CASE STUDY

SHOULD COSTING FOR **EXHAUST SYSTEM**

Customer

Foremost high-performance car maker in the automotive sector.

Problem Statement

1. To select the material type for the exhaust assembly, based on the cost of manufacture.

2. To set supplier target cost.

Project Specification

Product Description	Volume	Supplier Location
Exhaust Manifold	300 Pieces	UK

Business Challenges

To introduce the product globally, the customer faces the following challenges;

1. Creating an achievable budget for this sub-assembly which meets the target cost for the vehicle.
2. Negotiating a purchase price which meets the budget.

Scope of Work

1. Review the current design and determine the cost of the exhaust assembly using the Should Cost methodology.
2. Estimating the cost, at UK condition, for manufacture in
   a) Titanium and b) Stainless Steel

Technical Information

Case 1 – Titanium assumed to be the base material.

Case 2 – Stainless steel assumed to be the base material.

1. Major Parts – Manifolds, CAT chambers, Lambda sensors & Fully pressed muffler with upper and lower shell.
2. Construction – Primarily sheet metal & pipe formed along with welding 4 channel catalytic conversion system with single diffuser at the end.

Key Aspects

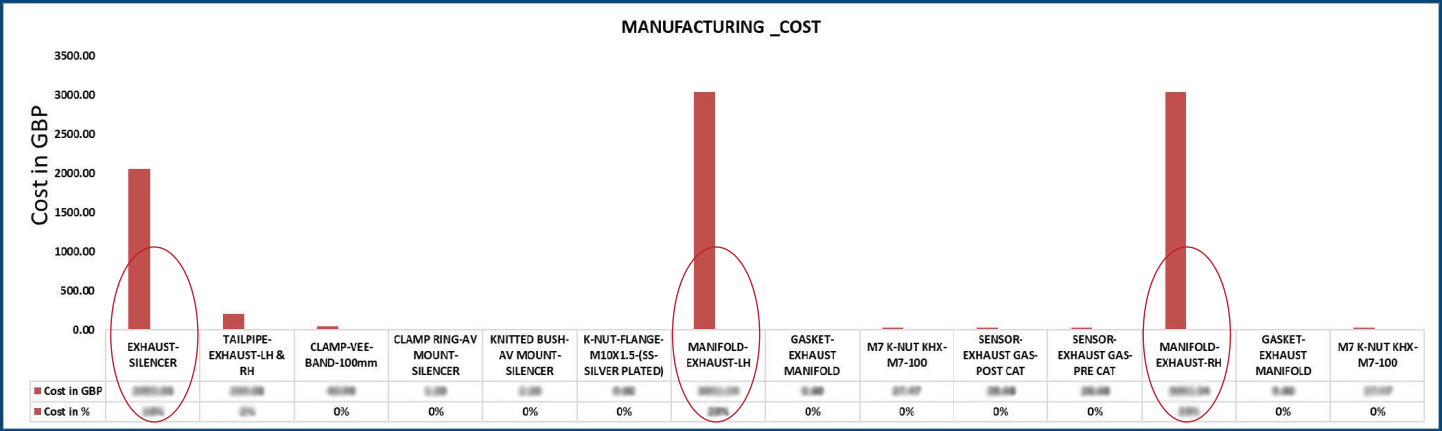
1. Optimum process adopted using best technology.
2. Appropriate machine selection
3. Appropriate process parameter selection.
4. Up to date cost data for materials, machine and labour at the manufacturing location.

Deliverables

1. Should Cost analysis for the exhaust assembly for both Titanium and Stainless steel.
2. Identification of cost drivers and recommendations for cost reduction.
3. Compile Customer knowledge-base documentation.

Cost Drivers For Exhaust Assembly

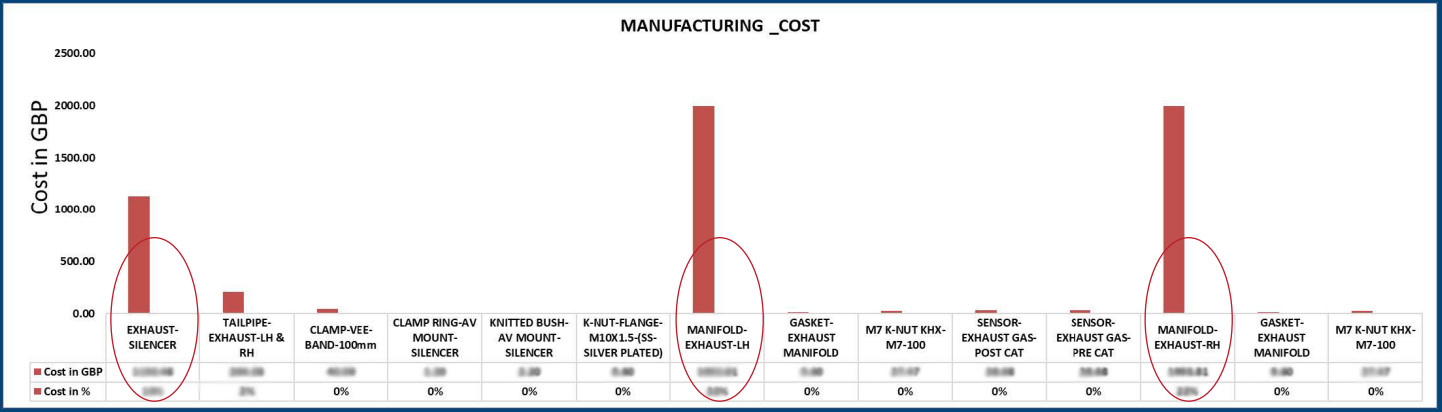
Case – 01



Major cost drivers identified
1. Manifold Exhaust LH & RH – 23%
2. Exhaust Silencer - 16%

Total cost / Assembly – [redacted] GBP
Manufacturing Location - UK

Case – 02



Major cost drivers
1. Manifold Exhaust LH & RH – 22%
2. Exhaust Silencer - 13%

Total cost / Assembly – [redacted] GBP
Manufacturing Location - UK

Value Additions

1. We identified a £1.3m annual cost saving opportunity by using stainless steel in place of Titanium.

2. We established a supplier target cost against all components in the exhaust assembly.

3. EMuski cost breakdown allowed the Client to conduct value-based price negotiation with the suppliers.

4. Identifying the main cost drivers and using value engineering methodology allowed the design to be optimised with respect to cost.