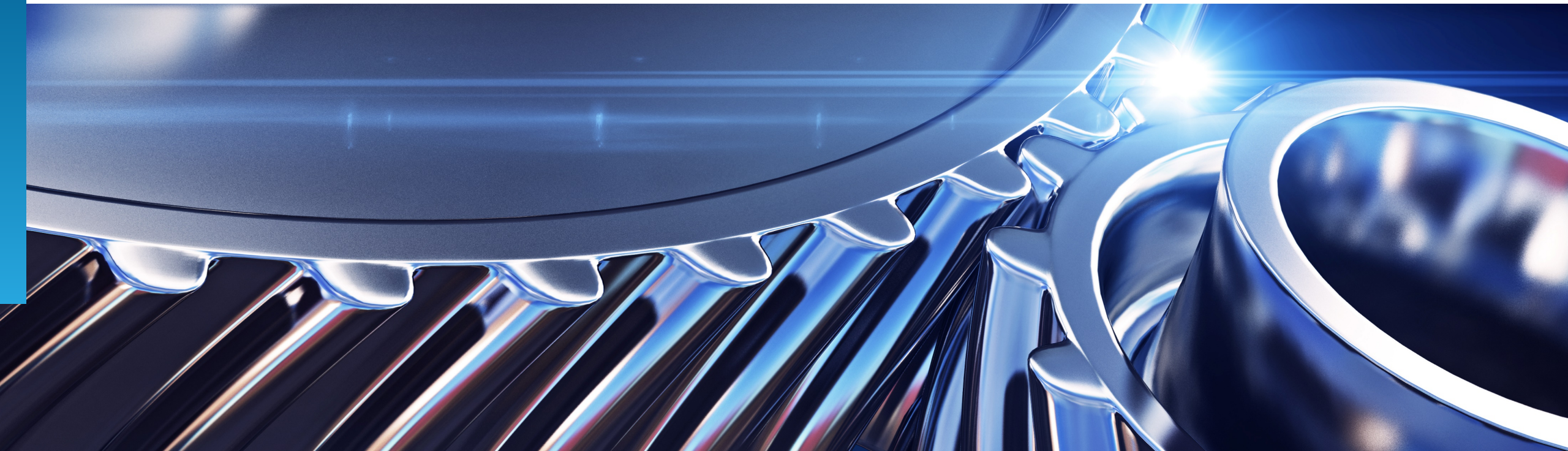


Semiconductor Engineering Services – Service Provider Compendium 2021

May 2021: Complimentary Abstract / Table of Contents



Our research offerings for global services

<ul style="list-style-type: none"> ▶ Market Vista™ Global services tracking across functions, sourcing models, locations, and service providers – industry tracking reports also available 	
<ul style="list-style-type: none"> ▶ Application Services 	<ul style="list-style-type: none"> ▶ Enterprise Platform Services
<ul style="list-style-type: none"> ▶ BPS Banking & Financial Services 	<ul style="list-style-type: none"> ▶ Finance & Accounting
<ul style="list-style-type: none"> ▶ BPS Healthcare 	<ul style="list-style-type: none"> ▶ Human Resources
<ul style="list-style-type: none"> ▶ BPS Insurance 	<ul style="list-style-type: none"> ▶ ITS Banking & Financial Services
<ul style="list-style-type: none"> ▶ BPS Life Sciences 	<ul style="list-style-type: none"> ▶ ITS Healthcare
<ul style="list-style-type: none"> ▶ Catalyst™ 	<ul style="list-style-type: none"> ▶ ITS Insurance
<ul style="list-style-type: none"> ▶ Cloud & Infrastructure 	<ul style="list-style-type: none"> ▶ ITS Life Sciences
<ul style="list-style-type: none"> ▶ Customer Experience Management Services 	<ul style="list-style-type: none"> ▶ IT Services Executive Insights™
<ul style="list-style-type: none"> ▶ Contingent Workforce Management 	<ul style="list-style-type: none"> ▶ Locations Insider™
<ul style="list-style-type: none"> ▶ Data & Analytics 	<ul style="list-style-type: none"> ▶ Procurement
<ul style="list-style-type: none"> ▶ Digital Services 	<ul style="list-style-type: none"> ▶ Recruitment Process Outsourcing
<ul style="list-style-type: none"> ▶ Engineering Services 	<ul style="list-style-type: none"> ▶ Service Optimization Technologies

Membership information

- This report is included in the following research program(s)
 - [Engineering Services](#)
- If you want to learn whether your organization has a membership agreement or request information on pricing and membership options, please contact us at info@everestgrp.com

More about membership

In addition to a suite of published research, a membership may include

- Accelerators™
- Analyst access
- Data cuts
- Pinnacle Model® reports
- PriceBook
- Virtual Roundtables
- Workshops

Custom research capabilities

- 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

1. Introduction and overview	5
• Research methodology	6
• Key information on the report	7
• Background and introduction of the research	8
• Focus of the research	9
2. Semiconductor Engineering Services PEAK Matrix® characteristics	11
• PEAK Matrix® framework	12
• Everest Group PEAK Matrix® for semiconductor engineering services	14
• Service provider capability summary dashboard	15
3. Profiles of semiconductor engineering service providers	18
• Leaders	18
– Capgemini	19
– HCL Technologies	23
– LTTS	27
– TCS	31
– Wipro	35
• Major Contenders	39
– Alten	40
– Cyient	44
– Harman	48

Contents

• Major Contenders (continued)	
– Quest Global	52
– Synapse Design	56
– Tata Elxsi	60
– Tech Mahindra	64
– UST	68
• Aspirants	72
– Invecas	73
– Mirafra Technologies	77
– VVDN Technologies	81
4. Appendix	85
• Glossary	86
• Research calendar	87

Background and 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 stages of the value chain. The semiconductor industry is witnessing significant ER&D investments driven by factors 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 requirements for product development, fabrication, testing, and life cycle management. Semiconductor engineering service offerings span four service functions that 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 sourcing considerations for enterprises. This assessment is based on 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 includes detailed profiles of 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 Global
- **Aspirants:** Invecas, Mirafratech 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

The semiconductor engineering service provider compendium report has profiles and buyer case studies for 16 leading engineering service providers

Service Provider | semiconductor engineering services profile (page 2 of 4)

Overview

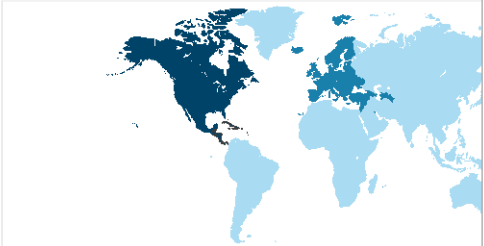
Vision & strategy: Service Provider aims to be the trusted partner of semi delivering quality designs on time. It focuses on differentiation through tech innovations.

Semiconductor engineering services revenue

<US\$20 million US\$20-50 million US\$50-100 million

Adoption by geography

High (>30%) Medium (10-30%)



Service Provider | semiconductor engineering services profile (page 3 of 4)

Case studies and solutions

Case study 1 Helped a leading foundry facilitate ASIC design services for 22nm Fully-Depleted Silicon-On-Insulator (FD-SOI) process

Business challenge

The client, a global semiconductor foundry, was looking for an external partner to help realize SoC designs with high confidence and low risk and also addressed the issues of complexity faced by ASIC designers.

Solution and impact

Service Provider worked with the foundry's technology teams to develop and verify the client's proprietary process. It provided comprehensive ASIC design services to help realize SoC designs with high confidence and low risk and also addressed the issues of complexity faced by ASIC designers.

Case study 2 Assisted a fabless company in developing a complex AI processor

Business challenge

The client wanted support to achieve a successful tape-out of its datacenter AI processor.

Solution and impact

Service Provider provided advanced physical implementation and DFT methodology and efficient design flow, which in turn continuously improved core IP almost up to tape-out. The services helped in achieving predictable design convergence, best-in-class PPA (PPA), and accelerate time-to-tape-out for complex designs.

Service Provider | semiconductor engineering services profile (page 4 of 4)

Investments and partnerships

Key alliances and partnerships (representative list)

Partner name	Details
Partnership 1	A collaboration to win Reduced Instruction Set Computer (RISC-V) based SoC designs for advanced fab processes.
Partnership 2	A partnership to ensure faster time-to-market and leverage a global network of design service companies endorsed by Am.
Partnership 3	A partnership to harness an ecosystem designed to facilitate 22nm FD-SOI SoC design and reduce time-to-market for its customers.

Recent semiconductor engineering services investments/acquisitions (representative list)

Investment/target	Company description
Lab investment 1	Invested in labs in China and India for system design and validation.
Lab investment 2	Acquired XXX, a subsidiary of XXX, which oversees standards compliance and interoperability testing solutions.

Research calendar

Engineering services

■ Published
 ■ Planned
 ■ Current release

Flagship engineering services reports

	Release date
Industry 4.0 Services PEAK Matrix® Assessment: the Transformational Leap in Cyber-physical Convergence	September 2020
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
Reaching New Frontiers in Experience-centricity and Resilience: Software Product Engineering Service Provider Compendium 2021	May 2021
Semiconductor Engineering Services – Service Provider Compendium 2021	May 2021
Automotive Engineering Services PEAK Matrix® Assessment	Q2 2021
5G Engineering Services PEAK Matrix® Assessment 2021	Q3 2021

Thematic engineering services reports

	Release date
Engineering Services Skills Handbook: Preparing for Next Wave of Growth in Global ER&D	July 2020
Leading the Pack: Trends for the Top 200 Engineering Research & Development (ER&D) Enterprises 2020	January 2021
ER&D 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	Q2 2021
Engineering Services Talent Handbook – APAC	Q2 2021

Note: For a list of all of our published ES reports, please refer to our [website page](#)



Everest Group is a research firm focused on strategic IT, business services, engineering services, and sourcing. Our clients include leading global companies, service providers, and investors. Clients use our services to guide their journeys to achieve heightened operational and financial performance, accelerated value delivery, and high-impact business outcomes. Details and in-depth content are available at www.everestgrp.com.

Stay connected

Website

everestgrp.com

Social Media

-  @EverestGroup
-  @Everest Group
-  @Everest Group
-  @Everest Group

Blog

everestgrp.com/blog

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

This document is for informational purposes only, and it is being provided "as is" and "as available" without any warranty of any kind, including any warranties of completeness, adequacy, or fitness for a particular purpose. Everest Group is not a legal or investment adviser; the contents of this document should not be construed as legal, tax, or investment advice. This document should not be used as a substitute for consultation with professional advisors, and Everest Group disclaims liability for any actions or decisions not to act that are taken as a result of any material in this publication.