

# Imperatives for the Plastic Industry in India

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The entire world is getting far more demanding. Technology has come to be the most important driver of economic growth and development. And, what is more important, technology is changing rapidly. Knowledge has come to be the central basis for competition. Ecology has come to be the most discerning aspect of society's concerns. Finally, competitiveness has come to be the defining parameter of global leadership. And competition is getting very intensive.

I would like to see the plastic industry in this frame. I would like the plastic industry to set its contours in this challenging context – on technology, knowledge, ecology and competitiveness.

Technological changes demand that plastic industry participants, instead of offering discrete products or services, must integrate knowledge based complex engineered systems.

A plastic consumer will no longer use plastic materials. He will demand systems at a holistic level. Conventional thermoplastics will give way to biocompatible systems that incorporate recycling processes and biopolymers. Engineering plastics will give primacy to performance plastics based on composites of plastics with metals and ceramics. Plastics for drip irrigation, mulching, low tunnels and so on will pave way for comprehensive plastic based agronomic systems. Plastics for packing will yield to packaging systems that use plastics in conjunction with other materials. Plastics in automobiles and consumer durables will be transformed by modular component assemblies that combine several parts into one. Indian plastic industry must graduate from uni-dimensional manufacturing to technology intensive complex engineered systems.

In today's context of international competitiveness, the trend is towards mass customization. This is aided by knowledge based systems.

We already see this happening in automobiles, health care, entertainment, and other areas. The plastic industry can be no exception. It will also be called upon tailor products to individual customer needs.

Knowledge based competition would be a new paradigm for the plastic industry and will separate the wheat from the chaff. It would redefine the character of the plastic industry from being in a manufacturing mould to using knowledge based systems in order to be dynamic and responsive to market needs.

## A Few words on Ecology

Our 21<sup>st</sup> century values systems are providing a pride for ecology and environment. This is intensifying the environment protection related demands on the plastic industry. To my mind, the plastic industry must attempt to correct misplaced perceptions by focusing on the role of plastic in such important areas as agriculture, food processing, health care, aerospace, defense, education and household appliances.

In parallel, the plastic industry should seize the opportunity of integrating biological sciences to address environmental concerns. This will manifest in the form of biopolymers, enzyme catalysed reactions and bio-remediation of effluent systems. In parallel, we must work closely with Municipal/ State authorities on putting in place effective systems of waste management and recycling. Today's world demands efficiency and competitiveness. To be competitive, the plastic industry must move up the value chain – from low end extruded to moulded products, from discrete plastics to value added systems.

I must add that being in the low end of the value chain is symptomatic of other industries as well. Three fourths of Indian exports are in the domain of traditional low value goods. It is imperative for the plastic industry to move up the value chain and attain international competitiveness.

Technology is a tool. It can be used for destruction, as we have seen in New York and Washington where a plane was used as a bomb. It can also be used for construction and development, for making optimum use of natural resources and giving better quality of life to the people. In this perspective, there is no need for us to be despondent. Let us all in the plastic industry use technology to make ourselves competitive and deliver value to the customer.

The challenge for the plastic industry is to redefine and re-invent itself to focus on technology and complex engineered systems, knowledge based systems, ecology and international competitiveness.

## Reference book:

Indian Plastics Industry  
Moulding the Future, Plastic India 2003