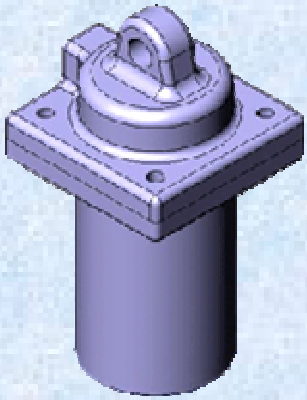
Electronica Machine Tools Ltd.
CAD-CENTRIC Division

PRODUCT DESIGN

CASE STUDY - Option Engineering

This project involved designing & analyzing variants of existing product. These options were to be evaluated with respect to enhanced performance, manufacturing time & cost.



Customer's requirement:

The customer is in the business of manufacture of pneumatic cylinders. A specific cylinder was to be re-engineered so as to achieve following objectives:

- **Lower Production Cost**
- **Higher Operating Parameters**
- **High Production Rate**
- **Aesthetic Improvement**
- **Quality Enhancement**

Challenge:

The customer had worked out his targeted selling price. Manufacturing cost had to be significantly lower than this price. Since the cylinder was to fit into an existing assembly, its outer geometry and fitment positions could not be changed. The operating temperature range was wide which posed restrictions on material selection. Because the manufacturing time and cost were to be reduced, readily available components had to be selected to reduce the tooling cost.

What we did:

	Material Cost	*Production Method*	*Machining*	*Assembly*	Cost	Quality	Service	Specification	Sum
Option 1 Image 1									
Option 2 Image 2									
Option 3 Image 3									
Option 4 Image 4									

CAD-CENTRIC proposed four different variants satisfying all above criteria. All these variants were then graded on a scale of one to ten. And then two of the four were selected for prototyping and trials