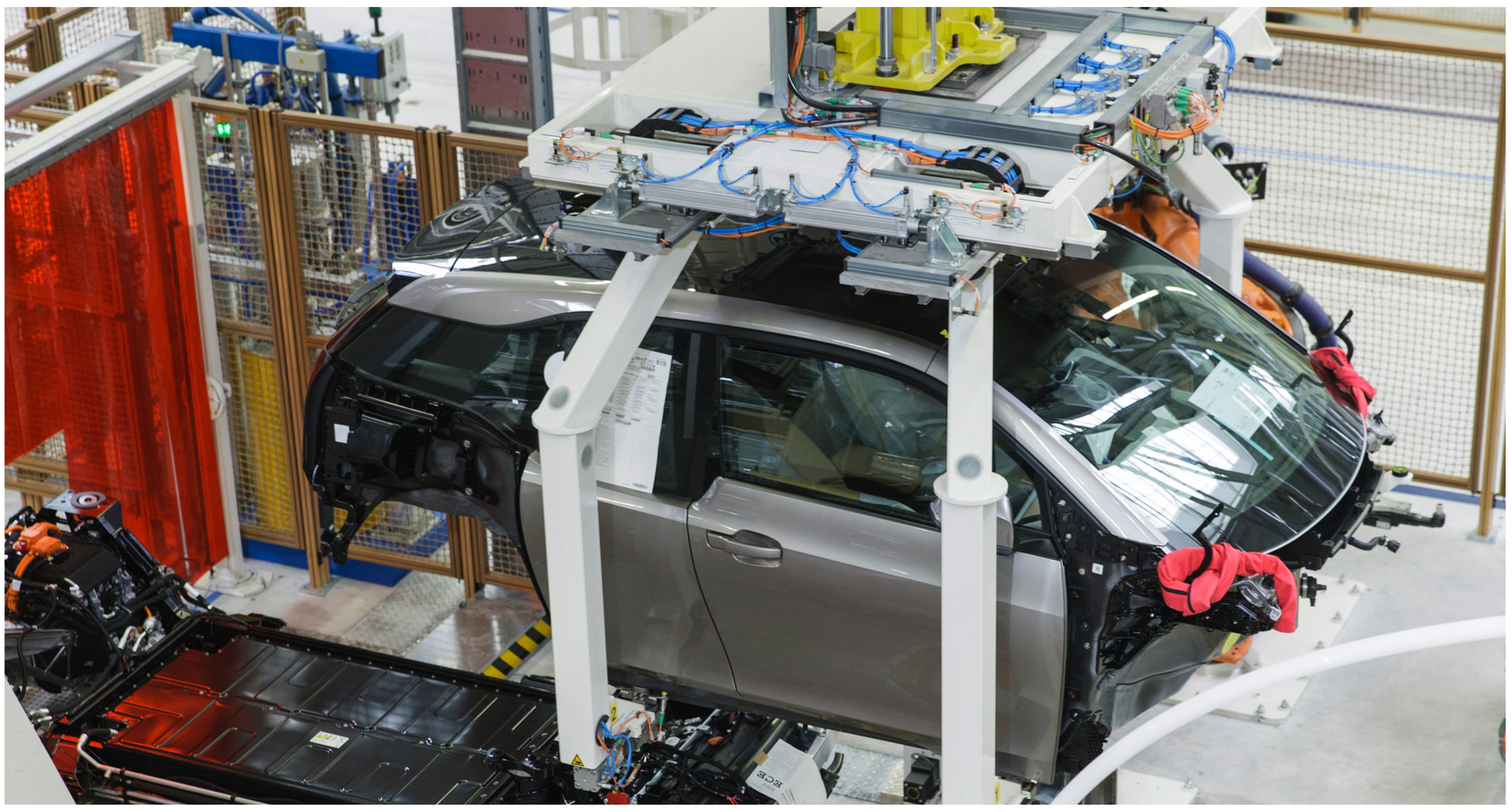
Altair enlighten award

Sika Automotive

Ultra High Modulus Adhesive for Mixed Material Bonding

The product is a high-viscous semi-structural one-component adhesive with high elongation and ultra-high modulus. It is used for bonding of mixed materials – in this case aluminum and carbon fibre reinforced plastic (CFRP) – for bonding the CFRP passenger compartment to the aluminum chassis of the BMW i3.

- The BMW i3 vehicle architecture is unique as the ultra-high modulus adhesive is a major enabler for the manufacturing of this vehicle.
- The product is unique because of the high elongation is designed to compensate for the different thermal expansion of the two different materials during vehicle operation life.
- The combination of the elongation and high and stable modulus ensures the overall vehicle has good crash resistance.
- The passenger compartment of the BMWi3 is all CFRP which is lightweight when compared to metal. However conventional method of joining in vehicle cannot be used, the Sika adhesive was the only effective way of joining the passenger compartment to the drive chassis.



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