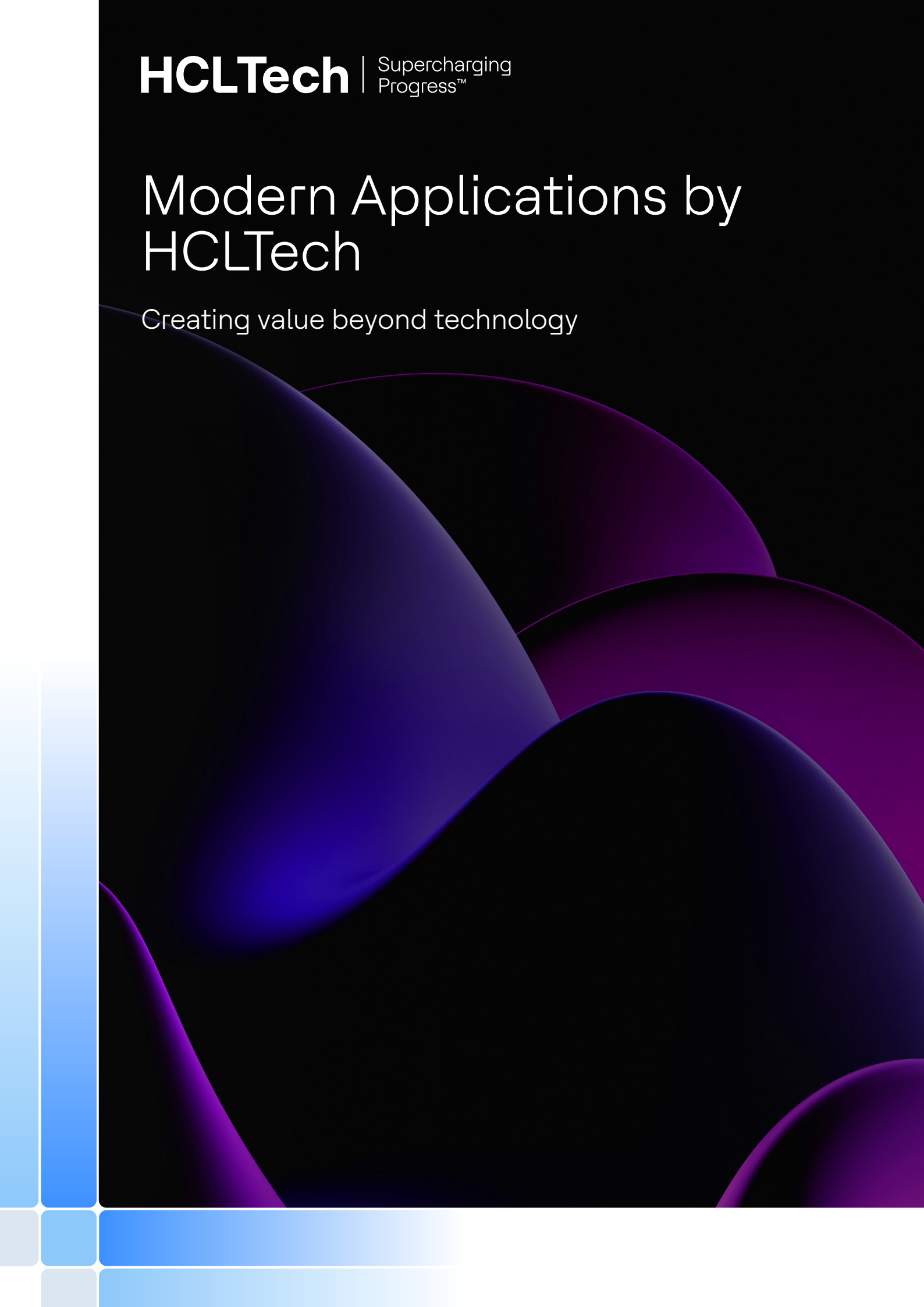


HCLTech | Supercharging
Progress™

Modern Applications by HCLTech

Creating value beyond technology



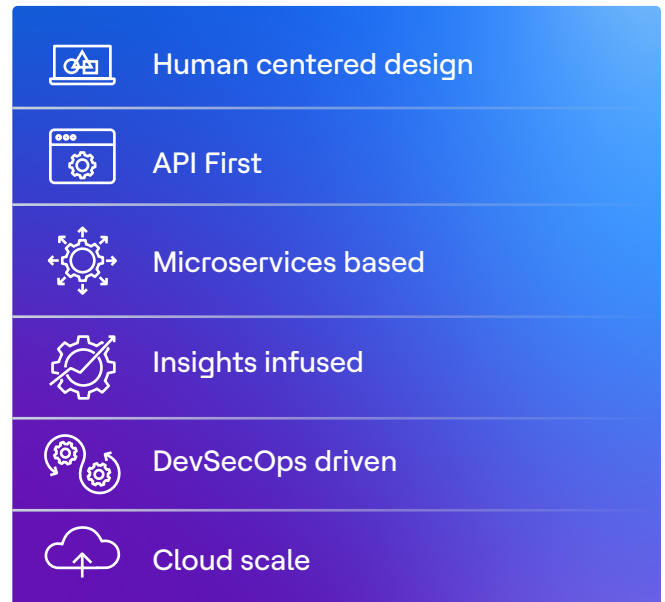
Introduction

Applications are constantly evolving, leaving organizations with the dilemma of either adapting or falling by the wayside. The spectrum of applications is only expanding — from legacy and brownfield to cloud native and microservices. With emerging applications on the cloud, the explosion of mobility and the convergence of computing, businesses across industries are looking for custom application development solutions to support their individual business needs.

HCLTech helps organizations effectively manage their application portfolio through customizable solutions. We empower our clients with transformational value by leveraging our proven deployment techniques and industry best practices to create change-the-business, run-the-business and cross-functional IT solutions. Our philosophy in developing modern applications is to bring people, process and technology together and build a solution which is productive, reliable and scalable.



HCLTech's philosophy for developing applications relies on six key principles that helps in building intuitive and insightful applications driven by productivity and experience improvements such as:



HCLTech's vision for Modern Application Development is well-supported by its in-house developed accelerators which help in enhancing productivity in the development process and deliver business value at scale.

Given below are details of three marquee accelerators developed by HCLTech's Modern Applications Practice covering.

- 01 ADvantage Code:**
App development and automation
- 02 Virtual Intelligent Test Assistant (VITA):** App testing and automation
- 03 Application360:**
Agile Observability and Measurement



ADvantage Code (ADC)

Traditional ways of application development are often inadequate when it comes to satisfying the pace and frequency at which demand for new features must be met.

In view of these facts, two aspects of modern application development that enterprises should keep in mind while embarking on their app development journeys are developer experience and engineering automation.

ADvantage Code is our way of bringing productivity in application development by adding automation in the development process. ADC revolutionizes the developer experience by harnessing the power of Gen AI services. By leveraging AWS Bedrock Gen AI services, developers on the platform can effortlessly generate code using foundation models, enabling them to accelerate the development process with utmost accuracy and efficiency. This innovative approach not only provides an initial boost to developers but also brings about a significant reduction in the overall development cycle. By combining the capabilities of Gen AI services, ADC Application sets a new benchmark for code-generation and DevOps, paving the way for enhanced productivity and exceptional application development.

ADvantage Code is currently available on the AWS marketplace for customers to use.

Key features

The philosophy behind ADvantage Code is to enhance developer productivity through automation and infra-as-a-code. ADC fully supports the AWS native services while it auto-generates code and CI/CD pipeline. ADvantage Code enhances developer experience as it automates the generation of non-differentiated and repetitive tasks in the development process. The key features of the tool are:

- **Model driven development:** Model driven development for faster bootstrapping of development projects, including DevOps automation
- **Codified best practices:** Embed development best practices into scaffolding generated to codify best practices instead of documentation
- **Developer empowerment:** Gen AI-powered code generation from a business specification file, streamlining software development and accelerating time-to-market
- **Automation first:** Identify opportunities for automation and enable them via ADC
- **DevSecOps / CI automation:** Along with the code, ADC also sets up corresponding Devops pipelines with inbuilt security practices
- **Build at scale:** Build cloud and internet scale applications in rapid mode using ADC platform

Benefits

ADvantage-Code accepts specification file developed at the end of design cycle and generate cloud native application code, creates DevOps pipeline and enables deployment into platform of choice. This way 20 – 30% of the code is ready even before the developer starts using IDE and standardized DevOps pipeline.



Consistency and standardization across development teams



Automated application scaffolding creation to enable developers to focus on solving business problems



Help customers accelerate DevOps journey



Enable full stack development

NFRs (Non-Functional Requirement) are partly included automatically in scaffolding, during the development process itself.

Customer credentials

Customer 1:

For a leading global logistics provider based out of Australia, providing services in 40+ countries. HCLTech used ADC to generate the microservices code base to jump start delivery. This in turn created a foundational engineering capability for the company.

Customer 2:

For a British public-service television broadcaster. HCLTech used ADC to accelerate micro services development by generating base structure of spring boot based microservices taking the entity model as input.



The solution is listed on AWS Solution Consulting Offer, [AWS Marketplace](#), AWS Partner Solutions Finder, and is available for customers globally. To know more [Click here](#)

Virtual Intelligent Test Assistant (VITA)

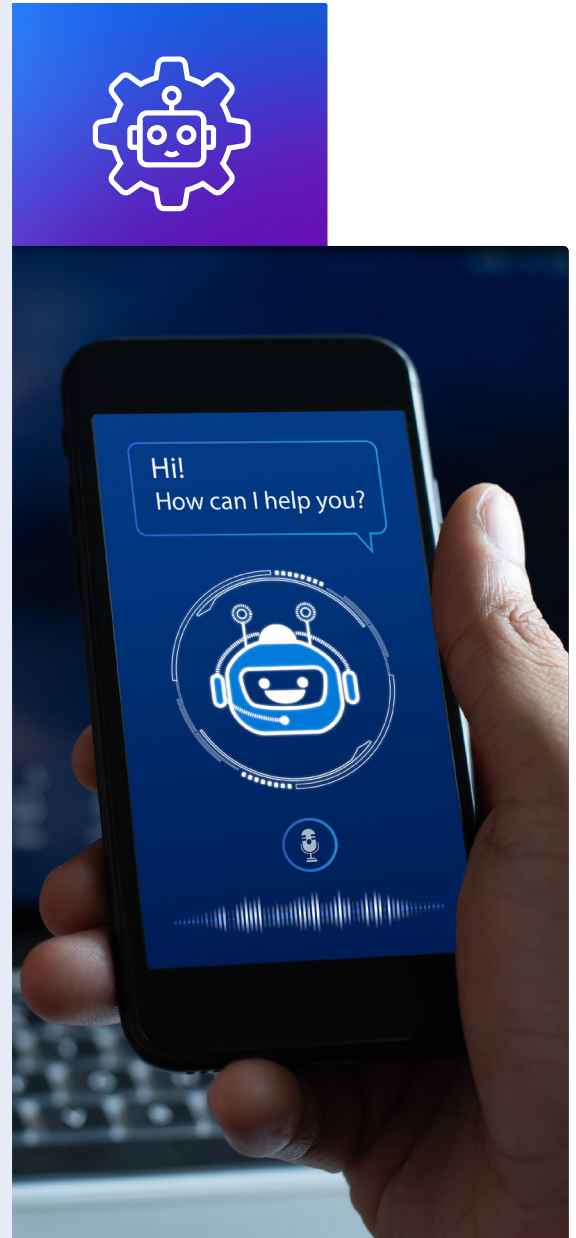
In rapidly evolving landscape of software development, traditional testing processes often fall short of addressing ever increasing complexity and demands of modern applications. Automated test script creation and maintenance, along with the challenge of adapting to changing application requirements, pose significant hurdles for organizations striving to achieve efficient, high-quality testing. Additionally, the lack of comprehensive insights into the testing process hampers informed decision-making, hindering collaboration and impeding progress.

As software development pace continues to accelerate, the need for a robust and intelligent testing solution has become more critical than ever. Organizations require a testing platform that can seamlessly adapt to dynamic requirements, automate tedious scripting tasks, provide actionable insights and streamline the testing lifecycle. This problem statement underscores the necessity for a transformative solution like Virtual Intelligent Test Assistant (VITA) to revolutionize software testing practices and meet evolving demands of the industry.

Key features

Virtual Intelligent Test Assistant (VITA), is a game-changing AI-augmented test platform designed to enhance every facet of testing lifecycle. It is a composition of various engines that providing test automation capabilities which are described below:

- ➔ **Auto scripting engine:** This engine is built on industry-standard Generative AI and AI/ML technology. It excels in processing requirements from feature files or user stories through natural language processing (NLP) techniques. By doing so, it automatically generates automation scripts
- ➔ **Self-healing engine:** Leveraging deep learning techniques, it can identify object or element changes during the execution of the application under test. When changes in requirements, such as feature files, occur, the daemon service within the Self-heal engine triggers the auto scripting engine to update relevant parts of the script automatically.
- ➔ **Test selection engine:** By enabling risk parameters for test cases, it intelligently selects and prioritizes test cases for execution. This ensures that the most critical test scenarios are covered, enhancing testing efficiency and reducing overall testing time.



- **Execution Engine:** eExecutes automation scripts generated by the Auto Scripting Engine. It seamlessly runs these scripts against the application under test, providing test results and feedback.
- **Reports Engine:** Enables generation of detailed and informative test reports. These reports help stakeholders understand the testing progress, results and overall quality of the product under test. It also aids in making informed decisions and facilitates effective communication among team members.



Benefits

VITA is an orchestration platform that encompasses several core engines. These engines can be individually plugged into the platform or used cohesively to streamline and optimize test lifecycle processes. Benefits of using VITA include:



Increased test coverage: VITA can help automate more tests, which can lead to increased test coverage



Reduced test maintenance: Selfheal Engine in VITA can help in reducing the amount of time that spent in maintaining test scripts



Improved test efficiency: Improve test efficiency by automating tasks such as test selection and execution



Improved test reporting: VITA can provide comprehensive reports that can help track testing progress and also identify areas of improvement

VITA masked customer references

Customer 1:

A leading North American information management services company employed VITA-Auto Scripting Engine for automating its Salesforce application. The Auto Scripting Engine was utilized to identify UI objects and perform automation of identified test cases and it internally uses AWS Code whisperer to generate cucumber step definition files. This helps in 60% effort savings with end-to-end testing lifecycle automation and integration with CI/CD and CT tools

Customer 2:

For a leading North American Information Management Services Company to improve Automation productivity, HCLTech transformed test cases into Feature file format using GenAI and then automated the feature file using VITA-Auto Scripting Engine which internally uses AWS Code whisperer to generate cucumber step definition files. This in-turn aided in converting 80% of existing feature files into automation scripts thereby achieving significant productivity improvement



Application 360 (App360)

Application360 (App360) is a way of bringing fragmented processes and tooling in various aspects of SDLC within Agile, DevOps and Cloud adoption initiatives to drive data-driven decisions- and help enterprises align strategy with execution. Application 360 brings Engineering processes and Program management under an integrated dashboard providing fully traceability from portfolio-level EPICs to development-level tasks, giving all stakeholders contextual information they need to connect the dots. It provides 360-degree view to key stakeholders and helps foresee various risks to ensure timely mitigation. It also reduces the development effort and aids in improving productivity and quality aspects of people and processes.

App360 has been providing valuable insights about AWS Cloud adoption and development programs, which enables customers to track progress and realize the benefits of cloud adoption.

Key features

The philosophy behind Application 360 is to reduce development effort, aid in improving productivity, quality aspects of people and processes. Given below are the key features of Application 360:

- ➔ **Unified view:** Provides a single product backlog consolidating items from different ALM applications, be it JIRA, Azure Backlog or VersionOne. Helps to prioritize work items with the greatest business value while arriving at a balanced product mix across sprints.
- ➔ **Track process compliance:** Improved visibility across processes helping identify gaps with a view on key SLA parameters. The app helps bring issues to the forefront and track missing data elements across SDLC.
- ➔ **Project and program Mgmt. KPIs:** Consolidate data from various project management tools to monitor WIP, potential risks, code aspects and pipeline stability. Aids in tracking high priority issues to reduce overall lead time and ensure high delivery efficiency.
- ➔ **Improved ALM experience:** Enhanced planning, measurement, control and reporting of activities, in all the stages of application delivery lifecycle. App360 has integrations with multiple toolsets with various client-like workflow structures to help in data-driven decision making.

- ➔ **Code and test monitoring:** Monitor Code and testing processes with metrics like Project Health Index, overall quality score, PR Conflicts, test suites with failed tests and resulting bugs, assess test automation levels and much more , avoiding release time chaos and helping achieve a stable platform.
- ➔ **AI for predictability:** AI and ML for predictability in Delivery, Cycle Time and Potential Risks



Benefits

Application 360 enables the customer to improve overall project productivity while saving cost by providing a unified view of all key metrics in a single place which helps in early risk detection and reliable ALM execution.



Consistent and unified project view



Early detection of risk



Improve productivity



Cost savings



Reliable ALM execution

Application 360 masked customer references

Customer 1:

For a global luxury vehicle manufacturer, HCLTech developed a centralized Application 360 Dashboard to provide Enterprise level unified view for Agile reporting which helped in early risk identification, superior traceability & automated reports.

Customer 2:

For a leading American railway & logistics provider, HCLTech developed a persona-based dashboard for Scrum Master, Product Owner & Train Engineers which helped in creating consolidate team level views and end-to-end traceability across all environments.

The solution is listed on AWS Marketplace and is available for customers globally.
To know more [Click here](#)

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HCLTech is a global technology company, home to more than 221,000 people across 60 countries, delivering industry-leading capabilities centered around digital, engineering, cloud and AI, powered by a broad portfolio of technology services and products. We work with clients across all major verticals, providing industry solutions for Financial Services, Manufacturing, Life Sciences and Healthcare, Technology and Services, Telecom and Media, Retail and CPG, and Public Services. Consolidated revenues as of 12 months ending September 2023 totaled \$12.9 billion. To learn how we can supercharge progress for you, visit hcltech.com.

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