HFS

HORIZONS REPORT

HFS Semiconductor Horizons: The Best of Service Providers across the Value Chain, 2025

An assessment of the leading service providers in the semiconductor industry

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Excerpt for Accenture

Semiconductors were always omnipresent, powering devices and industries across the globe. Today, they have taken center stage for both company priorities and geopolitics. On one hand, the AI boom is fueling unprecedented demand for advanced chips, with hyperscalers aggressively investing in custom silicon. On the other hand, supply chain diversification and localization bring challenges, from securing specialized talent to rethinking manufacturing supply chains. System integrators can help bridge the gap by serving as semiconductor companies, from fabless companies to chip manufacturers, in navigating the ever-changing environment. Success will hinge on deep domain expertise, a willingness to take calculated risks, and co-innovation with clients and academia.

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The semiconductor industry is experiencing a radical transformation, fueled by rising complexity, extremely high costs, and changing market requirements. Chiplets, AI-driven design, and localized manufacturing technologies are revolutionizing the very fabric of business dynamics, Also, talent gaps and sustainability issues add new complexity. With semiconductors rolling out as the driving force for smart devices and mission-critical national projects, companies must move fast to stay competitive and exploit fresh growth prospects.

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Introduction

- The semiconductor industry is being reshaped by powerful forces: geopolitical shifts, supply chain disruptions, and the race to lead in AI and advanced computing. Innovation is accelerating, but so are the challenges around scale, security, and sustainability. Beyond smaller, faster chips, the focus has shifted to ecosystem collaboration, sovereign manufacturing, and faster integration into intelligent systems.
- Consulting, technology, and services firms now play a pivotal role in driving R&D agility, digital fab operations, and ecosystem orchestration. The opportunity is vast. But is the ambition bold enough?
- The "HFS Semiconductor Horizons: The best of service providers across the value chain, 2025" report assesses how well service providers are helping their semiconductor clients embrace innovation and realize value across three distinct Horizons:
  - **Horizon 1:** The ability to drive functional optimization outcomes across the semiconductor value chain through cost reduction, speed, and efficiency in areas such as chip design, fabrication, and supply chain management.
  - **Horizon 2:** Horizon 1 + the enablement of the OneOffice model of end-to-end organizational alignment across silicon R&D, manufacturing, packaging, and go-to-market functions to drive unmatched stakeholder experience, including fabless firms, foundries, and OEMs.
  - **Horizon 3:** Horizon 2 + the ability to drive the OneEcosystem synergy via collaboration across semiconductor consortia, hyperscalers, IP vendors, and governments, with common objectives around driving entirely new sources of value, such as open foundry models, sovereign chip design, and edge AI acceleration.
- This report evaluates the capabilities of 21 service providers across the HFS semiconductor services value chain based on a range of dimensions to understand the *why, what, how, and so what* of their offerings.
- It highlights the value-based positioning for each participant across the three distinct Horizons, supported by detailed profiles covering their strengths and development opportunities.
- The report is global in scope and offers critical insights to enterprises of all shapes and sizes, service providers offering semiconductor services, and ecosystem partners.

Horizons assessment methodology – HFS Semiconductor Horizons: The Best of Service Providers across the Value Chain, 2025

The "HFS Semiconductor Horizons: The Best of Service Providers across the Value Chain, 2025" report evaluates service providers' capabilities across dimensions to understand the *why, what, how, and so what* of their semiconductor services offerings. Our assessment is based on input from clients, partners, and employees, and augmented with analyst perspectives. The following illustrates how we will assess their capabilities:

Distinguishing service provider characteristics

Assessment dimension	Assessment sub-dimension	Horizon 1 service providers	Horizon 2 service providers	Horizon 3 service providers
Value proposition: The why? **(25%)**	• Strategy for the semiconductor services market and vision for the future of the industry • Offerings aligned to top problem statements for the sector • Differentiators – why enterprises work with you	• Ability to drive functional optimization to improve business outcomes such as cost reduction, speed, and efficiency across elements of the semiconductor services value chain	• Horizon 1 + the enablement of the OneOffice model of end-to-end organizational alignment across the front, middle, and back offices to drive unmatched stakeholder experience	• Horizon 2 + the ability to drive the OneEcosystem impact via collaboration across multiple organizations, with common objectives around driving completely new sources of value
Execution and innovation capabilities: The what? **(25%)**	• Breadth and depth of services across the semiconductor services value chain and associated delivery capabilities • Strength of industry-specific talent – hiring, training, and ongoing development • Approach to, and strength of ecosystem partners • Industry-specific technology innovation	• Functional domain expertise for segments of the semiconductor services value chain • Industry-specific talent focused on key process domains or tech • Focused partnerships and strong PX • Limited industry-specific IP	• Comprehensive coverage across the semiconductor services value chain • Strong industry-specific talent across IT and operations domains • Range of industry-specific partnerships and strong PX • Strong industry-specific IP	• Comprehensive coverage across the semiconductor services value chain and beyond • Strong industry-specific talent pool across consulting, IT, and operations domains • Comprehensive industry-specific partnerships with strong PX • Strong industry-specific IP + JVs
Go-to-market strategy: The how? **(25%)**	• Nature of investments in your semiconductor services business (M&A, non-M&A, R&D) • Co-innovation and collaboration approaches with customers and partners including creative commercial models • Customer targeting approach – roles, segmentation, geography	• Investments aligned with functional optimization outcomes • Solutions and commercial models to optimize outcomes • Focused on certain geo and technology coverage and business models	• Horizon 1 + investments aligned to enterprise experience • Solutions and offerings aligned to enterprise top-down digital transformation • Global coverage and extensive focus across technologies and flexible business models	• Investments aligned to Horizons 1 and 2 and ecosystem enablement • Horizon 1 and 2 + co-creation with customers and partners • Horizon 1 and 2 + new value creation • C-suite coverage across LOBs and geos
Market impact: The so what? **(25%)**	• Scale of the semiconductor services business – revenue, clients, and headcount • Growth of the semiconductor services business – revenue, clients, and headcount • Proven outcomes showcasing value delivered to semiconductor services • Voice of the customer	• Proven scale and growth driven by functional digital optimization • Top CX and PX marks as an optimization partner across key semiconductor services functions • Referenceable and satisfied clients and partners	• Proven scale and growth driven by Horizon 1 + stakeholder experience • Top CX and PX marks as an enterprise transformation partner emphasizing stakeholder experience • Referenceable and satisfied clients and partners	• Proven scale and growth driven by H2 + ecosystem impact • Top CX and PX marks as a global growth partner driving new business models • Referenceable and satisfied clients and partners

Sources of data

This Horizons research report relies on myriad data sources to support our methodology and help HFS obtain a well-rounded perspective on the service capabilities of participating organizations covered in our study. The sources are as follows:

Briefings and information gathering

HFS conducted detailed **briefings** with semiconductor service providers.

Each participant submitted specific **supporting information** aligned with the assessment methodology.

Reference checks

We conducted reference checks with **24 active clients and 25 active partners** of the study participants via survey-based and telephonic interviews.

HFS Pulse

Each year, HFS fields multiple demand-side surveys where we include detailed vendor rating questions.

For this study, we leveraged our fresh-from-the-field HFS Pulse study data from semiconductor decision-makers at enterprises.

Other data sources

Public information such as news releases and websites.

Ongoing interactions, briefings, virtual events, etc., with in-scope vendors and their clients and partners.

HFS semiconductor services value chain, 2025

Semiconductor

Industry pillars

Semiconductor design services

Services may include:
- Integrated circuit (IC) and system on chip (SoC) design – custom chip architectures (ASIC, FPGA, RISC-V)
- Electronic design automation (EDA) and design automation – tools for simulation and verification
- Prototyping and modeling – pre-silicon testing and FPGA-based validation

Semiconductor manufacturing services

Services may include:
- Foundry services – outsourced chip manufacturing for fabless firms
- Process and yield optimization – Efficiency and defect reduction
- Material sourcing for fabrication
- Cleanroom design and optimization – fab facility setup and contamination control
- Chip reliability and failure analysis – defect detection and performance validation

Semiconductor supply chain and logistics

Services may include:
- Component procurement and Sourcing
- Risk management and demand forecasting – AI-driven supply chain analytics
- Global distribution and warehousing – ensuring efficient logistics and availability
- Compliance and regulatory support – navigating export controls and standards

Semiconductor assembly, packaging and testing

Services may include:
- Outsourced semiconductor assembly and test (OSAT)
- Automated test equipment (ATE) Development – hardware/software for testing
- Reliability and failure analysis – long-term chip durability assessments
- Security and compliance testing – ensuring chips meet industry standards

Semiconductor software and embedded systems

Services may include:
- Firmware and driver development – software to control chip hardware
- AI and ML for chip optimization – enhancing performance via AI
- Real-time OS (RTOS) and middleware – embedded operating systems
- Chip security and cryptography – secure boot, encryption, and trusted execution

Intellectual Property and sustainability

Services may include:
- Patent licensing
- Patent application management
- Patent protection
- Patent infringement and discovery
- Sustainability metric tracking and reporting
- Sustainable sourcing programs

Focus of the report

Sustainability

Sustainability aspect

Decarbonization of fabs | Renewable energy integration | Water recycling and reclamation | Hazardous chemical reduction | Sustainable material sourcing | Circular economy for semiconductor equipment | ESG compliance for fabs | Rare-earth recycling | Scope 1–3 emissions tracking | Green chip packaging | Worker safety in hazardous material handling

Horizontal

Cross-functional processes

Asset lifecycle management for fab tools | Risk and compliance with export controls | Supply chain resilience planning | Workforce safety in cleanrooms | Environmental impact monitoring | IP protection and litigation | Fab cybersecurity and OT security | ESG reporting | Supplier audit and quality assurance

Enabling technologies

EDA (electronic design automation) | AI/ML for yield improvement | Digital twins for fabs | IoT-enabled equipment monitoring | Blockchain for supply chain traceability | Advanced automation and robotics | SaaS-based design collaboration | HPC for chip simulation | Predictive maintenance systems

Horizontal business processes

Customer program management | Engineering resource planning | Vendor and OSAT management | Procurement of wafers and chemicals | Finance and cost modeling | Data-driven demand forecasting | Inventory optimization | Global logistics coordination

Horizontal IT processes

EDA toolchain integration | Application lifecycle management for fab systems | Design platform modernization | Cybersecurity for semiconductor IP | Secure cloud for chip design | PLM/PDM modernization | IT–OT convergence in fabs | Data lake and analytics for yield tracking

2 Market dynamics

Executive summary

1	**The leaders in a growing market**	We assessed the 21 leading consulting, technology, and business service providers for the semiconductor sector across their value propositions (the why), execution and innovation capabilities (the what), go-to-market strategy (the how), and market impact criteria (the so what). • Horizon 3 market and systems-changing leadership are (in alphabetical order) Accenture, Capgemini, HCL, Infosys, LTTS, TCS, Tech Mahindra, and Wipro. • Horizon 2 firms that powerfully work across organizational silos are ACL Digital (part of Alten), Cyient, eInfochips, GlobalLogic, Harman DTS, LTIMindtree, Quest Engineering, Tata Elxsi, Tessolve, and UST. • Horizon 1 firms that execute efficiently are Mirafra Technologies, Qualitest, and Sasken.
2	**Rapid industry growth**	The semiconductor industry is undergoing unprecedented expansion, with market value projected to exceed $1 trillion during 2030–2033, fueled by the surge across AI, automotive, IoT, and HPC. Geopolitical factors and government initiatives worldwide emphasize semiconductors as a strategic asset, driving investments in advanced process nodes (down to 1.8nm and below) and localized manufacturing. Industry players are evolving from pure service providers to strategic innovation partners, leveraging ecosystem collaborations and advanced IP to meet complex design and manufacturing challenges.
3	**Technological complexity and innovation**	Increasing chip complexity and rising costs necessitate innovative approaches such as chiplets, AI-driven design automation, and modular architectures to optimize performance and reduce time-to-market. Leading companies invest heavily in AI-enabled tools for design, verification, and post-silicon validation, while adopting flexible delivery models combining offshore and onshore resources. Partnerships with foundries (TSMC, Samsung, Intel) and EDA vendors (Cadence, Synopsys) are critical to access cutting-edge process technologies and design kits. Sustainability, security, and supply chain resilience also shape technology roadmaps and operational strategies.
4	**Talent, ecosystem collaboration, and business models**	The semiconductor sector faces talent shortages and skill gaps, compelling firms to invest in training, university partnerships, and diversity initiatives. Collaborative innovation ecosystems involving academia, startups, and industry alliances accelerate R&D and IP development. Business models are evolving to include outcome-based pricing, co-creation, and managed services, enhancing client engagement and value delivery. Companies emphasize end-to-end lifecycle support—from architecture to manufacturing and post-silicon services—ensuring quality, cost efficiency, and rapid innovation in a highly competitive and fast-changing market environment.
5	**Voice of the customers and partners**	Reference checks were conducted with current clients and ecosystem partners of the survey participants. Providers that translate co-innovation into live, outcome-backed pilots scored highest, while efficiency in day-to-day execution remains the baseline for trust. The depth of semiconductor domain fluency is the decisive tie-breaker among firms that otherwise sound alike. Finally, an explicit ambition to deploy AI at scale and embed sustainability metrics separates the leaders from the merely competent.

Top challenges for semiconductor enterprise clients in 2025

Cyclical market volatility

Semiconductor demand fluctuates wildly between industries, leading to fab underutilization or shortages. Long lead production, multi-tier dependencies, and node-specific capacities complicate forecasting accuracy and inventory balancing.

Geopolitical and localization pressures

Export controls, regionalization laws, and material sourcing limitations compel fabs to diversify geography, promote multi-region processes, and maintain regulatory compliance while losing neither yield nor cross-fab interoperability.

Complex manufacturing processes

Advanced nodes need more than 1,000 steps, EUV lithography, atomic-scale accuracy, and coordinated manufacturing execution systems (MES) for yield maximization, defect traceability, and tool interdependency management across worldwide fab networks.

Talent shortages

Process engineer shortages, packaging specialist shortages, and EDA expert shortages hinder node migration, decelerate yield ramp, and burden advanced manufacturing, extreme ultraviolet lithography (EUV) operation, and design for manufacturing (DFM) capabilities globally.

Need for innovation in AI and custom silicon

Increasing AI workloads call for low-cost, high-performance ASICs, chiplets, RISC-V-based solutions, and fast IP reuse to cut non-recurring engineering (NRE) expenses and speed up market-ready silicon delivery.

Supply chain and data management transformation

Manual scheduling and legacy product lifecycle management/product data management (PLM/PDM) tools result in silos. AI-based demand matching, digital thread integration, and secure design-to-fab data exchange enhance agility and supply chain responsiveness.

Evolving enterprise expectations and pain points

	Demand side – Enterprise expectations	Supply side – Provider offerings	Key pain points to address
Technological evolution	High-performance, energy-efficient AI accelerators and NPUs; ultra-low power (<1mW/MHz) designs for IoT, automotive, and wearables; sub-3nm process readiness; faster tape-out cycles; integration of heterogeneous compute (CPU+GPU+AI+DSP) on single SoC	Custom silicon engineering (ASIC, SoC, SiP); AI/ML-driven design automation; EDA toolchain optimization; embedded firmware co-design; rapid prototyping; IP library reuse for reduced time-to-market	High NRE costs; mask set expense for <3nm; yield optimization challenges; EDA complexity; dependency on dominant IP vendors (Arm, Synopsys, Cadence); verification bottlenecks
Operational model reinvention	Agile, scalable fab operations; modular production lines; integrated PLM and MES; inline defect detection and AI-based yield analytics	Cloud-enabled MES/PLM integration; AI-driven fab scheduling; wafer-level digital twins; predictive maintenance; automation with AMHS (automated material handling systems)	Legacy fab control systems; fragmented data pipelines; slow ramp to volume; wafer shortage bottlenecks; shortage of skilled semiconductor process engineers
Cloud and digital innovation	End-to-end cloud-based design and manufacturing platforms with secure, low-latency collaboration; in-silico prototyping; AI-assisted design rule checking (DRC)	Hybrid/multi-cloud EDA platforms; secure federated data-sharing; collaborative design environments (EDA-as-a-Service); cloud-native simulation and sign-off flows	Toolchain interoperability issues; high data egress costs; cybersecurity risks for sensitive IP; latency in distributed design teams
Geopolitical and localization	Multi-region fab access; localized backend assembly, packaging, and testing; compliance with CHIPS Act, European Chips Act, and regional environmental regulations	Local fab partnerships; OSAT network diversification; region-specific compliance advisory; supply chain risk modeling	Export control restrictions; supply chain fragility; regulatory divergence between regions; increased capex for redundancy
Supply-demand imbalance	Granular, real-time demand sensing; fab capacity reservation flexibility; low inventory carrying costs	AI-powered demand-supply balancing; wafer allocation optimization; adaptive foundry slot scheduling; dynamic inventory buffers	Demand whiplash; overcapacity risk; long lead times for high-end nodes; forecast inaccuracy due to opaque downstream demand
Industry convergence and ecosystem	Co-innovation with hyperscalers, automotive OEMs, and medtech firms; shared IP pools; open standards for chiplet integration; faster time-to-prototype	Ecosystem orchestration platforms; chiplet marketplaces; standard interconnect (UCIe) support; middleware integration layers	Fragmented standards adoption; IP licensing disputes; slow partner onboarding; security concerns in multi-party design flows
Sustainability and ESG compliance	Carbon-neutral fabs; water recycling >90%; reduced scope-3 emissions in semiconductor value chain	Green fab design consulting; renewable energy integration; ESG compliance monitoring dashboards	High energy intensity of <3nm nodes; limited renewable energy availability; water scarcity; reporting complexity
Advanced packaging and integration	High-density 2.5D/3D integration; heterogeneous chiplet packaging; low thermal resistance designs for high-power AI workloads	Co-design of die-to-die interconnect; advanced substrate engineering; thermal simulation and management solutions	Warpage control in large interposers; through-silicon via (TSV) yield losses; package reliability under thermal cycling

What do enterprises really want from semiconductor service providers?

Advanced technology and innovation	Businesses need semiconductor solutions based on leading-edge process technology, such as sub-3nm nodes, FinFET and GAAFET architectures, and advanced transistor technology to achieve maximum performance per watt. The chips must support AI inference, high-bandwidth automotive, industrial IoT, and next-generation wearables with ultra-low leakage power, minimum die size, and reduced tape-out cycles. Suppliers should provide differentiated IP blocks, heterogeneous integration (CPU, GPU, NPU, DSP), and energy-optimized architecture to remain competitive in high-growth, high-performance segments.
Turnkey custom silicon engineering	Companies look for end-to-end ASIC/SoC/SiP design services with RTL-to-GDSII flows, low-geometry (≤3nm) physical design, IP block integration, and first-pass silicon achievement. They want hardware-software co-design, high-speed interface integration (PCIe Gen6, CXL 3.0), and fast prototyping via FPGA-based emulation to minimize development cycles. Providers should handle design for manufacturability (DFM) constraints, yield ramp optimization, and foundry-specific process design kits (PDK) compliance to lower expensive re-spins and drive time-to-volume.
Supply chain resilience and agility	In the face of geopolitical threats, export controls, and raw material limitations, companies need multi-fab, multi-region procurement strategies, extending from front-end (wafer fabrication) to back-end (assembly, test, packaging) activities. Suppliers should support real-time wafer lot tracking, AI-based yield forecasting, adaptive fab scheduling, and predictive equipment maintenance to help limit disruptions. Semiconductor trade policy compliance (e.g., CHIPS Act, European Chips Act) and diversification of rare-earth material supplies are essential for maintaining delivery commitments.
Collaborative ecosystem and integration	Businesses anticipate semiconductor suppliers to work within packaged and integrated chiplet ecosystems using standards such as Universal Chiplet Interconnect Express (UCIe) for heterogenous die integration. Hyperscaler, automotive OEM, and telecom infrastructure vendor co-development requires mutual IP repositories, trusted EDA collaboration environments, and cross-domain simulation platforms. Suppliers should provide easy integration into customer design flows, IP verification acceleration, and multi-party silicon bring-up.
Cost efficiency and scalability	Companies anticipate performance-to-cost optimization from sophisticated node scaling, power-performance-area-cost (PPAC) balance, and manufacturing process maturity. Providers should minimize the total cost of ownership (TCO) based on design reuse, sophisticated packaging to enhance yield per wafer, and the design for test (DFT) methodology to reduce test time. Scalable solutions should tackle die size reduction, wafer usage effectiveness, and back-end process automation to sustain profitability under aggressive cost targets.

Our key learnings while conducting this study (1/2)

01

Rapid growth and strategic importance

The semiconductor industry is experiencing unprecedented growth, fueled by the increasing demand for intelligent devices and services across sectors such as AI, automotive, and data centers. Government initiatives such as the European Chips Act and the US CHIPS Act further emphasize its strategic significance globally.

02

Rising cost and complexity

The cost and complexity of semiconductor design and manufacturing have significantly surged. Developing advanced chips at nodes like 3nm requires investments. This pushes companies to innovate with new design approaches to manage costs while delivering higher performance and efficiency.

03

Entry of hyperscalers into the chip design space

Hyperscalers are building custom chips to optimize AI, cloud, and data center workloads, cutting reliance on traditional vendors and driving faster innovation. Their scale and resources are reshaping the semiconductor landscape.

04

AI and generative AI (GenAI) revolutionizing chip design

AI, including GenAI, is transforming semiconductor design by automating complex tasks, optimizing layouts, and accelerating innovation. This revolution is creating new opportunities while disrupting traditional design workflows, pushing companies to adopt AI-driven methodologies to stay competitive.

05

Growing emphasis on security

As semiconductor devices become more connected, embedded security features are increasingly critical. Protecting chips from cyber threats throughout their lifecycle is a growing priority, requiring integrated hardware and software security solutions to safeguard data and maintain trust in digital ecosystems.

Our key learnings while conducting this study (2/2)

06

Sustainability focus

Sustainability is gaining prominence, with manufacturing accounting for 75% of a chip's environmental impact and 25% during its lifetime. The industry is adopting greener manufacturing processes and materials to reduce carbon footprints and meet regulatory and consumer demands for environmentally responsible products.

07

Supply chain resilience and localization

Geopolitical tensions and nationalist policies are driving semiconductor manufacturers to localize production and diversify supply chains. This trend aims to reduce dependency on single regions, mitigate risks of disruption, and ensure a steady supply amid global uncertainties.

08

Talent shortages and diversity initiatives

The semiconductor sector faces significant talent shortages, prompting companies to invest in upskilling, recruitment, and diversity, equity, and inclusion programs. Building a diverse and skilled workforce is essential to sustain innovation and meet growing industry demands.

09

Rise in fabless design services

Demand for AI and domain-specific silicon is fueling faster growth in fabless design houses. Fabless companies specialize in chip design, which is responsible for chip differentiation. Many enterprises tap specialist design partners and large engineering firms to accelerate custom silicon, while fabrication remains outsourced to leading foundries.

10

Need for SIs to invest in R&D for greater relevance

As demand for advanced technologies such as AI, 5G, and automotive electrification grows, systems integrators (SIs) must scale up their R&D investments to stay competitive and increase their strategic importance. Greater focus on innovation will help them move beyond traditional services, develop differentiated capabilities, and play a larger role in shaping next-generation solutions.

Stop telling innovation stories and start proving them

Please rate the provider's expertise based on the following parameters
(scale of 1 to 10, where 1 is poor and 10 is excellent; average rating)

Sample: HFS Horizons survey; 17 active clients and 22 active partner references of the study participants
Source: HFS Research, 2025

3 Horizons assessment: Market leaders, enterprise innovators, and disruptors

21 service providers have been evaluated in this report

Note: All service providers are listed alphabetically

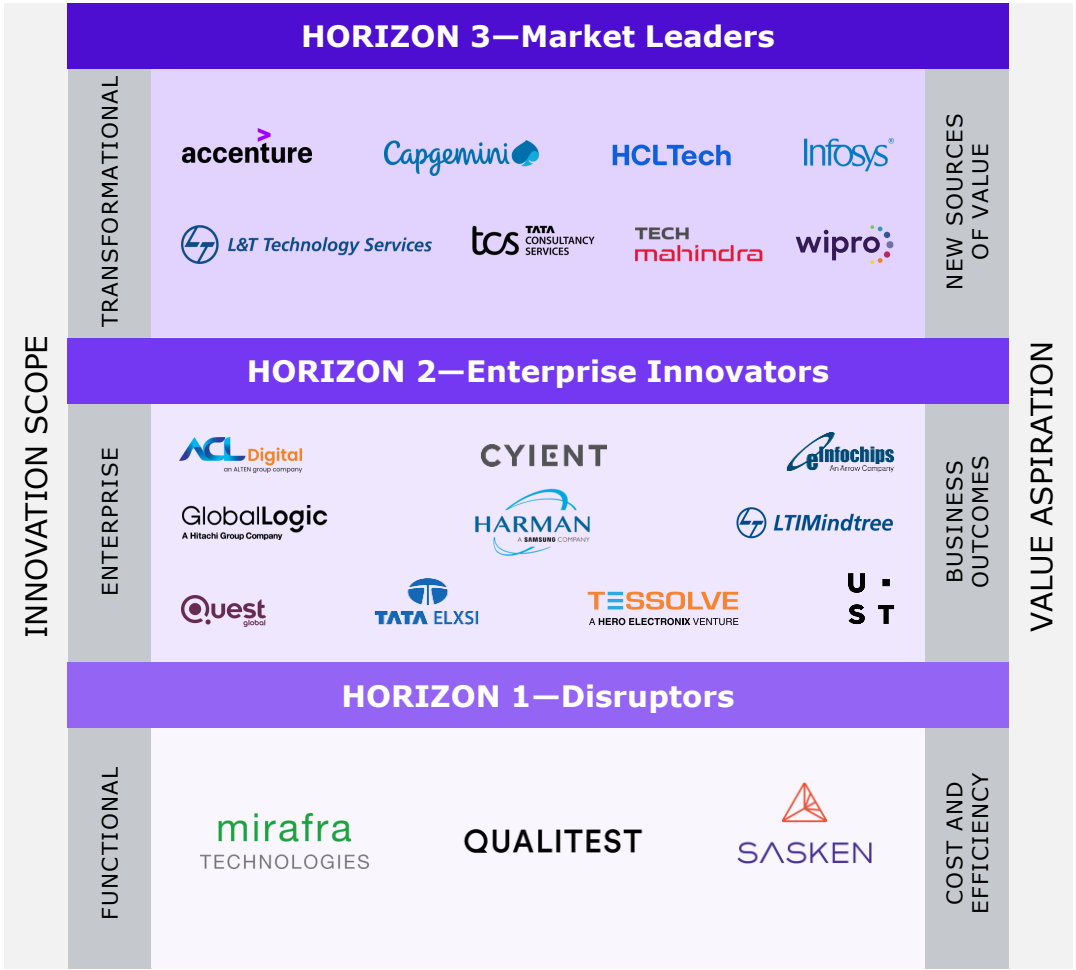
HFS Semiconductor Horizons: Summary of semiconductor service providers assessed in this report

Providers (alphabetical order)	HFS point of view
Accenture	Accelerating chip innovation via digital engineering and AI for resilient supply chains
ACL Digital (part of Alten)	Accelerating semiconductor design and validation for next-gen innovation with AI-driven platforms
Capgemini	Accelerating chip innovation with end-to-end semiconductor services for resilient, sustainable results
Cyient	Delivering turnkey ASIC innovation, embedded intelligence, and sustainability for semiconductor excellence
eInfochips	Delivering innovative semiconductor engineering for faster, safer, and more sustainable products
GlobalLogic	Accelerating embedded innovation for smart semiconductors with AI-driven engineering excellence
Harman DTS	Transforming smart mobility with embedded platforms and AI for secure, connected innovation
HCL	Accelerating full-stack chip innovation with AI-driven design for next-generation semiconductor advances
Infosys	Empowering global semiconductors with AI-driven design and engineering for accelerated innovation
LTIMindtree	Digitally transforming semiconductor value chains with AI-driven automation

Providers (alphabetical order)	HFS point of view
LTTS	Driving global chip innovation by integrating AI engineering for sustainable semiconductor excellence
Mirafra Technologies	Driving silicon innovation with AI-driven design and validation
Qualitest	Accelerating semiconductor innovation via AI-led test automation for defect-free, rapid launches
Quest Global	Enabling AI-driven chip innovation with turnkey solutions for rapid, sustainable growth
Sasken	Driving intelligent silicon innovation and embedded engineering for global digital transformation
Tata Elxsi	Delivering advanced semiconductor design and embedded systems for accelerated innovation and reliability
TCS	Accelerating semiconductor innovation with AI-driven design and digital manufacturing expertise
Tech Mahindra	Driving AI-driven chip design with end-to-end solutions for global innovation
Tessolve	Empowering global semiconductors via end-to-end design-to-test innovation for rapid productization
UST	Accelerating end-to-end chip development via AI-driven prototyping for rapid innovation
Wipro	Accelerating AI-driven chip design with global alliances for resilient, next-gen solutions

Note: All service providers are listed alphabetically

HFS Semiconductor Horizons: The Best of Service Providers across the Value Chain, 2025



Horizon 3 – Ecosystem synergy and new value creation

Horizon 3 service providers demonstrate:

- Horizon 2 + the ability to drive the **OneEcosystem** impact via collaboration across multiple organizations with common objectives around driving completely new sources of value
- Innovation scope at the ecosystem level, with the resulting value focused on growth through new business and collaboration models
- Strategy and execution capabilities at scale
- Well-rounded capabilities across all value creation levers: talent, domain, technology, data, and change
- Driving co-creation with clients as ecosystem partners
- Referenceable and satisfied clients driving new business models with the partnership

Horizon 2 – End-to-end experience transformation

Horizon 2 service providers demonstrate:

- Horizon 1 + enablement of the **OneOffice** model for end-to-end organizational alignment across the front, middle, and back offices to drive unmatched stakeholder experience
- Innovation scope at the end-to-end enterprise level with the resulting value focused on enhanced stakeholder experience, inclusive of customers, advisors, partners, and regulators
- Ability to support clients, aligning to customer and employee experience
- Global capabilities with strong consulting skills
- Capability to deliver enterprise transformation as ongoing multi-year managed service
- Proven and leading-edge proprietary tools, assets, and frameworks
- Referenceable and satisfied clients for the ability to innovate

Horizon 1 – Functional optimization

Horizon 1 service providers demonstrate:

- The ability to drive **functional optimization** to improve business outcomes such as cost reduction, speed, and efficiency across elements of the semiconductor services value chain
- Innovation focus, generally at the function level, with the resulting value focused on the digitization of domain-specific processes
- Strong implementation practices
- Strong technical skills
- Referenceable and satisfied clients for the ability to execute

Note: All service providers within a Horizon are listed alphabetically
Source: HFS Research, 2025

4 Accenture profile: The Best of Service Providers Across the Semiconductor Value Chain

Accenture: Accelerating chip innovation via digital engineering and AI for resilient supply chains

HORIZON 3 – Market Leader

accenture

HORIZON 2 – Enterprise Innovator

HORIZON 1 – Disruptor

Strengths	Development opportunities
• **Value proposition:** An end-to-end semiconductor expert, prioritizing manufacturing efficiency, supply chain resilience, and AI-driven insights to mitigate risks from geopolitical tensions, talent shortages, and complex data environments. • **Capabilities:** Covers end-to-end semiconductor value chain elements along with chip design, manufacturing, supply chain transformation, testing, packaging, embedded systems, and sustainability. • **Go-to-market:** Combines deep ecosystem partnerships with Intel, NVIDIA, and ServiceNow, driving co-innovation and targeted commercialization across identity and digital management (IDM), foundries, hyperscalers, and OEMs for scalable impact. • **Outcomes:** Delivered fab optimization, supply chain agility, productivity improvement, operational efficiency, SAP/IT core transformation, enhanced data-driven decision-making, AI-led defect detection, reduced time-to-market, improved yield, and global scalability. • **Innovation:** A semiconductor innovation approach that integrates global CoEs, AI and data-driven platforms, digital twin architectures, and co-innovation with partners to deliver scalable, domain-specific transformation across chip design, manufacturing, supply chain, and enterprise operations. • **Client:** Applaud its deep understanding of the semiconductor business model, strong delivery and execution, efficient operations, anticipatory approach, large skilled talent pool, and solid industry knowledge. • **Partner:** Commend its scale, deep expertise, skilled talent access, industry knowledge, platform proficiency, and strong ServiceNow capabilities.	• **Value proposition:** Prioritize IP-led differentiation and platform positioning to stand out in a market centered on operational efficiency and transformation scale without proprietary technology narratives. • **Client:** Expect better executive engagement, stronger board-level ties, higher cost efficiency, trust-building with IT, and long-term semiconductor talent development in regions such as Taiwan. • **Partner:** Value its execution. Given that scale is both a strength and a constraint, customer confidentiality limits marketing of otherwise highly successful semiconductor projects.

Relevant M&A and partnerships	Key clients
Recent acquisitions: • SYSTEMA: Manufacturing automation for semiconductor clients (2025) • Cientra: Strengthened chip design and embedded systems engineering capabilities (2024) • Excelmax: Enhanced intelligent automation and manufacturing services for semiconductors (2024) • XtremeEDA: Expanded silicon design and verification service offerings (2022) **Partnerships:** Intel, NVIDIA, Google, Oracle, SAP, AWS, Microsoft, ServiceNow	**Number of clients:** Not disclosed **Key clients:** • Leading global semiconductor clients

Global operations and resources	Flagship internal IP
Headcount: 3,500+ **Delivery locations:** Global teams representing all major regions (North America, APAC, Europe)	• NS.XX platform: Automates non-standard lot workflows in fabs using ServiceNow to boost traceability and efficiency. • Semantic Data Layer: Harmonizes fab data sources to enable scalable AI-driven insights and predictive analytics. • Data & AI Factory: Accelerates GenAI use case development for fabs through reusable AI modules and delivery pipelines. • Digital Twin Framework: Simulates fab operations in real time to optimize performance and reduce downtime. • Defect Detection Engine: Uses edge-AI to identify wafer defects instantly, improving yield and reducing scrap. • Digital Thread: Links design to manufacturing for end-to-end chip lifecycle traceability and compliance.

5 HFS Research authors

HFS Research authors (1/2)

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Suhas is an associate practice leader for HFS Research and a key member of the IT services team. His coverage areas include cloud-native transformation, application modernization, and quality assurance. He also covers hyperscaler strategies and ecosystems across cloud, data, and AI. With more than eight years of experience as a research analyst focused on the tech, media, and telecoms (TMT) sector, Suhas is keenly interested in evolving concepts and emerging technologies.

He is passionate about keeping track of trends in the industry and analyzing their market impact. Suhas is fond of storytelling and seeks data-backed stories that explore issues from an alternate lens and raise provocative questions. Before joining HFS, Suhas worked with EY, Deloitte, and Infosys as a research analyst on numerous projects in the TMT space. He has co-authored various thought leadership articles on sustainability, data privacy, and streaming video on demand. He also has managed projects for global survey-based reports and custom research for companies in the TMT sector.

Suhas earned a postgraduate diploma in management from Goa Institute of Management and a bachelor's in engineering from Manipal Institute of Technology in India. He is based in Bangalore, India, where he lives with his wife. Suhas likes to travel, read books, and game on The PlayStation (primarily FIFA) in his spare time; he is also interested in public speaking. He is an avid Liverpool and Royal Challengers Bangalore fan.

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Mayank Madhur is a Practice Leader at HFS Research, driving deep research and insights into the healthcare and life sciences verticals. He also brings horizontal depth in IoT, digital engineering, and sustainability, collaborating with industry and technology leaders to deliver cross-functional insights. He holds the Sustainability and Climate Risk (SCR) certification from GARP and is a certified Project Management Professional (PMP®).

With over a decade of experience in research, strategy, pre-sales, and software development, Mayank blends analytical rigor with execution. At Altimetrik, he supported vertical heads and GTM teams, contributing to M&A profiling and peer benchmarking. At HCLTech, he worked on an R&D project for a global medical device client.

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Lavanya led market research and consulting projects for global companies, specializing in financial analysis, market intelligence, and competitive benchmarking, including global market trends, industry rankings, and talent pool analysis. Her expertise also covers secondary research, data analysis, PESTLE analysis, Porter's Five Forces analysis, SWOT analysis, and market sizing.

Before joining HFS Research, Lavanya worked with Zinnov, IQ4I, and ITC LSTC. At Zinnov, she analyzed engineering R&D spending trends across the healthcare, telecom, BFSI, automotive, software, semiconductor, and retail industries—studying market investments, technological advancements, and industry shifts to identify emerging trends. She also evaluated engineering service providers and ranked IT/ITES companies based on their technological expertise, service offerings, and competitive positioning in the market to help businesses understand industry benchmarks, competitive landscapes, and strategic growth opportunities.

Lavanya holds a master's degree in biotechnology from Bangalore University and has published a research article on enzyme production in an international journal.

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