In vehicle software, speed comes from fewer hand-offs.

Some carmakers ship new software in weeks; others wait for the next model. The difference tracks a countable thing: how many times a requirement passes from one company, or one document, to another before it runs in a car. This report tracks the public measures that move with them: in-house sourcing, electronics architecture, over-the-air fixes and the rules on updates.

41% vs 25%

Carmakers building their software stack mainly in-house, China against the US (AlixPartners survey, late 2025)

3 vs 5 years

Time to bring a new vehicle to market, Chinese against established carmakers (AlixPartners 2026 outlook, as reported by Forbes)

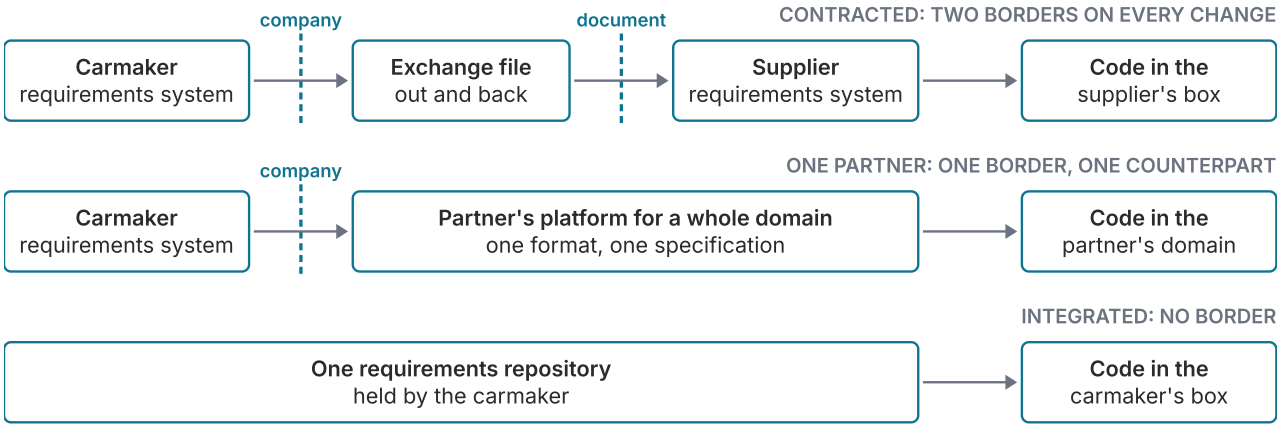
25.7%

Share of China's recalled vehicles fixed over the air in 2025 (State Administration for Market Regulation)

SUMMARY

Speed tracks the hand-off count, and carmakers are cutting it three ways.

Three ways a requirement reaches code. NRG analysis; archetypes, not descriptions of any company



Review, test evidence and regulatory filing remain on every route

Source: NRG analysis; prostep ivip (2024); Object Management Group; AlixPartners (2026); Forbes (2026); McKinsey (2026); China Association of Automobile Manufacturers; SAMR; Roland Berger (2024)

Chinese carmakers now take about three years to bring a new vehicle to market, and established carmakers about five. The gap carries on after launch: in a late-2025 survey, 67% of carmakers needed more than eight weeks to move finished software into their cars.

NRG's analysis traces much of the difference to hand-offs. A requirement crosses a company border when the box that runs it is bought with its software, and a document border when it must be exported from one company's system and re-imported into another's. Each crossing adds work to every change, and changes no longer stop at launch.

The company border is measurable. 41% of Chinese carmakers build their software stack mainly in-house, against 25% in the US and 27% in Europe, though most carmakers everywhere still mix building and buying.

Carmakers are cutting the count in three ways: consolidating bought boxes into a few computers whose software they control (McKinsey expects one-box-per-function designs to fall from 71% of production to 23% by 2035), owning the platform layer, the fastest-growing part of vehicle software, or handing a whole domain to one partner, as about one Chinese car in five with city driver assistance now does.

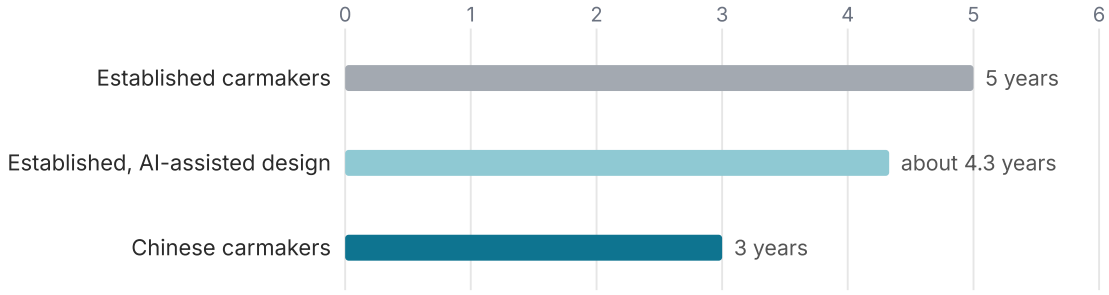
No route removes the review. Europe and China now require a managed process for every update, and in China a quarter of recalled vehicles in 2025 were fixed by a filed software release. Ownership has its own price: the industry's software bill reached USD 38bn in 2024.

01 · THE PACE

Chinese carmakers bring a new vehicle to market in three years; established carmakers take five.

Speed in vehicle software is usually put down to culture or headcount. The newest public measures show two clocks: years before launch, and a second one after it, when two-thirds of carmakers need more than eight weeks to ship finished code.

Time to bring a new vehicle to market, years; the middle bar takes AlixPartners' eight months off five years (NRG calculation)



Source: AlixPartners Global Automotive Outlook (2026), as reported by Forbes

Forbes, reporting AlixPartners' 2026 outlook, puts the gap at two years: about three years to bring a new vehicle to market for Chinese carmakers, five for established ones, which makes the Chinese cycle roughly 40% shorter (NRG calculation). Both figures cover the whole vehicle, not its software alone, but they set the clock the software has to fit into.

AlixPartners' 2025 outlook implies the same two years. It found that AI-assisted design and testing could take up to eight months out of a typical five-year cycle, about 4.3 years in the chart (NRG calculation), and that this would close only a third of the gap. The same edition named a remedy in plain terms: separate the hardware and software development cycles, so code does not wait for the next physical model.

The second clock runs after launch. Software keeps changing after the sale: in a survey of 1,002 executives, 40% of carmakers said more than half of their over-the-air releases were bug fixes, and the same study urges vendors to open interfaces and upgrade paths to carmakers. Every one of those fixes has to come from whoever holds the code, and that holder is often not the carmaker.

> **67%**
>
> of carmakers take more than eight weeks to move finished software into their cars (AlixPartners survey, late 2025).

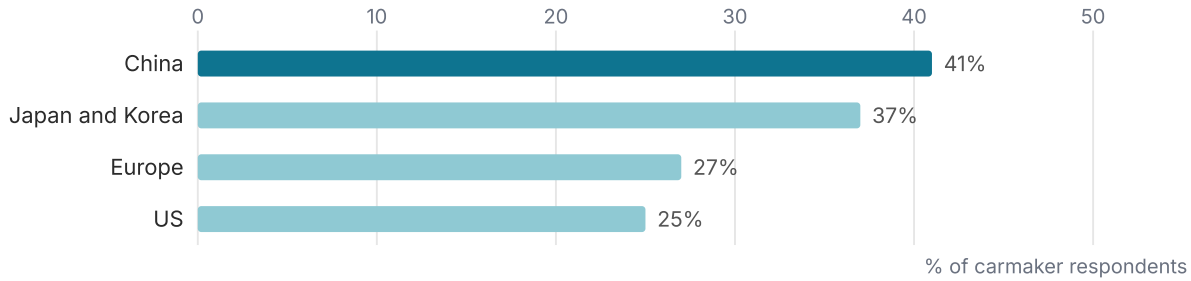
Sources: AlixPartners (2025, 2026); Forbes (2026); NRG calculation

02 · THE COMPANY BORDER

Four in ten Chinese carmakers build software mainly in-house; one in four US carmakers do.

A late-2025 survey of 1,002 executives, 495 of them at carmakers, asked how each organisation sources the software behind its software-defined vehicles. China leads here as it does on development time; Japan and Korea, at 37%, sit nearer China than the US.

Carmakers building their software-defined-vehicle stack mainly in-house, by region



Source: AlixPartners survey (November–December 2025, published April 2026)

No region's dominant answer is pure building or pure buying. Between 48% and 68% of carmakers in the four regions charted mix the two, and only 7–10% say they mainly buy. The contracted and integrated models in NRG's analysis are the two ends of that range, not two kinds of company. Most carmakers already run both, one domain at a time, and mainly buying is a minority answer everywhere.

In the survey's reading, in-house ownership buys authority over architecture and integration. 39% of Chinese carmakers already run central or zonal electronics, while 60–67% of Western carmakers are on hybrids of old and new.

Capgemini's June 2025 survey points the same way: one carmaker in ten had made progress separating hardware from software, and nearly 70% of automotive organisations were doubling down on building key components in-house.

When a box is bought with its software, the requirements behind it sit inside a supply contract, and the survey's authors say the West is ceding architecture and integration authority this way. Japan and Korea's high R&D share beside lower in-house sourcing than China's shows that spending and ownership differ: money can go to software that still sits behind another company's contract.

Same survey, two other measures (% of carmaker respondents)

Region	Platform-level software reuse	Over half of R&D on software-defined vehicles
China	48%	36%
US	31%	21%
Europe	33%	19%
Japan and Korea	33%	41%

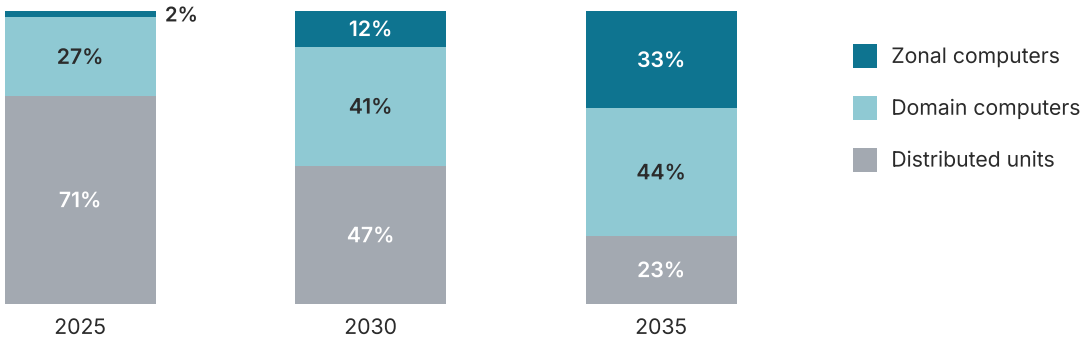
Source: AlixPartners (2026)

Sources: AlixPartners (2026); Capgemini Research Institute (2025)

One-box-per-function electronics fall from 71% of production to 23% by 2035.

Most cars still carry a separate control unit, usually bought with its software, for each function. McKinsey expects that design to give way to domain and zonal computers, and the money in vehicle electronics to move from boxes towards software and integration.

Share of vehicle electronics architectures by production volume, %, McKinsey's central scenario; distributed means one control unit per function



Source: McKinsey (2026)

McKinsey's 2026 outlook puts distributed architectures, built from separate control units, at 71% of production in 2025. In its central scenario that share falls to 47% in 2030 and 23% in 2035, while domain architectures rise to 44% and zonal ones from 2% to 33%. Even in 2035, on this path, about a quarter of new cars would still be built the old way.

McKinsey expects the control-unit market to grow 4.0% a year to 2035, against 10.2% for software development and 11.9% for software integration, verification and validation services, the fastest-growing line in its forecast.

Integration, on NRG's reading, is where hand-offs are paid for. A car assembled from many bought boxes needs each supplier's software verified against every other's, and that work grows with every box and every change.

Consolidation removes boxes, but it removes company borders only when the carmaker controls the software on the computers that replace them. A domain computer bought with its software from one supplier moves the border rather than removing it, and the integration work moves with it. Which of the two happens is taken up under the platform layer, the partner route and the price of ownership.

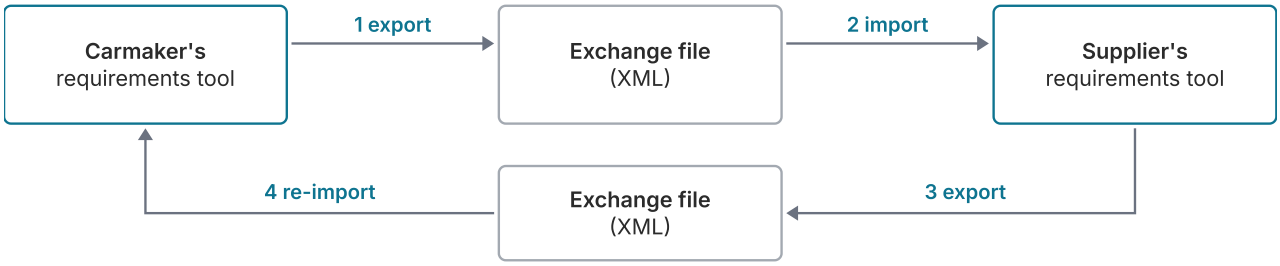
Sources: McKinsey (2026); NRG analysis

Between companies a requirement travels as a file, and each change repeats the round trip.

Requirements tools rarely share one database across a supply contract. An exchange standard exists for that gap, and the industry's own implementation guide shows the trip a single requirement makes.

The typical exchange of one requirement between a carmaker and a supplier, in four steps

ONE REQUIREMENT, CARMAKER TO SUPPLIER AND BACK



Every change runs steps 1 to 4 again; identifiers must survive each pass

Source: prostep ivip ReqIF Implementation Guide (2024)

The Object Management Group, which maintains the ReqIF exchange format, starts from a blunt premise: two manufacturing companies can rarely work in the same requirements repository. Its answer is a file. Requirements move up and down the supply chain as XML documents that each side's tool can read.

prostep ivip, the engineering-IT association that coordinates the format's use in industry, publishes a guide for tool makers on keeping that trip lossless. Its typical scenario has four steps: the carmaker's tool exports a requirement, the supplier's tool imports it, the supplier exports it back with its own attributes, and the carmaker re-imports it. Identifiers must survive every pass, and most of the guide deals with how attributes, tables and embedded objects survive the move between two tools.

NRG treats that round trip as the document border. In the contracted model the requirement lives in two systems and is copied each time it changes. In the integrated model it lives once, and a change is made where it sits. Nothing in the format removes the second copy; it only makes the copying reliable, and the more often a requirement changes, the more often the two copies have to be brought back into line.

Both sides are assessed against the same yardstick, Automotive SPICE 4.1 with 32 processes, so the evidence is comparable across the border, though it still has to cross it.

> **36 pages**
> in the industry association's guide to keeping a single requirement exchange lossless between two companies' tools (prostep ivip, 2024).

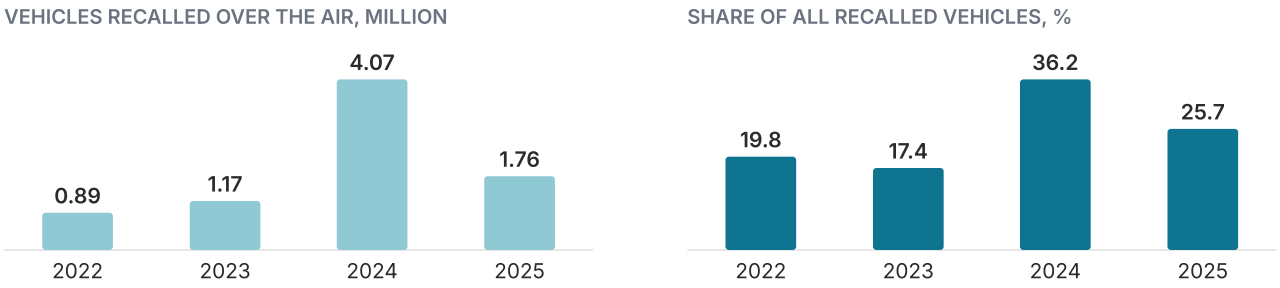
Sources: prostep ivip (2024); Object Management Group; VDA QMC; NRG analysis

05 · AFTER THE SALE

In China, about one recalled vehicle in four is now fixed over the air.

China's market regulator publishes recall totals every year and counts recalls done by over-the-air update separately. The series shows software changes after the sale becoming routine, and becoming a regulated event in their own right, with the paperwork that implies for every party.

Over-the-air recalls in China: vehicles, and their share of all recalled vehicles



Source: State Administration for Market Regulation, annual recall notices; NRG calculation

Over-the-air recalls covered 0.89 million vehicles in 2022, 4.07 million in 2024 and 1.76 million in 2025, when 13 such recalls made up 25.7% of all recalled vehicles. The 2025 dip followed a fall in recalls overall, down 39.1% by vehicle count from the 2024 peak. Under a February 2025 notice every update must now be filed, and a defect fixed by software counts as a recall. The share swings because a few large campaigns dominate any one year; across four years it rose from about a fifth of recalled vehicles to about a quarter.

Functions updated over the air in China grew 36.7% in 2025, by one industry count of carmakers' releases. Before over-the-air updating, a recall almost always meant a workshop visit; now it can mean a software release, which moves the bottleneck from dealers to whoever owns the code. Each such change crosses every border its requirement crossed before launch, on NRG's analysis. A carmaker that bought a box with its software waits on its supplier for every update to that box. The fix is quick only when the code is in the carmaker's own hands.

Over-the-air updating in China: the wider numbers

Measure	Figure	Period
New cars able to update over the air	76.2% (Jan–Oct); over 95% forecast	2025; 2030
Versions pushed over the air	518 by Chinese brands; 59 by joint-venture brands	2025
Update campaigns reported to the regulator	4,047, covering 486m vehicle updates	to end-2024

Source: ResearchInChina (2026); China Passenger Car Association and WAYS (2026); SAMR

Sources: SAMR; China Passenger Car Association and WAYS; ResearchInChina; NRG calculation

06 · THE RULES

Regulators now require a managed process for every software update, whatever the route.

Europe and China have both turned software updating into a type-approval matter. The dates apply to every carmaker, whether it writes its own code, buys it with the box or hands a domain to one partner.

Software-update and related rules, by date they apply

Jul 2022	EU	cybersecurity and update rules apply to new vehicle types
Jul 2024	EU	cybersecurity rule reaches existing approvals
Feb 2025	China	every over-the-air update filed; parameter changes need a permit
Jan 2026	China	national software-update standard in force
Jul 2026	EU	update rule for new complete vehicles
Jan 2027	China	driver-assistance safety standard, new vehicle types
Jan 2028	China	same standard for vehicles already approved
Jul 2029	EU	update rule for completed (multi-stage) vehicles

Source: UK Vehicle Certification Agency (2026); MIIT and SAMR (2025); Standardization Administration of China; Xinhua (2026)

The European rules come from the UN: one on cybersecurity management, one on software updates. The update rule makes a carmaker show a certified update-management system before it gets type approval, and the duty has moved in stages from new vehicle types towards every new vehicle. The UK's approval agency, which publishes the schedule, lists July 2026 for new complete vehicles and July 2029 for completed (multi-stage) vehicles.

China moved faster. Its February 2025 notice requires every over-the-air update to be filed, and an update that changes a main technical parameter needs a product-change permit first.

A national standard on software updates has applied since January 2026. A driver-assistance safety standard covering single-lane, multi-lane and navigation assistance follows in 2027 for new types and 2028 for the rest.

The rules land on every route alike. An integrated carmaker removes the supplier hand-off and the file trip; it keeps the review, the test evidence and the filing. Where a border stays, NRG expects the evidence to be gathered across it from two companies' systems before an update can ship. Every carmaker selling in China files every update. What differs is how many companies' records go into each filing.

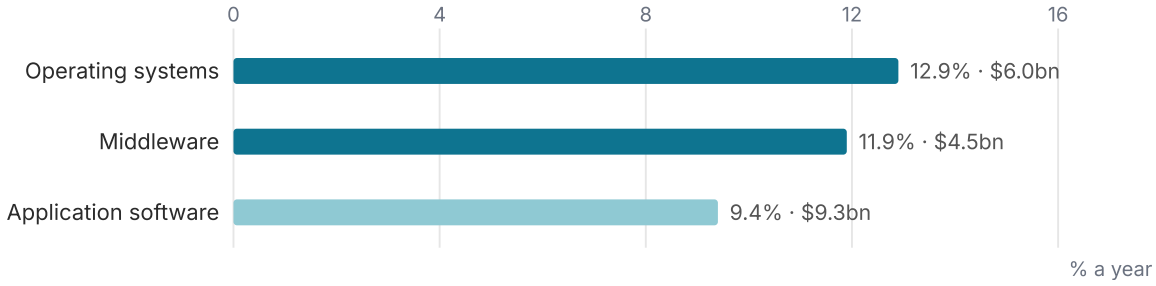
Sources: UK Vehicle Certification Agency; MIIT and SAMR; Standardization Administration of China; Xinhua (2026)

07 · THE PLATFORM LAYER

Operating systems and middleware are the fastest-growing layers of vehicle software.

Not every carmaker can design its own boxes. Owning the platform the software runs on is the other way to decide where borders fall, and forecasters expect that layer to grow fastest.

Expected annual growth by software layer to 2035, with 2025 market size



Source: Global Market Insights (2026)

Global Market Insights sizes the automotive software market at USD 19.8bn in 2025, with applications the largest part at USD 9.3bn. Operating systems, at USD 6.0bn, are expected to grow 12.9% a year to 2035 and middleware 11.9%, against 9.4% for applications. Two other forecasters, with different definitions, also name operating systems the fastest-growing slice; one puts it at 9.62% a year, and McKinsey, counting operating systems and middleware together, at around 16% a year.

That makes the platform owner, in NRG's analysis, the party that decides which changes stay inside one block of the car and which cross to another company. A carmaker that owns the platform can keep buying boxes and still set most of its borders.

Applications still hold about half the market in the other two forecasts as well, 48% to 56% of 2025 revenue. That is the room a platform owner leaves for others: it can keep buying applications and still decide where they plug in.

Reuse is the practical test of a platform: software written once and carried across model series and platform generations.

> **83%**
>
> of automotive organisations call a unified software platform key to their strategy; 14% have taken their software programmes to full scale (Capgemini, 2025).

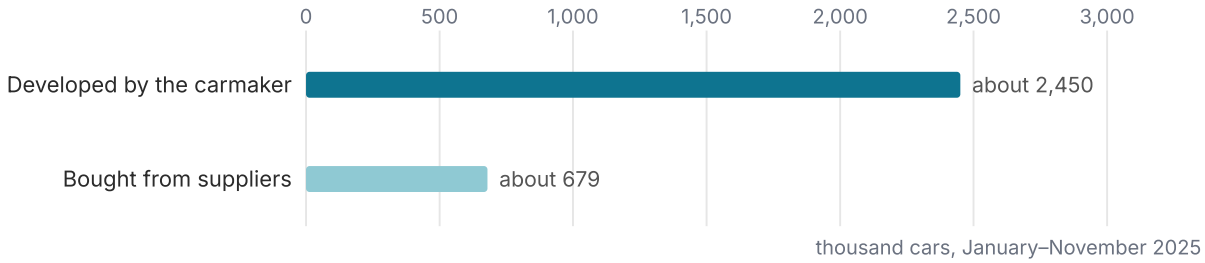
Sources: Global Market Insights; Mordor Intelligence; Grand View Research; McKinsey; Capgemini

08 · ONE PARTNER

In China, one car in five with city driver assistance runs a supplier's system.

The third route keeps a company border but only one: a carmaker hands a whole domain to a single partner. China's market for navigation-assisted city driving shows how far that route reaches.

Passenger cars sold with city navigation-assisted driving in China, by who developed the system



Source: China Association of Automobile Manufacturers (2026); NRG calculation

China's carmakers association counted 3.129 million passenger cars sold with navigation-assisted city driving in the first eleven months of 2025, 15.1% of new passenger cars and 5.6 points more than in 2024. Its supplier figures imply that about 679,000 of them ran a system bought from a supplier and about 2.45 million a system the carmaker developed itself (NRG calculation).

By count, carmakers that develop the system themselves are a minority; by volume they dominate. The biggest sellers own the software and most others buy it, and the market for supplied systems is concentrated, with about 61% of it coming from a single supplier.

The partner route, as NRG reads it, turns many company borders into one: one counterpart, one exchange format, one platform to specify against. The price is that the partner's platform, not the carmaker's, decides which changes cross. For a carmaker that sells too few cars to carry a driver-assistance team of its own, it may be the only practical way to offer the function. Concentration cuts the other way too: when one partner sits behind many brands, its release decides when all of them get the same fix.

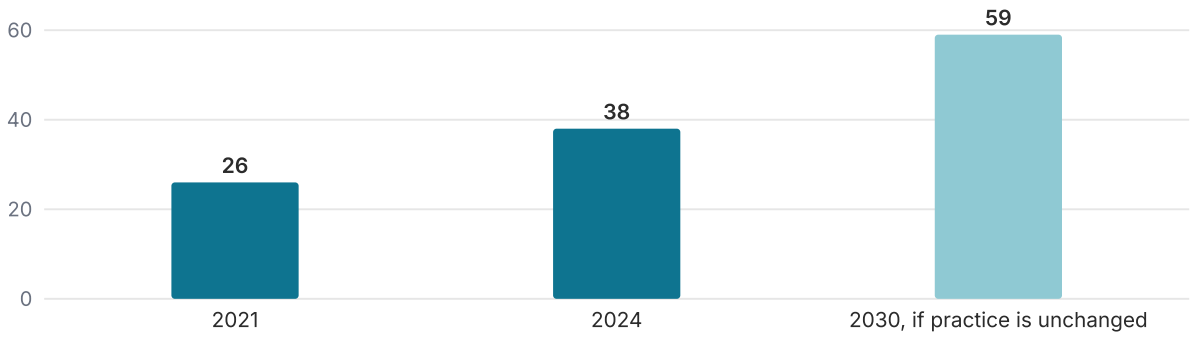
The route reaches beyond driver assistance. Capgemini's 2025 survey found nearly two in five automotive organisations partnering with large technology companies and hyperscalers for critical software, cloud and data, and a third planning a joint venture within three years.

Sources: China Association of Automobile Manufacturers via Xinhua and 36Kr; Capgemini (2025); NRG calculation

The industry's software bill hit USD 38bn in 2024 and could reach USD 59bn by 2030.

A supplier spreads one development over many carmakers; a carmaker that writes the code itself pays for all of it, and the industry's bill has grown 14% a year since 2021.

Automotive industry software development spending, USD bn a year



Source: Roland Berger (2024)

Roland Berger put the industry's software spending at USD 26bn in 2021 and USD 38bn in 2024, with some carmakers writing as much as 90% of the programs they need. If practice does not change, it expects the bill to reach USD 59bn a year by 2030. That is growth far faster than vehicle sales, and spending on that scale is why the own-the-boxes route is open mainly to carmakers with large volumes to spread it over.

The money is still moving towards ownership. In the AlixPartners survey, 98% of Chinese carmakers expect to raise the share of R&D going to software-defined vehicles over the next five years, against 76–79% in the West.

Every carmaker makes this trade one border at a time, in NRG's reading. Writing a domain in-house takes the supplier out of each change and adds the whole development bill. That is why few carmakers take the own-the-boxes route all the way.

Roland Berger's own answer is a third option: buy standard software for the parts that do not set a car apart, and keep the carmaker's engineers for the rest. That keeps a border of a different kind: a licence for a standard product, not a contract for a bespoke box.

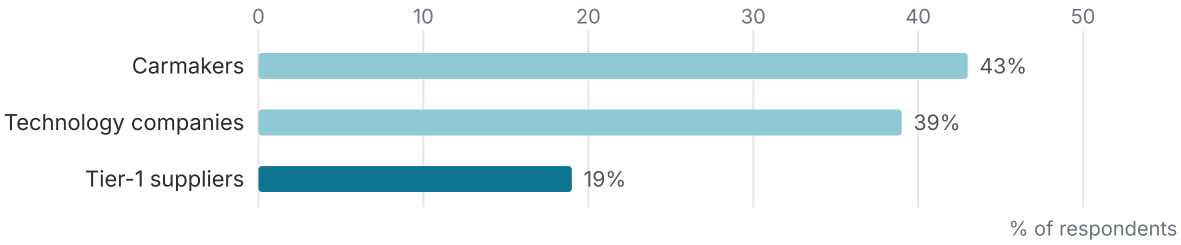
> **USD 17bn**
>
> a year by 2030 that carmakers could save by buying standard software from third parties instead of writing it (Roland Berger, 2024).

Sources: Roland Berger (2024); AlixPartners (2026)

Fewer than one Tier-1 supplier in five reports platform-level software reuse; 43% of carmakers do.

A supplier's case for selling boxes with software inside rests on reuse: one development spread over many customers. The late-2025 survey asked every respondent, supplier or not, how far its software is reused across model series and platform generations.

Respondents achieving platform-level software reuse, by type



Source: AlixPartners survey (2026)

Only 19% of Tier-1 suppliers reported platform-level reuse, against 43% of carmakers and 39% of technology companies, a gap of 24 points (NRG calculation). Reuse is what lets one development serve many carmakers. The survey calls traditional suppliers' position an existential threat, sees hyperscalers and platform providers forming a new tier between carmaker and supplier, and advises suppliers to make high platform-level reuse a condition of keeping their place in the supply chain. Carmakers still buy most vehicle software through their own channel: 67.2% of automotive software revenue in 2025, by one estimate.

NRG reads low reuse as a crack in the supplier's main argument: cost spread over many customers is why a carmaker accepts a company border at all, and a supplier that rebuilds its software for each carmaker carries every customer's changes separately. What follows is a question of who pays for a change after launch. Under a box contract it hides in the unit price; under a software contract it can be priced as a service, and a carmaker paying for software separately can see what each change costs. The partners carmakers now rank as most critical sell platforms and services rather than boxes.

Whom carmakers now call their most critical software partners, and where organisations are looking

Measure	Share	Basis
Hyperscalers and AI providers as most critical partners	71–82%	carmakers, range across regions
Middleware, platform and embedded-software vendors	51–76%	carmakers, range across regions
Exploring new supplier markets	up to 84%	automotive organisations

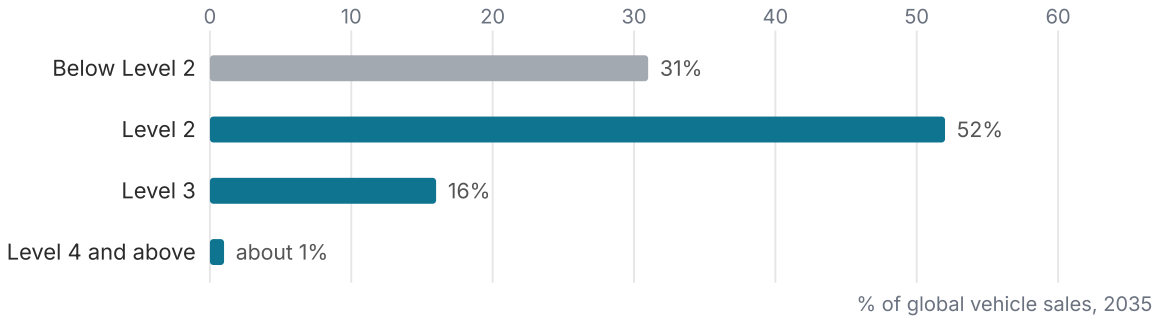
Source: AlixPartners (2026); Capgemini Research Institute (2025)

Sources: AlixPartners (2026); Global Market Insights (2026); Capgemini Research Institute (2025); NRG calculation

By 2035, Level 3 systems that drive in set conditions could reach 16% of sales.

More software per car means more changes after the sale, and every change pays for the borders its requirements cross. McKinsey's newest outlook shows where the extra software goes.

Share of global vehicle sales by driver-assistance level in 2035; below Level 2 is an NRG calculation



Source: McKinsey (2026); NRG calculation

McKinsey expects Level 2 systems in 52% of global vehicle sales by 2035, Level 3 in 16% and Level 4 or above in about 1%, leaving roughly 31% below Level 2 (NRG calculation). At Level 2 the system steers, brakes and accelerates while the driver supervises, and that is the tier China's new safety standard regulates. At Level 3 the system drives within set conditions and the driver must stay ready to take over.

Over the same decade it expects domain and zonal electronics to displace most of the distributed designs that put one supplier's box behind each function. The market for domain computers in safety and driver assistance could nearly double between 2030 and 2035, and zonal and central computers more than triple.

The load grows fastest in driver assistance, the domain where the partner route is most visible. Each added function brings requirements that change after launch, and China's driver-assistance safety standard adds evidence that must travel with them from 2027.

Forecasts of the software market alone start from different bases, about USD 19bn to USD 33bn in 2025, because publishers draw the boundary differently. Their growth rates agree on direction. The larger the share of the car that changes after sale, the more each remaining border costs.

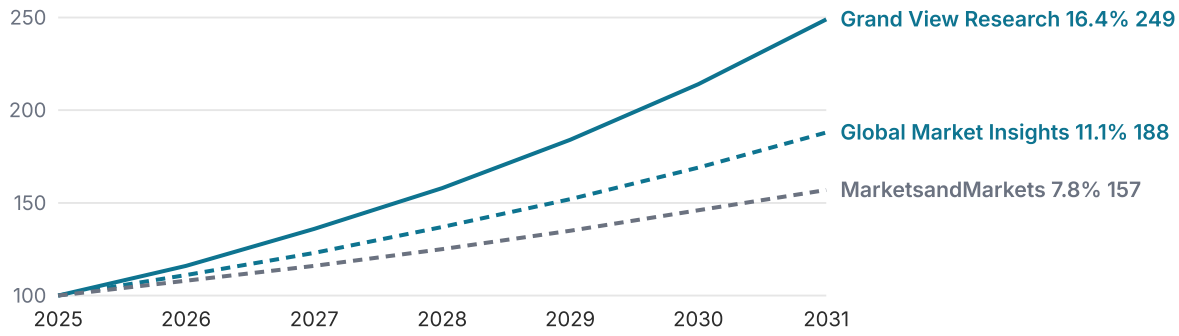
> **Nearly 20%**
> a year: McKinsey's potential growth for driver-assistance and automated-driving software from 2025 to 2035, keeping it around half the software market.

Sources: McKinsey (2026); Global Market Insights; Mordor Intelligence; Grand View Research; NRG calculation

Software outgrows the car in every forecast; the cases differ in who writes it.

Three forecasters' growth rates, applied to a common 2025 base, put vehicle software at between 1.6 and 2.5 times its 2025 size by 2031 (NRG calculation). The spread reflects scope, not borders; the cases below differ in who writes the software.

Automotive software market, index 2025 = 100, at each forecaster's growth rate; the rates differ in scope and horizon



Source: MarketsandMarkets (2025); Global Market Insights (2026); Grand View Research (2026); NRG calculation

BORDERS FALL	in-house >27%	Western carmakers' mainly-in-house share rises above today's 25–27% towards China's 41%, and distributed electronics fall faster than McKinsey's 47% for 2030.
MIXED	47% in 2030	Distributed electronics track McKinsey's path; most carmakers own the platform layer, keep buying boxes that run on it and hand driver assistance to one partner.
BORDERS STAY	over 1 in 5	The supplied share of China's city driver assistance rises above about a fifth and carmakers buy more domains whole. The market still grows; less of it is written in-house.

SIGNPOSTS

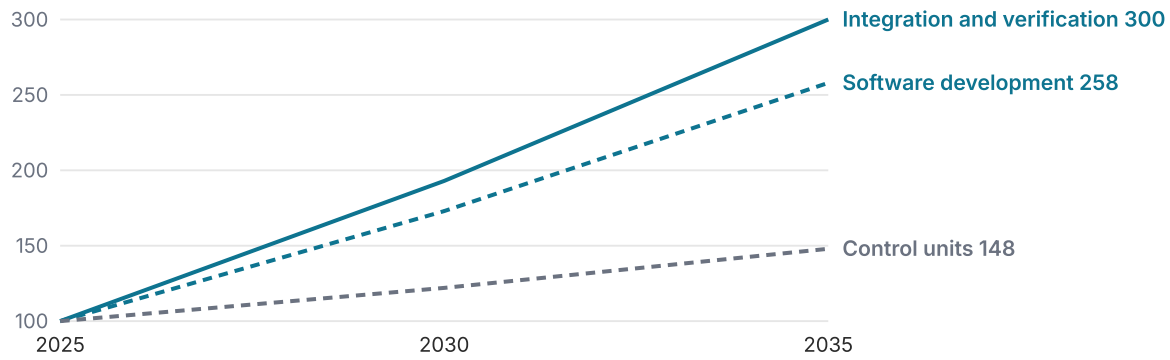
- Western carmakers' mainly-in-house share in the next survey, against 25–27% in late 2025
- Distributed electronics' share of 2030 production, against McKinsey's 47%
- Supplied share of China's city driver assistance, against about one car in five
- Share of China's recalled vehicles fixed over the air, against 25.7% in 2025

Sources: Forecasters as charted; AlixPartners; McKinsey; CAAM; SAMR; NRG calculation

Integration and verification nearly double by 2030; control units grow by a fifth.

McKinsey's market model splits vehicle software and electronics into separate lines. Indexed to 2025, the work of checking one company's software against another's grows fastest and the boxes grow slowest (NRG calculation from McKinsey's figures).

Three McKinsey market lines, indexed to 2025 = 100 (NRG calculation)



Source: McKinsey (2026); NRG calculation

INTEGRATION	+93% by 2030	Integration, verification and validation grow fastest because every bought box adds software that must be checked against every other; on NRG's reading, this is where hand-offs are paid for.
SOFTWARE DEVELOPMENT	+73% by 2030	Writing code grows more slowly than checking it. A carmaker that writes more itself shifts spending into this line and can shrink the integration line.
CONTROL UNITS	+22% by 2030	The boxes still grow, but slowest: consolidation into domain and zonal computers holds the hardware bill back while the software on them grows.

SIGNPOSTS

- Integration and verification spending growing faster than software development in carmakers' own budgets
- Integration work bought from engineering firms against work kept in-house
- Test evidence shared across companies under China's driver-assistance standard from 2027
- Control-unit spending flattening as domain and zonal computers replace single-function boxes

Sources: McKinsey (2026); NRG calculation; NRG analysis

METHOD

How this report was built.

Public figures come from regulators and standards bodies (China's State Administration for Market Regulation and industry ministry, the Standardization Administration of China, the UK Vehicle Certification Agency, the Object Management Group, prostep ivip and VDA QMC), industry associations (the China Association of Automobile Manufacturers, and the China Passenger Car Association with WAYS), market and consulting research (AlixPartners, McKinsey, Capgemini Research Institute, Roland Berger, Global Market Insights, Mordor Intelligence, Grand View Research, MarketsandMarkets and ResearchInChina), and the press. Each figure was checked against the newest release available on the data-as-of date; older series carry their year.

Survey percentages are what respondents report about their own organisations. Market forecasts differ in scope, so this report compares their growth rates rather than their levels.

An NRG estimate is a figure from Nathan Research Group's own research, rounded into a deliberately wide range and published only where the newest public data point the same way. This report carries none. An NRG calculation is a figure we computed from cited public numbers: shares, implied volumes, growth paths and differences.

The contracted and integrated models and the three routes are NRG's analysis, written as archetypes. They describe no specific company, project or transaction.

Companies are described rather than named. This is business and market research, not investment advice.

WORKING WITH NATHAN RESEARCH GROUP

Partner With Nathan Research Group

Announcements show the dates, the budgets and the architecture diagrams; they do not show how the hand-offs between companies work in practice. That knowledge sits with the people who specify, build, buy and maintain vehicle software. Reaching them, compliantly, is what we do.

WHO WE PUT IN THE ROOM

Vehicle architecture specialists	Central computing and electrical-electronic architecture, and how carmakers decide which functions to consolidate onto fewer computers.
Embedded software engineers	Software for vehicle controllers and central computers.
Supplier-management specialists	How carmakers work with software and electronics suppliers, across the industry.
Systems-engineering and requirements specialists	Requirements management and functional-safety practice.
Automotive software market specialists	Market sizing, the supplier landscape and how value in the vehicle is shifting from hardware to software.
Former R&D executives	Automotive software and electronics programs.

If your team is evaluating vehicle software development, the software-defined vehicle transition, or the broader automotive software market, tell us the decision you're trying to make.

START THE CONVERSATION

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Based on public sources and NRG's own research. Figures marked NRG estimate are rounded ranges checked against public data. Nathan Research Group does not request or facilitate material non-public information, and runs every engagement through a documented compliance protocol.