

## Towards Excellence – Building World Class Operations



### Straddled by inefficiencies in manufacturing footprint

The company is the market leader in the manufacture of High Speed Steel Cutting tools. It was faced with increasing competitive pressures on manufacturing lead times and service levels. Additionally it faced a pressure on margins due to rising cost of inputs and high inventory carrying costs.

The company had developed facilities and capabilities at multiple locations in the city, which led to increase overheads.

In order to make breakthrough improvements, the company needed to consolidate operations in a single location.

#### CEO's dilemma

- What should be the supply chain policies and new manufacturing footprint to provide tangible business benefits?
- How do we manage the transition into the new layout without loss of production?

Lack of adequate space in the existing location hampered improvements in processes. Inappropriate layout of shop floor & sub contract process increased the movement time and thereby delivery cycle times. Lack of space for keeping tools increased manufacturing cycle times. Historic manufacturing practices impeded the introduction of new work methods.

Hence the company wished to set up an integrated world class manufacturing facility for its businesses.

The key to improving bottom line performance was to improve delivery through productive and efficient manufacturing systems, to reduce overheads and wastages and to achieve a synergy in operations by enabling sharing of resources and sharing of capabilities and expertise.

### Achieving New Highs

ECS helped the company in developing the site plan and area calculations for the factory block, area calculation and machine layout for all different sections and design of supply chain footprint and inventory norms.

#### Estimated benefits

Improvement in ROCE by 2.4% by reduction in overheads, logistics cost & inventory reduction

### Identification of opportunities

An analysis of the product portfolio was conducted for identifying product groups. This was coupled with an analysis of manufacturing processes for identifying process commonalities, which would require large-scale changes in the new layout. A comparison of space productivity in the existing layout with international benchmarks was performed for setting targets for the new layout. The targets were aligned to value addition per unit area and space distribution parameters.

The opportunities were identified in the areas of cycle time reduction, inventory reduction, conversion cost reduction, quality improvement on account of process modifications and manpower cost reduction.

### ECS designed a product-process hybrid layout with product and machine groupings for the factory block

A dedicated team of ECS consultants and client, drawn from all representative functions was drawn to work on the design of the new layout. Modes of material movement for minimizing cost & time; and storage of WIP for minimizing spillage were also selected.

Optimization of machine layout for minimizing material movement intensity was critical for obtaining desired benefits from the layout. The design of the product flow lines led to a reduction of in-plant cycle time by 20%. Reduction in the inventory requirement to the tune of 40% was obtained in the new facility and simplification of material handling processes led to a reduction of over 60% in manpower required for material handling.

#### **Subcontract Footprint**

Optimisation of subcontract operations led to a saving of Rs 20 million in operating cost and a 75% reduction in the number of subcontractors. Well-defined process for selection and management of subcontractors were developed, which led to better accountability and reliability of subcontract operations.

#### **Burning Issues**

- Developing a robust transition plan for tracking the progress of the project and for ensuring zero loss of production
- Layout is a spoke in the wheel towards excellence in operations. It had to be supplemented by improvements in the outsourced operations and planning process
- Using a structured approach for making high investment decisions such as heat treatment facility, centralized cooling systems and utilities
- Manpower requirement calculation for the designed operations.

Besides the tangible cost benefits realized during the project, the intangible benefits that resulted as a part of the initiative were:

- Involvement of the people during the course the project led to a sense of ownership of the proposed initiatives
- Simplification of the layout and manufacturing process flow led to opportunities for improvement in the production planning process & work practices

With the power of the highly efficient manufacturing footprint, the client is set to achieve substantive breakthrough benefits in manufacturing cost reduction and improvement in delivery performance.

#### **Contact for details**

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