



MARELLI

**2023 WINNER
FUTURE OF LIGHTWEIGHTING**

Lightweight Urethane for Interior Products

Marelli developed a new lightweight polyurethane foam that can be applied to all foam-in-place (FIP) applications, particularly the main dashboard panel. It reduces part mass by 40% with new tooling, 8% from current tooling, and reduces volatile organic compounds (VOCs) by 80% compared to the current polyurethane foam in use – all while retaining a high-quality feel and appearance.

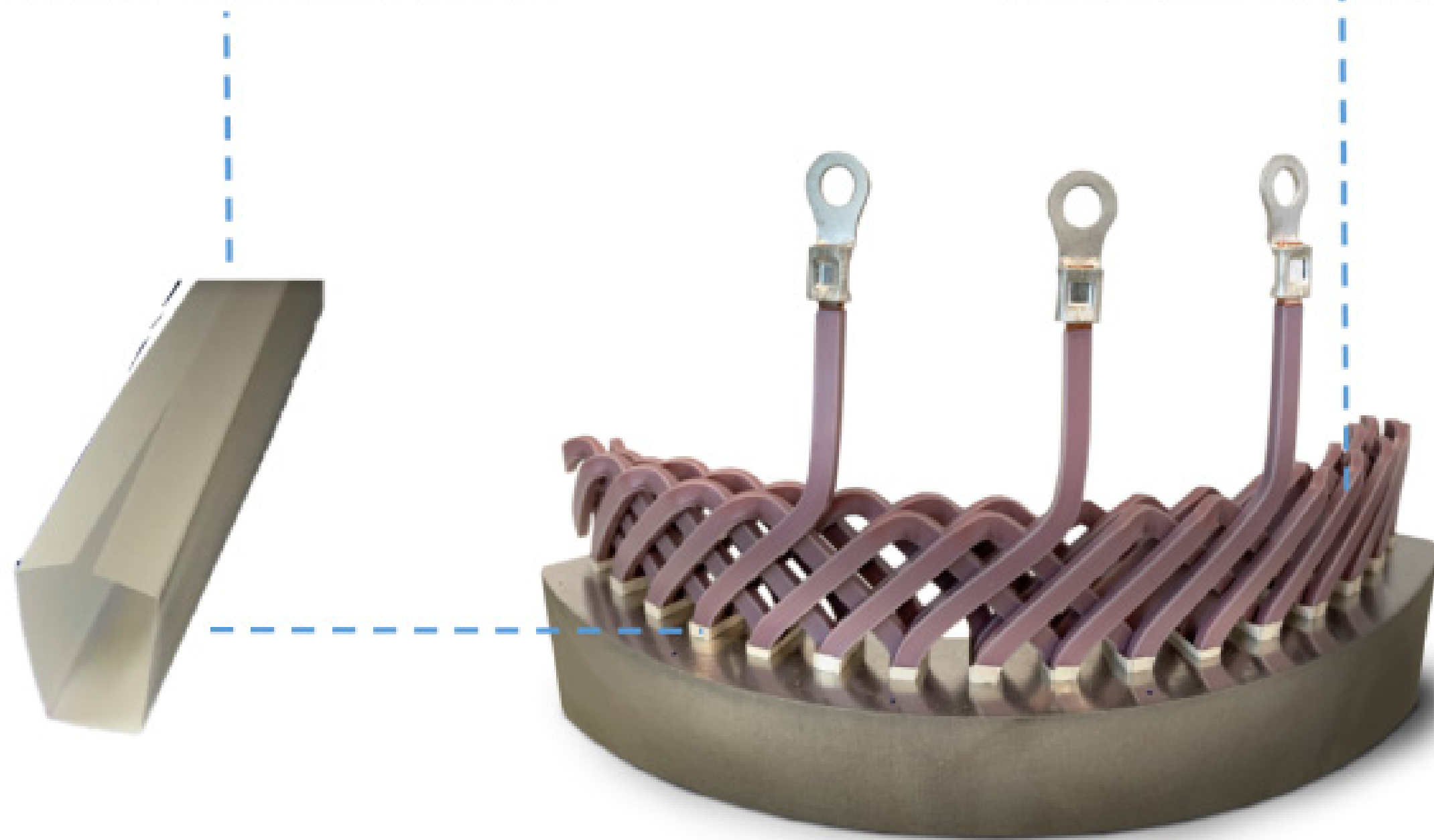


ALTAIR



Ajedium™ PEEK Slot liners

KetaSpire® PEEK Magnet Wire

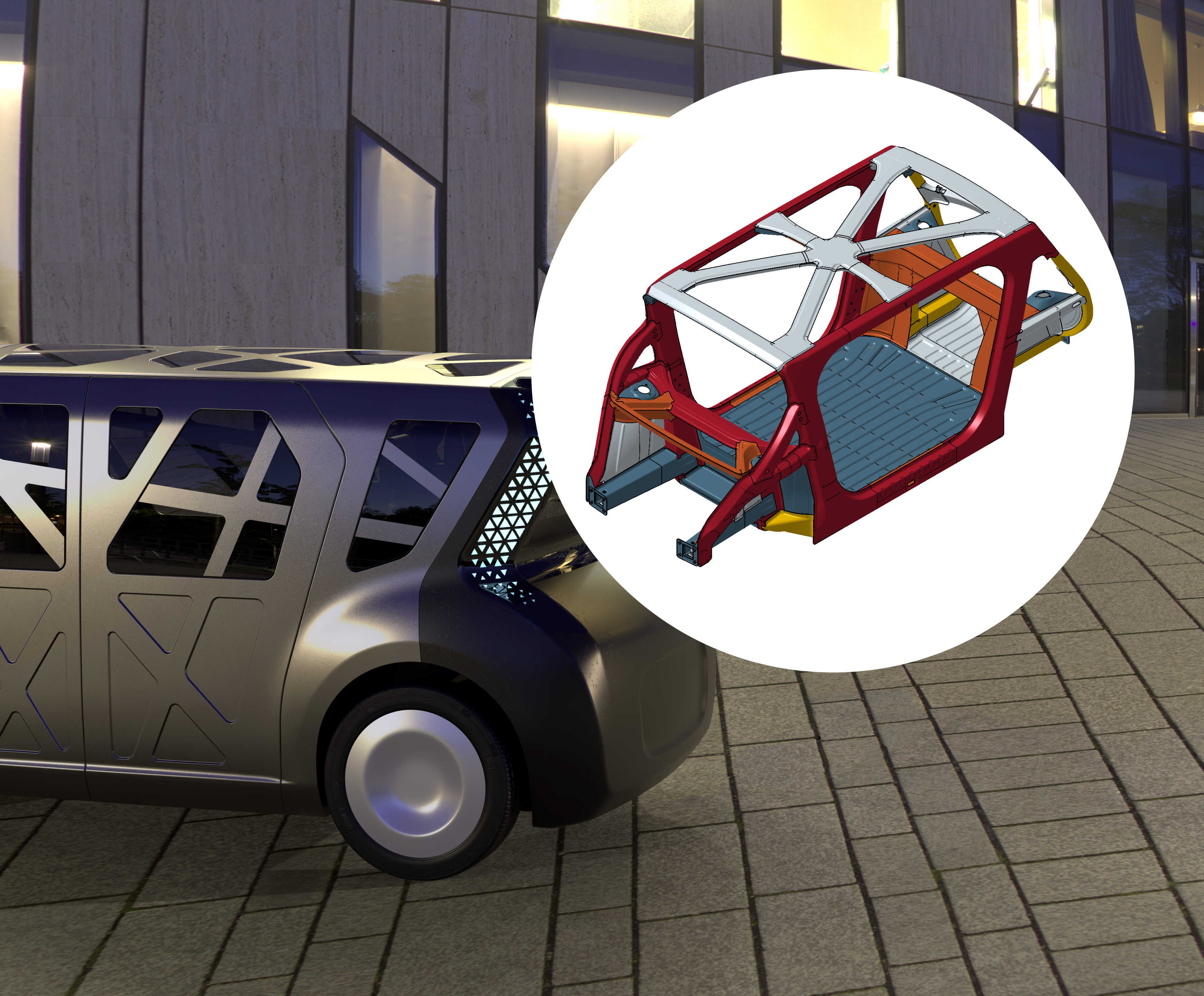


▶ SOLVAY SPECIALTY POLYMERS

2023 RUNNER-UP FUTURE OF LIGHTWEIGHTING

Ajedium™ PEEK Slot Liners

Ajedium™ PEEK slot liners can reduce battery pack weight by 12 kilograms (36.4 pounds) and the e-motor size by 4 kilograms (8.8 pounds). Additionally, there's no requirement for high-power dedusting equipment or climate-controlled storage to prevent moisture uptake – which reduces energy consumption – since PEEK slot liners can be inserted via existing equipment. The reduction in aluminum casting motors uses less energy and material than before.



► **WORLDAUTOSTEEL AND RICARDO PLC**

**2023 HONORABLE MENTION
FUTURE OF LIGHTWEIGHTING**

Steel Body Structures for Fully Autonomous Vehicles

As the world's first autonomous vehicle constructed to fulfill the most stringent crash requirements, WorldAutoSteel and engineering partner Ricardo developed this concept vehicle that features a 282-kilogram (621.7-pound) body structure, and a 25% mass reduction over an expected reference vehicle. It also has the potential to reduce total lifecycle carbon emissions by 86%, which will help meet global net-zero goals.

▶ MICHIGAN TECHNOLOGICAL
UNIVERSITY FOR AUTO/
STEEL PARTNERSHIP

2023 HONORABLE MENTION
FUTURE OF LIGHTWEIGHTING

**Steel E-Motive
Side Closure Mechanism**

By developing this mechanism using advanced high-strength steel (AHSS) instead of aluminum, there is the potential to reduce carbon emissions by 3x while also reducing manufacturing costs.

