

IDC MarketScape: Worldwide IT and Engineering Services for Software-Defined Vehicles 2025 Vendor Assessment

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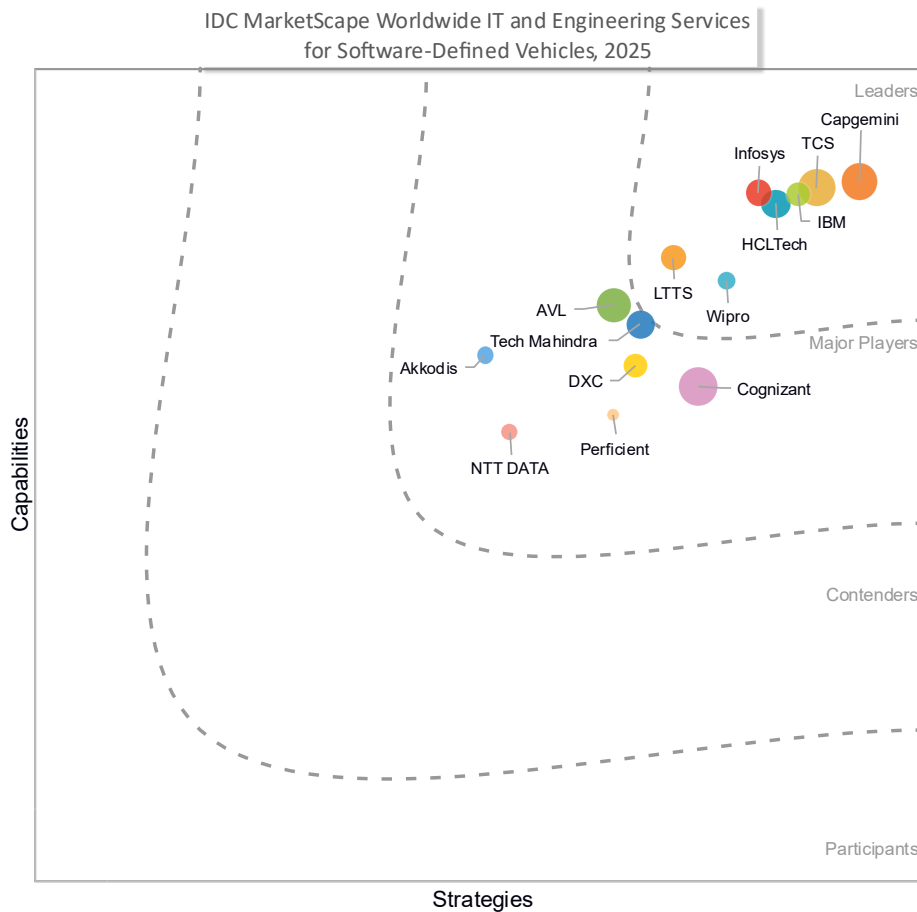
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THIS MARKETScape EXCERPT FEATURES HCL TECH AS A LEADER

IDC MARKETScape FIGURE

FIGURE 1

IDC MarketScape Worldwide IT and Engineering Services for Software-Defined Vehicles Vendor Assessment



Source: IDC, 2025

Please see the Appendix for detailed methodology, market definition, and scoring criteria.

IN THIS EXCERPT

The content for this excerpt was taken directly from IDC MarketScape: Worldwide IT and Engineering Services for Software-Defined Vehicles 2025 Vendor Assessment (Doc # US51813124).

IDC OPINION

The software-defined vehicle (SDV) is the recent advancement in vehicle architecture primarily driven by software to manage operations, add functionality, remotely update, and enable new features with over-the-air (OTA) rollouts. In both gas-powered and electric power trains, the vehicle architecture is moving away from distributed control with multiple electronic control units (ECUs) to a more centralized computing approach with few systems on a chip (SoCs) in which many features, such as assisted driving, connected infotainment, driver monitoring systems, intelligent energy management, and other automotive embedded systems, can be controlled, managed, updated, and maintained centrally over the life cycle of the vehicle.

One of the main advantages of software-defined vehicles is their ability to enable and manage innovative CASE (connected, autonomous, shared, and electric) mobility features — such as autonomous driving (AD)/self-driving and connected services — which not only improve safety but also offer opportunities for new subscription-based offerings. Unlike traditional hardware-defined vehicle architecture, SDVs can be future ready to introduce and manage new features leveraging over-the-air updates. In addition, the traditional approach toward vehicle maintenance (preventive and reactive) and recalls due to regulatory compliance can be completely transformed with remote diagnostics, proactive maintenance, and OTA updates, saving auto companies and their customers significant costs, time, and effort.

An increasing number of automakers are now offering vehicles equipped with advanced hardware — such as sensors, computing units, storage, and connectivity — designed to support the deployment, management, and maintenance of emerging software-defined infotainment and functional features, including autonomous driving and embedded systems. However, the rollout of these new software-driven capabilities introduces heightened risks, particularly in terms of functional safety and cybersecurity. In addition, the transition to SDVs is reshaping the traditional automotive value chain, as established suppliers are being replaced by new technology vendors with expertise in sensing, electronics, connectivity, and software solutions.

Role of IT and Engineering Service Providers in the SDV Value Chain

The auto industry value chain is transitioning from the traditional pyramidal form to a flat structure. IT and engineering services providers (SPs) are working with original equipment manufacturers (OEMs) and tiered suppliers to develop, validate, supply, and integrate software-defined, connected, and autonomous features onto the vehicle platforms. These service providers bring strategy/consulting, design, engineering, development, deployment, testing and validation, systems integration, and support and management services, allowing SDVs to ensure seamless interfacing between the modernized systems and legacy and to migrate these legacy systems to modernized infrastructure. Rather than relying on exclusive arrangements, automakers are increasingly forming collaborative partnerships with multiple IT and engineering services providers to address specific needs. This flexible approach encourages project-based and platform-based collaborations across the ecosystem. These services providers also gain from these relationships, as they foster long-term partnerships with OEMs and share responsibilities for both product development and cost management.

Key Developments in Engineering Services for Software-Defined Vehicles

Shifting from Traditional to Agile and Secure Software Development

Auto OEMs have historically focused on manufacturing hardware and relied on tier 1 suppliers for sourcing, development, and integration of software-defined features. Most of the new product developments followed the waterfall approach. The growing proportion of software in vehicle engineering and development is now giving rise to agile development frameworks with integration of security across each level.

Development and security must merge into a DevSecOps approach, introducing risk and threat analysis at every stage, accelerating delivery, and strengthening security. This approach increases automotive manufacturers and tier 1s' security posture while streamlining the path to production and accelerating the delivery of modern automotive applications. In their automotive and SDV offerings, IT and engineering services partners are emphasizing agile deployments with a keen focus on threat mitigation and cybersecurity frameworks to create assurance for secured engineering and deployment of next-generation software-defined vehicles.

Understanding Challenge Unique to the Automotive Market and Brands

While CASE features are common in luxury vehicles, OEMs aim to bring them to mass-market models, which are highly price sensitive and face intense competition. This results in a significant reduction in margins and requires the hardware, software platforms, cloud hyperscalers, and engineering and integration service providers to support the OEMs effectively in their SDV journey.

Both tech vendors and IT and engineering service providers must understand factors associated with risk to market, time to market, and traditional and emerging regulations, such as autonomous vehicle (AV) operation, data privacy, and sovereignty laws in both global and regional markets. IT and engineering service providers are building proprietary platform solutions that can facilitate faster engineering, development, and testing and validation to accelerate time to market. These toolkit/accelerator solutions are complemented with the domain-specific nuances and a strategy consulting approach that can allow the technology buyers to address the regional regulations more effectively.

Increasing Focus on Partnerships and Standardization

The automotive industry has grown significantly with the increase of software platforms, embedded software, cloud, AI, and so forth, becoming more prevalent parts of vehicle development and engineering. Hence a cohesive partnership with the semiconductor and embedded systems companies, cloud hyperscalers, and specialized software suppliers is imperative for designing, engineering, and developing software-defined vehicles. While developing their solutions for software-defined vehicles (SDVs), engineering service providers are integrating technology vendors into the ecosystem, enabling automakers to focus seamlessly on SDV engineering and new product development. Not only the technology vendor partnerships but participation in consortia (such as AUTOSAR, SOAFEE, SDV Alliance, COVESA, and Eclipse) along with the customers and technology vendor partners are also becoming important to showcase their innovation and competitive edge. These open groups are also reducing the level of fragmentation and address ever-increasing complexities by bringing open collaborative frameworks. Engineering service providers and technology vendors along with auto manufacturers and tier 1s are actively contributing to these consortia.

Leveraging GenAI for SDV Development

Auto OEMs and technology vendors can leverage generative AI (GenAI)-powered tools on public cloud platforms to overcome key obstacles in cloud-native automotive software development. As efforts and collaborations to create fully software-defined vehicle architectures accelerate, GenAI's most immediate benefit is its ability to rapidly

upskill and enable traditional automotive engineers — especially those without extensive coding or programming experience — by providing them with advanced AI-driven tools and models.

A GenAI-enabled text-to-code foundation model can boost productivity and faster time to market by improving developer velocity with code generation, completion, refactoring, quality, and testing and validation. It also can automate regulatory compliance checks and virtual validation, speeding up software feature development, especially for advanced driver assistance system (ADAS) and autonomous vehicles.

IDC MARKETSCOPE VENDOR INCLUSION CRITERIA

Following lists the inclusion criteria considered in handpicking IT and engineering services vendors for this vendor assessment:

- The services vendor must operate in at least two of the six types of professional services defined by IDC (see Market Definition) as the combination of project-oriented services such as business and IT consulting, systems integration, custom application development, and other managed services in automotive software development, testing, simulation, and life-cycle management.
- The supplier generates at least US\$1 billion of annual IT professional services revenue globally with over US\$100 million in IT professional services revenue in the automotive vertical.
- The vendor must be operating in at least two regions out of North America, EMEA, Asia/Pacific (including Japan), and Latin America.
- The supplier must have at least one major auto company as a client with annual revenue of over US\$10 billion in 2023.

ADVICE FOR TECHNOLOGY BUYERS

- **Implement a robust vendor selection process.** As you embark upon your IT and engineering services toward software-defined vehicles, use this IDC MarketScape as a tool not only to shortlist vendors but also to evaluate and experience their capabilities across automotive engineering and software-defined vehicles services for your specific needs. Selecting the right partner for your software-defined vehicle transformation requires more than just technical capability, it demands a clear, forward-looking vision for the future of mobility. It is essential to assess not only their track record with similar automotive clients but also how they plan to evolve their offerings and delivery models. A partner with a robust innovation road map and a deep understanding of emerging

mobility trends will be critical to ensuring long-term success and adaptability in a rapidly shifting regulatory and geopolitical landscape.

- **Adopt a business-led strategic partnership approach.** It is imperative to have the conversation around "what is your business problem?" at the very beginning of the transformation journey from traditional to software-defined vehicle transformation journey. Discuss with your shortlisted IT and engineering service providers regarding your domain and functional knowledge and how the SDV service road map and deployment will impact your business metrics.

It is also imperative for you to ask for ROI estimation and evaluate how the service provider is tracking it across the life cycle of the engagement. Check whether the partner is willing to put its skin in the game by committing to specific metrics. Ensure you compensate the partner accordingly for taking on this risk. If the partner fails to deliver upon these commitments, ensure there are appropriate consequences and adjustments in compensation to reflect unmet targets.

- **Evaluate technology partnerships and open group participation.** Successful development and deployment of SDV is dependent on technology partnerships across cloud hyperscalers, vehicle operating systems (VOSs) providers, automotive embedded solutions, cybersecurity solution vendors, and so forth. IT and engineering service providers with comprehensive partnerships across the end-to-end automotive technology stack are important consideration in the selection process.

While evaluating it is also important to inspect how the service providers along with the technology partners are participating and contributing to the open groups (existing and emerging) for source code, architectures, and frameworks to improve standardization and reduce fragmentation. These contributions enable you to get the comprehensive understanding of the SDV service partner's innovation capabilities and how that can complement your SDV road map.

- **Focus on the talent ecosystem.** The IT and engineering service provider's talent ecosystem plays a crucial role in successful delivery of SDV solutions and services across its life cycle. While service providers have talents across software product/platform engineering and embedded software engineering, it is important to introspect how they are leveraging them in delivering solutions across automotive engineering especially from the software-defined vehicles solution deliveries. This includes evaluating their ability to deliver SDV programs with the right mix of talent — strategically located in key automotive hubs — to ensure proximity to OEMs and alignment with regional market needs. It is important for you to evaluate the service providers that not only excel in product engineering and development talents but also offer strong expertise in

horizontal areas such as testing, cybersecurity, and connectivity, along with next-generation automotive domain knowledge.

- **Evaluate proprietary assets/frameworks and the delivery ecosystem.** For your software-defined vehicles engineering solution and services engagements, it is crucial to inspect what proprietary tools, methodologies, and frameworks your service partner offers and how they complement the outcome. Also, you must also evaluate onshore/nearshore/offshore delivery capabilities and research and development (R&D) labs/innovation centers of your service partner as appropriate for your deployment.

FEATURED VENDOR PROFILE

This section briefly explains IDC's key observations resulting in HCLTech's position in the IDC MarketScape. The description here provides a summary of the vendor's strengths and challenges.

HCLTech

After a thorough evaluation of HCLTech's strategies and capabilities, the company is recognized in the Leaders category in this 2025 IDC MarketScape for worldwide IT and engineering services for software-defined vehicles.

HCLTech is a technology service provider in the automotive sector, offering solutions that drive the transformation of traditional automotive paradigms into software-defined vehicles. With over three decades of experience in the automotive industry, HCLTech leverages its expertise in embedded systems, cloud computing, and data analytics to provide comprehensive services that span the entire vehicle life cycle — from design and engineering to testing and deployment. HCLTech's automotive offerings encompass a wide range of capabilities, including advanced driver assistance systems, connected vehicle technologies, and cloud-native applications. The company emphasizes a chip-to-cloud approach, integrating hardware and software solutions to enhance vehicle performance and safety.

The five key service offerings are consulting, vehicle engineering, E/E, software, and testing. Consulting services focus on architecture, process methods, and digital transformation strategies tailored to the automotive sector. Vehicle engineering encompasses the design and development of vehicle systems, ensuring compliance with industry standards and enhancing performance. E/E, software development, and testing services provide integrated solutions for embedded systems, software validation, and quality assurance throughout the vehicle life cycle.

A delivery ecosystem across onshore, nearshore, and offshore bolsters HCLTech's automotive practice, with more than 75% automotive engineers of the service provider supporting the company's SDV practice. Recent acquisitions, such as ASAP, have strengthened the company's position in the market by expanding its engineering capabilities and enhancing its presence among original equipment manufacturers and tier 1 suppliers. The integration services offered by ASAP focus on seamless vehicle systems integration, ensuring that complex electronic components and software systems work together efficiently across the entire vehicle architecture.

HCLTech provides tailored silicon solutions to automotive OEMs, enabling the development of high-performance chips optimized for specific vehicle applications. The company offers flexible business models, including project-based development and long-term partnerships, to meet diverse customer needs in the automotive sector. HCLTech has made a significant investment in an Advanced Technology and Manufacturing Process (ATMP) lab to enhance its semiconductor capabilities for automotive applications. The company's focus on cybersecurity and functional safety ensures that its solutions meet the highest standards of reliability and security, making HCLTech a trusted partner for automotive organizations looking to navigate the complexities of the modern automotive landscape.

The service provider's partnership ecosystem comprising of cloud hyperscalers, semiconductor/embedded systems vendors, and specialized software platform providers is a key factor in HCLTech's go-to-market strategy. It has developed several proprietary frameworks and accelerator tools that can enable faster time to market, improve quality of SDV development, and efficiently address customer needs. Cloud Bridge (intelligent cloud engineering solutions designed to accelerate your cloud migration and modernization journey), AI Force (a GenAI platform that drives service transformation across the software engineering and IT operations life cycle), TestSphere (streamlines end-to-end testing process), GenAI EV Assist (provides real-time insights on battery usage, charging infrastructure, and personalized driving recommendations), Digital Companion (intelligent in-car voice assistant that transforms mobility with hands-free control, real-time updates, and personalized insights), and AutoWise Companion (leverages GenAI for tailored automotive purchasing recommendations) are some of these accelerators integrated to HCLTech's offerings. Acquisition of ASAP is expected to drive building more of such accelerators across the automotive stack.

Strengths

HCLTech has a legacy as an IT professional services and engineering services provider and offers solution and capabilities across chip to cloud. The service provider has leveraged its capabilities across services, which allowed the service provider to build a comprehensive offering around SDV alongside traditional IT services for automakers and tier 1 suppliers. Its extensive portfolio of services across SDV testing and validation and cybersecurity is well appreciated by its customers. Complementing its SDV stack offerings with GenAI in engineering services is a strong area for HCLTech. In addition, the company has invested in forming a Global Mobility Consulting Group focused on bridging the gap between strategy and domain-led execution, helping automotive enterprises in their transformation journey.

It leverages its robust partner ecosystem and more than 2,200 patents with many of those focused on automation tools and techniques. The service provider has a significantly expansive network of delivery locations and R&D labs enabling the company to codevelop solutions with customers and partners.

HCLTech has a strategic benefit in ASAP acquisition, and integration into the automotive business enables it to not only augment its automotive engineering services capabilities but also ensure access to high-growth markets such as Germany. Customers appreciate HCLTech's end-to-end SDV offerings, employer branding, and delivery model, especially after the acquisition of ASAP, and expect that the service provider can bring diverse capabilities from other geographies where it is operating.

Challenges

To further strengthen SDV as a strategic focus, the service provider should expand GenAI integration beyond the software development life cycle into areas like generative design. Establishing dedicated, shared R&D infrastructure for SDV development, testing, and validation across onshore, nearshore, and offshore locations is essential. HCLTech should actively participate in open industry forums such as COVESA, SOAFEE, and SDV Alliance to enhance its technical capabilities and increase visibility among automotive manufacturers and tier 1 suppliers.

In addition, customers believe HCLTech should offer more flexible pricing structures for both new and ongoing projects, especially with ASAP engagements, to encourage greater future investment.

Reading an IDC MarketScape Graph

For the purposes of this analysis, IDC divided potential key measures for success into two primary categories: capabilities and strategies.

Positioning on the y-axis reflects the vendor's current capabilities and menu of services and how well aligned the vendor is to customer needs. The capabilities category focuses on the capabilities of the company and product today, here and now. Under this category, IDC analysts will look at how well a vendor is building/delivering capabilities that enable it to execute its chosen strategy in the market.

Positioning on the x-axis, or strategies axis, indicates how well the vendor's future strategy aligns with what customers will require in three to five years. The strategies category focuses on high-level decisions and underlying assumptions about offerings, customer segments, and business and go-to-market plans for the next three to five years.

The size of the individual vendor markers in the IDC MarketScape represents the market share of each individual vendor within the specific market segment being assessed.

Although the 14 vendors that IDC evaluated represent the majority share of spending for software-defined vehicles engineering services worldwide, there are other vendors participating in this market worth considering based on your needs. This IDC MarketScape evaluated the following vendors: Akkodis, AVL, Capgemini, Cognizant, DXC, HCLTech, IBM, Infosys, LTTS, NTT DATA, Perficient, TCS, Tech Mahindra, and Wipro.

IDC MarketScape Methodology

IDC MarketScape criteria selection, weightings, and vendor scores represent well-researched IDC judgment about the market and specific vendors. IDC analysts tailor the range of standard characteristics by which vendors are measured through structured discussions, surveys, and interviews with market leaders, participants, and end users. Market weightings are based on user interviews, buyer surveys, and the input of IDC experts in each market. IDC analysts base individual vendor scores, and ultimately vendor positions on the IDC MarketScape, on detailed surveys and interviews with the vendors, publicly available information, and end-user experiences in an effort to provide an accurate and consistent assessment of each vendor's characteristics, behavior, and capability.

Market Definition

The software-defined vehicle represents the evolution in automotive design and architecture where the software oversees core functions, enables new functionalities, and supports remote updates through over-the-air (OTA) rollout. In both internal combustion engines and electric vehicles, as manufacturers migrate from a distributed network of electronic control units (ECUs) handling individual functions to a more centralized computing approach powered by a few system on a chip (SoC). This enables various features such as assisted driving, cruise control, connected infotainment, driver monitoring, intelligent energy management, and other automotive embedded systems to be maintained, managed, and upgraded seamlessly throughout the vehicle's life cycle.

IDC defines the IT and engineering services for SDVs in Table 1.

Software-defined automotive features and applications include:

- Advanced driver assistance systems (ADASs), driver monitoring systems (DMSs), and autonomous vehicles (AVs)
- Connected infotainment systems and voice-based control systems
- Intelligent energy and power train management systems
- Other safety and functional-embedded software
- Vehicle connectivity (V2X)

TABLE 1

Software-Defined Vehicles: IT and Engineering Services

IT and Engineering Services	Definitions
Digital vehicle services	▪ Cloud integrated virtual vehicle platform ▪ Feature virtualization ▪ Test automation
Technology services	▪ Software development (embedded and cloud native, apps, and back end) ▪ Software testing ▪ AI and data platforms
Product development	▪ Product management ▪ Project management ▪ Cost estimation
Quality and process	▪ Process definition ▪ Process improvement ▪ Process audit ▪ Functional safety management
Systems integration and validation	▪ Systems integration ▪ Test management ▪ System testing and validation
OTA and digital life-cycle management	▪ OTA platform ▪ Update management ▪ Security

Source: IDC, 2025

LEARN MORE

Related Research

- *IDC MarketScape: Worldwide Industrial IoT Engineering and Managed Services 2025 Vendor Assessment* (IDC #US53235725, March 2025)

- *IDC MarketScape: Worldwide Industrial IoT Consulting and Integration Services 2025 Vendor Assessment* (IDC #US51812824, March 2025)
- *Worldwide Premium Connected Vehicles Forecast, 2024–2028* (IDC #US52766322, January 2025)
- *IDC FutureScape: Worldwide Sustainability/ESG 2025 Predictions* (IDC #US52418624, November 2024)
- *IDC FutureScape: Worldwide Services 2025 Predictions* (IDC #US52634524, October 2024)
- *Market Analysis Perspective: Worldwide Digital Engineering and OT Services, 2024* (IDC #US51625924, September 2024)
- *IDC Market Glance: Digital Engineering and Operational Technology Services, 3Q24* (IDC #US51626424, September 2024)
- *Worldwide Product Engineering and Operational Technology Services Forecast, 2024–2028* (IDC #US51627224, July 2024)
- *Evolution of Connected Infotainment System with In-Vehicle App Store and OTA, 2024* (IDC #US48739122, July 2024)

Synopsis

This IDC study is a vendor assessment of the 2025 IT and engineering services market for software-defined vehicles (SDVs) using the IDC MarketScape model. This assessment discusses both the quantitative and qualitative characteristics for success in the software-defined vehicle life-cycle services market and covers a variety of vendors operating in this market. The evaluation is based on a comprehensive and rigorous framework that compares vendors, assesses them based on certain criteria, and highlights the factors expected to be most important for market success in both the short and long term.

"The shift to software-defined vehicles marks a fundamental transformation in automotive architecture — moving from distributed ECUs to centralized computing platforms powered by advanced SoCs. This evolution enables continuous feature enhancements, autonomous capabilities, and connected services through over-the-air updates, redefining how vehicles are developed, maintained, and experienced throughout their life cycle," says Abhishek Mukherjee, research manager, Digital Engineering and Operational Technology Services at IDC. "As the automotive value chain flattens, IT and engineering service providers are emerging as strategic partners — codeveloping, integrating, and securing next-gen SDV platforms. Their contributions span agile development, DevSecOps, and regulatory compliance while fostering ecosystemwide collaboration with OEMs, hyperscalers, and semiconductor firms to accelerate innovation and time to market."

ABOUT IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications, and consumer technology markets. With more than 1,300 analysts worldwide, IDC offers global, regional, and local expertise on technology, IT benchmarking and sourcing, and industry opportunities and trends in over 110 countries. IDC's analysis and insight helps IT professionals, business executives, and the investment community to make fact-based technology decisions and to achieve their key business objectives. Founded in 1964, IDC is a wholly owned subsidiary of International Data Group (IDG, Inc.).

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