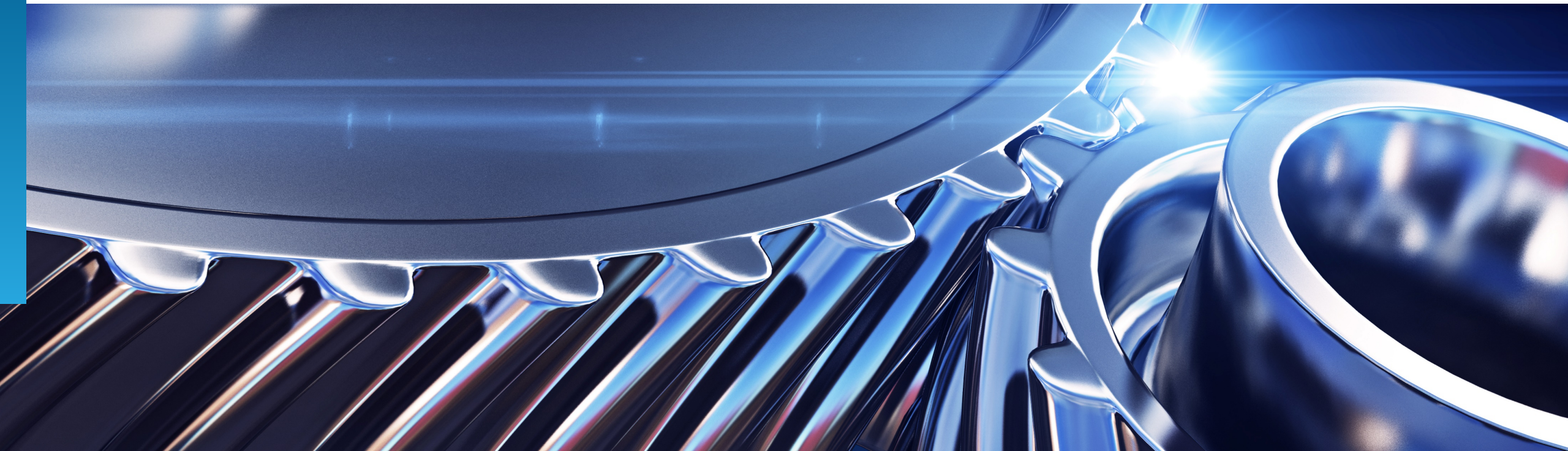


Envisioning the Connected Future: 5G Engineering Services PEAK Matrix® Assessment 2021

September 2021: Complimentary Abstract / Table of Contents



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Contents

1. Introduction and overview	5
• Research methodology	6
• Key sources of proprietary information	7
• Background and introduction of the research	8
• Focus of research	9
2. 5G Engineering Services PEAK Matrix® characteristics	10
• PEAK Matrix® framework	11
• Everest Group PEAK Matrix® for 5G Engineering Services	13
• Characteristics of Leaders, Major Contenders, and Aspirants	14
• Service provider capability summary dashboard	15
3. Enterprise sourcing considerations	18
• Leaders	18
– Accenture	19
– Capgemini	20
– HCL Technologies	21
– Infosys	22
– TCS	23
– Tech Mahindra	22
• Major Contenders	25
– Cognizant	26
– Cyient	27
– DXC Luxoft	28
– HARMAN Connected Services	29

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Contents

– L&T Technology Services	30
– NTT DATA	31
– Tata Elxsi	32
– Virtusa	33
– Wipro	34
• Aspirants	35
– GS Lab	36
– TietoEVERY	37
– VVDN Technologies	38
4. Appendix	39
• Glossary	40
• Research calendar	41

Background and introduction of the research

5G is much more than increased speed of data transfer. It has the potential to enable a paradigm shift in the way things work around us. Additionally, it is a key enabler of the fourth industrial revolution. Enterprises have already started preparing themselves for a shift to 5G. Some of the trends in 5G include:

- The low latency and high-speed characteristics of 5G make a variety of (erstwhile impractical) use cases possible, such as remote factory monitoring and maintenance via the Digital Twin concept, education and research using holographic interactions, high speed multi-player gaming, real-time fleet management of autonomous and connected vehicles, amongst others
- Advancements in technology have also led to a variety of developments that work in tandem with and assist 5G in creating an ecosystem capable of exponentially more vis-à-vis the incumbent networks. These include network slicing, Multi-edge Access Computing (MEC), Software Defined Networks (SDN), Network Function Virtualization (NFV), etc.
- Enterprises and institutions are increasingly investing in private 5G networks for Industrial Internet of Things (IIoT), public places such as stadiums and transport terminals, and educational establishments. This allows administrations to enable multi-vertical applications all the while ensuring data security by maintaining control over the data generated
- Since 5G is a new technology, new use cases of the same are conceived regularly in different industry verticals. As such, enterprises require assistance in designing, implementing, and scaling these use cases; service providers are increasingly collaborating with partners for use case engineering services

These developments have fueled the need to establish a compelling ecosystem of partners, and engineering service providers are actively enhancing their capabilities and offerings to help enterprises tackle these challenges in their 5G engineering journey, stay relevant, and create more value by exploring novel applications.

This research is the first edition of Everest Group's **5G Engineering Services PEAK Matrix®** Assessment. It evaluates 18 engineering service providers, positions them on the PEAK Matrix®, and shares insights into enterprise sourcing considerations. The study is based on RFI responses from service providers, interactions with their 5G engineering leadership, client reference checks, and an ongoing analysis of the engineering services market.

The report assesses the following 18 leading engineering service providers featured on the 5G Engineering Services PEAK Matrix®:

- **Leaders:** Accenture, Capgemini, HCL Technologies, Infosys, TCS, and Tech Mahindra
- **Major Contenders:** Cognizant, Cyient, DXC Luxoft, HARMAN Connected Services, L&T Technology Services, NTT DATA, Tata Elxsi, Virtusa, and Wipro
- **Aspirants:** GS Lab, TietoEVERY, and VVDN Technologies

Scope of this report:



Geography
Global



Service providers
18 leading broad-based and pure-play engineering service providers



Services
5G engineering services

Overview and abbreviated summary of key messages

This report examines the global 5G engineering services landscape and assesses 18 service providers. It focuses on service provider capabilities and market impact in helping enterprises enable 5G integration through equipment engineering, network engineering, and solution engineering services. It also draws insights on the trends being followed by service providers in 5G engineering services.

Some of the findings in this report, among others, are:

Service provider position and delivery capability

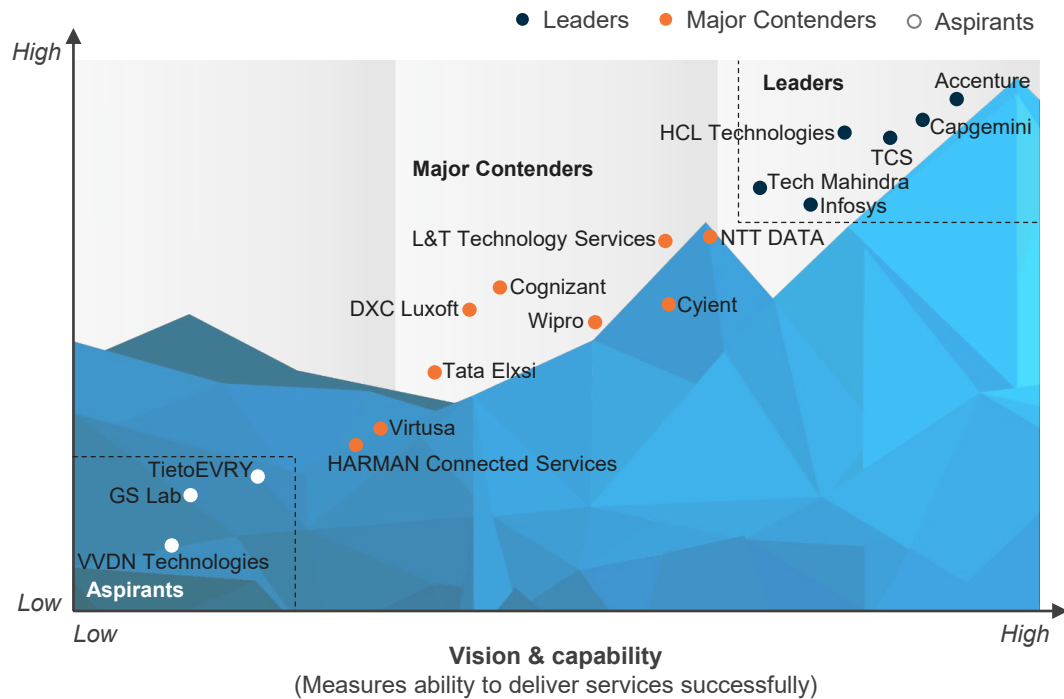
- Service providers can be categorized into Leaders, Major Contenders, and Aspirants on a capability-market-share matrix for 5G engineering services
- Accenture, Capgemini, HCL Technologies, Infosys, TCS, and Tech Mahindra are the current leaders in the global 5G engineering services market. However, several service providers are emerging as major contenders

Service provider characteristics

- The Leaders segment includes broad-based global players, which have existing capabilities to build on as well as wide client bases giving them a head start over other service providers. They have end-to-end offerings across sub-segments and enjoy larger resource pools to train and deploy for engagements which makes rapid scaling of projects seamless.
- The Major Contenders segment comprises both broad-based global players and pure-play engineering service providers with credible presence in the 5G engineering space across the globe. Major Contenders have strong capabilities in some areas whereas in the others they are actively investing in gaining strong market presence. The areas of investment for them include building delivery accelerators, network infrastructure virtualization, network automation and orchestration, and labs for use case design and development. Most Major Contenders are mid-sized firms that have strong vision and strategies to cover ground in the coming years.
- Aspirants possess strong capabilities in specific technology areas and value chain elements. However, they have limited global presence and limited resource pool to tap into, making it difficult for them to gain traction globally. This might make it difficult for them to gain exposure with large projects dealing in end-to-end 5G engineering services. Majority of the partnerships in this segment are focused on enhancing existing capabilities rather than aiming at exploring domains that these players are not active in.

This study offers three distinct chapters providing a deep dive into key aspects of the 5G engineering services market; below are three charts to illustrate the depth of the report

5G Engineering Services PEAK Matrix® Assessment 2021^{1,2}



Capability assessment

Illustrative example

Measure of capability: ☐ Low ● High

Service provider	Market impact				Vision & capability				
	Market adoption	Portfolio mix	Value delivered	Overall	Vision and strategy	Scope of services	Innovation and investments	Delivery footprint	Overall
Service provider 1	☐	●	☐	☐	☐	☐	☐	☐	☐
Service provider 2	☐	☐	☐	☐	☐	☐	☐	☐	☐
Service provider 3	☐	☐	☐	☐	●	☐	☐	☐	☐
Service provider 4	☐	☐	☐	☐	☐	☐	☐	☐	☐
Service provider 5	☐	●	☐	☐	☐	☐	☐	☐	☐
Service provider 6	☐	☐	☐	☐	☐	☐	☐	☐	☐
Service provider 7	☐	☐	●	☐	●	●	☐	☐	☐
Service provider 8	☐	☐	☐	☐	☐	☐	☐	☐	☐
Service provider 9	☐	☐	☐	☐	☐	☐	☐	☐	☐

Everest Group's remarks on service providers

Illustrative example

Measure of capability: ☐ Low ● High

Market impact				Vision & capability				
Market adoption	Portfolio mix	Value delivered	Overall	Vision and strategy	Scope of services	Innovation and investments	Delivery footprint	Overall
☐	☐	☐	☐	☐	☐	☐	☐	☐

Strengths

- Offerings across 5G network domain with emphasis on 5G NR products, hardware accelerators, and 5G Core
- Has an established vision for its 5G capabilities that is bolstered by focused investments in partnerships with technology firms, IP, and solution accelerators

Limitations

- Can consider building the breadth and depth of its services across the 5G ecosystem to accelerate growth in market share and mindshare
- Needs to invest in academic partnerships and 5G labs to develop capabilities in research and development

1 Assessments for Cognizant, L&T Technology Services, TietoEVRY, VVDN Technologies, and Wipro exclude service provider inputs and are based on Everest Group's proprietary Transaction Intelligence (TI) database, service provider public disclosures, and Everest Group's interaction with buyers.
 2 Assessment of Capgemini is inclusive of Altran (part of Capgemini) and reflects their joint capabilities and market impact.

Source: Everest Group (2021).

Research calendar

Engineering services

Published
 Planned
 Current release

Flagship engineering services reports

	Release date
Reaching New Frontiers in Experience-centricity and Resilience: Software Product Engineering Services PEAK Matrix® Assessment 2021	March 2021
Semiconductor Engineering Services PEAK Matrix® Assessment 2021: Enabling the Hyper-connected Intelligent World	March 2021
A Transformational Leap in Cyber-physical Convergence – Industry 4.0 State of the Market Report 2021	April 2021
Exploring the Future of Mobility: Autonomous, Connected, Electric, and Shared (ACES) Mobility Automotive Engineering Services PEAK Matrix® Assessment 2021	August 2021
Envisioning the Connected Future: 5G Engineering Services PEAK Matrix® Assessment 2021	September 2021
State of the Market – Software Product Engineering Services PEAK Matrix® Assessment 2021	Q3 2021
Medical Devices IoT Services PEAK Matrix® Assessment 2022	Q4 2021
Digital Engineering Services PEAK Matrix® Assessment 2022	Q4 2021

Thematic engineering services reports

	Release date
Engineering R&D (ER&D) in 2021: Key Macroeconomic and Technological Trends that Will Shape the ER&D Industry in 2021	February 2021
Digital Twins and their Adoption Across Industries	February 2021
The Role of Global Business Service (GBS) Organizations in the Automotive Industry: What Lies Ahead?	March 2021
Engineering Services Enterprise Pulse: Are Engineering Enterprises Truly Happy with Their Service Providers?	April 2021
Engineering Services Top 50	June 2021
Extended Reality and its Applications Across Industries	August 2021
Trends in the Top 200 Engineering Research & Development (ER&D) Enterprises	Q3 2021
Engineering Services Enterprise Sourcing Handbook	Q3 2021
Trailblazers: Cloud Engineering Service Providers	Q4 2021

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