremental and iterative approach to application development, with the 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, enterprises are viewing it as a medium for attaining enterprise agility. Agile includes frameworks such as Scrum, Extreme Programming (XP), 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.



Source: ISG Research 2020



AGILE DEVELOPMENT

Definition (cont.)

APIs and microservices are used to break monolithic enterprise applications into smaller, independent, loosely coupled reusable services, which reduces complexity and makes applications easier to manage. Low-code and no-code platforms allow applications to be created 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. Providers are integrating these technologies into their Agile development approaches to meet the objectives of having a simplified application codebase, resiliency and manageability.

This quadrant analysis assesses the capabilities of a provider to deliver tangible results through the use of various Agile methodologies like Scrum, Kanban, Crystal, Extreme Programming and others. It also looks at the focus a provider has toward the use of Agile development within its overall application development practice.

Eligibility Criteria

- Ability to deliver tangible results through the use of various Agile methodologies like Scrum, Kanban, Crystal, Extreme Programming (XP) and others
- Capabilities and a 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
- Experience carrying out API lifecycle management functions encompassing library maintenance, usage statistics, performance monitoring, updates, security, reuse patterns and documentation, along with the API security 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.
- The provider should offer some form of a low-code or no-code platform or asset for application development and should have carried out live implementations for clients using the platform.

AGILE DEVELOPMENT

Observations

The culture shift toward Agile development processes is still a big issue for many clients, with providers solving it with a variety of approaches

- Capgemini has been making a significant effort to include Agile methodologies as a fundamental ethos of its delivery strategy.
 Capgemini has acquired several companies, expanded its presence in the U.K. and provided excellent offerings that cover the entire scope of Agile development.
- Cognizant has a large base of Agile-focused employees including Agile coaches, Scrum Masters, architects, and agile development engineers. It bundles various ADM services and integrate customer experience, the customer journey, Agile & DevSecOps and an engineering-driven culture.
- The U.K. is an expanding market for HCL. HCL understands the cultural aspects of Agile development and offers dedicated consulting, training and coaching to implement the necessary mind shift. These also include gamification-based trainings and workshops.

- With more than 75 percent of **Infosys** development projects being Agile, Infosys provides a broad range of niche and emerging technology capabilities with dedicated CoEs for data science, RPA, DevOps automation and other areas of expertise.
- TCS leads by example: the firm claims to be the world's largest Agile and digital-ready workforce.
 TCS has so far enabled remote working for 95 percent of its workforce and established cloud-based governance of over 23,000 projects, enabling high volumes of digital collaboration.
- Wipro enables teams to move away from being instruction-led to an autonomous, flexible, creative, and open model. Wipro's open innovation ecosystem leverages latest products and technology through mergers and acquisitions as well as investments in startup ecosystem and crowdsourcing.
- Rising Star LTI has very strong client relationships, invests strongly in new-age technologies including IoT, hyperscalers, and blockchain and has partnered with many startups to expand the firm's service portfolios. Out of all LTI ADM contracts, around 22-25 percent include DevOps services, and 60 percent are Agile.

INFOSYS



Infosys is an Indian multinational corporation that provides business consulting, information technology and outsourcing services. The company is headquartered in Bengaluru, India. Infosys reported \$12 billion in revenue in 2020, with more than 242,000 employees in 46 countries. Infosys generates \$7.8 billion from ADM business globally.

In the U.K., with more than 75 percent of its development projects being Agile, it employs 3,100 people who generate \$532 million from Agile projects (2019) at more than 150 clients. Infosys also provides a broad range of niche and emerging technology capabilities with dedicated CoEs for data science, RPA, DevOps automation and other areas of expertise.



Deep technology expertise: Infosys can manage large application development and maintenance organizations. Infosys also provides a broad range of niche and emerging technology capabilities with dedicated CoEs for data science, RPA, DevOps automation and other areas of expertise and has a wide partnership network.

Robust partner ecosystem with tool and process vendors: Infosys has partnered with leading established players such as IBM, Microsoft, HP, CA and AWS, as well as other niche product vendors like Atlassian, CloudBees, Tricentis, Red Hat and Xebia Labs to enhance its expertise in high-performing process and technology areas.

Platform-driven approach: Infosys offers a platform driven next-gen ADM approach with Infosys Live Enterprise Application Management Platform (LEAP). It provides a platform-centric approach for AMS services that makes application management agile, intelligent, integrated and aligned to business requirements. Infosys LEAP Application Maintenance and Support services leverage Infosys Nia[™], a knowledge-based AI platform.



Like many competitors, Infosys generates a large portion of its revenue in the highly competitive manufacturing industries. This limits its ability to outgrow the competition. Also, with the upcoming Brexit, manufacturing industries in the U.K. might shrink heavily in 2021.

2020 ISG Provider Lens[™] Leader

Infosys provides deep skills and excellent technology expertise and a proven record of successful Agile projects.





METHODOLOGY

The research study "ISG Provider Lens™ 2020 – Next-gen Application Development & Maintenance (ADM) Services" analyzes the relevant software vendors/service providers in the U.K. market, based on a multi-phased research and analysis process, and positions these providers based on the ISG Research methodology.

The study was divided into the following steps:

- 1. Definition of Next-gen Application Development & Maintenance (ADM) Services market
- 2. Use of questionnaire-based surveys of service providers/vendor across all trend topics
- 3. Interactive discussions with service providers/vendors on capabilities and use cases
- 4. Leverage ISG's internal databases and advisor knowledge and experience (wherever applicable)

- Detailed analysis and evaluation of services and service documentation based on the facts and figures received from providers and other sources.
- 6. Use of the following key evaluation criteria:
 - Strategy & vision
 - Innovation
 - Brand awareness and presence in the market
 - Sales and partner landscape
 - Breadth and depth of portfolio of services offered
 - Technology advancements

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Lead Analyst

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Oliver Nickels has in-depth technical and business know-how and more than 20 years of experience as marketing manager, management consultant and start-up entrepreneur to contribute to ISG customer projects. His focus is on marketing optimization, digital marketing and the digital customer journey.

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Oliver holds a degree in computer sciences of the University of Bremen and is a certified marketing assistant. He has also undergone a business model development training.

Oliver has received various marketing rewards, including the gold CLIO, the gold Best of B2B and the gold and bronze German Dialog Marketing Award.



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Arul has been working with ISG for more than two years and his area of expertise is on Application Development & Maintenance (ADM). During his tenure, he has developed content for ISG Provider Lens[™] in the areas of Next-gen Application Development & Maintenance (ADM), SAP HANA and Leonardo Ecosystem and Data Analytics Services & Solutions. As part of ISG Provider Lens[™], Arul is responsible for supporting research authors and authoring blogs about niche technologies, market trends and insights.



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