



***ISG** Provider Lens™

2019

Digital Transformation -
Manufacturing Services
& Solutions

imagine your future®

ISG (Information Services Group) (Nasdaq: III) is one of the world's leading technology research and consulting companies. As a trusted business partner to more than 700 customers, including more than 70 of the world's 100 largest companies, ISG helps companies, public organizations, and service and technology providers to achieve operational excellence and faster growth. The company specializes in digital transformation services, including automation, cloud and data analysis, sourcing consulting, managed governance and risk services, network operations services, technology strategy and operations design, change management, market research and analysis of new technologies. Founded in 2006, ISG, based in Stamford, Connecticut, employs over 1,300 experts who are active in more than 20 countries. ISG's global team is renowned for its innovative thinking, valued voice in the market, in-depth industry and technology expertise, and world's leading market research and analysis resources based on the industry's most extensive market data. More information is available at www.isg-one.com.



Table of Contents

Definition	4
Quadrants Research.....	5
Schedule.....	7
List of Companies being Invited for the Survey.....	9

© 2019 Information Services Group, Inc. All rights reserved. Reproduction of this publication in any form without prior permission is strictly prohibited. Information contained in this report is based on the best available and reliable resources. Opinions expressed in this report reflect ISG’s judgment at the time of this report and are subject to change without notice. ISG has no liability for omissions, errors or completeness of information in this report. ISG Research™ and ISG Provider Lens™ are trademarks of Information Services Group, Inc.

Definition

The digital transformation is visible in many places in the manufacturing industry. It not only serves to optimize production facilities - through the use of analytics in condition monitoring or predictive maintenance of production tools. It leads to a revolution in the entire industry through virtualization of prototypes, integration of digital printing and automation of control systems. Digitalization is the key to the transformation of production of low-wage countries into the localization of state-of-the-art factories that can respond immediately to customer requirements and produce close to the customer.

In recent years, digitization has changed the way engineering services are performed and provided, as well as the subject itself. One of the main reasons is that the results of engineering also contain more and more digital elements. Due to the growing importance of solutions and services for digitization in the manufacturing segment, ISG will carry out this study.

Since this is still a relatively new area, there is no generally established classification structure in the market for this type of service. The research process starts with core topics on digitization in the manufacturing segment, which directly influence the production process. This includes analytics, virtualization, networking in near-realtime and additive manufacturing. Core technologies are AR/VR, 5G connectivity and blockchain.

The ISG Provider Lens™ quadrant study offers the following to IT decision-makers:

- Transparency in the strengths and weaknesses of providers/service providers
- Differentiated positioning of the service provider according to the segments
- The separate studies focus on the German market

Our studies thus provide an essential decision-making basis for positioning and go-to-market considerations. ISG advisors and enterprise customers also use information from these reports to evaluate their current and potential new service provider relationships.

Quadrant Research

As part of the ISG Provider Lens™ quadrant study, we work with the following seven quadrants for the segment “Digital Transformation - Manufacturing Services & Solutions 2019”.

Digital Transformation - Manufacturing Services & Solutions 2019				
Services	Manufacturing Analytics Services	Digital Consulting & Engineering Services	Digital DevOps and Software Engineering Services	Manufacturing Services Blockchain
Solutions	Manufacturing Data Analytics	Manufacturing Virtualization Solutions	Manufacturing Connectivity Solutions	

Source : ISG 2019

Manufacturing analytics services

Manufacturing analytics services: The complete range of services to support the design, architecture, structure, integration and operation of analysis functions that process data from the point of acquisition to optimize the manufacturing performance. The services comprise:

- Consulting on the development of the corresponding analysis models
- Platform consulting for the design of the right analytical platform - on-premise or off premise
- Provision and integration of an analysis platform for defined use cases
- Proof-of-concepts for the evaluation of analytics initiatives
- Operation of a real-time analytics solution as a service.

Digital consulting & engineering services

Manufacturing - digital consulting & engineering services: The complete range of professional and managed services to support the planning, structure, modification, optimization and maintenance of facilities or manufacturing systems and equipment. The focus is on important development trends such as predictive maintenance and condition monitoring by Industrial IoT, Industry 4.0 applications such as Connected Fabories, virtualization technologies for digital asset management, integration of 3D printing, robotics / automation and the connectivity of the Smart Factory including 5G.

Digital DevOps and software engineering services

Digital DevOps and software engineering services: The complete range of services comprises software product development and the entire production-relevant application software development, independent of the specific hardware. It also comprises IoT software applications such as connectivity, mobility, predictive maintenance, OT data analysis (OT data refers to data on sensors, machines, locations, etc.), digital supply chain, etc. and work on technical platforms related to IoT, PLM, MES, etc. ERP platforms are outside the scope of application.

Manufacturing services - blockchain

Manufacturing services - blockchain: A service package from consulting, implementation and integration of technologies to the successful use of blockchain technology to support additive manufacturing with integrated 3D printing in a widely distributed supplier environment.

Manufacturing data analytics solutions

Manufacturing data analytics solutions process volumes of structured and unstructured data from multiple sources, including IoT sensors that detect patterns and trends. Production scenarios include optimized use of plant machinery, continuous monitoring and digitally derived improvements in product quality and design, sales forecasts, improved knowledge about customer usage, and supply chain optimization.

Manufacturing virtualization solutions

Virtual manufacturing solutions: Including all digital modelling solutions to support virtualization of manufacturing, including AR/VR technologies and the digital twin. IAR includes the integration of object recognition, computer graphics, artificial intelligence and human-computer interaction with sensors and display devices via intuitive interfaces. The solutions include:

- Immersive design in real-time
- Digital simulation/digital twin concept
- The modularized factory
- AR glasses and integration into production logistics processes
- Additive modelling - integration of digital components into the manufacturing process
- Industrial Augmented/Virtual Reality (IAR) is related to the application of Augmented Reality (AR) to support an industrial process.

Manufacturing connectivity solutions

Manufacturing connectivity solution: Near-realtime networks enable connection to factory automation with a local radio network via licensed spectrum. 5G now offers the potential of real-time communication and enables scenarios such as robotic peer-to-peer communication without latency period. The solutions comprise integration with wired industrial LAN devices, an easy-to-use local management system to monitor and manage the local network infrastructure and connected devices, and a low-latency cloud infrastructure for 5G network functions and industrial applications.

Schedule

The research phase with surveys, evaluation, analysis and validation extends from **July to August 2019**. Selected results shall be presented to the media in October 2019.

We have created an **Excel questionnaire for the survey**, which you will receive on request. We look forward to your participation.

Milestones	Beginning	END
Launch	September 2019	
Survey (questionnaire)	September 3rd, 2019	September 30th, 2019
Sneak previews	October 14th, 2019	
Content provisioning	November 12th, 2019	
Press release	November 26th, 2019	

Research production disclaimer:

ISG collects data for the purpose of research and the creation of service provider profiles. The profiles and supporting data are used by ISG consultants to make recommendations and to inform their customers about the experience and qualifications of the respective outsourcing project service providers identified in advance by the customers.

This data is collected as part of ISG FutureSource process and Candidate Provider Qualification (CPQ) process. ISG leaves it open to use the collected data of certain countries or regions purely for the informational content of the consultants and therefore not for the preparation of ISG Provider Lens reports.

These decisions are made on the basis of the quality and completeness of the data received directly from the service providers and the expertise of the analysts for the respective countries or regions.

The submitted information may also be used for individual research projects or for briefing notes written by senior analysts.

Contacts for this study

Analysts



Dr. Henning Dransfeld
Lead Author
Email: henning.dransfeld@isg-one.com

Project Manager



Alexandra Colella
Project Manager
Email: alexandra.colella@isg-one.com



Vanessa Scheffer
Project Manager
Email: vanessa.scheffer@isg-one.com

Do you need any further information?

If you have any questions, please do not hesitate to contact us at isglens@isg-one.com.

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.

3DIT	Cisco	Doubleslash
*um	Clearstorydata	DXC Technology
A1 Digital	Cloudera	ec4u
abas Software	Codecentric	Empolis
ABB	Cognizant	EODA
Accenture	Computacenter	Ericsson
Alexander Thamm	Comsysto Reply	Ernst&Young
All for one Steeb	coneva	FICO
Allgeier ES	ConSol	Fivetran
Altair	Contech Software & Engineering	Forcam
Alteryx	CSC	Fujitsu
Arxum	Cubeware	Gefasoft
Atos	Damovo	General Electric
Atos	Dassault	Genpact
Attivio	Databricks	gfos
Axians	Datagroup	Gigatronic
Axoom	Dataiku	Globant
Axoom	Datameer	HCL Technologies
Bechtle	datapine	Hexaware
BEDM	Datarella	Hochtief Vicon
Bita Bockchain	DataRobot	HPE
blik	datawatch	Huawei
Blockhead Technologies	DefinitiveLogic	IBM
Bosch	Deloitte	IBM
CADEFM	Deutsche Telekom	IDA Analytics GmbH
Cancom	Device Insight	imp
Capgemini (Altran)	d-fine	Infosys
Capgemini (Altran)	Dimension Data	iTac
CBIGconsulting	Domino	ITC Infotech
CGI Group	Domo	itelligence

itelligence	PTC	Software AG
Jaspersoft	PwC	Sopria
Juniper	Qlik	Sphera
kalipso	Qualcom	Splunk
Konexial	R3DT	SSV
KPMG	Relayr	sweetbridge
Luxoft	Reply	Syntax
M.O.S.S.	Robotron	Tableau
Micro Focus	Robotron	TCS
Microsoft	Rockwell Automation	TechMahindra
Mindtree	SAP	Telefonica
MPDV	SAS	Teradata
Mulesoft	Scanblue Engineering	Think Tank Analytics
NavVis	Scheer	TIBCO
NEC Corporation of America	Schneider Electric	Ubisense
neewee analytics	Siemens	VAVC
Nemetris	Sinequa	WSCAD
Nokia	Sisense	ZTE
NTT DATA	Skuchain	
Pica8	SnowflakeComputing	