Verification and Validation (V&V) Engineering Services PEAK Matrix™ Assessment 2018: Building Differentiated Product Experience Through Intelligent Quality Engineering

Engineering Services
Market Report – August 2018: Complimentary Abstract / Table of Contents

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Custom research capabilities

- Benchmarking | Pricing, delivery model, skill portfolio
- Peer analysis | Scope, sourcing models, locations
- Locations | Cost, skills, sustainability, portfolio – plus a tracking tool
- Tracking services | Service providers, locations, risk
- Other | Market intelligence, service provider capabilities, technologies, contract assessment

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Background, scope, and methodology of the research

Background and context:

- The V&V services industry has been evolving over the past decade and is poised to witness more changes in the coming five to ten years. As products become increasingly intelligent, inter-connected, and instrumented, the quality assurance needs have changed from only ensuring functional requirements of products to seamless customer experience and value creation for the business

- In order to fulfill the evolving customer demand, enterprises are changing their product development ideology from a "one-size-fits-all" approach to an "on-demand hyper-personalized" approach, allowing service providers to engage through various delivery models and partner with these enterprises for development of innovative customer-centric products

Methodology of the research

This report is based on four key sources of information:

- Everest Group's proprietary database of operational capability of more than 25 V&V engineering service providers (updated annually)

- Everest Group's proprietary transaction intelligence database that tracks publicly-announced outsourcing deals

- Service provider Request For Information (RFIs) and briefings

- Buyer reference interviews, ongoing buyer surveys, and interactions

Scope of this report

Market segment:
Verification and validation engineering services

Geography
Global

Service providers assessed[1]

accenture   Capgemini   Cognizant   CYBAGE *Delivering Value. Scientifically.*   CYIENT   HARMAN   HCL   Infosys

L&T Technology Services   Mindtree *Welcome to possible*   semcon   TATA CONSULTANCY SERVICES   Tech Mahindra   wipro

1 Assessment for Accenture, Infosys, Mindtree, Semcon, 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 V&V buyers

Note: Everest Group takes its confidentiality pledge very seriously. Any contract-specific information collected will only be presented back to the industry in an aggregated fashion

The source of all content is Everest Group unless otherwise specified

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This report examines the global 2018 V&V service provider landscape and its impact on the engineering services market. It focuses on service provider position and growth in the V&V market, changing market dynamics and emerging service provider trends, assessment of service provider delivery capabilities, and key V&V service provider profiles. It also identifies the key implications of the research findings for buyers and service providers.

Some of the findings in this report, among others, are:

Changing market dynamics

- There is an emerging segment of buyers in the V&V market which is looking for strategic benefits by transforming their entire product engineering value chain rather than only being interested in cost take-out
- Product organizations are looking forward to adopt next-generation digital methodologies in order to rapidly evolve V&V activities and create superior quality products
- Enterprises are likely to move towards DevOps/Agile model and integrate their V&V activities along with early stage product engineering activities

Service provider position and growth

- The V&V outsourcing market is expected to grow at a CAGR of 10-13% in the coming years compared to 12-15% in the previous years
- Buyer organizations expect service providers to help create leverage in terms of higher profitability, better efficiency, and faster time-to-market. To address these expectations, service providers are striving to build an effective positioning by investing in assets (solutions/frameworks, labs, etc.), talent upskilling, and delivery capability

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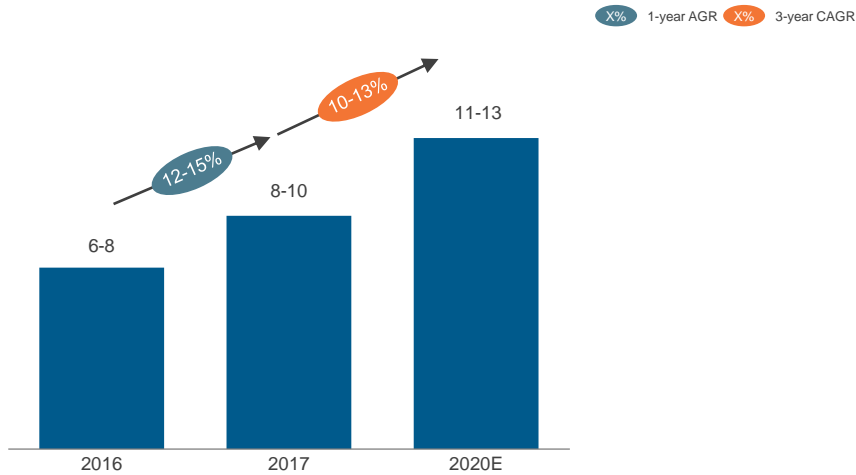RESEARCH

Emerging service provider trends

- The V&V market saw increased investment from most leading service providers in Centers of Excellence (CoEs) and innovation centres to enhance capabilities in automation, platform-based offerings, connected ecosystems, and next-generation themes
- Service providers are partnering with key technology vendors and enterprises to build additional capabilities

Service provider delivery capability

- Analysis of the service provider landscape for V&V engineering services, leveraging Everest Group's PEAK Matrix, highlights the following categories of service providers:
  – Leaders: Capgemini, Cognizant, HCL Technologies, and TCS
  – Major Contenders: Accenture, Cybage, Cyient, HARMAN, Infosys, L&T Technology Services, Tech Mahindra, and Wipro
  – Aspirants: Mindtree and Semcon
- **Leaders** are differentiated by their global delivery model, next-generation capabilities, and good breadth & depth of solutions/services portfolio that has helped them become strategic transformation partners to their V&V clients
- **Major Contenders** lag behind Leaders in terms of breadth of solution portfolio, scope, and domain expertise; few of them have a mature solutions portfolio and industry-wide expertise while others have limited offerings and focused expertise in selective technologies and industry domains
- **Aspirants** have limited coverage both in terms of delivery footprint and domain expertise; their investments are mostly focused on select areas and particular V&V segments of the product engineering value chain

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This study offers a deep dive into the key aspects of intelligent quality engineering in the engineering services industry

V&V services global outsourcing market

X% 1-year AGR   X% 3-year CAGR

- 2016: 6-8
- 2017: 8-10
- 2020E: 11-13

12-15%   10-13%

Capability assessment of service providers
Illustrative example

Measure of capability: ● High ◐ Low

Service provider	Market impact				Vision & capability				
	Market adoption	Portfolio mix	Value delivered	Overall	Scope of services offered	Innovation and investments	Delivery footprint	Vision and strategy	Overall
Service provider 1									
Service provider 2									
Service provider 3									
Service provider 4									
Service provider 5									
Service provider 6									
Service provider 7									
Service provider 8									
Service provider 9									

Key challenges faced by enterprises for adoption of digital V&V

- Continuous regression testing due to product augmentation and change in scope
- Concerns around availability of skilled resources for digital V&V technologies adoption
- Omnichannel requirements to test for interoperability
- High investments required to adopt digital V&V solutions
- Lack of proven POCs hindering new V&V technologies adoption roadmap
- Stringent regulatory compliance and security requirements
- Selecting the right tools and frameworks from the diverse set available
- Issues with integration of new digital systems with legacy architecture

Everest Group's remarks on service providers
Illustrative example

Measure of capability: ● High ◐ Low

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

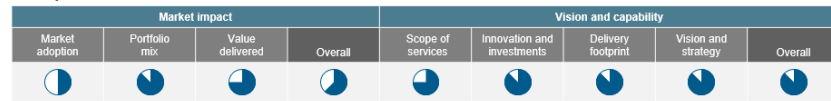| Strengths	Areas of improvement
• Service provider 1, has a robust delivery presence in Asia Pacific with multiple delivery centers in India, Australia, the Philippines, and China, enabling it to service client requirements efficiently • It has a good number of multi-country as well as single-country clients across the world	• Service provider 1 should increase offerings of value-added services such as employer branding, talent communities and workforce planning • It should try to expand into larger multi-country deals and also scout for engagements in other Asia Pacific markets to strengthen its presence in the region

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This report has 14 service provider profiles

Service provider | V&V engineering services snapshot (page 1 of 3)
Overview

Vision & strategy: As enterprises prepare themselves to implement the latest technologies across the entire product value chain, Service provider's vision is to help enterprises innovate, automate, and evolve their testing approach through AI testing, security testing, and performance testing to help them create high quality products.

Summary of PEAK Matrix™ assessment

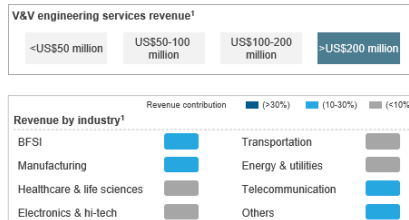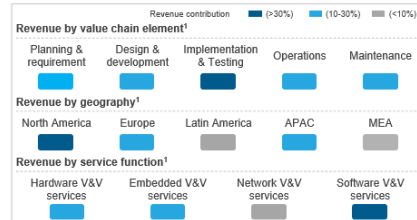| Market impact				Vision and capability				
Market adoption	Portfolio mix	Value delivered	Overall	Scope of services	Innovation and investments	Delivery footprint	Vision and strategy	Overall
◖	◕	◕	◕	◕	◕	◕	◕	◕

Strengths
- Service provider's investments in cloud-based and AI-led product testing solutions display its strong innovation capability
- It leverages its consulting-led engagement model to drive buyers' V&V and automation efforts

Areas of improvement
- Service provider needs to focus on its existing accounts to get more projects or increase renewals
- It needs to increase its focus and capabilities in providing V&V services for areas such as IoT-based solutions and blockchain products

Revenue contribution ▪ (>30%) ▪ (10-30%) ▪ (<10%)

Revenue by value chain element[1]

Planning & requirement	Design & development	Implementation & Testing	Operations	Maintenance

Revenue by geography[1]

North America	Europe	Latin America	APAC	MEA

Revenue by service function[1]

Hardware V&V services	Embedded V&V services	Network V&V services	Software V&V services

V&V engineering services revenue[1]

<US$50 million	US$50-100 million	US$100-200 million	>US$200 million

Revenue contribution ▪ (>30%) ▪ (10-30%) ▪ (<10%)

Revenue by industry[1]

BFSI		Transportation	
Manufacturing		Energy & utilities	
Healthcare & life sciences		Telecommunication	
Electronics & hi-tech		Others	

1 Everest Group estimates

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Service provider | V&V engineering services snapshot (page 3 of 3)
Investments and partnerships

NOT EXHAUSTIVE

Key alliances and partnerships (representative list)

Partner name	Details
Partner 1	This partnership enhances service provider's capabilities of providing enterprises with an integrated and automated testing solution. service provider is a certified implementation partner of service
Partner 2	Service provider partners with partner 2 to enhance delivery management capabilities, helping enterprises to effectively manage operations and scale software infrastructure assets
Partner 3	Partner 3 is a strategic partner helping service provider integrate cognitive testing capabilities in its platforms
Partner 4	Using dedicated performance test controllers and load generators in the cloud, service provider provides partner 4 cloud-based performance testing solution to enterprises
Partner 5	This partnership helps service provider combine its performance engineering test capabilities with partner 5 Application Performance Management (APM) capabilities to provide real-time insights and the ability to identify the root cause of performance issues for clients

Recent Verification and Validation engineering investments (representative list)

Development	Details
Investment 1	Service provider invested in launching a new set of services powered by its "Teach and Test" methodology, which will help companies validate the safety, reliability, and transparency of their AI systems
Investment 2	Service provider has developed an omnichannel testing platform, which integrates platform tests and enables testing across a multitude of environments such as mobile devices, desktops, kiosks, smart TVs, and wearables. The platform uses automation and analytics and helps testing teams to analyze use case performance, crashes, defects, and inconsistencies in order to fine-tune performance to deliver business impact
Investment 3	Service provider has invested in developing an interactive talent platform, the Service provider Future Talent Platform, which provides a personalized, on-demand learning solution to train its workforce on new technologies and ways of working, thus equipping employees with the skills needed to address current and future client needs
Investment 4	Service provider has made many strategic investments to enhance its testing capabilities in the areas of cybersecurity, digital services, software development, engineering services, and Agile transformation services for business

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Research calendar – Engineering Services (ES)

| | Published | Planned | Current release |

Flagship engineering services reports	Release date
Leading the Pack: Trends for the Top 200 Engineering Research & Development (ER&D) Enterprises	May 2018
Embedded System Engineering Services – Service Provider Landscape with PEAK Matrix™ Assessment 2018	August 2018
Verification and Validation (V&V) Engineering Services PEAK Matrix™ Assessment 2018: Building Differentiated Product Experience Through Intelligent Quality Engineering	**August 2018**
Engineering Services for Medical Devices – Service Provider Landscape with PEAK Matrix™ Assessment 2018	Q4 2018
Manufacturing Engineering Services – Service Provider Landscape with PEAK Matrix™ Assessment 2018	Q4 2018

Thematic engineering services reports	
Top 20 Software Engineering Trailblazers – The DevOps Enablers	January 2018
Additive Manufacturing – Defining New Frontiers in Digital Manufacturing	March 2018
Supply Chain Excellence – Demystifying the Digitalization Journey	April 2018
A Guide to Industry 4.0 – Industrial Revolution and the Making of Smart Solutions	Q3 2018
Software-Defined "Suite of Things" – Blurring the Boundaries of the Technology Ecosystem	Q3 2018
How to Build a Superior Engineering Services Sourcing Model	Q3 2018
Global Engineering Services Talent Overview	Q3 2018

Note: For a list of all ES reports published by us, please refer to our website page

Additional Engineering Services research references

The following documents are recommended for additional insight on the topic covered in this report. The recommended documents either provide additional details or complementary content that may be of interest

1. **Identifying the Right Partners for Quality Management in the Engineering Services Industry – Service Provider Landscape** (EGR-2017-15-R-2182); 2017. This report provides information on the role of service providers and outsourcing engagement models. This report contains detailed profiles on each of the twenty-three leading engineering service providers in the quality management services space. This report also provides an overview of the quality management global sourcing landscape in engineering services and demand trends across major industry segments

2. **Software Product Engineering Services – Market Trends and Services PEAK Matrix™ Assessment: Adapting to the New Normal** (EGR-2017-15-R-2441); 2017. This report presents fact-based trends impacting the software product engineering services market, along with the assessment and detailed profiles of 18 software product engineering service providers featured on the software product engineering services PEAK Matrix

3. **Digital Vortex in the Mobility World – Automotive Engineering Services PEAK Matrix™ Assessment 2017 and Profiles Compendium** (EGR-2017-15-R-2446); 2017. This report comprises an analysis of the capabilities of 19 leading engineering service providers in the automotive vertical. These providers are mapped on the Everest Group PEAK Matrix. The report also focuses on key automotive engineering services market trends

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About Everest Group

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