

Everest Group PEAK Matrix™ for Embedded System Engineering Service Providers

Focus on Wipro
August 2018



Introduction and scope

Everest Group recently released its report titled “[Embedded System Engineering Services PEAK Matrix™ Assessment: Enabling the Era of Connected and Intelligent Products](#).” This report analyzes the changing dynamics of the embedded system engineering landscape and assesses service providers across several key dimensions.

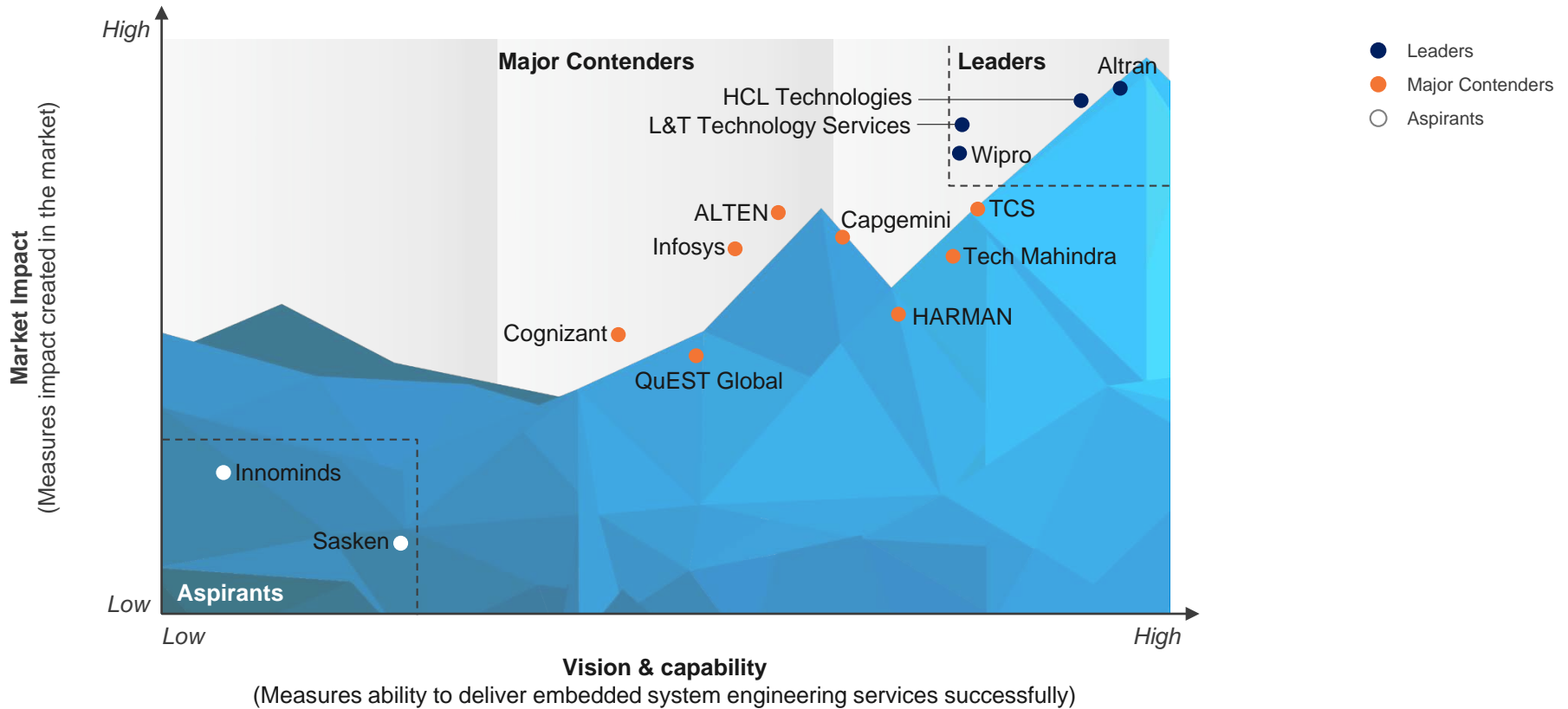
As a part of this report, Everest Group classified 14 service providers on the Everest Group PEAK Matrix™ for embedded system engineering services into Leaders, Major Contenders, and Aspirants. The PEAK Matrix is a framework that provides an objective, data-driven, and comparative assessment of embedded system engineering service providers based on their absolute market success and delivery capability.

Based on the analysis, **Wipro emerged as a Leader**. This document focuses on Wipro’s embedded system engineering experience and capabilities and includes:

- Wipro’s position on the embedded system engineering services PEAK Matrix
- Detailed embedded system engineering services profile of Wipro

Buyers can use the PEAK Matrix to identify and evaluate different service providers. It helps them understand the service providers’ relative strengths and gaps. However, it is also important to note that while the PEAK Matrix is a useful starting point, the results from the assessment may not be directly prescriptive for each buyer. Buyers will have to consider their unique situation and requirements, and match them against service provider capability for an ideal fit.

Everest Group Embedded System Engineering Services PEAK Matrix™ Assessment: Enabling the Era of Connected and Intelligent Products



Note 1 Assessment for ALTEN, Cognizant, Infosys, Innominds, QuEST Global, Sasken, and TCS excludes service provider inputs and is based on Everest Group's proprietary Transaction Intelligence (TI) database, service provider public disclosures, and Everest Group's interactions with enterprises

Note 2 Analysis for Altran is based on capabilities post the acquisition of Aricent

Wipro | Embedded system engineering services Overview

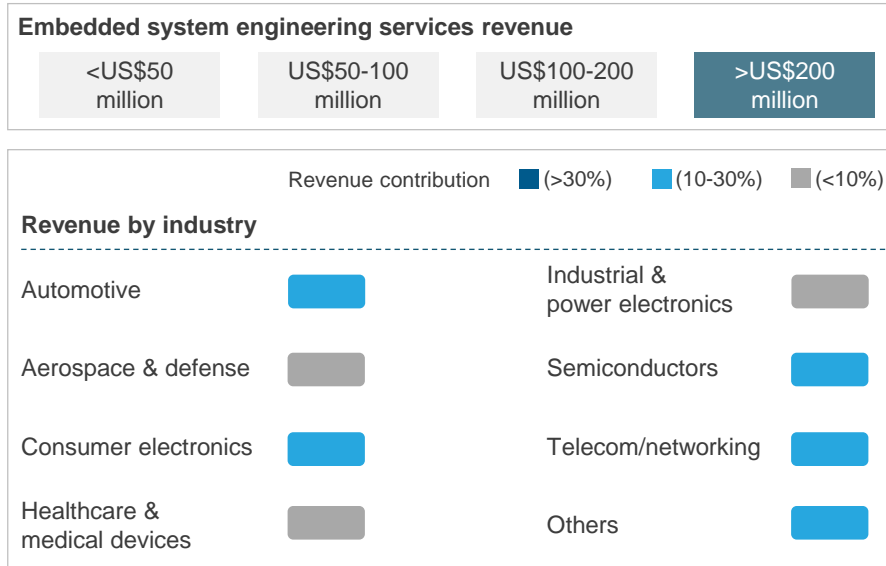
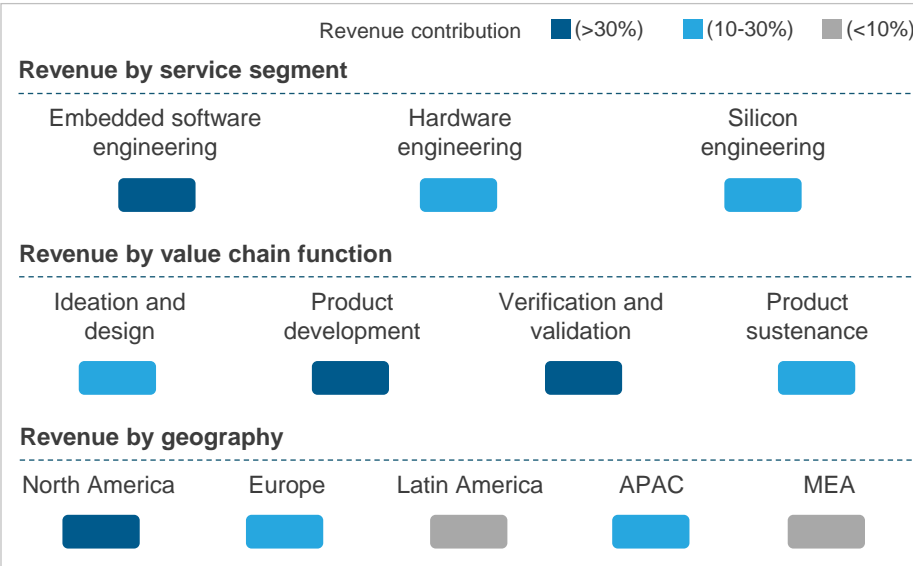
Vision & strategy: In line with the broader corporate vision, Wipro's vision in embedded system engineering is to maximize the value of client businesses by providing solutions that integrate deep industry insights, leading technologies, and best-in-class execution. The company recognizes emerging themes such as AI, Industry 4.0, IoT, and connectivity as key to its growth and is adopting a multi-fold strategy (including development of internal POCs, talent skilling, co-innovation, and partnerships) to enhance its capabilities across these themes.

Strengths

- Differentiated verification & validation capabilities, especially on the hardware side
- Willingness to engage with clients via emerging pricing models including risk-reward partnerships and outcome-based pricing
- Ability and willingness to rapidly train resources on clients' proprietary products/platforms to accelerate service delivery

Areas of improvement

- Needs to invest more in in-house tooling, equipment, and labs
- Multiple clients have observed a lack of proactiveness from Wipro, requiring client teams to stimulate proactive project management and communication
- Wipro needs to manage its attrition rates better, which are perceived to be higher than its other India-based peers, leading to engagement disruptions



Source: Everest Group (2018)

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Case studies and solutions

NOT EXHAUSTIVE

Case study 1

Development of a custom multi-core application processor SOC and associated reference board and software while adhering to customer's Power/Performance/Area (PPA) requirements

Business challenge	The customer was looking for grounds-up design of an ARM multi-core SoC, reference board, and embedded software to realize an application processor
Solution and impact	Wipro provided services for grounds-up development of multi-core ARM SoC having security blocks, graphics/multimedia, memory, and peripherals. It delivered a turnkey program of SoC development (including silicon validation) and OS and drivers bring up. It also showcased multiple use cases

Case study 2

Development of "adjacent market variant" in industrial ethernet portfolio for a U.S. tier-1 network equipment provider

Business challenge	The customer was looking to generate revenue streams in adjacent markets in a hands-free R&D outsourced model
Solution and impact	Wipro created a portfolio of products of routers and switches in a complete R&D ownership model, with 12 products and 50 variants delivered. The engagement spanned specification to production transfer engineering ownership under a single window including hardware, mechanics, FPGA, software, and testing competencies, test labs, component vendors, ecosystem partners, and lifecycle management

Key proprietary solutions (representative list)

Solution	Details
WiPOD – autonomous vehicle platform	This is a greenfield complete autonomous vehicle solution across all the layers of product development such as engineering design, software development, and ADAS algorithms
Connected Cockpit framework	A framework for contextual integration of content and services. It comprises an internal solution and Commercial-Off-The-Shelf (COTS) product to enable a connected travel experience and unlock travel time for productive activities
Device Test Automation Accelerator (DTAA)	A framework for test automation and execution of infotainment system on Android platform, enabling faster time-to-market for clients
Silicon validation framework	A solution that helps accelerate post silicon validation of an SoC
Multi-protocol IoT gateway solution	In-house IoT solution having modular microservices architecture that supports multiple connectivity protocols (ZigBee, BLE, Wi-Fi, Modbus, LoRA-WAN, etc.) and cloud (Amazon, Azure, SAP Hana, etc.). It has the ability to interface with sensors and devices and includes modules such as device management and edge analytics
Smart drone solutions	Smart drone that has payload to carry image/video analytics. It also supports deep learning-based solutions for surveillance and anomaly detection
EagleWision	An ASIC/FPGA development methodology defining process, templates, and checklist for enabling first pass silicon success. It includes Internally developed tools, guidelines, and checklists for all stages of hardware development

Source: Everest Group (2018)

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Investments and partnerships

NOT EXHAUSTIVE

Key alliances and partnerships (representative list)

Partner name	Details
Siemens and Dassault Systèmes	These partnerships provide Wipro with access to suites of Computer Aided Design (CAD), Engineering Design Automation (EDA), and digital manufacturing solutions
Synopsys, Cadence, and ARM	These partnerships enable Wipro to use state-of-the-art silicon IP
TSMC: Silicon fabrication	This partnership enables Wipro to provide turnkey silicon services to tier-1 fabrication plants
Sanmina	Partnership for leveraging Sanmina's Electronic Manufacturing Services (EMS) such as PCB fabrication, assembly, and system integration
Authentise (partnership ecosystem for enabling 3D printing)	Solution to assess 3D printing feasibility prior to manufacturing. Aimed at creating an integrated ecosystem solution for additive manufacturing

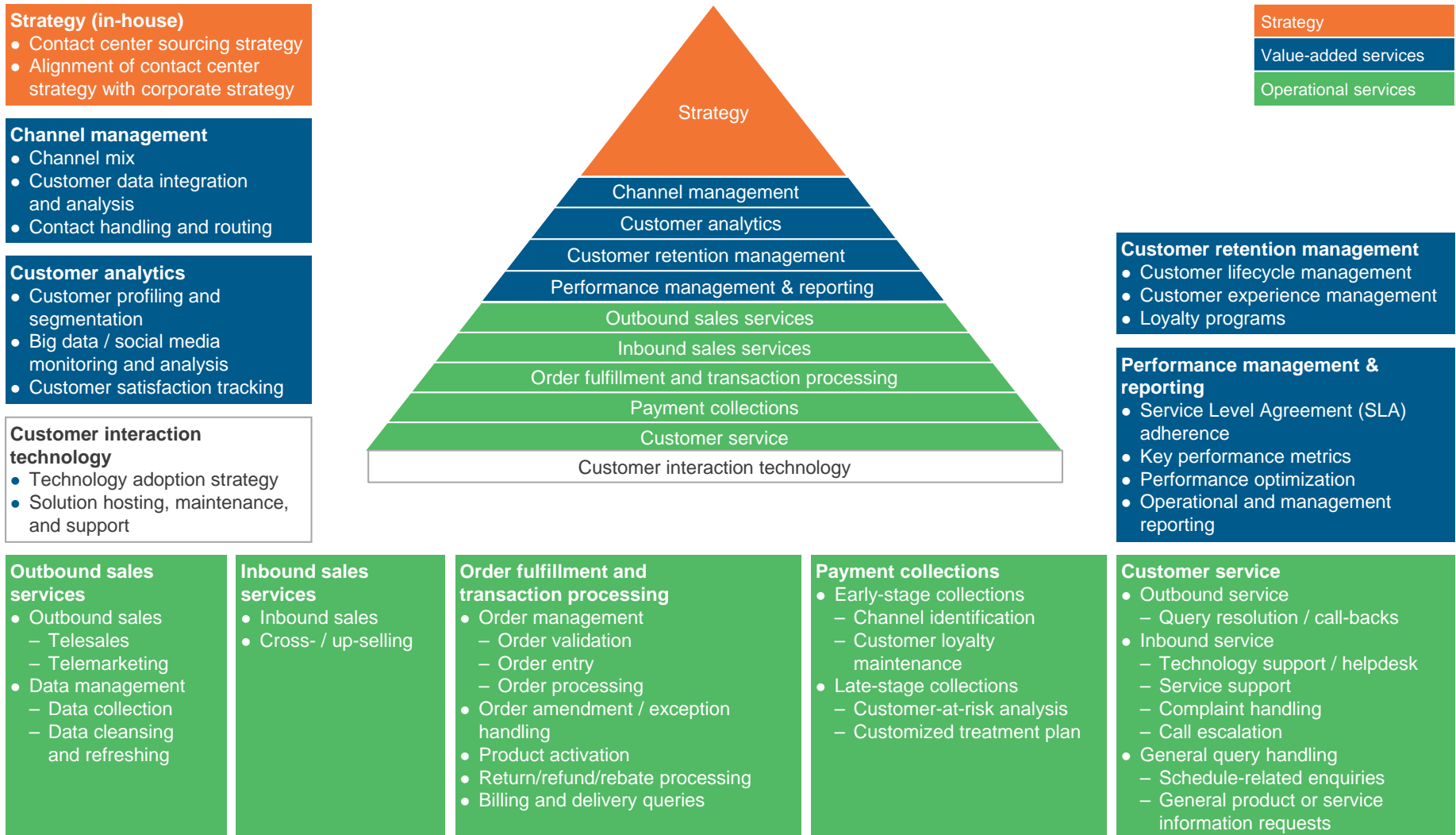
Recent embedded engineering investments (representative list)

Development	Details
Tarang – product testing Lab	Wipro has established a product testing, compliance, and certification lab providing end-to-end product development experience in India. The capabilities include EMI-EMC testing, acoustics check, vibration testing, and stress testing
Nearshore lab set up for a leading North American tier-1 automotive company	Wipro has set up a dedicated independent testing lab for a North American automotive tier-1 company for validation of infotainment systems
Human Machine Interface (HMI) lab	The recently set up HMI lab offers in-house artifacts for quick hi-fi prototypes, accessibility engineering, and UX design (wireframes) of various products
Thinkspace Studio	Thinkspace Studio is a dedicated IIoT incubation center launched in partnership with PTC. This studio will help drive innovation and digital transformation for Wipro's customers by creating new value streams / ecosystem leveraging digital engineering solutions across IoT, Product Lifecycle Management (PLM), Application Lifecycle Management (ALM), Service-Level Management (SLM), and AR/VR
Wipro 3D	Wipro has established Wipro3D, a dedicated facility providing both additive and post-processing manufacturing services
Wi-Fi, Bluetooth, and NFC certification	Wipro has developed capabilities to test and certify products and devices for various international engineering standards such as Wi-Fi, Bluetooth SIG, and NFC Forum

Source: Everest Group (2018)

Appendix

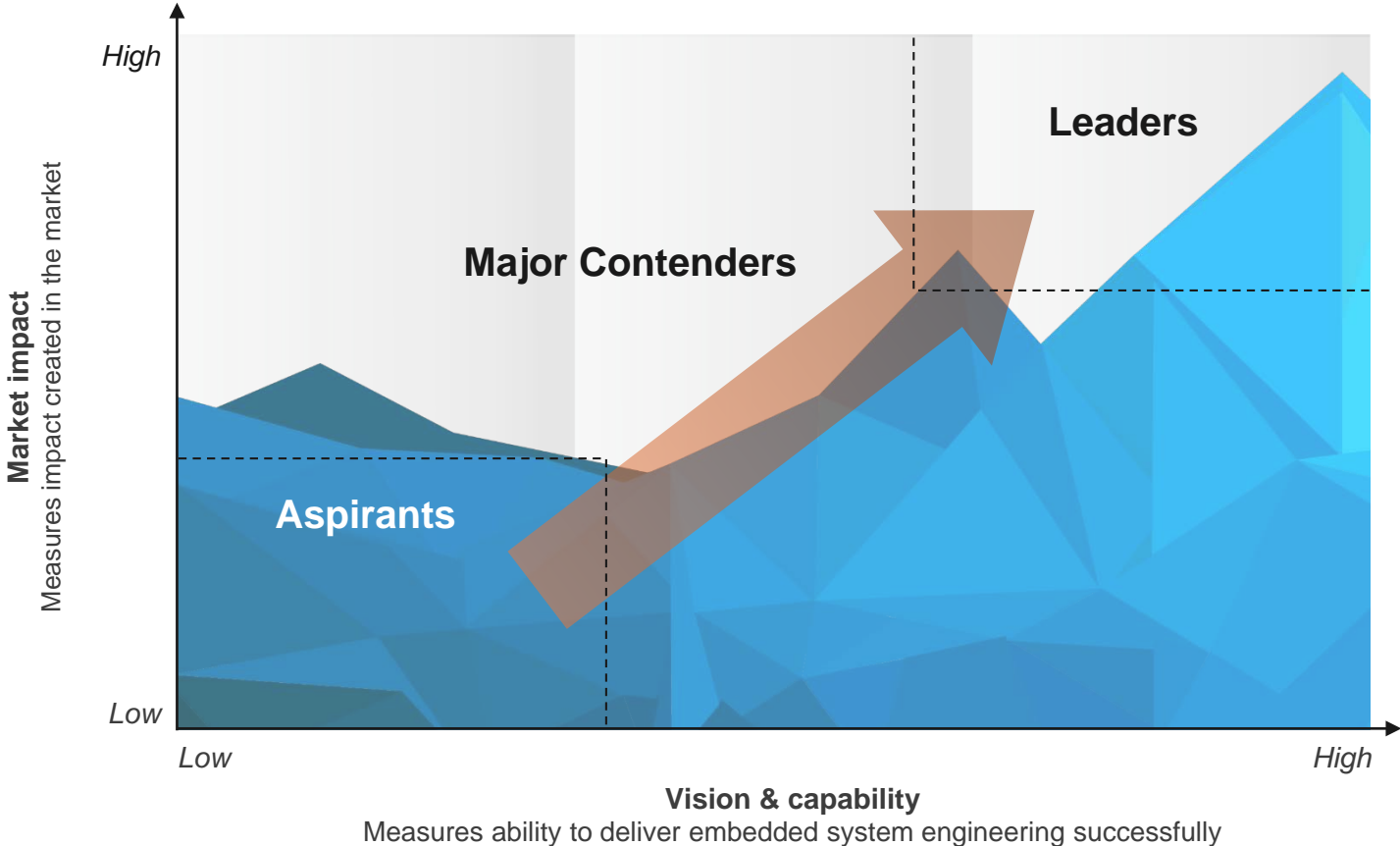
We break each element into subprocesses of the customer interaction value chain



Everest Group PEAK Matrix™ is a proprietary framework for assessment of market impact and vision & capability



Everest Group PEAK Matrix



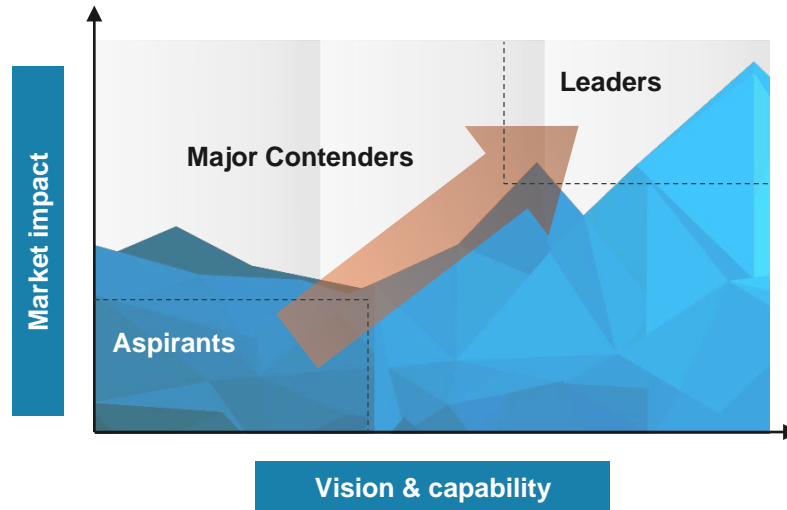
Services PEAK Matrix™ evaluation dimensions

Measures impact created in the market – captured through three subdimensions

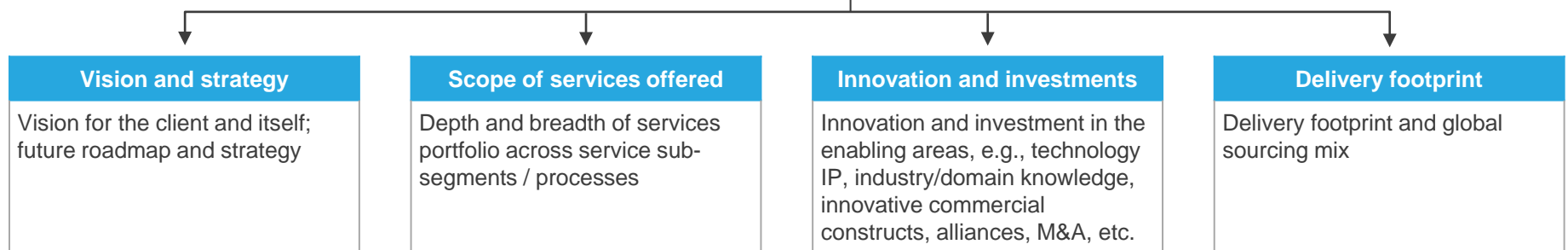
Market adoption
No. of clients, revenue base, and YOY growth, deal value/volume

Portfolio mix
Diversity of client/revenue base across geos and type of engagements

Value delivered
Value delivered to the client based on customer feedback and transformational impact



Vision & capability
Measures ability to deliver services successfully. This is captured through four subdimensions



Does the PEAK Matrix™ assessment incorporate any subjective criteria?

Everest Group's PEAK Matrix assessment adopts an unbiased and fact-based approach (leveraging service provider / technology vendor RFIs and Everest Group's proprietary databases containing providers' deals and operational capability information). In addition, these results are validated / fine-tuned based on our market experience, buyer interaction, and provider/vendor briefings

Is being a “Major Contender” or “Aspirant” on the PEAK Matrix, an unfavorable outcome?

No. The PEAK Matrix highlights and positions only the best-in-class service providers / technology vendors in a particular space. There are a number of providers from the broader universe that are assessed and do not make it to the PEAK Matrix at all. Therefore, being represented on the PEAK Matrix is itself a favorable recognition

What other aspects of PEAK Matrix assessment are relevant to buyers and providers besides the “PEAK Matrix position”?

A PEAK Matrix position is only one aspect of Everest Group's overall assessment. In addition to assigning a “Leader”, “Major Contender,” or “Aspirant” title, Everest Group highlights the distinctive capabilities and unique attributes of all the PEAK Matrix providers assessed in its report. The detailed metric-level assessment and associated commentary is helpful for buyers in selecting particular providers/vendors for their specific requirements. It also helps providers/vendors showcase their strengths in specific areas

What are the incentives for buyers and providers to participate/provide input to PEAK Matrix research?

- Participation incentives for buyers include a summary of key findings from the PEAK Matrix assessment
- Participation incentives for providers/vendors include adequate representation and recognition of their capabilities/success in the market place, and a copy of their own “profile” that is published by Everest Group as part of the “compendium of PEAK Matrix providers” profiles

What is the process for a service provider / technology vendor to leverage their PEAK Matrix positioning and/or “Star Performer” status ?

- Providers/vendors can use their PEAK Matrix positioning or “Star Performer” rating in multiple ways including:
 - Issue a press release declaring their positioning. See [citation policies](#)
 - Customized PEAK Matrix profile for circulation (with clients, prospects, etc.)
 - Quotes from Everest Group analysts could be disseminated to the media
 - Leverage PEAK Matrix branding across communications (e-mail signatures, marketing brochures, credential packs, client presentations, etc.)
- The provider must obtain the requisite licensing and distribution rights for the above activities through an agreement with the designated POC at Everest Group.

Does the PEAK Matrix evaluation criteria change over a period of time?

PEAK Matrix assessments are designed to serve present and future needs of the enterprises. Given the dynamic nature of the global services market and rampant disruption, the assessment criteria are realigned as and when needed to reflect the current market reality as well as serve the future expectations of enterprises



About Everest Group

Everest Group is a consulting and research firm focused on strategic IT, business services, and sourcing. We are trusted advisors to senior executives of leading enterprises, providers, and investors. Our firm helps clients improve operational and financial performance through a hands-on process that supports them in making well-informed decisions that deliver high-impact results and achieve sustained value. Our insight and guidance empower clients to improve organizational efficiency, effectiveness, agility, and responsiveness. What sets Everest Group apart is the integration of deep sourcing knowledge, problem-solving skills and original research. Details and in-depth content are available at www.everestgrp.com.

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