

Everest Group Next-generation Quality Engineering (QE) Services PEAK Matrix[®] Assessment 2023

Focus on Wipro November 2023



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Introduction

Enterprises aiming to embrace digital transformation are exploring cutting-edge next-generation technologies to gain a competitive edge, drive business model innovation, and expand their operational boundaries. However, to achieve the desired benefits without disrupting existing operations, it is imperative to implement comprehensive Quality Engineering (QE) processes for these next-generation technologies. To support enterprises in their journey toward quality transformation with the adoption of next-generation technologies, service providers are channeling investments into innovation and enhanced capabilities in areas such as cloud, AI, IoT, blockchain, extended reality.

In this research, we present an assessment of 35 next-generation QE service providers featured on the <u>Next-generation Quality Engineering (QE) Services PEAK Matrix® Assessment 2023</u>. Each provider profile provides a comprehensive picture of its service focus, key Intellectual Property (IP) / solutions, domain investments, and case studies. The assessment is based on Everest Group's annual RFI process for the calendar year 2023, interactions with leading quality engineering service providers, client reference checks, and an ongoing analysis of the quality engineering services market.

The full report includes the profiles of the following 35 leading next-generation quality engineering service providers featured on the PEAK Matrix[®]:

- Leaders: Accenture, Capgemini, Cognizant, HCLTech, Infosys, Qualitest, TCS, and Wipro
- Major Contenders: a1qa, Aspire Systems, Cigniti, Coforge, eInfochips, Eviden, GlobalLogic, Indium Software, Infogain, Marlabs, Mphasis, Nous Infosystems, PwC, QualityKiosk, QualiZeal, Tech Mahindra, TestingXperts, Trigent, ValueMomentum, Virtusa, and Zensar
- Aspirants: 3i Infotech, Daffodil Software, Dexian IT Solutions, SLK Software, Testhouse, and TO THE NEW

Scope of this report





Providers 35 leading next-generation QE service providers



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Next-generation Quality Engineering (QE) Services PEAK Matrix® characteristics

Leaders

Accenture, Capgemini, Cognizant, HCLTech, Infosys, Qualitest, TCS, and Wipro

- Leaders have a superior vision for next-generation QE services and have gained significant mindshare among enterprises due to the depth and breadth of their service portfolio and delivery capabilities spread across high-growth markets
- Leaders in this category have a strong delivery capability and a proven track record of delivering successful next-generation QE projects across different industries and geographies. They have well-defined delivery models, processes, and tools to ensure efficient and effective project execution. They also have a strong partner ecosystem to leverage the latest technologies and accelerate innovation

Major Contenders

a1qa, Aspire Systems, Cigniti, Coforge, eInfochips, Eviden, GlobalLogic, Indium Software, Infogain, Marlabs, Mphasis, Nous Infosystems, PwC, QualityKiosk, QualiZeal, Tech Mahindra, TestingXperts, Trigent, ValueMomentum, Virtusa, and Zensar

- Major Contenders are making continued investments in developing the talent and partnerships required to accelerate time-to-market for their clients; their leadership commitment and commercial flexibility act as strong differentiators
- They have exhibited strong industry credentials for delivering next-generation QE engagements, making them strong contenders to Leaders
- While these service providers have developed meaningful solutions to deliver next-generation QE services, their service portfolios and delivery capabilities are not as comprehensive and balanced as those of Leaders

Aspirants

3i Infotech, Daffodil Software, Dexian IT Solutions, SLK Software, Testhouse, and TO THE NEW

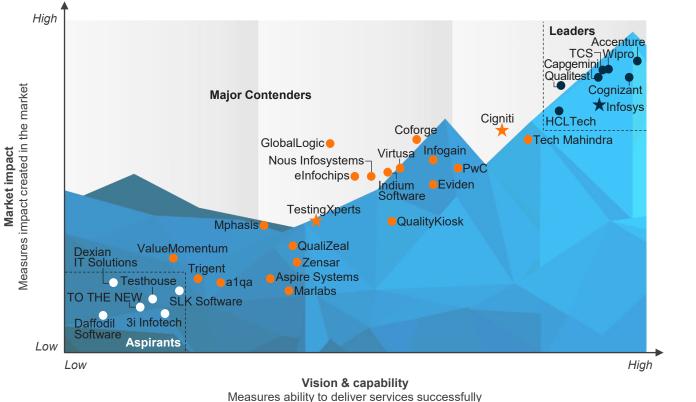
- Aspirants have a limited market presence but are expanding their footprint and capabilities. They are looking to grow and diversify their customer base and continuously improve their services to meet client needs
- They need to invest in enhancing their partnerships with technology providers and focus on talent development initiatives to build a strong resource pool with advanced skill sets



Everest Group PEAK Matrix®

Next-generation Quality Engineering (QE) Services PEAK Matrix[®] Assessment 2023 | Wipro is positioned as a Leader

Everest Group Next-generation Quality Engineering (QE) Services PEAK Matrix[®] Assessment 2023¹



Major Contenders Aspirants С

Leaders

☆ Star Performers

1 Assessment for Eviden and Virtusa includes partial inputs from the service provider, and is based on Everest Group's estimates that leverage its proprietary data assets, service provider public disclosures, and interactions with buyers Source: Everest Group (2023)



Wipro profile (page 1 of 4) Overview

Vision

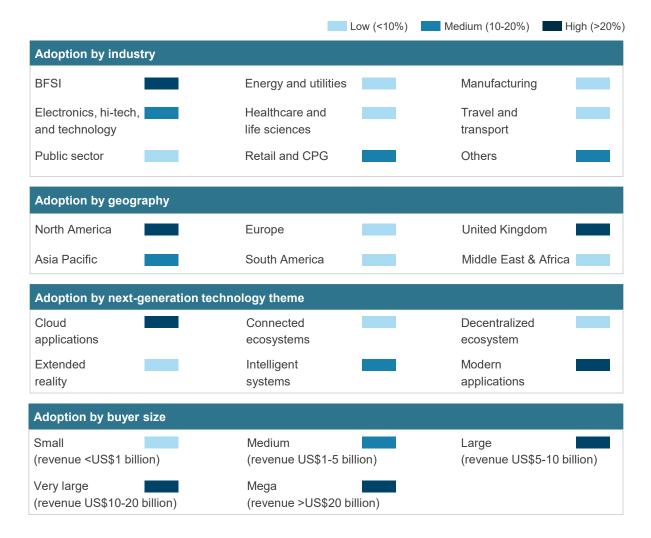
Wipro aims to improve its clients' business outcomes and protect brand reputation by providing QE offerings across application, devices, and infrastructure that integrate industry insights and leading technologies built on pillars of trust (reliability), continuous innovation (thought leadership), and future readiness (resilience).

Scope of services:

Its scope of services includes QE consulting services – quality and process consulting, maturity assessment using continuous testing maturity model, tools recommendation, QE transformation advisory, and automation improvement. Enterprise QE delivery services – test program management, TCoE, TC4E, test automation, TDM, TEM, performance, observability, chaos engineering, security, modernization, domain QA, COTS (such as SAP and Oracle), crowd testing. It offers next-generation QE offerings for transformation – testing of AI/ML, RPA testing, chat bot testing, big data testing, Phygital testing, connected eco-systems testing (5G, IoT, digital twin, etc.), blockchain testing, SaaS low-code no-code platforms, web 3.0/ AR/VR/ metaverse testing, software defined everything testing, end-to-end cloud migration and modernization assurance, and generative AI in QE.

QE services revenue





Wipro profile (page 2 of 4) Offerings

| Proprietary solutions for next-generation QE services (representative list) | | |
|---|---|--|
| Solution name | Details | |
| Holmes AI testing | It provides testing of AI capabilities keeping in mind the non-deterministic outcomes of AI models. It helps kick-start and accelerate testing of various AI aspects across white box, black box, data explainability for 360-degree validation across AI platforms, intelligent conversation assistants, and RPA bots. | |
| Intelliassure | It is an AI/ML and generative AI-powered platform for intelligent, autonomous QE across low-code no-code platforms, cloud applications, and cloud-native applications through continuous testing in DevSecOps ways of working. | |
| Blockchain test frameworks | These are frameworks for unit testing, test automation, performance, and networks for block chain powered by leading open-source utilities and libraries. | |
| Wipro Helios | It is an AI-/ML-powered platform for business intelligence, visual, and analytics testing platform using AI/ML/NLP and computer vision. | |
| Wipro DevAssure | End-to-end test automation solution for UI-driven testing of smart devices, infotainment systems, wearables, and instrument clusters | |
| | | |
| Next-generation QE services | s partnerships (representative list) | |
| Partner name | Details | |
| Tricentis | Tricentis is Wipro's venture partner and provides differentiated commercial models, joint GTM, and solution building, along with focused support channel and people enablement, for joint success | |
| Functionize | Functionize is Wipro's venture partner and enables transformation of QE through end-to-end AI-powered automation with domain-specific product/platform joint offerings across industries such a financial services, retail, and hi-tech. | |
| Keysight | Keysight is a strategic partner and provides differentiated capabilities across software and device test automation, with a strong focus on phygital and IoT ecosystems. | |
| Headspin | Headspin is Wipro's venture partner and provides differentiated capabilities in digital assurance, AI-powered observability, and testing of smart devices and 5G products. | |
| Niche partners and start-ups | UP9, Granulate, LambdaTest, GenRocket, Opkey, Delphix, Browserstack, Apwide, Tonic.Al, Mostly.Al, Hasura, Enov8, Perfecto, 42Crunch, Provar, ProdPerfect, Deque, Copado, Lightwing, | |

si, Genrockel, Opkey, Deipnix, Browserslack, Apwide, Tonic.AI, Mosliy.AI, Hasura, Enovo, Periecio, 42Grunch, Provar, ProdPerieci, Deque, Gop ∟igntwing, Validata, Evolven, R3, Qwiet.AI, Crytic, Hardhat, Cycognito, Vulcan, Hyperledger-Caliper, and Veriff, Jumio are the niche partners to build capabilities in next-generation areas.

| Next-generation QE services investments (representative list) | | |
|---|--|--|
| Investment name/theme | Details | |
| CoEs | Established 30+ dedicated CoEs for innovation and domain capabilities across automation, AI, NFT, DevOps, SRE, modern applications, cloud applications, SRE, chaos engineering, cybersecurity, automation, 5G, performance, IoT, TDM, TEM, AI, and generative AI in QE. | |
| Labs | Wipro Tarang lab (product compliance), software-defined vehicle and cloud car lab, retail POS lab, 5G testing lab, arise lab (Smart Devices), cloud Infrastructure & and datacenter test lab (CITDL), Microsoft certification lab, Silicon Valley innovation center (Lab45), cloud studios, digital pods, Wipro's AI innovation hub, AWS launch pad, and Google innovation arena | |
| Acquisitions and venture investments | Acquired CAPCO, DesignIT, CAS, Eximus Ampion, Rizing, 4C, IVIA Serviços de Informática Ltda, ITI, Infoserver, CAS, Appirio, Edgile, mPower, EncoreTheme, and Topcoder Invested in ventures such as Tricentis, Headspin, SeaLights, Functionize, Squadcast, Avaamo, LILT, Kognitos, and Kibsi | |



Wipro profile (page 3 of 4) Case studies

Case study 1

Established phygital testing for a multinational off-price department store corporation

Client: a leading multinational off-price department store

Business challenge

The client faced several challenges, including quality issues across a Point of Sale (PoS) ecosystem consisting of over 200 applications and hardware components across North America and Europe. These issues were compounded by high maintenance costs for lab equipment and environments. The testing process was predominantly manual across a diverse landscape, resulting in slow-release times and inadequate test coverage, particularly for complex retail end-to-end scenarios, such as pin entry devices validations, logs, transactions, and reports.

Solution

Wipro established a Point of Sale (PoS) testing lab as a managed service on-site, featuring advanced technology such as a robotic arm for testing hardware and devices under real-world conditions. The lab was equipped with pin pads, PoS systems, mobile devices, printers, scanners, and cash registers, all interconnected. It implemented business process modeling to create links between software and hardware components, enhancing traceability, impact analysis, and domain understanding. This resulted in the creation of a digital twin of the entire landscape. Further, Wipro adopted unified, rapid, low-code no-code test automation techniques across both hardware and software components, significantly improving the quality and speed of their testing processes.

Impact

- Reduced release cycle time from three months to 4 four weeks
- Reduced defect leakage to <1%
- Reduced lab and infrastructure-related costs up to >50%
- Improvement in in-store business by 5-10% week on week

Case study 2

Performed testing of AI for a major global financial services provider

Client: a multinational bank headquartered in Europe

Business challenge

The client faced several challenges, including the need to implement a cutting-edge AI/ML platform for Antimoney Laundering (AML) while requiring expertise in testing a non-deterministic output model and system. Ensuring alignment with risk and compliance regulations was also a key challenge in this context.

Solution

Wipro implemented a state-of-the-art AI/ML platform for AML with a comprehensive approach. It developed a specialized test module consisting of 19 modules and automated the generation of test data using a combination of synthetic and masked production data. This module was executed in the test environment, then deployed in production development and Production User Acceptance Testing (Prod UAT), where it was tested with actual production data. Results were diligently analyzed and shared with fraud alert investigators, who validated the alerts and compared them to the AI/ML platform-generated summaries. Data integrity across all systems was verified to ensure consistency. Additionally, Wipro implemented observability tools and dashboards for efficient monitoring of alerts, ensuring risk and compliance alignment in its AML efforts. Wipro tested the model thoroughly for explainability and scalability.

Impact

- Optimized testing effort by 35% by using a combination of automated and templatized testing techniques
- Achieved zero critical and high severity defects leaked into UAT and production
- · Achieved on-time deployment of the platform with testing completed ahead of planned time

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Wipro profile (page 4 of 4) Everest Group assessment – Leader



Strengths

Limitations

- Wipro has demonstrated capabilities in delivering large-scale, end-to-end QE transformation engagements for enterprise clients
- Clients appreciate Wipro's domain and technical expertise, which enables it to solve critical project problems. They are also appreciative of Wipro's focus on continuous improvement and customer-first mindset. This helps Wipro to position itself as a strategic partner to its clients
- Clients will benefit from Wipro's comprehensive solution portfolio in the QE services space. This is further enhanced by Wipro's continued investments in next-generation-focused solutions (such as Wipro Intelliassure) as well as its strong partnership network

• Enterprise clients opine that Wipro can bring in more delivery transparency to ensure better project visibility, timely updates, and a deeper understanding of the progress and challenges throughout the QE project life cycle

• While Wipro has a significant market share in BFSI, healthcare and life sciences, manufacturing, and retail, it can enhance its capabilities in emerging domains such as media and entertainment, and energy and utilities to create a greater market impact

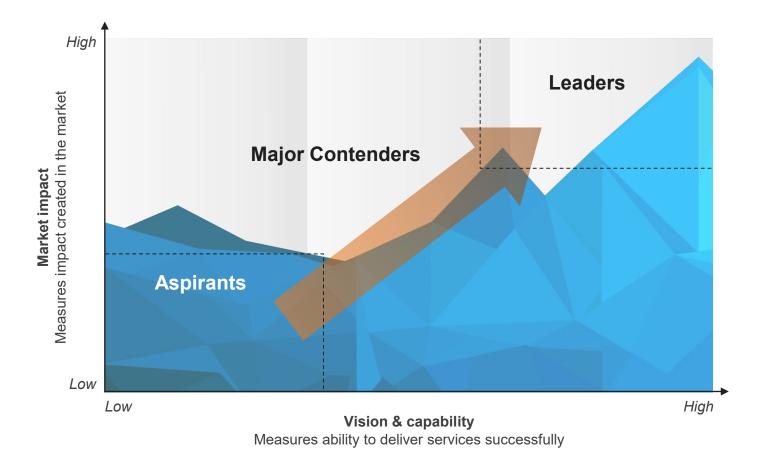
Appendix



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



Everest Group PEAK Matrix

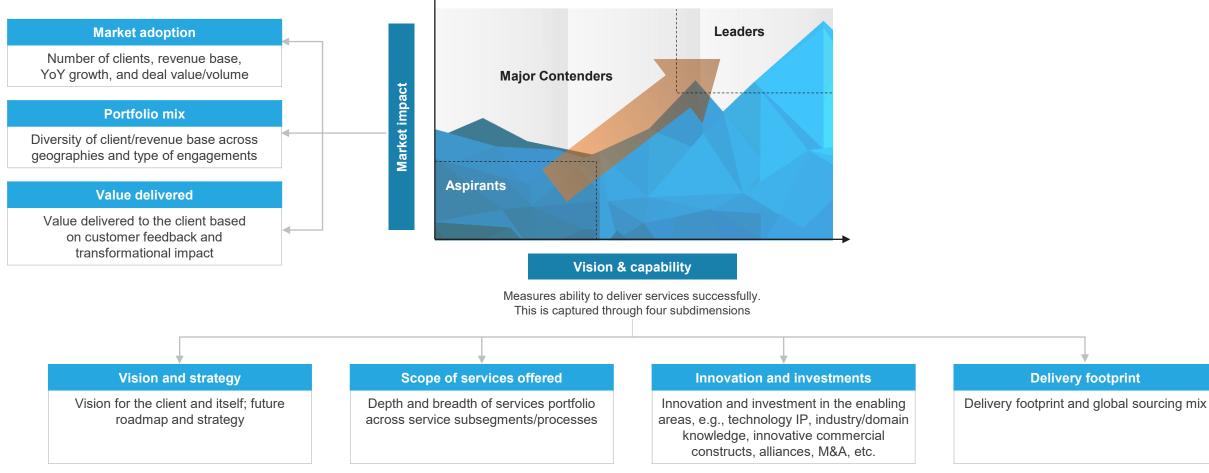




Services PEAK Matrix[®] evaluation dimensions

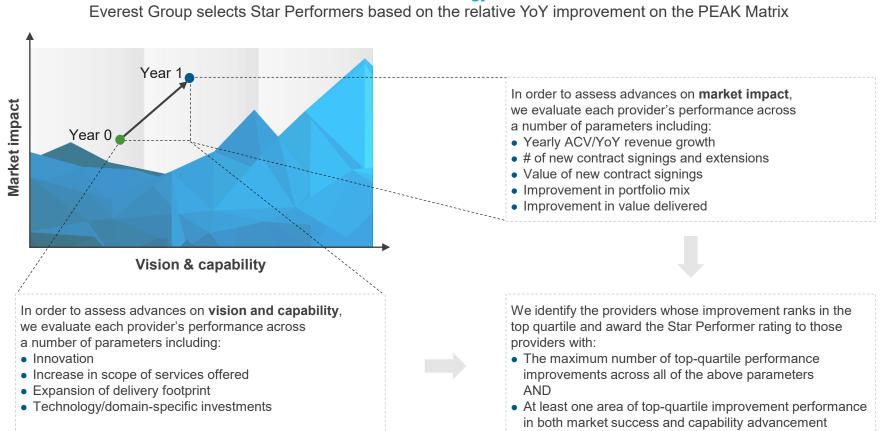


Measures impact created in the market – captured through three subdimensions



Everest Group confers the Star Performers title on providers that demonstrate the most improvement over time on the PEAK Matrix®





Methodology

The Star Performers title relates to YoY performance for a given vendor and does not reflect the overall market leadership position, which is identified as Leader, Major Contender, or Aspirant.

Does the PEAK Matrix® assessment incorporate any subjective criteria?

Everest Group's PEAK Matrix assessment takes an unbiased and fact-based approach that leverages provider / technology vendor RFIs and Everest Group's proprietary databases containing providers' deals and operational capability information. In addition, we validate/fine-tune these results 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 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 the PEAK Matrix assessment are relevant to buyers and providers other than the PEAK Matrix positioning?

A PEAK Matrix positioning is only one aspect of Everest Group's overall assessment. In addition to assigning a Leader, Major Contender, or Aspirant label, Everest Group highlights the distinctive capabilities and unique attributes of all the providers assessed on the PEAK Matrix. The detailed metric-level assessment and associated commentary are helpful for buyers in selecting providers/vendors for their specific requirements. They also help providers/vendors demonstrate their strengths in specific areas.

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

- Enterprise participants receive summary of key findings from the PEAK Matrix assessment
- For providers
- The RFI process is a vital way to help us keep current on capabilities; it forms the basis for our database without participation, it is difficult to effectively match capabilities to buyer inquiries
- In addition, it helps the provider/vendor organization gain brand visibility through being in included in our research reports

What is the process for a provider / technology vendor to leverage its PEAK Matrix positioning?

- Providers/vendors can use their PEAK Matrix positioning or Star Performer rating in multiple ways including:
- Issue a press release declaring positioning; see our citation policies
- Purchase a customized PEAK Matrix profile for circulation with clients, prospects, etc. The package includes the profile as well as quotes from Everest Group analysts, which can be used in PR
- Use PEAK Matrix badges for 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 Everest Group; please contact your CD or <u>contact us</u>

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

PEAK Matrix assessments are designed to serve enterprises' current and future needs. 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 and to serve enterprises' future expectations.

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