ISG Provider Lens™

Engineering Services

Automotive – Software/Digital & Platform Engineering

Germany 2019

Quadrant Report

A research report comparing provider strengths, challenges and competitive differentiators

Customized report courtesy of:

L&T Technology Services

August 2018

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 was current as of 30, June 2018. ISG recognizes that many mergers and acquisitions have taken place since that time but those changes are not reflected in this report.

The lead authors for this report is Rainer Suletzki.The report was edited by Heiko Henkes.

ISG Provider Lens™

ISG Provider Lens™

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EXECUTIVE SUMMARY

For quite some time, engineering services have been included in outsourcing and outtasking contracts; companies from technology-driven industries often leverage external suppliers that take over a significant share of the required engineering tasks. Traditionally, the focus was on constructing and designing the required components; specifically, the automotive industry uses such external services to a large extent and some of these companies have complete categories of parts such as gear units mostly developed by external providers. Similar to many other markets, the market for engineering services has been impacted by the digital transformation, which means that in the wake of technologies such as mobile connectivity, cloud data storage, IoT etc. the share of engineering services where software is key will increase significantly. To account for this trend, this study examines providers of engineering services with a focus on the digital transformation. We can distinguish the following main groups of providers:

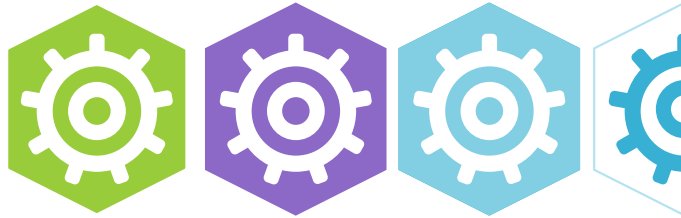
- Companies that have been active as providers of traditional engineering services for quite some time and are advancing their portfolio to address the increasing relevance of digital components.
- Companies that have their roots in the IT services market and are leveraging these competencies to address current technological trends and provide a powerful engineering services offering.

Companies that continue to focus on traditional engineering services are not analyzed. The market for engineering services with a high share of software is relatively young; as we have observed, no classification of these services has been established yet. We have differentiated between industries and also accounted for functional differences. For the purpose of this study, our classification combines functional aspects (product engineering, process/plant engineering, software/digital & platform engineering) with industries (automotive and process industries); a more detailed description can be found under "Scope of This Study". Also, there are providers where the share of services with a focus on the digital transformation is insufficient or where it was not possible to make a reliable assessment, based on available information. Therefore, these companies were not rated, which has, of course, limited the number of analyzed providers within the individual segments.

Many of the examined providers are globally active companies with headquarters outside Germany and delivery organizations in various regions. Service providers with a focus on Germany, mostly on the automotive sector, are also engaged in global activities, but are mostly servicing locations of customers with headquarters in Germany.

Additional relevant and differentiating aspects include the following:

- The maturity of contracting models, e.g., the share of services rendered on a time & material basis in relation to services based on an agreed outcome.
- The share of projects for specific components in relation to the development of software of general usability which has to be customized by the customers for their specific use cases.



ISG Provider Lens™

Introduction

Definition

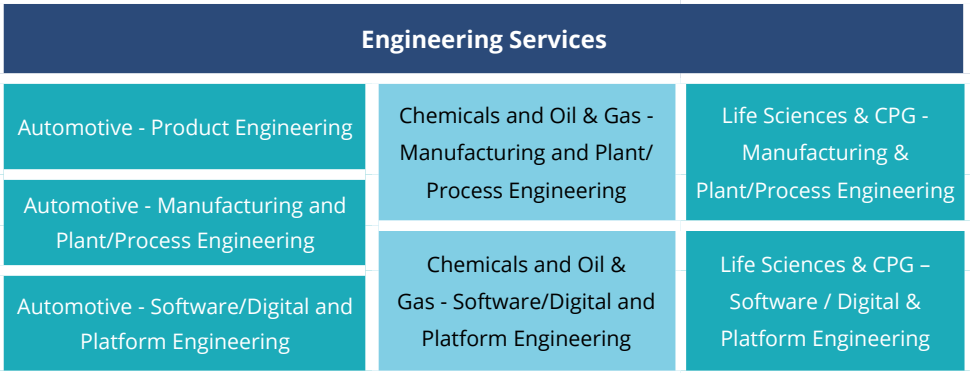
SCOPE OF THE REPORT

For the purpose of this study, the service categories were classified in a way that combines functional aspects with industries. The following industries were selected:

1. Automotive sector
2. Process industry with a focus on chemicals and oil & gas
3. Process industry with a focus on life sciences and consumer packaged goods (CPG)

The process industry was broken down to account for the fact that the life sciences and - to a smaller extent - the CPG industry must comply with regulatory requirements that clearly differ from those of the chemicals and the oil & gas industries. Within the life sciences category, we have also included medical devices, although traditionally, they fall partly under the discrete manufacturing category. However, as a result of the digital transformation, this differentiation is often not as clear as it used to be and therefore, it makes sense to include medical devices within the context of this study. For instance, pharmaceutical companies use medical devices (e.g., injectors) for interacting directly

Simplified illustration



Source: ISG 2018

Definition (cont.)

with patients to administer medication and these devices fall under the discrete manufacturing category.

The geographical coverage of this study is Germany; considering the global activities of engineering services customers, providers' global presence also played a relevant role for the analysis.

Functionally, the following categories were analyzed:

1. Product Engineering

Product engineering services (PES) are related to the development of physical products or product sub-sections utilizing capabilities that include embedded electronics – semiconductor engineering, hardware engineering, embedded systems software, verification & validation and IoT-related services, as well as overall product and systems level engineering.

2. Manufacturing & Plant / Process Engineering

Manufacturing & plant / process engineering services are related to planning, designing, modifying, optimizing and maintaining plant or manufacturing systems and equipment – with a focus on industrial IoT / Industry 4.0 applications such as connected factories, digital asset management, predictive maintenance, 3D printing, robotics / automation etc.

3. Software / Digital & Platform Engineering

Software / digital / platform engineering services consist of application software development, independent of specific hardware. It also includes IoT software applications such as connectivity, mobility, predictive maintenance, OT data analytics (OT data refers to data pertaining to sensors, machines, location etc.), digital supply chain etc., and engineering platforms related work: such as IoT, PLM, MES etc. ERP platforms are not included in the study.

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 have therefore still 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.

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 mostly product challengers with high future potential. When receiving the "Rising Star" award, such companies have a promising portfolio, including the required roadmap and an adequate focus on key market trends and customer requirements. Also, the "Rising Star" has an 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 12-24 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.

Engineering Services-Quadrant Provider Listing 1 of 2

	Automotive - Product Engineering	Automotive - Manufacturing and Plant/Process Engineering	Automotive - Software/Digital and Platform Engineering	Chemicals and Oil & Gas - Manufacturing and Plant/Process Engineering	Chemicals and Oil & Gas - Software/ Digital and Platform Engineering	Lifesciences & CPG - Manufacturing and Plant/Process Engineering	Lifesciences & CPG - Software/Digital and Platform Engineering
Akka Technologies	Contender	Product Challenger	Not In	Product Challenger	Not In	Product Challenger	Not In
Alten	Product Challenger	Not In	Not In	Not In	Not In	Product Challenger	Not In
Altran	Leader	Leader	Leader	Leader	Leader	Rising Star	Rising Star
Atos	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Product Challenger	Leader	Leader
Bertrandt	Market Challenger	Not In	Market Challenger	Not In	Not In	Not In	Not In
Capgemini	Rising Star	Not In	Product Challenger	Not In	Not In	Market Challenger	Leader
Cognizant	Product Challenger	Not In	Product Challenger	Contender	Not In	Leader	Leader
EDAG	Contender	Contender	Not In	Not In	Not In	Not In	Not In
EPAM	Not In	Not In	Product Challenger	Contender	Product Challenger	Contender	Contender
HCL	Leader	Market Challenger	Leader	Not In	Contender	Not In	Product Challenger

Engineering Services-Quadrant Provider Listing 2 of 2

	Automotive - Product Engineering	Automotive - Manufacturing and Plant/Process Engineering	Automotive - Software/Digital and Platform Engineering	Chemicals and Oil & Gas - Manufacturing and Plant/Process Engineering	Chemicals and Oil & Gas - Software/ Digital and Platform Engineering	Lifesciences & CPG - Manufacturing and Plant/Process Engineering	Lifesciences & CPG - Software/Digital and Platform Engineering
Infosys	Leader	Leader	Leader	Leader	Leader	Leader	Leader
Innominds	Not In	Not In	Contender	Not In	Contender	Not In	Contender
in-tech	Not In	Not In	Contender	Not In	Not In	Not In	Not In
ITK Engineering	Not In	Not In	Contender	Not In	Not In	Not In	Not In
KPIT	Product Challenger	Contender	Product Challenger	Not In	Product Challenger	Not In	Product Challenger
L&T Technology Services	Leader	Leader	Leader	Leader	Leader	Leader	Product Challenger
QuEST Global	Product Challenger	Product Challenger	Leader	Leader	Product Challenger	Product Challenger	Contender
TCS	Leader	Leader	Leader	Leader	Leader	Leader	Leader
Tech Mahindra	Product Challenger	Contender	Product Challenger	Not In	Not In	Not In	Not In
Wipro	Leader	Market Challenger	Leader	Not In	Not In	Not In	Not In

Engineering Services Quadrants

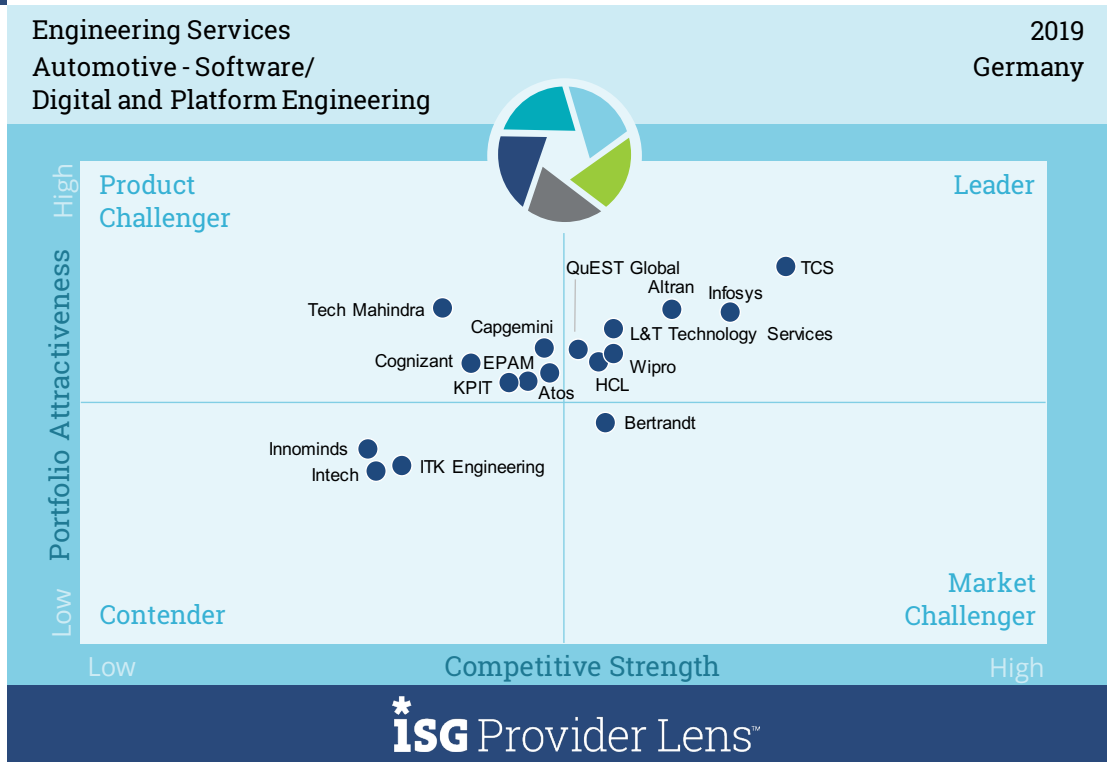
AUTOMOTIVE – SOFTWARE/DIGITAL & PLATFORM ENGINEERING

Definition

ES in automotive is helping in providing automotive players mechanism and ways to reinvent their role - focusing on core activities and creating efficient ecosystems with strategic partners. The automotive industry is facing a revolution. The automotive industry is facing a revolution. Innovation-related challenges are reshaping traditional auto industry structures and relationships — in particular, by threatening the existing distribution of profits and the boundaries between OEMs and tier-one or tier-two suppliers, as well as between automotive and tech companies.

Software / Digital / Platform engineering services consist of application software development, independent of specific hardware. It also includes IoT software applications such as connectivity, mobility, predictive maintenance, OT data analytics (OT data refers to data pertaining to sensors, machines, location etc.), digital supply chain etc., and engineering platforms related work: such as IoT, PLM, MES etc.

ERP platforms are out of scope.

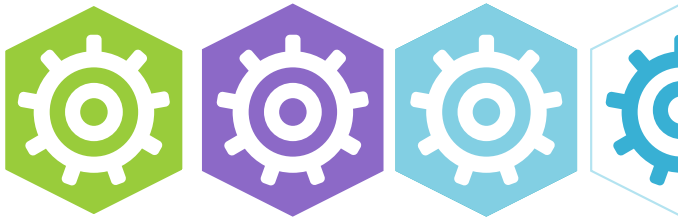


Source: ISG Research 2018

AUTOMOTIVE – SOFTWARE/DIGITAL & PLATFORM ENGINEERING

Observations

- Within this segment, providers with roots in the IT industry enjoy a stronger presence than in other segments.
- A key aspect is providers' skill to transfer respective experiences, often across multiple industries, to the specific requirements of this industry.
- Another key success factor is providers' capability to not supply general software that needs to be adjusted to specific use cases, but rather develop concrete, specific components.
- Providers with roots in the traditional engineering segment are intensively working to enhance their digital transformation competencies, i.e., software-based engineering services offerings, and benefit from their long-standing industry experience.
- Providers also must build up industry-specific networks, including relevant associations and industry forums, to ensure success and keep pace with current trends.



ALTRAN

Overview

Altran provides a comprehensive portfolio with a clear focus on engineering and R&D. The regional focus is on Europe and North America. The services are available for a broad scope of industries.

The company pursues a clear strategy to implement trends within the digital transformation and, thus, has a strong position in the segments that are part of this study.

Strengths

Altran's automotive software/digital and platform engineering portfolio enhances the provider's great traditional engineering competence to also include digital transformation aspects.

The portfolio covers key technologies, from app development, product life cycle management (PLM) and manufacturing execution systems (MES) to data analytics, a key component of the digital transformation.

Altran has a comprehensive network of partnerships with universities and industry-specific associations/forums, which enables the provider to enhance their competencies to address current trends.

A specific organizational unit addresses the digital transformation aspects across industries, which enables Altran to transfer insights and experiences between multiple industries and better leverage existing know-how.

The provider's digital transformation activities provide comprehensive coverage of cybersecurity issues.

Altran has many reference projects in Germany.

Caution

The share of T&M-based projects for customers is relatively high, and the provider should work to increase the share of managed services and managed projects accordingly.

2019 ISG Provider Lens™ Leader

Altran combines their traditional engineering services know-how with comprehensive digital transformation competence.

HCL

Overview

HCL is a global provider who enjoys a strong position in the traditional IT services market and has a clear focus on the digital transformation of their customers' core business processes. The engineering services examined in this study are among the main offerings of the HCL portfolio.

Strengths

The provider is engaged in the continuous development of customer- and project-specific services and also has a key focus on the development of standardized platforms that can be used within multiple environments in the automotive industry.

The HCL portfolio comprises traditional IT services, but also has a clear focus on digital transformation aspects, i.e., on embedding software development into the development of products for customers.

HCL has a comprehensive network of partnerships, including established technology providers as well as universities and research institutions, ensuring that current trends are included in concrete development initiatives.

The HCL portfolio comprises standardized platforms (service line units – SLUs) to be used in multiple environments; examples include automated testing of electronic components, life cycle management, an advanced analytics framework and a test automation framework.

The provider's digital transformation activities provide comprehensive coverage of cybersecurity issues.

Caution

HCL must better address big data issues within the analytics context.

The provider should strengthen their presence in Germany (delivery centers, reference projects etc.).

2019 ISG Provider Lens™ Leader

HCL has a clear focus on software development within the digital transformation context in the automotive sector.

INFOSYS

Overview

Infosys is a global provider whose portfolio comprises traditional IT services as well as digital transformation services across industries to address customers' core business processes, with a specific focus on agile implementation. The engineering services examined within this study are one of several focus areas within the Infosys portfolio.

Strengths

Infosys has many years of experience with traditional IT service provisioning and can transfer this experience into the automotive sector, which positions this provider as a powerful player in this segment.

The Infosys service portfolio for software/digital & platform engineering provides a broad coverage of relevant functionality (application development & maintenance, data analytics, platform engineering). Rather than focusing on specific industries, the providers tries to provide cross-industry coverage, where possible.

Infosys provides their own analytics platform which also covers big data aspects. Services for other analytics platforms are also included in the offering.

Infosys has a comprehensive network of partnerships, including established technology providers as well as universities and research institutions, ensuring that current trends are included in concrete development initiatives. The Infosys Science Foundation enables the provider to leverage external know-how accordingly.

Cloud-based, common platforms are used for some functionality, e.g., Panaya for end-to-end management purposes.

The provider's digital transformation activities provide comprehensive coverage of cybersecurity issues.

Caution

Considering the coverage of most industries, the broad functionality and the continued growth, adequate recruiting of qualified talent will be a challenge.

The provider should strengthen their position in Germany (through delivery centers, reference projects etc.).

2019 ISG Provider Lens™ Leader

Based on their established IT services portfolio, Infosys is a powerful digital transformation partner for the automotive software/digital & platform engineering segment.

L&T TECHNOLOGY SERVICES

Overview

L&T Technology Services is a global IT service provider with a specific focus on engineering and research & development. Services include product development, product life cycle management, engineering analytics, machine-to-machine connectivity and IoT.

The company has presences in all relevant regions and enjoys a strong position in Germany.

Strengths

The L&T Technology Services portfolio within the software & platform engineering segment for the automotive industry with its many, partly patented solutions demonstrates the provider's long-standing experience and innovative strength.

L&T Technology Services has many patents for all kinds of functional areas within the software & platform engineering context in the automotive industry, demonstrating the provider's innovative strength and resulting strong position in this market.

In this segment, L&T Technology Services provides many solutions for very specific functional areas, e.g., fleet monitoring and industry-specific product life cycle management.

Digital transformation requirements such as machine-to-machine connectivity are already addressed and integrated in the provider's strategy.

The share of managed projects, where the provider takes over responsibility for IT platform development, is relatively high.

L&T Technology Services is a member of all relevant industry-specific technology forums and associations and also has a broad customer base in this segment.

L&T Technology Services has designed and developed their own industry-specific cybersecurity framework.

Caution

The provider should work to better address advanced analytics and big data aspects within their portfolio.

2019 ISG Provider Lens™ Leader

Based on their existing great competence and innovative solutions L&T Technology Services is a powerful partner for the software & platform engineering segment within the automotive industry.

QUEST GLOBAL

Overview

QuEST Global is a global player with an exclusive focus an engineering services provisioning. The focus is on product engineering and production engineering; digital transformation aspects have already been integrated into the provider's strategy. Recently, QuEST Global has strengthened their focus on software & platform engineering. Since its foundation in 1997 the provider has achieved growth rates that are above the industry average.

The company also enjoys a relevant position in Germany, also through acquisitions.

Strengths

QuEST Global's portfolio within the software & platform engineering segment for the automotive industry has a broad functional scope, from design and development to engineering analytics and manufacturing.

A key focus is on the interaction with the driver, e.g., the human-machine interface, user experience and connectivity to instances outside the vehicle.

QuEST Global cooperates with partners to operate a center for Advanced Design & Manufacturing and an innovation center, which are engaged in intense cooperation with universities, supporting the recruitment of competent talent.

QuEST Global strives to continuously develop their own IP and respective patents, demonstrating their great innovative strength.

QuEST Global complies with all standards that are relevant for automotive engineering and holds respective certifications.

QuEST Global has a broad customer base as well as numerous references and use cases.

Caution

The provider should enhance their partner network, especially to add IT technology providers.

2019 ISG Provider Lens™ Leader

QuEST Global is a competent partner for automotive companies that want to combine traditional engineering with industry-specific software engineering.

TCS

Overview

The TCS portfolio provides a very comprehensive coverage of industries and a very broad functionality of services. The provider covers traditional IT services as well as current trends and the digital transformation, also within the engineering services context which are analyzed within this study. The company has delivery centers in all important regions, including Germany.

Strengths

TCS is a powerful global provider of software/digital & platform engineering services for the automotive industry with great competence for various key technologies.

TCS' specific strengths include the provider's high product life cycle management (PLM) and manufacturing execution systems (MES) competence and experience as well as their know-how of key technologies such as 3D printing and IoT. Another focus is on standardized platforms that can be configured for being used within concrete projects. Examples include the IoT Sensor Data Analytics Framework which is of high relevance for process automation purposes.

TCS operates their own innovation labs that hold many patents.

The comprehensive advanced analytics know-how also covers big data aspects. These competencies are organized across industries to support the knowledge transfer between multiple industries.

TCS has a comprehensive network of partnerships, including established technology providers as well as universities and research institutions, ensuring that current trends are included in concrete development initiatives.

The provider's digital transformation activities provide comprehensive coverage of cybersecurity issues.

Caution

The provider could demonstrate the high relevance of the automotive industry through setting up a specific organizational unit; as of to date, automotive is part of the more general transportation segment.

2019 ISG Provider Lens™ Leader

TCS has great competence in the software/digital & platform engineering segment and enjoys a strong market position accordingly.

WIPRO

Overview

Wipro is a global provider who enjoys a strong position in the traditional IT services market and has a clear focus on the digital transformation of their customers' core business processes. The engineering services examined in this study are among the main offerings of the Wipro portfolio.

Strengths

Wipro's software & platform engineering portfolio for the automotive industry has a clear focus on the digital transformation and various specific areas of application.

Wipro provides several proprietary and industry-specific solutions, e.g., the "AutoInsight" telematics platform.

Wipro has a focus on specific topics, including the human-machine interface (HMI), which allows the driver to interact with his vehicle, Android-based mobile solutions, and solutions with cloud-based data storage and respective functionality, based on Microsoft Azure, Amazon, AWS, Google Cloud etc.

Wipro has a good network of partnerships, including established technology providers as well as universities and research institutions, ensuring that current trends are included in concrete development initiatives. Wipro also operates their own innovation labs and has delivery centers in all key regions.

Caution

The provider should increase the share of managed projects, i.e., take over development responsibility accordingly.

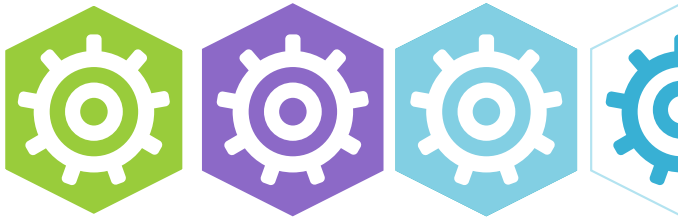
The provider should also enhance their customer base, specifically in the German market, through delivery centers, references and use cases.

2019 ISG Provider Lens™ Leader

Wipro is a powerful player in the software & platform engineering segment for the automotive industry and provides solutions for various specific areas of application.

Methodology

METHODOLOGY



The ISG Provider Lens™ 2018 – Engineering Services research study analyses the relevant software vendors and service providers in the German 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 Engineering 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 & use cases
4. Leverage ISG's internal databases & advisor knowledge & experience (wherever applicable)
5. Detailed analysis & evaluation of services & service documentation based on the facts & figures received from providers & 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

Authors and Editors

Rainer Suletzki, Author

Senior IT Management Advisor, Germany

Mr. Suletzki relies on a deep understanding of core business processes and in-depth know-how of IT management. He has more than 30 years of experience as Senior IT Manager, Senior Project Manager and – at the beginning of his career – as IT consultant. His main areas of expertise comprise IT application management, IT architecture, data modelling as well as IT sourcing strategy and execution

Rainer acts as independent consultant with a focus upon application management for SAP and specifically for SAP HANA. On behalf of ISG he conducts studies within the framework of ISG Provider Lens and takes on client projects with definition of IT strategy and the resulting sourcing decisions.

Before becoming an independent consultant, Rainer worked more than 30 years for a global German Life Science corporation.

Rainer holds graduate degrees in Economics and Computer Sciences.

Authors and Editors

Heiko Henkes, Editor

Director Advisor, ISG Research Lead

Mr. Henkes is a Director Advisor at ISG; in this role, he is responsible for strategic business management and acts as leader of ISG's team of research advisors. He is also in charge of bringing together IT trend topics within the digital transformation context and acts as keynote speaker on current and future IT trends.

Since 2013, Heiko has advised both ICT providers and users on current digital transformation topics such as Cloud Computing, Artificial Intelligence and the Mobile Enterprise.

In his work with IT Providers, he has a focus on go-to-market strategies and strategic portfolio development as well as on the strategic marketing and sales development. Heiko also analyzes and evaluates business processes, product-specific target markets and IT provider through classical competitive analyses. Within this context, Heiko supports companies to undergo continuous transformation, combining IT competencies with sustainable business strategies and change management.

His primarily focus lies on business development activities, further development and internationalization of the ISG Provider Lens™ (IPL) product-related processes beside his role as IPL Topic Leader to guide and sync all analyst team members.

Before joining ISG (Experton Group), Heiko worked as analyst manager for TechConsult GmbH.

Heiko holds a degree in economics with a major business informatics and marketing of the University of Kassel and is fluent in English.

ISG Provider Lens™ | Quadrant Report
August 2018

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