

China Speed and OEM responsiveness in crash performance and repairability: Q&A with Thatcham Research

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How China Speed is reshaping OEM development through faster, repair-focused iteration cycles.

Over the past few years, one theme has repeatedly surfaced across the automotive industry: how Western original equipment manufacturers can narrow the gap with their mainland Chinese competitors, often summarized as “China Speed.” While much of the debate has focused on shorter development cycles and lower costs, the differences are perhaps most visible at the program level — particularly in how quickly OEMs respond to testing, validation and repairability feedback.



Source: Getty image/ Opla

From a supplier and engineering-partner perspective, the contrast is increasingly tangible. Mainland Chinese OEMs are demonstrating far shorter iteration loops once vehicles enter crash, security and repairability testing. Engineering changes that might traditionally wait for a facelift or a next-generation platform are now being implemented within weeks or months, particularly for non-structural improvements such as shielding, access protection or sectional repair design. This agility is contributing to a broader compression of the conventional four- to five-year vehicle development cycle.

At the same time, established European and US manufacturers continue to operate within far more complex validation ecosystems, balancing safety, durability, compliance, repairability and legacy platform requirements across global operations. The trade-off is often greater robustness and consistency, but at the expense of responsiveness.

What is now emerging is less a binary fast versus slow dynamic and more a hybrid model. Western OEMs are increasingly front-loading validation input, collaborating earlier with organizations such as Thatcham Research, and adopting more modular, repair-focused engineering approaches. The result could be a more agile interpretation of China Speed — one that preserves validation rigor while accelerating iteration where it delivers meaningful value. To explore these trends further, we spoke with Ben Townsend, head of automotive at Thatcham Research.



Ben Townsend

[Source: Thatcham Research]

The following is an edited transcript of the conversation.

S&P Global Mobility: From your experience working with OEMs on crash performance and repairability, where is the China Speed gap most visible today? What stands out about how mainland Chinese OEMs respond to test feedback compared with traditional European manufacturers?

Ben Townsend: The gap is most visible in the post-test response cycle — specifically, how quickly feedback translates into tangible engineering changes. Mainland Chinese OEMs tend to iterate rapidly on test-led issues such as door shielding, access protection, and sectional repair design. Vehicle theft in mainland China is less of a concern compared with the UK and Europe, which affects how manufacturers prioritize specific countermeasures.

This responsiveness marks a notable shift from historic perceptions. Mainland Chinese vehicles were previously seen as weaker in crash and security performance, but we are now seeing active improvement against UK and EU expectations. However, an important caveat applies — late-stage changes are inherently limited. Structural or platform-level issues cannot be resolved quickly, regardless of an OEM's headquarters.

The real gap, then, is less about capability and more about speed of iteration once vehicles enter test cycles. Unlike traditional engineering methodologies, mainland Chinese OEMs do not wait for a facelift or a next-gen product to make engineering changes. This dynamic is driving a market-wide compression of the traditional four- to five-year design cycle.

How does engagement with organizations like Thatcham differ between mainland Chinese and Western OEMs during development programs? Are mainland Chinese OEMs involving external testing and assessment bodies earlier or more collaboratively in the process?

An important point to remember is that, in contrast with more established brands in Europe, new mainland Chinese brands often have little knowledge of the European marketplace, giving them a thirst for knowledge. Mainland Chinese OEMs often engage proactively to understand local market requirements — covering security, safety, repairability and overall insurability. There is a tendency toward open, iterative dialogue: a willingness to test, respond to findings and retest. This is particularly evident when adapting vehicles for export markets, where requirements differ significantly from mainland Chinese domestic standards.

Where engagement happens earlier in development, outcomes are stronger. This is not unique to mainland China, but it is becoming increasingly common there. The broader point applies across the industry: Early engagement with testing bodies benefits all OEMs regardless of geography. Even with the more agile mainland Chinese manufacturers, making significant structural changes for safety, security or collision repair becomes much harder once a vehicle is set for market.

In your experience, what parts of traditional Western engineering and approval processes create the greatest delays when implementing changes following crash or repairability feedback?

Established OEMs typically operate within mature architectures, supply chains and validation frameworks. Changes can trigger wider revalidation requirements spanning safety, durability and compliance, which naturally adds time. There is also greater platform complexity and legacy carryover than in newer, clean-sheet electric vehicle architectures.

However, established OEMs bring significant strengths. They have a deep understanding of insurance requirements and repair ecosystems, along with established body shop networks and proven repair methodologies, things that are not a given for mainland Chinese manufacturers entering these markets.

So, it is less a matter of “slow versus fast” and more a trade-off between scale, robustness and speed. The systems that create delay also create consistency and reliability.

Mainland Chinese OEMs are often noted for making engineering changes within days or weeks in response to testing outcomes. What trade-offs, risks or organizational differences underpin that responsiveness — and which aspects could realistically be replicated by European and US manufacturers?

Several factors enable this responsiveness. Mainland Chinese OEMs often work with simpler, newer EV platforms that carry fewer legacy constraints. They are also not hindered by years of legacy customs and practices. They tend to have shorter internal decision-making loops and a willingness to implement targeted fixes quickly where possible. We often refer to issues that can be resolved without structural redesign — such as shielding or access prevention rather than fundamental platform changes.

There is also a lack of restrictions from existing investments in facilities and technologies, particularly when it comes to manufacturing capability. Mainland China has benefited from a lot of learnings from legacy manufacturers, sometimes through direct joint venture (JV) projects, as well as significant government subsidies in capital investment. This has enabled investment in areas such as “unboxed manufacturing,” which supports much leaner process updates and changes.

Trade-offs and constraints do exist. Not all changes are quick; major engineering updates can still take years, especially when adapting China-first vehicles for European markets. Mainland Chinese OEMs also need to build a deeper understanding of EU and UK repair expectations and cost frameworks.

For Western OEMs, several elements are genuinely replicable: engaging earlier with test feedback, establishing faster iteration loops on non-structural issues and designing for repairability from the outset rather than retrofitting solutions later.

Are you already seeing established Western OEMs become more agile in their responses to validation and repairability feedback? Over the next three to five years, what would a credible Western interpretation of China Speed look like in vehicle safety and repair engineering?

Yes, there is increasing evidence of this shift. We are seeing earlier collaboration with organizations like ours, and a greater focus on repairability and insurance outcomes at the design stage — reducing the likelihood of after-the-fact tinkering.

A credible Western version of China Speed would likely involve front-loading testing and validation inputs rather than reacting later, designing in modular, repairable solutions from the outset, and maintaining robust validation and safety standards while building more agile feedback loops. This connects to our EV Blueprint work, which has identified repairability challenges across the board — no single car or manufacturer gets everything right or everything wrong.

A great example is how Volkswagen Group is leaning into its JV relationships in mainland China to support new platform design and to realize some of the engineering benefits of a more dynamic approach to vehicle design. This has already seen the new Audi E5 Sportback, developed at China Speed in collaboration with SAIC, launched in mainland China.

Over the next three to five years, the trajectory is less about copying mainland China directly and more about developing a hybrid model. This would combine Western validation rigor with faster iteration, where it genuinely adds value — speed where it matters, without compromising the depth that established processes provide.

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