ISG Provider Lens™

Engineering Services

Chemicals & Oil & Gas - Software/Digital & Platform Engineering

Germany 2019

Quadrant Report

A research report comparing provider strengths, challenges and competitive differentiators

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.

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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:
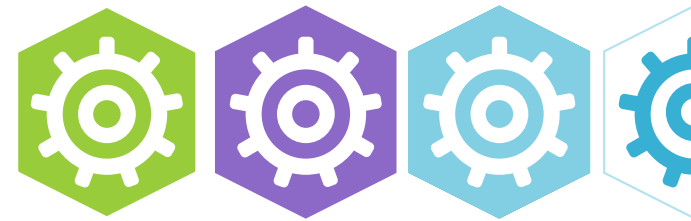
- Companies that have been active as providers of traditional engineering services for quite some time and are advancing their portfolio to address the increasing relevance of digital components.

- 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.

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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.

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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

Engineering Services		
Automotive - Product Engineering	Chemicals and Oil & Gas - Manufacturing and Plant/ Process Engineering	Life Sciences & CPG - Manufacturing & Plant/Process Engineering
Automotive - Manufacturing and Plant/Process Engineering		
Automotive - Software/Digital and Platform Engineering	Chemicals and Oil & Gas - Software/Digital and Platform Engineering	Life Sciences & CPG – Software / Digital & Platform Engineering

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 cover- age 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.

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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 mostly product challengers with high future potential.
When receiving the "Rising Star" award, such companies have a promis-
ing 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 ex-
treme 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.
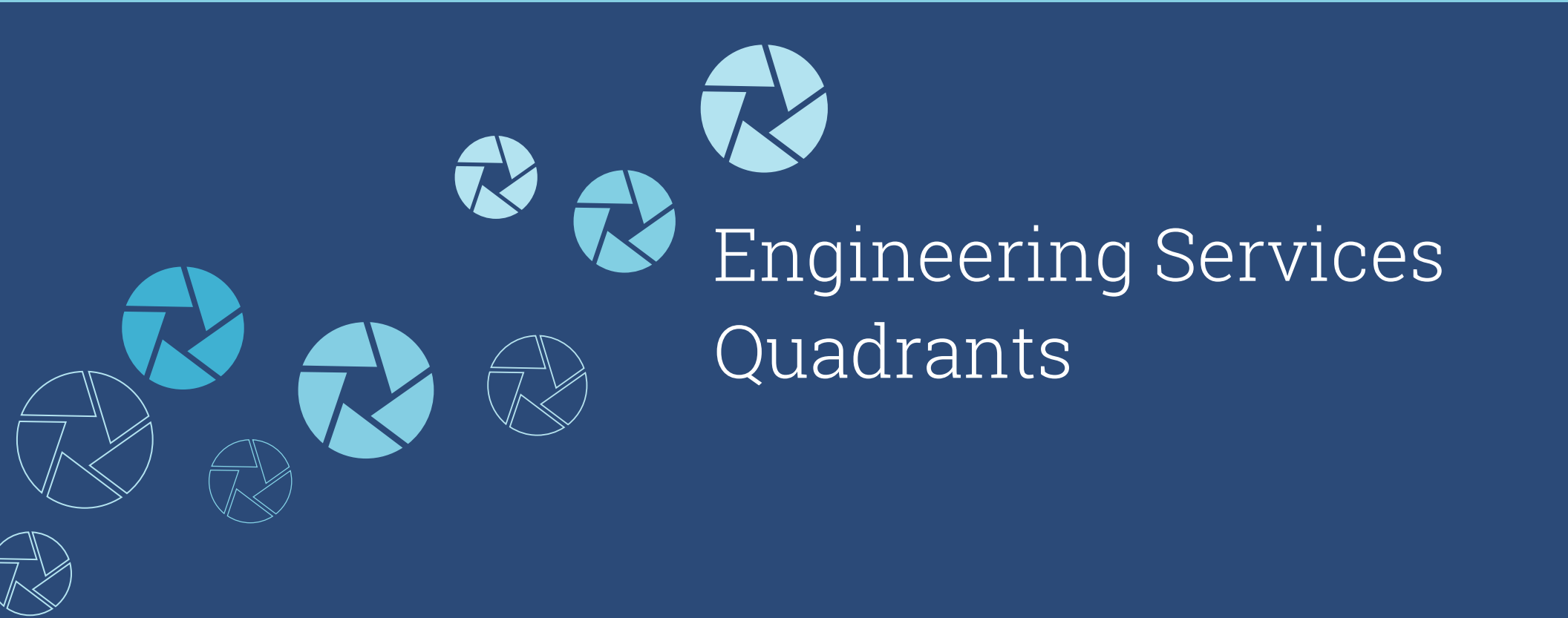
Not In

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.

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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

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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

CHEMICALS & OIL & GAS - SOFTWARE/ DIGITAL & PLATFORM ENGINEERING

Definition

ES in the process industry is helping the next wave of leaders in this industry to increase their engineering quality and performance while optimizing costs and meeting stringent compliance, safety and security standards. At the same time, implement tailored Industry 4.0, IoT and analytics services and solutions to transform data into new revenue streams and boost performance, while ensuring cybersecurity. ES providers are partnering with process industry manufacturers to achieve the above. Specifically, in the chemicals and oil & gas business the manufacturing excellence is rather important in order to achieve best cost competitiveness.
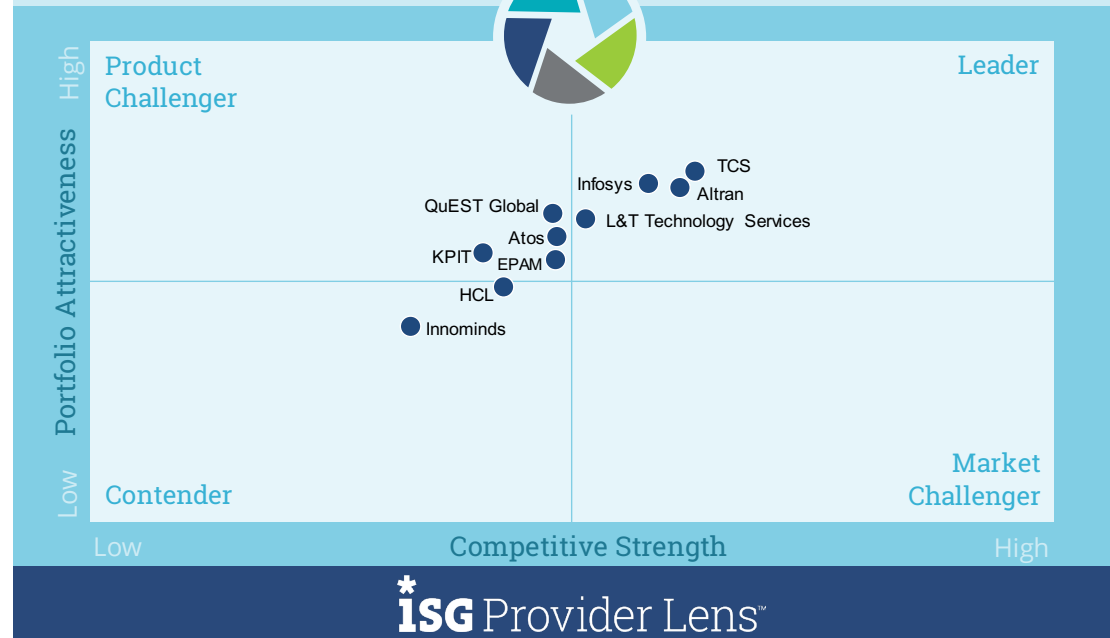
Software / digital / platform engineering services consist of application software development, independent of specific hardware. It also includes IoT software applications such as connectivity, mobility, predictive maintenance, OT data analytics (OT data refers to data pertaining to sensors, machines, location ...), digital supply chain etc., and engineering platforms related work such as IoT, PLM, MES etc.

ERP platforms are out of scope.

Engineering Services
Chemicals and Oil & Gas - Software/
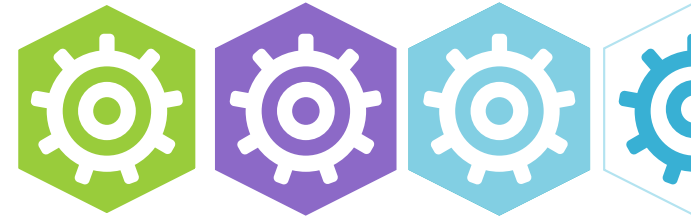Digital and Platform Engineering

2019
Germany

Source: ISG Research 2018

CHEMICALS & OIL & GAS - SOFTWARE/ DIGITAL & PLATFORM ENGINEERING

Observations

- Customers from this industry are often globally active corporations and so, the platforms examined within this segment are often used across multiple regions. Providers' offerings address these conditions, i.e., many of them do not have a specific focus on Germany.

- On the functional side, key areas of coverage include production optimization, simulation of facilities or physical conditions (oilfields), energy and environmental management and advanced analytics for all kinds of applications.

- Most available platforms have a focus on use cases within the oil & gas industry, the degree of adoption in the chemicals industry is lower.

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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 software/digital and platform engineering portfolio for the chemical and oil & gas industries enhances the provider's great traditional engineering competence to also include digital transformation aspects, specifically for the energy sector.

Altran operates several centers of excellence for developing general software which is not specifically designed for individual projects, for instance, for IoT, analytics and advanced manufacturing use cases, which can be used as basis within concrete projects to develop specific solutions with a high degree of maintainability. The portfolio also includes cloud-based applications, for instance, on the Microsoft Azure Cloud.

The provider's innovative strength is demonstrated with their focus on future-oriented trends such as the virtual or digital plant.

Altran uses analytics solutions in areas such as simulation, risk management and predictive maintenance to address efficiency improvement and cost optimization needs.

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

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.

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

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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.

Caution

Within this segment, Infosys has a focus on the oil & gas industry, which has a weaker presence in Germany and therefore, the share of this region of Infosys' global business is rather low.

Strengths

Infosys is a powerful global provider of software/digital & platform engineering services and covers many industries.

The Infosys service portfolio for software/digital & platform engineering provides a broad coverage of relevant functionality (application development & maintenance, data analytics, platform engineering). The offering for the oil & gas segment includes solutions addressing areas such as the digital oil field, production optimization, energy management and predictive maintenance.

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 universities and research institutions, ensuring that current trends are included in concrete development initiatives.

The share of managed projects, where Infosys takes over development responsibility, is rather high.

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

2019 ISG Provider Lens™ Leader

Infosys is a powerful provider of software & platform engineering solutions that address the specific requirements of the oil & gas industry.

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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

Within this segment, L&T Technology Services enjoys a strong position as a provider of services for developing industry-specific software products and analytics solutions.

Examples for the provider's strong software/digital & platform engineering product portfolio for the chemical and oil & gas industry include digital oilfield, energy and environmental management solutions, leveraging synergies with the manufacturing segment where the company also has a strong position.

A key analytics focus is on optimization solutions (e.g., predictive maintenance, safety) and on facility management and supply chain integration solutions.

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

L&T Technology Services has a broad customer base and many customer references in this segment.

Caution

The provider should further enhance its partner network with IT technology providers to address digital transformation topics.

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In the software/digital & platform engineering segment for the chemical and oil & gas industry L&T Technology Services provides a strong portfolio, specifically for the oil & gas sector.

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TCS

Overview

The TCS portfolio provides a very comprehensive coverage of industries and a very broad function-ality 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 not only a powerful provider of general IT services, but also offers various highly specific competencies for the software/digital & platform engineering segment for the chemical and oil & gas industry.

Examples include a "rig simulator", a very specific productivity tool for development and operations.

The portfolio also includes an industry-specific service integration & management framework (SIAM) for oil & gas to support IT service management within this context.

TCS has a large customer base in this segment, specifically among globally active energy companies.

TCS can rely on a comprehensive global network of partners, including research institutions and innovation labs that are specifically relevant for this industry. TCS also is a member of relevant industry forums.
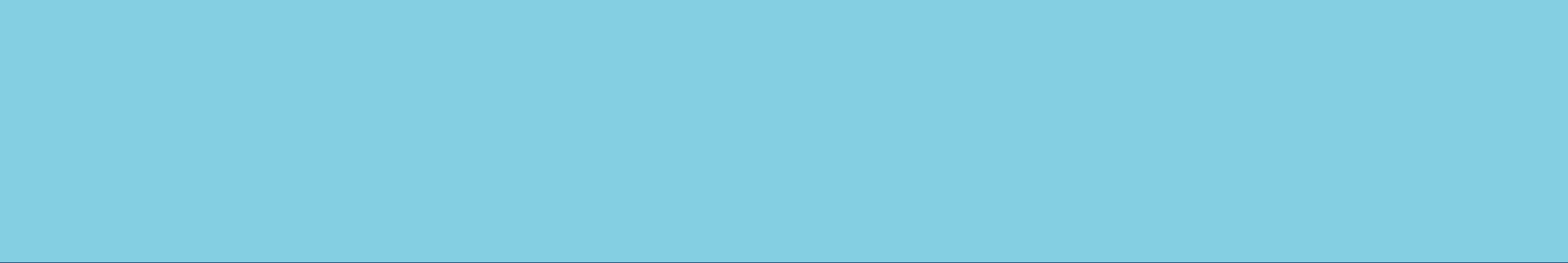
Caution

The provider should better leverage their existing know-how to provision solutions for the chemical industry.

2019 ISG Provider Lens™ Leader

TCS has great software engineering competence to specifically service companies from the oil & gas industry.
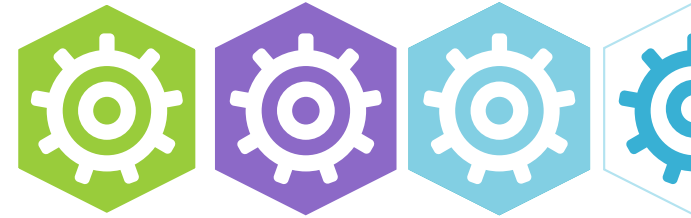
Methodology

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
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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.

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