

Press Release

FEV and Nature Architects collaborate on the development of AI-supported, innovative vehicle structures

Media Contact
Marius Strasdat
T +49 241 5689-6452
strasdat@fev.com



Aachen/Tokyo, September 2025 – Leading international engineering service provider FEV and Japanese technology company Nature Architects (NA) have agreed on a strategic collaboration. The goal is to jointly develop novel vehicle structures that set new standards in lightweight construction, functionality, and development dynamics through innovative design methods using artificial intelligence (AI).

Both companies are contributing their respective strengths to the collaboration: FEV has extensive experience in vehicle development and provides platform data and benchmark models. Nature Architects complements this with a proprietary design platform based on AI-supported form finding, metamaterials, and origami engineering.

An initial joint project to optimize a side impact structure has already been successfully completed. This resulted in a weight reduction of up to 51 percent in the sill reinforcement while maintaining the same energy absorption and thus the same level of passenger safety. The results of this innovative approach,

which shortens development times and thus opens up considerable cost-saving potential, were then successfully validated in the overall vehicle model.

“With Nature Architects, we are gaining a partner whose unique design platform ideally complements our portfolio,” says Michael Hog, Group Vice President Vehicle at FEV. “Together, we are creating the basis for a completely new, functionally and weight-optimized component design for our customers, regardless of whether the underlying requirement comes from the areas of deformation, vibration, acoustics, heat transfer, or flow.”

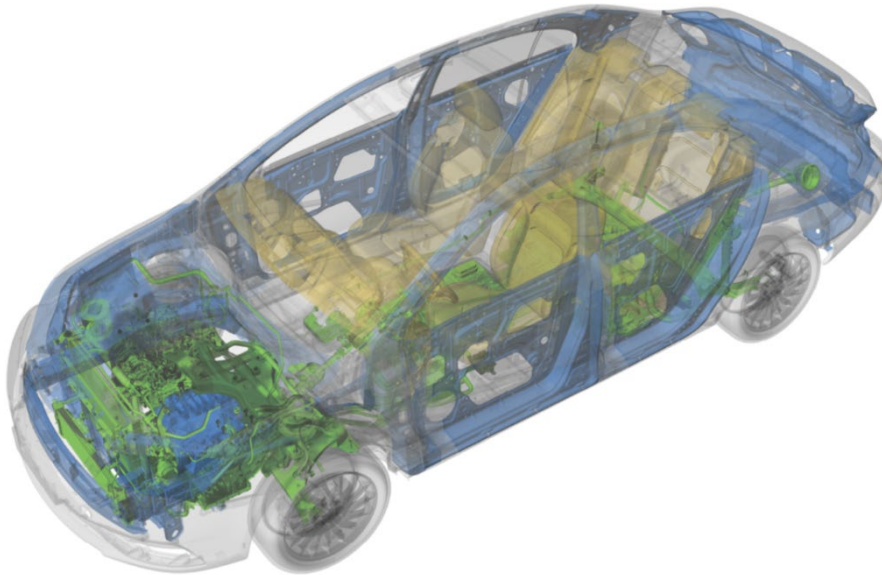
“Our platform allows us to develop new structural concepts beyond human intuition,” says Mr. Tomoya Hayashi, Project Manager at Nature Architects. “Combined with FEV's engineering expertise, this creates a space for innovation with high customer value.”

In the first year, the focus will be on the German market, where FEV will leverage its strong presence among local OEMs. At the same time, NA will intensify its activities with Japanese automakers. In the medium term, the exclusive cooperation plans to establish the jointly developed technologies worldwide and open up new markets.

The cooperation underscores FEV's leading AI expertise across the entire development chain – from strategy and data governance to agentic LLM workflows, accelerated simulation and testing, and data-driven diagnostics, cybersecurity, and regulatory

compliance. This measurably reduces development efforts and significantly shortens time-to-market.

Image



Caption: Proven crash safety with optimized weight: FEV and Nature Architects use artificial intelligence to develop innovative car body designs. Source: Nature Architects

About FEV

FEV has always pushed the limits.

FEV is a globally leading engineering provider in the automotive industry and internationally recognized leader of innovation across different sectors and industries. Professor Franz Pischinger laid the foundations by combining his background in academia and engineering with a great vision for continual progress. The company has supplied solutions and strategy consulting to the world's largest automotive OEMs and has supported customers through the entire transportation and mobility ecosystem.

As the world continues to evolve, so does FEV.

That's why FEV is unleashing its technological and strategic expertise into other areas, applying its forward thinking to the aerospace and energy sectors. Thanks to its software and system expertise, the company also leads the way making intelligent solutions available to everyone. FEV brings together the brightest minds from different backgrounds and specialties to find new solutions for both current and future challenges.

But FEV won't stop there.

Looking ahead, FEV continues to push the limits of innovation. With its highly qualified 7,000 employees at more than 45 locations globally, FEV imagines solutions that don't just meet today's needs but tomorrow's. Ultimately, FEV

keeps evolving – to a better, cleaner future built on sustainable mobility, energy and software that drives everything. For the company's partners, its people and the world. [#FeelEVolution](#)

About Nature Architects

Nature Architects is a Japanese technology company specializing in the development of design solutions based on metamaterials, origami engineering, and AI-supported shape optimization. The company's proprietary design platform makes it possible to meet complex physical requirements through targeted shaping and significantly accelerate development processes.