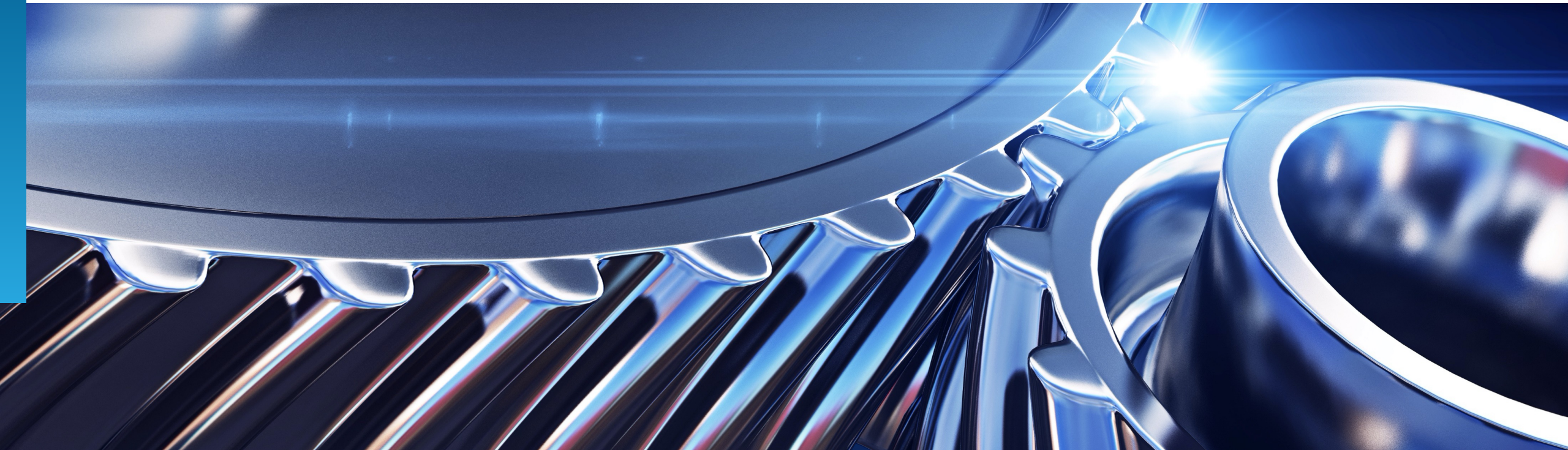# Semiconductor Engineering Services PEAK Matrix® Assessment 2021: Enabling the Hyper-connected Intelligent World

March 2021: Complimentary Abstract / Table of Contents

Everest Group PEAK MATRIX®

Our research offerings for global services

► **Market Vista™**
Global services tracking across functions, sourcing models, locations, and service providers – industry tracking reports also available

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- Benchmarking | Pricing, delivery model, skill portfolio
- Peer analysis | Scope, sourcing models, locations
- Locations | Cost, skills, sustainability, portfolio – plus a tracking tool
- Tracking services | Service providers, locations, risk
- Other | Market intelligence, service provider capabilities, technologies, contract assessment

Contents

For more information on this and other research published by Everest Group, please contact us:

Akshat Vaid, Vice President

Mayank Maria, Practice Director

Ojas Rajpal, Senior Analyst

Contents

Background and/or Introduction of the research

Semiconductors form the basic components of all kinds of electronic devices and have a complex manufacturing process that requires sophisticated engineering across all the stages of the value chain. The semiconductor industry is witnessing significant ER&D investments driven by areas such as increasing adoption of AI chips, proliferation of IoT and connected devices, and shift to 3 nanometer (3nm) technology. Semiconductor enterprises face challenges in catering to evolving customer demands as well as in managing the increased complexity in the value chain due to design changes and complex validation procedures.

Service providers in the semiconductor engineering space are helping enterprises such as fabless companies, IDMs, and foundries across needs of product development, fabrication, testing, and lifecycle management. Semiconductor engineering service offerings span four service functions, which broadly capture the semiconductor industry value chain:

- Design & verification
- Validation & testing
- Sustenance & value engineering
- Other services related to manufacturing

This research is the first edition of Everest Group's Semiconductor Engineering Services PEAK Matrix® Assessment, wherein we have presented an assessment of 16 engineering service providers featured on the PEAK Matrix® , along with the sourcing considerations for enterprises. This assessment is based on the RFI responses from service providers, interactions with their semiconductor engineering leadership, client reference checks, and an ongoing analysis of the engineering services market.

This report assesses the following 16 leading engineering service providers featured on the semiconductor engineering PEAK Matrix®:

- **Leaders:** Capgemini, HCL Technologies, LTTS, TCS, and Wipro
- **Major Contenders:** Alten, Cyient, HARMAN, QuEST Global, Synapse Design, Tata Elxsi, Tech Mahindra, and UST
- **Aspirants:** Invecas, Mirafra Technologies, and VVDN Technologies

Scope of this report:

Geography
Global

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

Services
Semiconductor engineering services

Overview and abbreviated summary of key messages

This report presents an assessment of 16 leading service providers associated with semiconductor engineering based on their delivery capabilities and market impact. It also highlights their key strengths and limitations from an enterprise sourcing consideration.

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

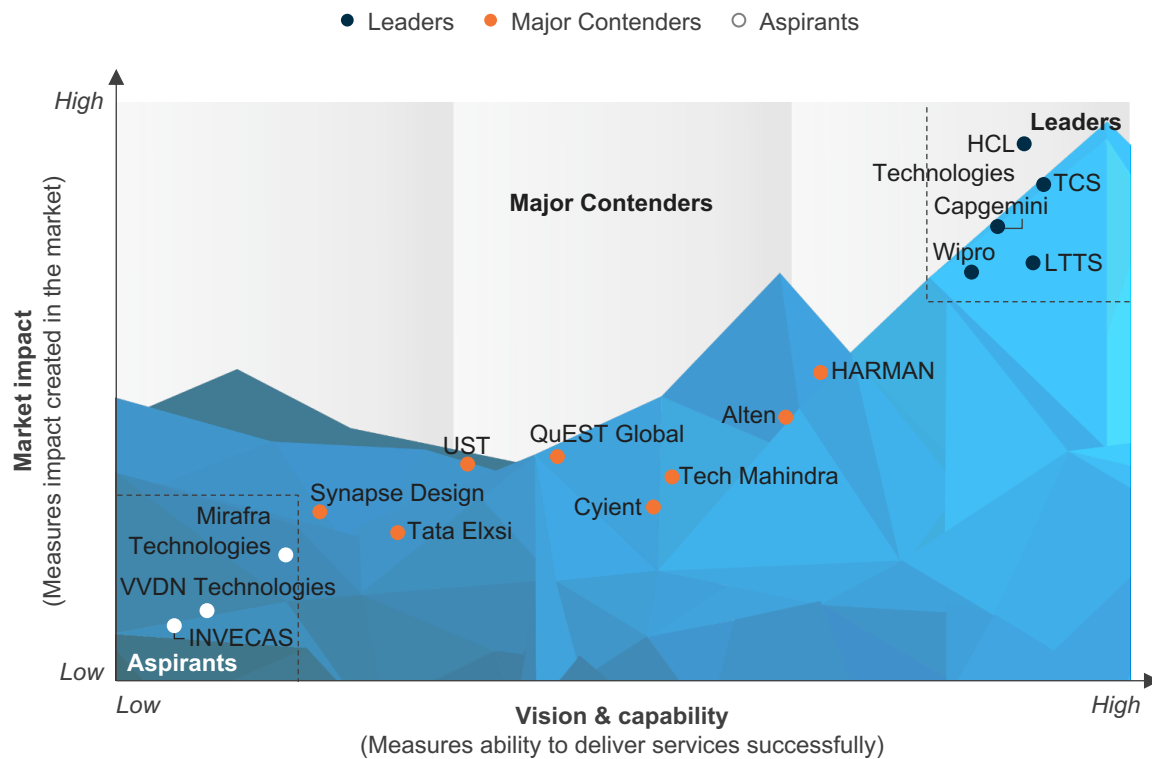**Service provider landscape and PEAK Matrix 2021**

- The report offers insights into prominent service providers operating in the space of semiconductor engineering services that can be categorized into four key service segments – design & verification, validation & testing, sustenance & value engineering, and other services related to manufacturing – that broadly encompass the semiconductor industry value chain

- Analysis of the service provider landscape for semiconductor engineering services, leveraging Everest Group's PEAK Matrix, highlights the following categories of service providers:
    - **Leaders:** Capgemini, HCL Technologies, LTTS, TCS, and Wipro
    - **Major Contenders:** Alten, Cyient, HARMAN, QuEST Global, Synapse Design, Tata Elxsi, Tech Mahindra, and UST
    - **Aspirants:** INVECAS, Mirafra Technologies, and VVDN Technologies

Service provider characteristics

- Leaders have developed a strong suite of comprehensive capabilities spanning all four semiconductor service functions. These players lay extensive focus on innovation and next-generation themes pertaining to semiconductor engineering and cater to a strong portfolio of clients across all major geographies backed by their international delivery presence

- Major contenders, like Leaders, have also been exploring the inorganic route to enhance their capabilities and expand their delivery presence. They have demonstrated the ability to win large deals, driven by their wide partnership ecosystem, flexible engagement constructs, and focused investments

- Aspirants possess strong expertise in specific pockets of value chain elements and are actively pursuing partnerships with the ecosystem players to enhance their capabilities

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

Everest Group Semiconductor Engineering Services PEAK Matrix® Assessment 2021[1]

Illustrative example

● Leaders   ● Major Contenders   ○ Aspirants

Market impact (Measures impact created in the market)

High

Leaders
- HCL Technologies
- TCS
- Capgemini
- Wipro
- LTTS

Major Contenders
- HARMAN
- Alten
- QuEST Global
- Tech Mahindra
- Cyient
- UST
- Synapse Design
- Tata Elxsi

Aspirants
- Mirafra Technologies
- VVDN Technologies
- INVECAS

Low

Low → High

Vision & capability (Measures ability to deliver services successfully)

Capability assessment

Illustrative example

Measure of capability: ● High   ◐ Low

Service provider	Market impact				Vision & capability				
	Market adoption	Portfolio mix	Value delivered	Overall	Vision and strategy	Scope of services offered	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: ● High   ◐ Low

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

Strengths
- Strong growth momentum, backed by consistent investments in capability enhancing acquisitions, IP development, co-innovation partnerships, and infrastructure establishments
- Exhibits flexibility in onshore-offshore delivery models to ensure seamless experience and resolution to client concerns

Limitations
- Buyers would like to see improvement in project management capabilities, primarily better communication to avoid ambiguities during engagements
- Current offering is skewed towards North America, with less experience in Asia Pacific market (except China)

1   Assessments for Alten, INVECAS, Mirafra Technologies, QuEST Global, Synapse Design, Tata Elxsi, and VVDN Technologies exclude service provider inputs and are based on Everest Group's proprietary Transaction Intelligence (TI) database, service provider public disclosures, and Everest Group's interactions with buyers

Source: Everest Group (2021)

Research calendar
Engineering services

Flagship engineering services reports	Release date
Verification & Validation Engineering Services PEAK Matrix® Assessment	January 2020
Industry 4.0 Services PEAK Matrix® Assessment: the Transformational Leap in Cyber-physical Convergence	September 2020
Software Product Engineering Services PEAK Matrix® Assessment	March 2021
Semiconductor Engineering Services PEAK Matrix® Assessment 2021: Enabling the Hyper-connected Intelligent World	**March 2021**
State of the Market – Industry 4.0 Services PEAK Matrix® Assessment	Q2 2021
Automotive Engineering Services PEAK Matrix® Assessment	Q2 2021
5G Engineering Services PEAK Matrix® Assessment 2021	Q3 2021

Thematic engineering services reports	Release date
Digital Twins and their Adoption Across Industries	February 2021
Engineering ER&D (ER&D) in 2021: Key Macroeconomic and Technological Trends that Will Shape the ER&D Industry in 2021	February 2021
The Role of Global Business Service (GBS) Organizations in the Automotive Industry: What Lies Ahead?	March 2021
Customer Satisfaction: Are Engineering Enterprises Truly Happy with their Service Providers?	Q2 2021
Engineering Services Top 50	Q2 2021
Engineering Services Talent Handbook	Q2 2021
Leading the Pack: Trends for the Top 200 Engineering Research & Development (ER&D) Enterprises	Q3 2021
Mixed Reality in Engineering Services	Q3 2021
Trailblazers: Cloud Engineering Service Providers	Q4 2021

Note: For a list of all of our published ES reports, please refer to our website page

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Dallas (Headquarters)
info@everestgrp.com
+1-214-451-3000

Bangalore
india@everestgrp.com
+91-80-61463500

Delhi
india@everestgrp.com
+91-124-496-1000

London
unitedkingdom@everestgrp.com
+44-207-129-1318

New York
info@everestgrp.com
+1-646-805-4000

Toronto
canada@everestgrp.com
+1-647-557-3475