

COSTING: Benchmarking Phase



Costing Exercise Deliverables for both the Benchmarking Phase and the Design Phase include:

- Costed Bill of Materials
- Tooling cost estimates for each of the major components and sub-assemblies.

COSTING: Benchmarking Phase

- Results were generated via a combination of Lotus experience supported by cost confirmation from suppliers and consortium members.
- Indicative quotations were obtained through Lotus relationships with suppliers.
- Potential for negotiated preferential supply rates is excluded.
- Variances between ULSAS Benchmark estimates and OEM costs exist - due to the following:
 - » Process variations
 - » Special supplier / manufacturer relationships
 - » Availability of existing tooling and facilities to the manufacturer.

COSTING: Benchmark Assumptions

- 1998 economics.
- Costs are shown in US Dollars (US\$)
- Ex-works prices for sub-assemblies.
- Tooling recovery over 5 years full production.
- Supplier base cost, not OEM based.
- No capital equipment cost included.
- Component costs are shown fully finished (including coatings etc. where applicable).
- Estimated production volumes:

Manufacturer	Model	Suspension System	Volume	Assumptions
Audi	A6	Twistbeam	110,000	(2)
Ford	Taurus	Strut & Links	380,000	(1)
Honda	Accord	Double Wishbone	415,000	(1)
BMW	5 Series	Multi-link	215,000	(2)

(1) = 1997 North America

(2) = 1997 European

COSTING: Design Phase

Identical Assumptions and similar Rational to the Benchmarking Phase to ensure compatibility.

- 1998 Economics - for consistency with Benchmark data.
- Lotus Manufacturing Engineering and Costing Experience and judgement used throughout for consistency.
- Benchmarking against known costs for components.
- Close collaboration with consortium members.
- Elegance of design reduces cost.
- Optimising the utilisation of tooling reduces cost.
- Costs developed alongside designs.
- Volume Assumptions :

SUSPENSION TYPE	VOLUME (per annum)
Twistbeam	400,000
Strut & Links	400,000
Double Wishbone	400,000
Multi-link	200,000
Lotus Unique	400,000