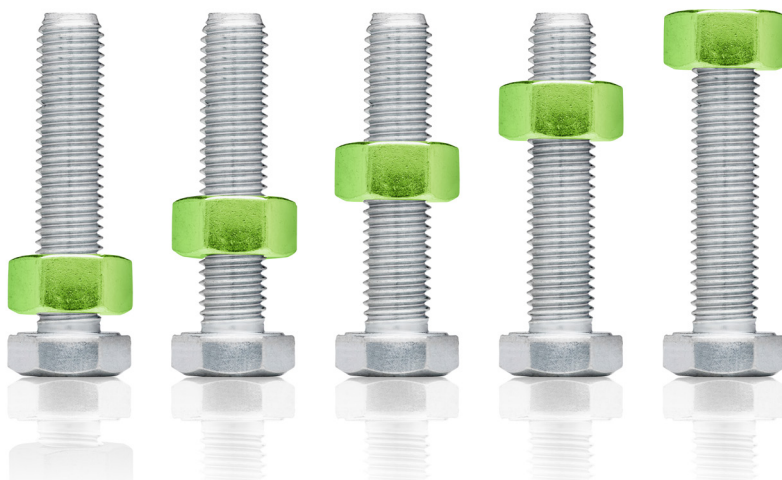


CASE STUDY:

ENGINEERING VALUE: THE FAST LANE TO COST SAVINGS

MAKING EVERY CONNECTION COUNT



Automotive | Luxury Car Manufacturer

When a leading luxury performance car manufacturer set out to develop a second model at a lower price point, Optimas International partnered with its engineering teams to optimise the fastener Bill of Materials (BOM). Through engineering-led design reviews and value analysis, we identified opportunities to significantly reduce cost and part count while preserving the premium quality, lightweight performance and driving experience expected of a world-class performance car.

Real Results, Real Impact

66%

Fastener BOM
cost reduction

48%

Part count
reduction

€9,900+

Saved per
vehicle

Situation

The client designs and manufactures some of the world's most exclusive performance cars. After reviewing the fastener Bill of Materials (BOM) for its flagship model, the client recognised that the same cost base could not be carried over to its second-generation vehicle. Which was positioned at around half the price.

While many fasteners from the original design had been retained to simplify development, the BOM required a comprehensive engineering review to reduce both cost and part count in line with the new model's positioning.

Solution

A two-pronged engineering approach

Firstly, a dedicated BOM engineer ran weekly 'fastener surgery' sessions with each vehicle function group to review new fastener requirements as design evolved.

Secondly, the team carried out detailed Value Analysis/ Value engineering (VA/VE) reviews carried over from the earlier model to uncover additional cost-saving opportunities without affecting design.

Bespoke fasteners were engineered in favour of more cost-effective standard parts, while identifying opportunities to align specifications across multiple vehicle systems.

The challenge was to achieve significant production savings while preserving the premium look, quality and performance expected of a luxury performance car. Any lightweight fastener alternatives also needed to be readily available to meet the programme's demanding prototype release schedule.

The greatest opportunity came from reviewing the extensive use of titanium fasteners. Although titanium offers weight advantages, it can cost between four and ten times more than stainless steel for relatively modest weight savings.

A cost-to-weight analysis for every affected application determined where stainless steel could be substituted without compromising strength, durability or vehicle performance.

Results

By optimising the fastener BOM, we delivered substantial savings across the new vehicle programme. Of the 2,078 titanium fasteners originally specified across 107 SKUs, 49 parts were identified as suitable for replacement with stainless steel equivalents.

Through a collaborative, engineering-led approach, Optimas International enabled the client to meet ambitious cost and part-count targets without compromising the performance, weight or premium positioning of its latest performance car.

Switching these parts reduced fastener costs by €9,900+ per vehicle – a 90% saving on those components, while increasing the vehicle's overall weight by just 490g.

ABOUT US

Optimas International is a tech-enabled industrial distributor providing fasteners, components, inventory management and supply chain solutions across APAC & EMEA. Partnering with domestic and global manufacturers, the company delivers bespoke, engineering-led and technology-enabled programmes designed to improve efficiency, quality, supply chain resilience and profitability for its customers.