

# China Speed: Q&A with Catena-X

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## China leads automotive innovation through faster, integrated, data-driven supplier collaboration.

China Speed has become one of the defining themes in the global automotive industry, reflecting the widening gap between Chinese original equipment manufacturers and many of their US and European counterparts in development pace, software integration and supply-chain responsiveness. While much attention has focused on vehicle launch timelines and cost competitiveness, suppliers increasingly point to a less visible but more significant factor: the speed and quality of data coordination across the value chain.



Source: Gettyimage/Askolds

From a supplier perspective, the difference is most tangible in day-to-day program execution. Chinese OEMs typically operate with faster engineering change cycles, earlier supplier involvement and more seamless information exchange across tiers. Design revisions, quality alerts, sourcing updates and compliance requirements move rapidly through integrated digital channels, reducing delays caused by fragmented systems, spreadsheets, PDFs and manual reporting processes that still dominate many Western programs. The result is shorter vehicle development cycles — often closer to two years in China versus four to five years in Europe or North America — alongside faster software iteration and more responsive production ramp-ups.

The emerging trend in Western markets is not an attempt to replicate China's industrial structure, but to modernize the digital infrastructure underpinning collaboration. Shared dataspace, common standards and trusted cross-company data exchange are increasingly viewed as essential to reducing friction across engineering, sourcing, sustainability and quality management. Industry initiatives such as Catena-X are now accelerating this shift, as OEMs and suppliers seek to operate more like connected ecosystems rather than isolated enterprises. To explore these developments further, we spoke with executives from Catena-X.

*The following is an edited transcript of the conversation.*

**S&P Global Mobility: Where is the China Speed gap most visible today, and how much of that gap is really a data coordination problem rather than an engineering problem? What are Chinese OEMs doing fundamentally differently in how they move information, decisions and supplier collaboration across the value chain?**

The gap is most visible in three places: vehicle program development times, software development, and the speed at which engineering changes propagate through the supplier base. New models from Chinese OEMs are typically developed in just two years – in Europe and North America, it's typically four to five. The underlying engineering capability is not fundamentally different. The difference is what happens between organizations rather than within them.

A large part of that difference is data coordination. Chinese OEMs operate with a smaller institutional distance to their suppliers – tighter geographic clusters, more vertical integration in some cases, fewer barriers to real-time information exchange. Design changes, quality signals, demand revisions and compliance requirements travel through digital channels built for cross-organization flow, rather than email and PDFs. Decisions move faster because the data underpinning them moves faster.

For Western OEMs, that operational friction can be overcome through digital infrastructure. The legal, IP and competition frameworks Western industry works within are different and should not be

wished away. But the cost of rebuilding the same data flows bilaterally with every customer, supplier and authority is not inherent – it is the absence of shared standards and trusted exchange architecture. Once those exist, Western engineering organizations can move much closer to what is observed in China.

**How does supplier involvement differ between Chinese and Western OEM programs, particularly when it comes to real-time data sharing, transparency and cross-tier collaboration? What role do shared dataspace and common standards need to play if Western OEMs want to operate more like integrated ecosystems rather than siloed enterprises?**

In Chinese OEM programs, supplier involvement starts earlier and runs with fewer information firewalls. Real-time sharing of production status, quality metrics and supply commitments is more often the default than the exception. Closer geographic clustering, more in-house manufacture of the stack in some companies, and an industrial culture in which platform-level data sharing carries less competitive and legal anxiety all contribute.

Western programs work within a different set of constraints. Suppliers are further from the OEM organizationally and often geographically; IP boundaries are sharper; competition law restricts certain kinds of data flow; and data is treated as a commercial asset to be guarded. These constraints are not about to disappear. Catena-X is designed not to work around them, but to enable trusted data exchange within them, with competition law, IP protection and regulatory compliance built into its governance and architecture.

This is what shared dataspace and common standards are for. A dataspace is not a central platform. It is the infrastructure that allows companies to exchange data directly with one another, under conditions they define and the architecture enforces – through verified digital identities, common standards, self-sovereignty over what is shared, and neutral governance. Catena-X is built around exactly these four principles, in a form compatible with both European and emerging Chinese regulatory frameworks. More than half of the top 100 automotive suppliers globally are live in the network, and major OEMs including BMW, Volkswagen and Mercedes-Benz are integrating Catena-X participation into new supplier contracts.

**Where do Western development and supply chain processes slow things down the most today – from sourcing and engineering change management to compliance and production ramp-up – and what would it realistically take to reduce timelines by 30–50% through better digital infrastructure, interoperability and trusted data exchange?**

The largest sources of friction are also the most addressable. Engineering change management is one: Revisions must propagate through hundreds or thousands of suppliers, each running different IT systems with different data formats, communicated largely through PDFs and email. Sourcing and supplier qualification depend on quality and compliance data rebuilt for every customer and every market. Sustainability reporting, particularly product carbon footprint, is currently done with industry averages because primary data is too hard to assemble across tiers. Quality issues are detected late and propagate widely because traceability across tiers is poor.

None of these are engineering problems. They are coordination problems with engineering consequences. For a supplier with €1 billion in revenue, manual compliance reporting can rise to 2% of revenue – €20 million a year – as obligations expand. A single component fault detected late can run to €2 million; concentrated risk exposure for a single OEM can exceed €10 million.

A 30-50% compression of these timelines through digital infrastructure is realistic, and the proof

points are already in place. Within Catena-X, PCF calculations are 3-5 times more efficient than legacy methods, with savings of more than €10,000 per calculation. Quality issues are detected on average four months earlier. One camera fault investigation was narrowed from 1.4 million affected vehicles to 14 through precise cross-tier data exchange. Supplier onboarding has been reduced from several months to five weeks. The network effect is the multiplier: Every additional company on shared standards reduces friction for everyone else.

**To what extent is China Speed actually a digital infrastructure advantage? What trade-offs underpin that model which are often overlooked, and which elements – particularly around shared data standards, ecosystem collaboration and supply chain visibility – can realistically be adopted by US and European OEMs within their own regulatory and competitive environments?**

A significant portion of China Speed is a digital infrastructure advantage, but it is not the whole story. Chinese OEMs also benefit from greater vertical integration in some companies, geographic clustering of suppliers, industrial policy that coordinates platform development, and a data governance regime – the Personal Information Protection Law, Data Security Law and Cybersecurity Law – that shapes domestic flow differently to GDPR. The digital infrastructure sits on top of those structural conditions, not separate from them.

The trade-offs are worth being explicit about. The Chinese model is optimized for domestic flow; cross-border movement is significantly more restricted, particularly for data classed as “important” under Chinese regulation. Sectoral consolidation reduces competitive distance between players. Decision speed is partly a function of different stage-gate processes, with a different risk-and-recall posture than Western OEMs and regulators are accustomed to.

What translates is the digital architecture: shared standards, multitier visibility, federated trust, and common semantic models so that the same component specification is understood the same way by every party in the chain. Catena-X is designed around these elements, with self-sovereignty and neutral governance as non-negotiable principles. The world's first official cross-border automotive data exchange of this kind – between a European OEM and a major Chinese battery manufacturer, operating under both EU and Chinese regulatory regimes – has been completed through Catena-X infrastructure. What does not translate is the structural model: Western OEMs cannot vertically integrate their way to China Speed, nor dismantle the IP and competition boundaries that define Western industry. They can build the data infrastructure that allows ecosystems to operate at ecosystem speed without either.

**Are you already seeing meaningful changes from Western OEMs and suppliers in how they collaborate and share data? What might a Western version of China Speed look like over the next three to five years?**

Yes, we are seeing that, and the rate of change is accelerating. Major European OEMs are integrating Catena-X participation into new supplier contracts: BMW, Volkswagen and Mercedes-Benz have all publicly committed to this approach. Participation is shifting from optional to a condition of doing business. More than half of the world's top 100 automotive suppliers are live in the network, and approximately 1,000 companies are in the activation pipeline.

The network operates globally, with AIAG in North America supporting engagement across over 4,900 companies in the automotive ecosystem, expanding into tariff management and PCF. European hubs are active in France, Spain and Sweden. Catena-X is also working with international partners, including Japan's Ouranos ecosystem, to support greater alignment between regional data

spaces. In China, Catena-X is collaborating with CAAM and VDA China on compliant cross-border automotive data exchange with CATARC and the development of a trusted framework for future cooperation.

A Western version of China Speed in three to five years should look like the following: engineering changes propagating throughout the supplier base in minutes, not days or weeks; quality issues contained within a handful of vehicles, not millions; compliance reporting produced as a function of normal operations rather than separate projects; and cross-border data flow between Chinese, North American and European supply bases operating within each region's regulatory framework without rebuilding infrastructure each time. The infrastructure for all of this exists today. The question for any individual company isn't whether to be in the network, but how quickly can they join?

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