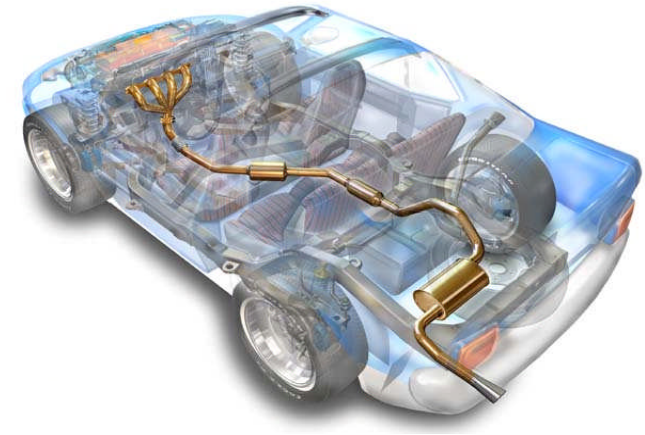


Foresight Summary for Titanium



Business Drivers versus Technology Needs



Business Drivers

- Market Competitiveness
- Superior Product Characteristics / Brand Differentiation.
- Ageing Population
- Environmental & Legislation Concerns
- Changing Lifestyles
- Defence

Market Competitiveness

- Reduce extraction costs
- Need for low cost downstream processing
- Need for expansion into steel, chemical and automotive industries
- End user need for more stringent design codes and standards
- Need for improved tribological properties
- Requirement for new alloys to compete with steel/aluminium

Superior Product Characteristics / Brand Differentiation.

- Publicity to potential customers of the advantages of Ti alloys
- Cost of ownership issues; Buildings, marine plant, etc.
- Increased knowledge base for cost effective component design

The Ageing Population

- Increased demand for use of prosthesis for older population.

Environmental and Legislation Concerns

- Lower exhaust emissions/ light weighting of engines
- Need for water desalination
- Flue gas desulphurisation
- Nuclear plant shutdowns

Changing Lifestyles

- Use of Ti in leisure industry
- Ti in safety clothing, body armour and sensors etc.

Defence

- Light weight tanks. Rapid deployment, armour and general use