Everest Group®

Everest Group PEAK Matrix® for Autonomous, Connected, Electric, and Shared (ACES) Automotive Engineering Service Providers 2021

Focus on Wipro

September 2021

Everest Group PEAK MATRIX®

EGR-2021-40-E-4613

Background and introduction of the research

Changing global demand and perception surrounding a vehicle and the evolving experience-centricity around what it can offer is altering the automotive landscape. We see several trends impacting the industry; large OEMs have already started their journeys toward what is being perceived as the next normal. Some of these trends include:

- Global sustainability concerns, a carbon-free society, and reducing dependence on fossil fuels have resulted in moving propulsion technologies to hybrid and electric
- Technological advances in artificial intelligence and machine learning, combined with the low cost of sensors and improved networking technologies, have created a significant market for autonomous driving and Advanced Driver Assistance Systems (ADAS)
- Connectivity and data management are being used to optimize R&D and production costs, and even implement predictive maintenance and other new services
- Rising software-centricity in a vehicle and the entry of newer players is disrupting the market and accelerating the shift toward a technology-centric future

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 automotive engineering journey, stay relevant, and create experience-centric offerings for the end-consumers.

This research, the third edition of Everest Group's **ACES Automotive Engineering Services PEAK Matrix®** Assessment, evaluates 23 engineering service providers, features 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 automotive engineering leadership, client reference checks, and an ongoing analysis of the engineering services market.

The report assesses the following 23 leading engineering service providers featured on the ACES Automotive Engineering Services PEAK Matrix®:

- **Leaders:** Alten, Capgemini, HCL Technologies, KPIT, LTTS, TCS, and Wipro
- **Major Contenders:** Akka Technologies, AVL, Bertrandt, Cognizant, DXC Luxoft, FEV, IAV, Intellias, NTT DATA, Tata Elxsi, Tech Mahindra, and UST Global
- **Aspirants:** eInfochips, Sasken, Semcon, and Sigma Software

Scope of this report:

Geography
Global

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

Services
Automotive engineering services

ACES Automotive Engineering Services PEAK Matrix® characteristics

Leaders:

Alten, Capgemini, HCL Technologies, KPIT, LTTS, TCS, and Wipro

- The Leaders segment includes a mix of engineering service providers and broad-based IT heritage firms, which have developed dominant capabilities in offering multi-disciplinary automotive engineering services
- Leaders differentiate themselves with an end-to-end value proposition across emerging domains and service elements, as well as traditional automotive offerings
- Strong leverage of assets and partnerships, especially on the software and embedded systems development front, has resulted in a robust portfolio of offerings within areas of autonomous and connected mobility
- These players are making considerable infrastructure investments in CoEs and labs to showcase their capabilities in areas such as ADAS, sensor fusion, electric propulsion, telematics, and connected platforms

Major Contenders:

Akka Technologies, AVL, Bertrandt, Cognizant, DXC Luxoft, FEV, IAV, Intellias, NTT DATA , Tata Elxsi, Tech Mahindra, and UST Global

- Major Contenders also comprise both IT-heritage firms as well as pure-play engineering service providers
- While some of these players are large players in traditional automotive segments, they are trying to transform their existing portfolios and addressing the current concerns OEMs have, such as development of new propulsion technologies, algorithms, and embedded architecture development, and other service areas around smart and connected mobility
- Major Contenders have been found to be more aggressive than Leaders in exploring newer engagement constructs, primarily joint-development projects, IP partnerships, and revenue & risk sharing models

Aspirants:

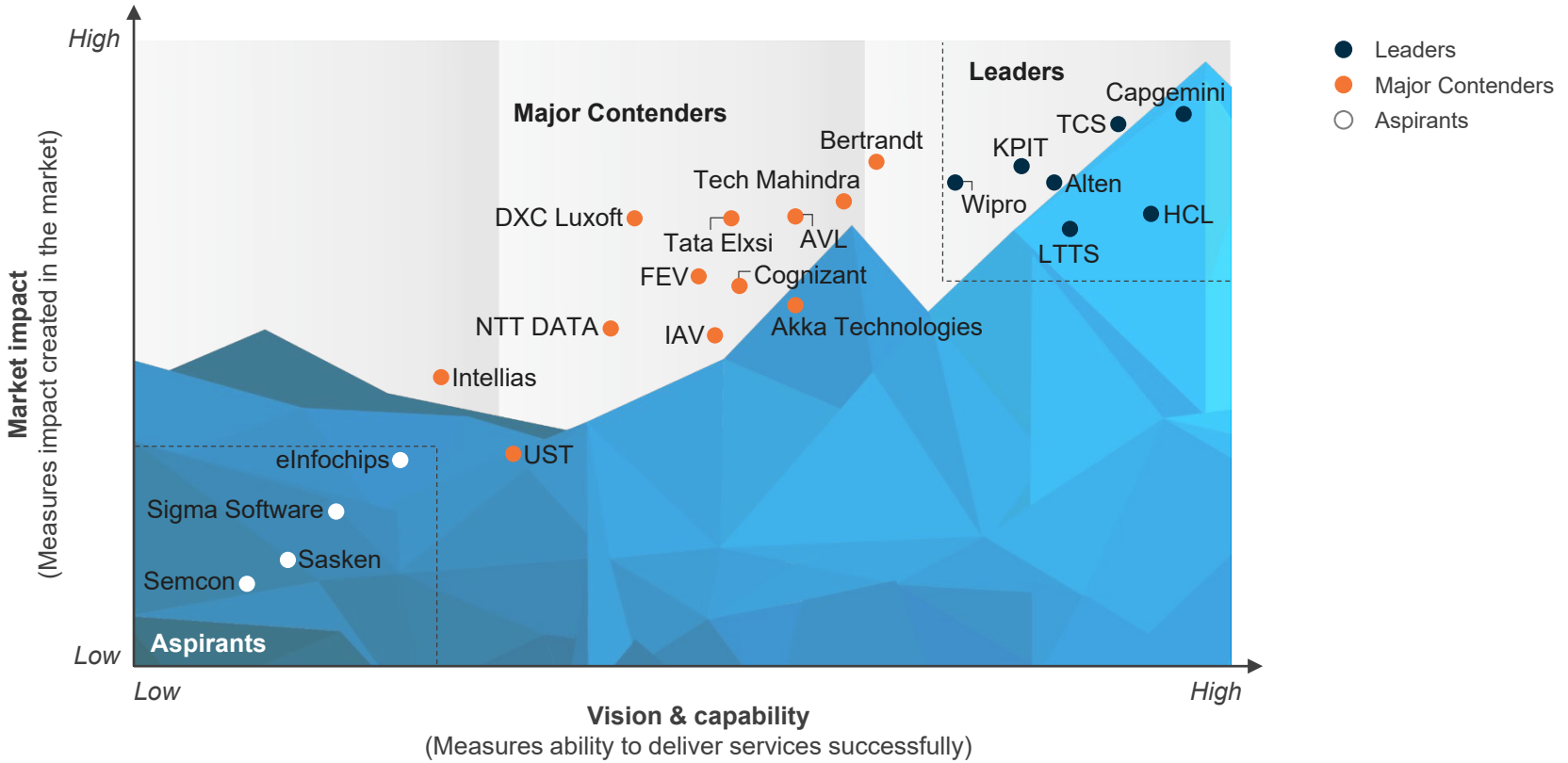
eInfochips, Sasken, Semcon, and Sigma Software

- Aspirants possess strong capabilities in specific technology areas and value chain elements; however, their global presence and the ability to serve projects demanding a wider scope of services is limited
- While there is evidence of partnership leverage to develop domain expertise in the automotive segment, most investments in emerging mobility areas are based on existing competencies of these firms

Everest Group PEAK Matrix®

ACES Automotive Engineering Services PEAK Matrix® Assessment 2021 | Wipro positioned as Leader

Everest Group Autonomous, Connected, Electric, and Shared (ACES) Mobility Automotive Engineering Services PEAK Matrix® Assessment 2021[1,2]



1 Assessments for Alten, Akka Technologies, AVL, Bertrandt, FEV, IAV, Sasken, and Semcon 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).

Wipro | ACES automotive engineering services profile (page 1 of 4)

Everest Group assessment – Leader

Measure of capability: Low High

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

Strengths

- Commendable revenue growth across ACES segments and a sizable client base add to its high market adoption in these emerging areas
- Strong in scope of services offered across both traditional and emerging vehicle domains along with market acknowledged expertise in horizontal value chain functions such as testing and system integration activities
- Robust set of capability-building investments in innovation centers, labs, and CoEs across multiple areas within autonomous and connected segments

Limitations

- While the breadth of capability is commendable, expertise in next-generation platforms and ecosystems (e.g., containerized architectures) needs improvement
- Project management is an area of opportunity in terms of level of communication between Wipro leadership and clients
- Can consider enhancing its presence in EU and APAC regions. Current portfolio, as compared with other Leaders, is significantly skewed toward North America

Wipro | ACES automotive engineering services profile (page 2 of 4)

Overview

Vision & strategy

Wipro aims to be the first partner of choice for system integration for automotive OEMs and Tier 1's in their digital transformation journeys and efforts to launch vehicles with highly scalable, centralized, and consolidated computing infrastructure, and software architecture to lead through technology. Wipro's automotive services business is part of its engineering and R&D service line and is also called as EngineeringNXT.

The firm is leveraging its 360-degree partnership to derive its GTM strategy especially in the connected space, and more importantly in the connected cockpits. The company's focus on EVs, autonomous and high-performance computing, and its focused partnership with a few niche players has also helped it to derive its GTM strategy.

ACES automotive engineering services revenue (Jan 2020-Dec 2020)

<US$100 million	US$100-250 million	US$250-500 million	>=US$500 million

YoY growth rate in ACES automotive engineering services revenue (Jan 2020-Dec 2020)

<10%	10-20%	20-30%	>=30%

High (>=30%) Medium (15-30%) Low (<15%)

Adoption by ACES segment

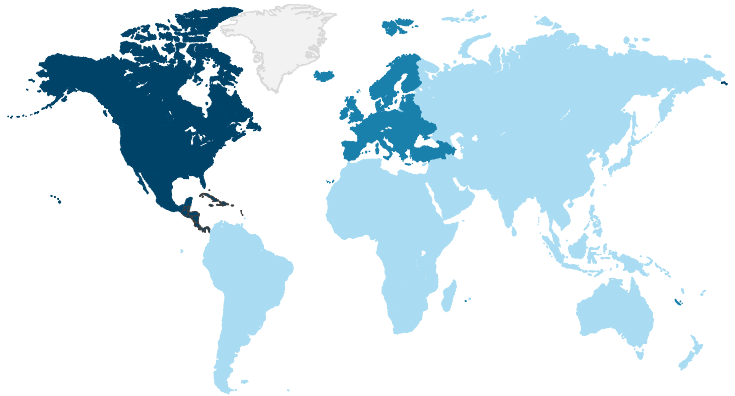
Autonomous | Connected | Electric | Shared

Adoption by value chain element

Consulting and design | Development and deployment | Verification and validation | Maintenance and management

Adoption by geography

High (>=30%) Medium (10-30%) Low (<10%)



Adoption by buyer size

High (>=30%) Medium (15-30%) Low (<15%)

- Small (annual revenue <US$1 billion)
- Medium (annual revenue US$1-5 billion)
- Large (annual revenue US$5-10 billion)
- Very large (annual revenue US$10-20 billion)
- Mega (annual revenue >US$20 billion)

Wipro | ACES automotive engineering services profile (page 3 of 4)

Case studies and solutions

Case study 1	Large engineering transformation of over 1,200 FTEs

Business challenge:
A large-scale automotive Tier 1 headquartered in Italy and Japan had been looking at a large-scale engineering transformation for realizing synergies at scale and velocity, which included the consolidation of R&D spend, harmonization of its product portfolio, and increasing its software-centric product portfolio in emerging automotive technologies.

Solution and impact:

Wipro established a software engineering factory with a core-flex model using a structured right-shoring model with nearshore centers in Romania (Bucharest and Timisoara), and an offshore center in Pune, India, with day 0 readiness of 100+ FTEs. This involved the rebadging of 250+ customer resources across Germany, France, Italy, and Japan. As a result, the automotive company achieved huge cost savings in year 1 by replacing the non-core FTEs within the customer engineering organization, and its high-cost location contingent staff with a Wipro offshore team.

Case study 2	IVI S/W development and test automation support for an OEM in North America

Business challenge:
The client wanted an automation solution to decrease the cycle time of qualification and achieve greater automation coverage. This required establishing a large team to support IVI S/W development, higher adoption of Android for infotainment systems, and migration of the existing solutions to Android and QNX.

Solution and impact:

Wipro planned a framework to achieve higher reusable components. It identified robust test framework extensions to test external peripherals such as phones and USBs. The team developed a state-of-the-art scheduling web application to perform smart scheduling and execute automated tests. It leveraged the Android centre of excellence (CoE) to rapidly scale a team for the development of Android-based IVI and migrate the existing connectivity middleware to Android.

Proprietary solutions (representative list)

Solution	Details
AI Algorithm Stack	Reference software platform to bring autonomy on a vehicle in motion (passenger vehicle, drones, robots/cobots, industrial mobile robots, etc.)
Auto-Annotation Studio	Manual, semi-automated, or automated data annotation to generate ground truths
Auto Insights	Automotive data insights
Cluster Assure	Test automation framework for instrumentation cluster testing
Connected Autonomous Vehicles (DSRC V2X/5G Cellular V2X) solution	Extending the safety of autonomous vehicles by adding visibility in bad weather/lighting conditions as well as non-line-of-sight obstacles
CloudRig	End-to-end testing of automotive cloud-based applications
Dev Assure	Test automation framework for android IVI testing
Integration test automation framework	Accelerator for integration testing leveraging Wipro's reusable integration test framework for IVI and telematics systems
Native HMI Studio	Accelerator for HMI development process, which leverages a large database of reusable assets
Optima-OF	Container orchestration framework
SDV in-a-box Global Simulator	Testing at scale with the road simulation and scenario repository
WIPOD 2.0 Autonomous Electric Vehicle	Complete vehicle design and electrification services

Source: Everest Group (2021)

Wipro | ACES automotive engineering services profile (page 4 of 4)

Investments and partnerships

Key alliances and partnerships (representative list)	
Company	**Details**
Aeromobix Systems	Partnership to add drive-by-wire capabilities, which can convert manual machines to autonomous machines
Epic Games	Collaboration to leverage the Unreal Engine and build autonomous vehicle simulators for the testing and validation of AV/ADAS stack
ExcelFore	Partnership to provide solutions in EAVB and OTA area
Genesys	Partnership to develop expertise in data acquisition, manual annotation, and GIS/HD mapping
GreenHills	Partnership to leverage GHS's RTOS and hypervisors for customer products
Intel	Collaboration to gain experience in building IVI products using Intel SoCs for customers
QNX	Alliance with QNX to provide solutions for connected integrated cockpit domain supporting RTOS and hypervisors
Renesas	Collaboration for developing software on Reneasa SOCs (including R-CAR SOCs and RH850 chipsets) to support customers in building IVI and ADAS products
Rightware Kanzi	Partnership for expertise in creating an HMI based on Rightware Kanzi HMI tools and a joint development of PoCs for customers in the area of cockpit domain controllers
Texas Instruments	Partnership for gaining domain expertise in building IVI and ADAS products using TI SOCs for customers

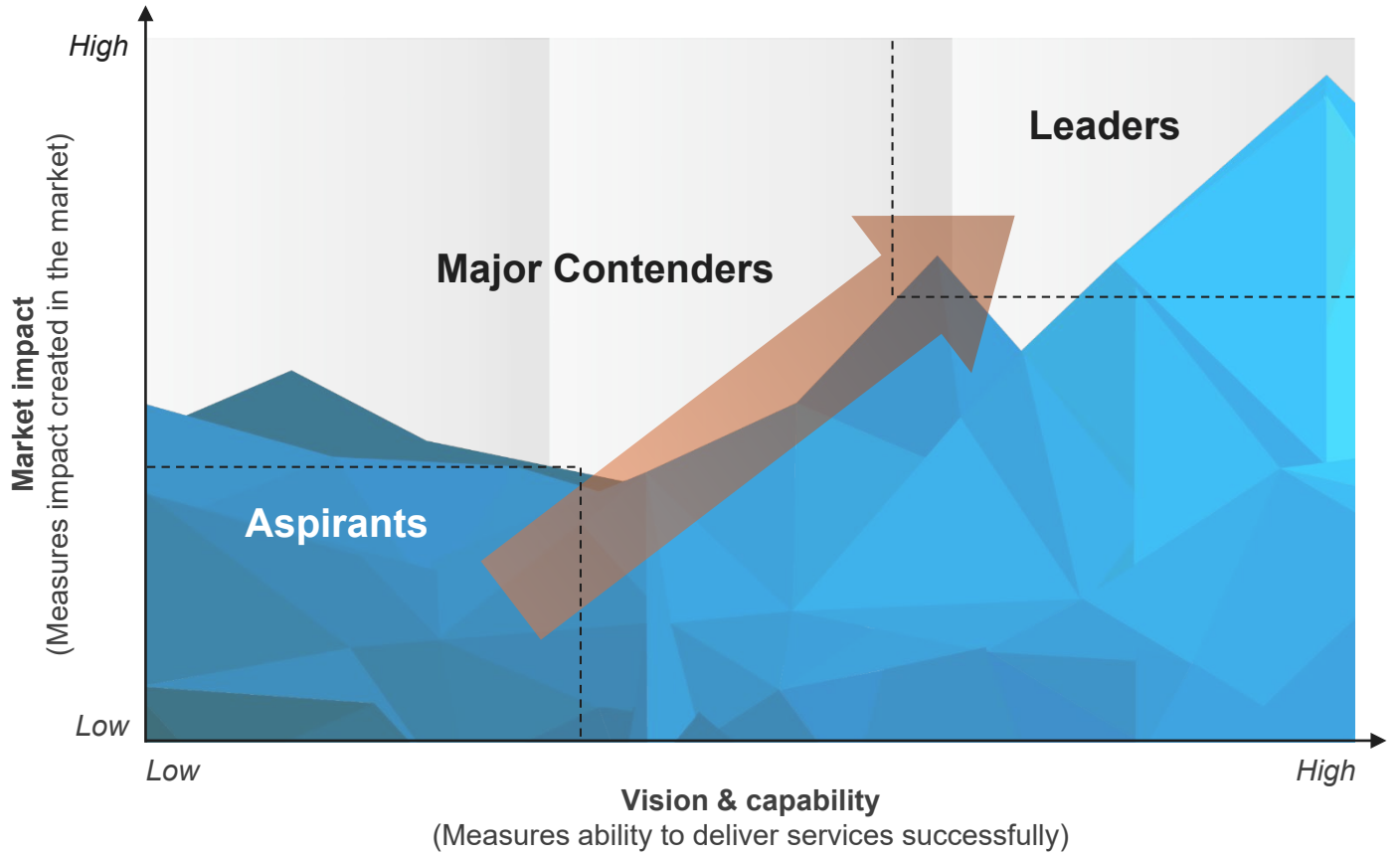
Recent ACES automotive engineering services investments/acquisitions (representative list)	
Investment/Target	**Company description**
Eximius	Acquisition to help improve chip design capabilities to support automotive SoC providers
ITI	Acquisition targeted at building capabilities in model-based system engineering

Source: Everest Group (2021)

Appendix

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

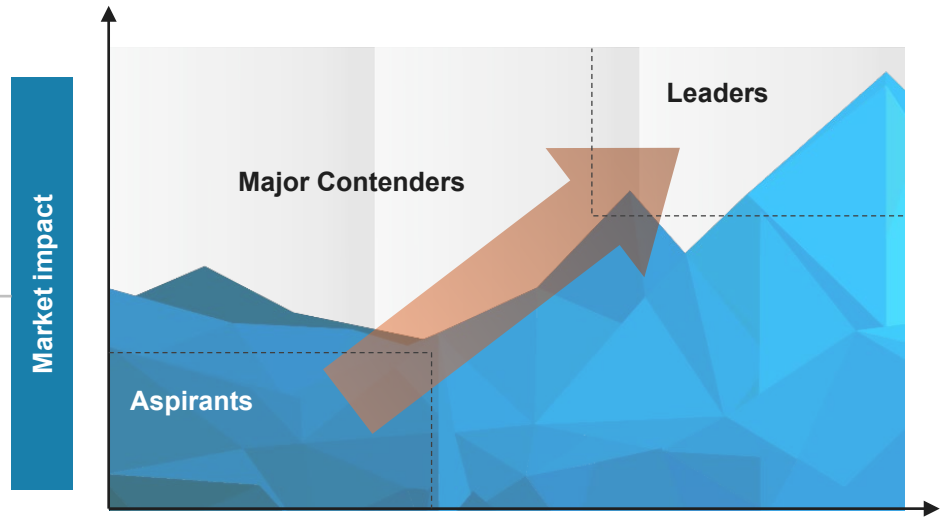
Number of clients, revenue base, YoY growth, and deal value/volume

Portfolio mix

Diversity of client/revenue base across geographies and type of engagements

Value delivered

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



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

Vision and strategy

Vision for the client and itself; future roadmap and strategy

Scope of services offered

Depth and breadth of services portfolio across service subsegments/processes

Innovation and investments

Innovation and investment in the enabling areas, e.g., technology IP, industry/domain knowledge, innovative commercial constructs, alliances, M&A, etc.

Delivery footprint

Delivery footprint and global sourcing mix

FAQs

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

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With you on the journey

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