

## **PLASTINDIA 2006: TECHNOLOGY DAY CONFERENCE**

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I am indeed grateful to the organizers of the Plastindia 2006 Technology Day Conference to have invited me to be in your midst today. I am indeed delighted. The technical program is rich in content. I wish you all a productive day.

It is a very exciting time to be living in India today. We see great optimism, in all spheres of our lives and a great resurgence of thought, policies and action, may it be in Government, Industry, organizations or institutions. The vibrancy of plastic industry is an illustration of this fact. India is poised to become the third largest consumer of plastics by 2010, fuelled by one of the most dramatic demographic dividends of our times, namely, half a billion people below the age of 30 by 2015. India's population, once considered a liability is now being looked upon as an asset and opportunity by an otherwise ageing population of the world.

Science, technology and innovation are three pillars on which growth of an organization or a nation is critically dependent upon. An enterprise which needs sustained and steady top line growth can do so only if it focuses on innovation. So does a nations march of progress. In the twenty first century, therefore, it is not surprising that science, technology and innovation is receiving significant policy level attentions from every government of the world.

India too has set its sights high. India's S&T budget is increasing at the rate of an unprecedented 33% on a year on year basis since the past few years. India has set a target of increasing its output of Ph D in science and engineering by five folds by 2015, from the present 5000 per year to 25000 by 2015. The emphasis is on both quantity and quality. In pursuit of this goal, the government has announced setting up of several research universities, focused on fundamental science, at an investment of US \$ 100 million each. These will be modeled after the now renown IIT's, with undergraduate, post graduate and Ph D programs, within the ambience of a high quality research environment. The first two of these institutions will commence operation in Pune and Calcutta by September 2006. These are the first of the greenfield research and teaching universities to be set up in India after the IIT's back in the sixties.

The Government is expected to shortly announce setting up of a Science and Engineering Research Foundation with a corpus of US \$250 million to fund research in Indian universities and research institutions. In addition ten centres of excellence in the area of chemical, physical, material, life and mathematical sciences are proposed to be set up. A major Nanoscience research initiative has been launched in the country. Several technology incubators and innovation park has been set up in the area of information technology, biotechnology and advanced materials to provide impetus to early stage innovations and

converting ideas into wealth. Many novel public – private partnerships in research and technology has been launched for closer collaboration between public research bodies and industry with a view to generate technologies that will provide India with competitive global leadership in selected areas.

In spite of this all, India has still a long way to go. We still have only 120 science and engineering professional per million who are directly engaged in R&D, against 3000 in S.Korea and 4500 in USA and Japan. Only 20 % of our students are able to pursue higher education in science and engineering against 40 % in S.Korea and Brazil. The real barrier is the non availability of adequate educational infrastructure. India `s science and technology expenditure is only 1% of our GDP, against 2.7% in the US, 3.0 % in Japan and 2.5% in S.Korea.

India faces many challenges on the road to its ambitions to become a power to reckon with in the area of science and technology. There is an urgent need to provide greater access to quality higher education to a large number of aspiring young men and women as well as minimize the skills mismatch between learning and practice. There is also a crisis of leadership in science and technology at the middle and senior levels. There is acute competition for talent in this area. Indian companies have to compete aggressively with global companies for talent for highly skilled professional in the area of science and engineering. Three decades ago the most talented Indians went overseas in search for challenging opportunities. Today the global companies are moving their technology and innovation organizations to India, much closer to where the skills and talents reside.

Much remains to be accomplished before India can assume its rightful place in the community of innovative nations. However the promise is clear, more than ever before. India has begun to show its will to conquer the challenges.