Inside VinFast's Technology Strategy for the Next Generation of Intelligent Vehicles

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With investments in proprietary software, advanced driver-assistance systems and AI-powered automated driving, the Vietnamese automaker is building the engineering capabilities to compete in an increasingly software-defined automotive industry.

The automotive industry’s next technological race extends well beyond batteries, electric motors and driving range. Increasingly, competitive advantage is being defined by

computing power, software architecture and artificial intelligence – technologies that determine how vehicles perceive their surroundings, anticipate hazards and evolve throughout their lifecycles.



VinFast Deputy CEO Prof. Dr. Duong Van Nguyen shares the company's strategy with international media at the V-Creator All Star Summit 2026 in Nha Trang, Vietnam

As established automakers and technology companies invest heavily in software-defined vehicles (SDVs) and automated driving, Vietnam's VinFast is accelerating its own technological transformation.

At the V-Creator All Star Summit 2026, held in Nha Trang, Vietnam, from November 15 to 19, VinFast offered international media a closer look at its engineering strategy, combining in-house technology development, global partnerships and the

resources of parent company Vingroup.

While electrification established VinFast’s presence on the global automotive stage, vehicle intelligence is increasingly shaping its next chapter.

From electric vehicles to software-defined vehicles

The transition toward software-defined vehicles represents a fundamental shift in automotive engineering. Rather than relying on numerous distributed electronic control units, automakers are moving toward centralized computing architectures that enable greater software integration, more efficient development and scalable vehicle functionality.

For VinFast, this transition is already taking shape in production vehicles. Launched in Vietnam in May 2026, the all-new VF 8 marks a significant milestone in the company’s engineering evolution. Beyond improvements to its chassis, suspension and driving dynamics, the electric SUV introduces a next-generation electrical/electronic (E/E) architecture developed in-house.

At its core is a Central Vehicle Computer (CVC), designed to coordinate vehicle functions and support more integrated software development.

The new VF 8 also marks the first commercial deployment of VinFast’s internally developed advanced driver-assistance systems (ADAS), encompassing highway driving assistance, adaptive cruise control, lane-keeping assistance, automatic emergency braking, blind-spot warnings and surround-view monitoring.

The significance extends beyond individual features. Developing the underlying architecture and software gives VinFast greater control over system integration, engineering costs and the evolution of future vehicle platforms.

According to its 2025 annual report, VinFast had nearly 2,500 in-house research and development professionals at year-end, including more than 600 software engineers.

For an automaker founded less than a decade ago, that engineering investment underscores the growing importance of proprietary technology in its long-term competitive strategy.

Two technology paths, one long-term ambition

At the summit, Prof. Dr. Duong-Van Nguyen, VinFast’s Deputy CEO overseeing ADAS and autonomous driving, outlined a dual-track development strategy: advancing Level 2 and enhanced Level 2 driver-assistance systems for passenger vehicles, while developing Level 4 automated driving technology for future mobility applications.

For near-term ADAS development, VinFast is pursuing a hybrid architecture that combines AI-powered perception, sensor fusion and conventional rule-based algorithms for motion planning and vehicle control.

This approach seeks to balance computational efficiency, predictable system behavior, safety validation and affordability — considerations that are particularly important when deploying advanced technologies across mass-market vehicle segments.

Nguyen also presented advanced automated parking and vehicle-summoning capabilities, illustrating how software could address everyday challenges such as maneuvering in confined parking spaces.

These technologies form part of a broader effort to advance driver assistance. Level 2 systems, however, still require continuous driver supervision and do not constitute autonomous driving.

For higher levels of automation, VinFast is exploring more sophisticated AI architectures, including end-to-end learning and Vision-Language-Action (VLA) models.

An emerging area of automotive AI research, VLA technology connects visual perception with contextual reasoning and action generation. The objective is to enable vehicles to interpret complex traffic scenarios, anticipate potential hazards and make increasingly context-aware driving decisions.

Although these technologies remain under development and validation, their inclusion in VinFast’s roadmap reflects the company’s efforts to keep pace with advances in intelligent vehicle engineering worldwide.

Southeast Asia as a proving ground for automotive AI

One of the more distinctive aspects of VinFast’s technology strategy is the environment in which its systems are being developed.

Vietnam’s urban roads present formidable challenges for automated driving systems. Dense motorcycle traffic, complex

interactions among road users and constantly changing traffic conditions create a demanding environment for perception, prediction and motion planning.

For automotive AI engineers, these conditions represent both a technical challenge and a potentially valuable source of real-world driving data.

VinFast is seeking to leverage this opportunity through the broader Vingroup ecosystem, particularly Green SM, its affiliated electric mobility services operator.

Access to commercial fleet operations could provide diverse driving datasets, supporting the training, testing and continuous refinement of AI-powered driving systems.

VinFast’s development framework encompasses data collection, scenario identification, AI training, simulation, benchmarking and vehicle-level validation. Complex driving scenarios can be reconstructed in virtual environments to evaluate system performance and refine subsequent software iterations.

The approach reflects the automotive industry’s growing emphasis on data-driven engineering, in which software development and real-world validation become increasingly interconnected.

Successfully addressing Southeast Asia’s complex traffic environments could help VinFast build engineering expertise with applications well beyond its home market.

Global expertise, proprietary engineering

“Partner to move fast. Build in-house capabilities to go far.”. Presented by Nguyen at V-Creator, that principle encapsulates VinFast’s approach to technology development.

In January 2026, VinFast announced a strategic partnership with automotive AI specialist Autobrains to develop enhanced Level 2 driver-assistance systems and explore more cost-efficient automated driving architectures. Initial pilot testing had begun on VF 8 and VF 9 vehicles.

In June, the collaboration expanded to include a next-generation Level 4 automated driving program built on the NVIDIA DRIVE Hyperion platform.

By combining international expertise in automotive computing and AI with its own engineering resources, vehicle platforms and mobility ecosystem, VinFast is seeking to accelerate technological development while strengthening its proprietary engineering capabilities.

The roadmap presented at V-Creator identifies 2026 as a period of technology validation and platform selection, followed by industrialization and planned initial service deployment in 2027, including applications at Vinhomes Green Paradise in Can Gio, Vietnam.

These milestones remain subject to further engineering development, safety validation and applicable regulatory requirements.

Bringing automotive intelligence to the mass market

For VinFast, the ultimate measure of automotive intelligence

is not the sophistication of its underlying algorithms, but the tangible value delivered to customers.

As **Tapan Ghosh, CEO of VinFast Asia**, explained at the summit: “A smart car should give drivers fewer things to worry about and more time to enjoy life.”

VinFast envisions increasingly connected vehicles capable of learning from usage patterns, anticipating maintenance needs, recommending charging locations and delivering more personalized assistance.

This philosophy is particularly relevant in fast-growing automotive markets such as India, Indonesia and the Philippines, where affordability, practicality and ease of ownership remain central to purchasing decisions.

The challenge is not simply to develop advanced technology, but to make it reliable, intuitive and accessible across a broad range of vehicle segments.

As the global automotive industry moves toward increasingly intelligent, connected and software-defined vehicles, the ability to develop, integrate and continuously refine core technologies is becoming a critical differentiator.

VinFast’s investments in proprietary software, AI, advanced driver assistance and automated driving reflect an ambition that extends beyond electrification: to build the technological depth required to compete in the next era of automotive innovation.

For a young automaker that entered the global industry during one of its most disruptive transitions, the next defining milestone may lie not in how its vehicles are powered, but in how intelligently they operate – and how effectively VinFast can bring that intelligence to the mass market.

About VinFast

VinFast (NASDAQ: VFS), a subsidiary of Vingroup JSC, one of Vietnam's largest conglomerates, is a pure-play electric vehicle ("EV") manufacturer with the mission of making EVs accessible to everyone. VinFast's product lineup today includes a wide range of electric SUVs, e-scooters, and e-buses.

VinFast is currently embarking on its next growth phase through rapid expansion of its distribution and dealership network globally and increasing its manufacturing capacities with a focus on key markets across North America, Europe, the Middle East and Asia.

Learn more at vinfastauto.in.

