

INNOVATION IN DESIGN

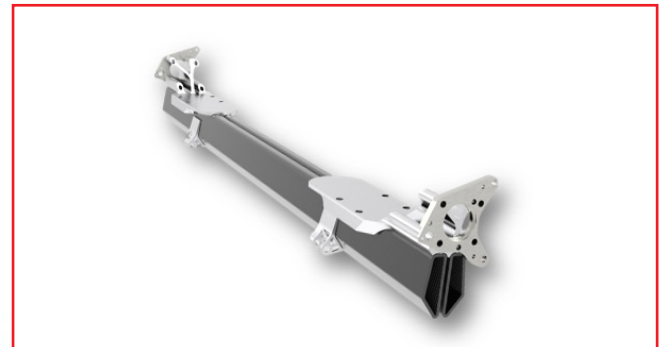
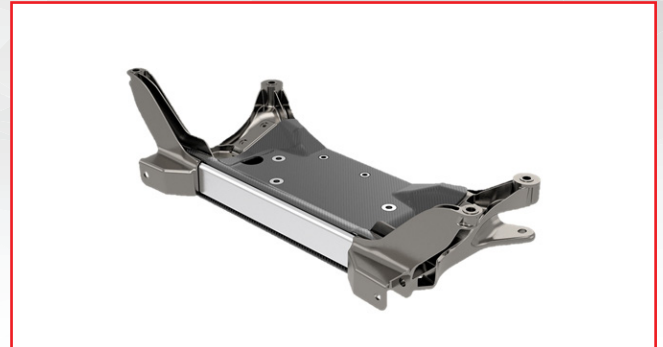
Winner: Ford Motor Company & Partners

Weight reduction project for the front suspension crossmember, front lower control arm and rear dead beam axle for Ford Transit.

Ford, along with partners Gestamp, the National Composites Centre and the University of Nottingham, have come together for weight reduction exercise for the front suspension crossmember, front lower control arm and rear deadbeam axle for Ford Transit. The average weight reduction across the components is 40% at an affordable cost target. This represents over 30kg's of weight saving from the current steel components. In the short term, composite structures, as a standalone material, will not meet the needs of mass production. The Composite Hybrid Automotive Suspension System Innovative Structures (CHASSIS) project was developed to be a multi-material solution to provide affordable weight savings for mass production volumes.

The Innovations of the CHASSIS project reside in the hybrid material facets with the Ford UK Innovations Team mantra of 'The Right Material at the Right Place' philosophy. This philosophy was borne out of the CLASS project which was the recipient of the 2018 JEC World Automotive Application Innovation Award. This project sowed the seeds for the CHASSIS consortium to collaborate on the next generation hybrid material development.

The impact that the CHASSIS project will have on the delivery of mainstream composite components cannot be understated. Whilst the use of composites in niche vehicles is assured, composite technology will not be delivered to the mainstream sector until costs are brought under control for volume production. The hybrid material technology being delivered for the Transit platform will (when deployed) reduce emissions



by 0.6% with a corresponding improvement in fuel economy. This is a modest CO2 and fuel economy improvement, but this project has helped pave the way for emerging technology.

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