For the ‘Omega’ architecture of the 2016 Cadillac CT6, innovative computer aided engineering (CAE) tools and methods were developed and used to create an efficient, lightweight, high-performance, mixed-material vehicle structure. These tools, which included immersive lattice topology optimization, mixed material selection optimization, and multi-disciplinary loadcase optimization, were used, along with expert interpretation of the results, to lead the design development of the architecture and lead vehicle structure. Weight Savings: 157 lbs (71.5 kg) compared to an equivalent sized traditional BFI construction.

**GM Cadillac CT6**

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**Category:** Full Vehicle  
**Application:** Cadillac CT6  

**Weight Savings:** 157lbs  
compared to an equivalent sized traditional BFI construction  

**Methodology:** Multi-Disciplinary Optimization and Material Replacement