ENLIGHTEN
AWARD 2017
PRESENTED BY ALTAIR

Altair

Volvo Trucks
Rear Axle Torque Rod Bracket

To reduce the weight of the bracket, Volvo Trucks used design optimization software to create an organic structure that maintained load on the bolt at or below the current loading while attempting to equalize the loading as much as possible. By directing the load where the team desired, they were able to achieve a better overall distribution than the part it replaces. As a result, the stress concentrations are actually lower than the original part in most places and under most loadings, but always less than peak stress of the original part. In addition, putting material only where it is needed resulted in an improvement in the life of the part.

Category:
Module

Application:
Numerous 2017 Mack Vehicles

Weight Savings:
42.3%
lighter than the previous component

Methodology:
Design Optimization

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