

U.G. Convocation Address

by

Mr. B. Prasada Rao

Chairman and Managing Director

Bharat Heavy Electricals Limited

अड़तालीसवाँ दीक्षान्त समारोह

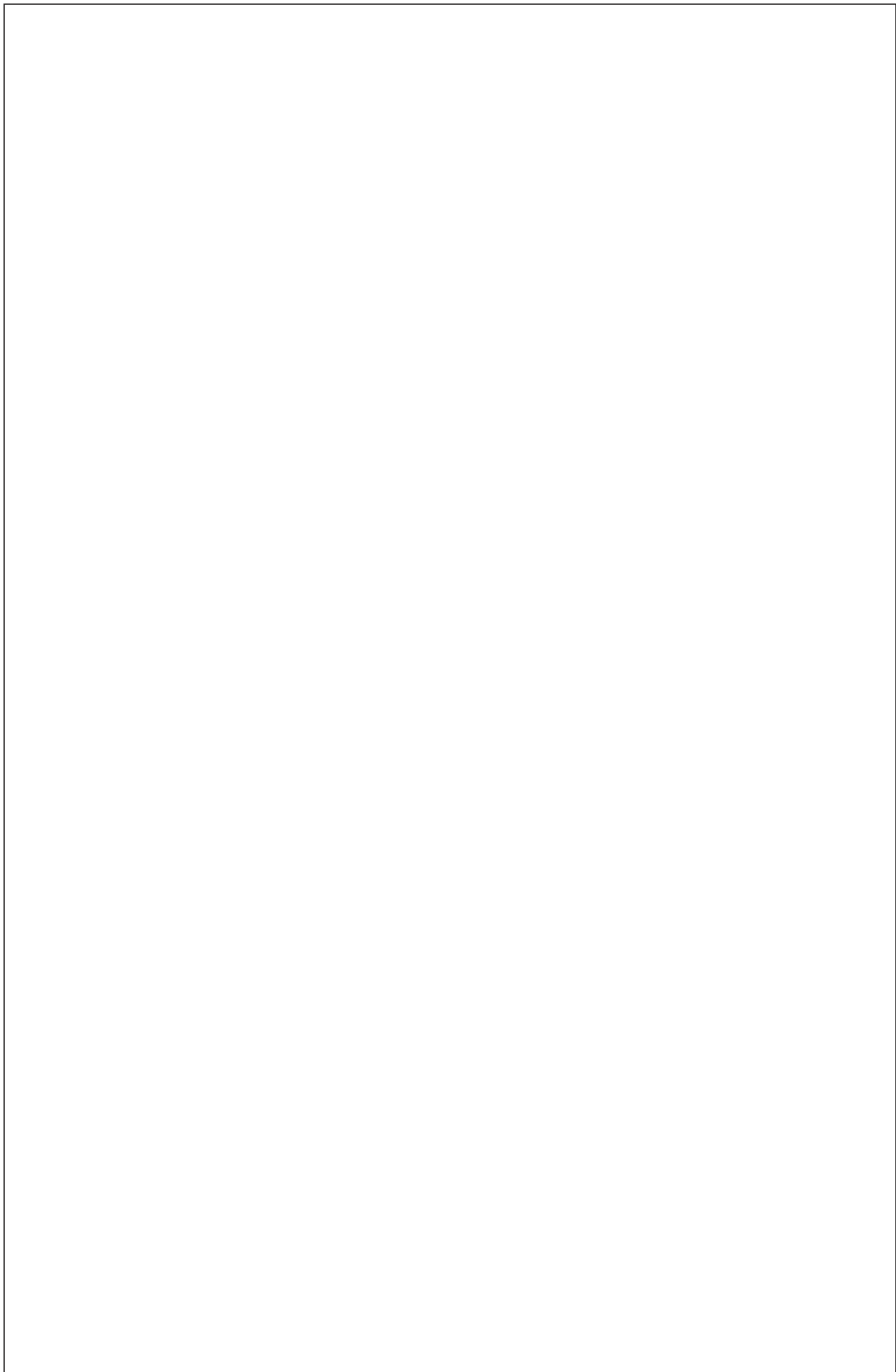
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48th CONVOCATION

JUNE 07, 2015, SUNDAY

भारतीय प्रौद्योगिकी संस्थान, कानपुर
Indian Institute of Technology, Kanpur





- **Respected Professor M. Anandakrishnan, Chairman, Board of Governors, IIT Kanpur**
- **Members of the Board of Governors,**
- **Professor Indranil Manna, Director and Chairman-Senate,**
- **Senators,**
- **Faculty Members, staff and students,**
- **Graduating students and their guardians,**
- **Distinguished Guests, Ladies and Gentlemen**

My warm greetings to all of you on this momentous occasion. I am humbled by your invitation to deliver the 48th Convocation address at this esteemed Institute. I accept it as an honour and a privilege to address bright and promising young individuals who are the hopes and aspirations of India's future.

I would like to first extend my heartiest congratulations to all of you who are successfully graduating today. It is indeed a proud moment in your lives and what can be better than to celebrate it in the august presence of your gurus, parents, friends and those who had valuable roles in shaping your life so far. Convocations are solemn occasions for both faculty and students. It marks an important milestone in your life's journey. You are at the threshold of embarking on a new phase of journey in the real world. A world which is ever changing. A world which is fiercely competitive and full of challenges. Challenges - after all are what make life exciting – and I am sure you will never shy away from them.

A stage is over and you are entering the next in your life. In Sanskrit there is a beautiful saying:

उद्यमेन हि सिध्यन्ति कार्याणि न मनोरथैः ।
न हि सुप्तस्य सिंहस्य प्रविशन्ति मुखे मृगाः ॥

Work is accomplished by industriousness, not merely by wishing and day dreaming. The deer does not enter the mouth of the Lion

that is merely sitting and waiting for it to come. Dreams that seem impossible can be realized with determination and persistence, notwithstanding the odds.

I am sure that all of you will strive to be very successful in your respective fields and one day; you will be back here to share your experiences of the wider world with future generations.

Today's evolving world-order rests on the pillars of globalization and technological advancement offering a huge opportunity for all of you to leverage and fulfil your aspirations. While enjoying the mysterious maze of the life ahead, you may make errors or even blunders at times; but these instances should bolster your zeal more assertively towards success in pursuit of your journey of life.

As the head of one of the largest Engineering and Manufacturing Companies of the country, I thought this might be an opportune moment to reflect on the indispensable role of manufacturing and innovation, the imperatives for success of the most crucial national initiative of our Hon'ble Prime Minister - "Make in India". As you step in the world where you have a luxury of choice, you must keep this aspect in mind.

Manufacturing- Historical Perspective

The 1000 years history of Global Economic landscape emphasises that Manufacturing has remained the veritable engine of economic growth. With the evolution of science and technology, massive Industrialization swept the economy of Western Europe & US since late eighteenth century. India & China, once economic powerhouses (before 1700), were irrelevant until around 1950 as global diffusion of manufacturing largely bypassed these great nations due to impact of colonial

rule. Japan was the only non-Western economy that realized large scale industrialization prior to 1950. The average share of manufacturing in largest developing countries such as India, Indonesia, Philippines, South Korea, Sri Lanka, Taiwan, Turkey, Argentina, Chile, and Colombia reached 20% in 1980 from 11% in 1950 and then declined to 18% in 2005. The highest shares for 2005 were found in China (34%) and Thailand (30%). In the same period, the share of manufacturing in the 16 advanced economies declined from 24% in 1980 to 17% in 2005. But, the interesting fact is that, even at the peak of industrialization manufacturing had contributed only around 30% in the advanced economies.

Manufacturing in India today

Manufacturing in India accounts for around 16 percent of GDP, a level that has remained largely unchanged in the last two decades and is relatively low when compared to around 33 per cent in China, 28 per cent in South Korea, 25 per cent in Indonesia and around 20 per cent in Japan, Malaysia and Germany. Although share of non-agricultural sectors has grown faster than the performance of the agricultural sector, there seems to be an aberration in India's structural transformation as India jumped directly from an agrarian to a service driven economy leapfrogging the intermediate manufacturing stage.

Country has experienced economic boom on the back of services led growth but exclusion continued in terms of low agriculture growth, low quality employment, rural-urban divide, gender and social inequalities etc. This re-iterates the fact that domestic manufacturing plays a critical role in achieving consistent, more inclusive, and sustainable growth. Today, manufacturing sector employs 30% of the non-agricultural workforce in India. Even

though agriculture supports 58% of the working population, it contributes only 18% to the country's GDP.

Today, population pyramid of India is expected to 'bulge' across the 15–64 age bracket over the next decade, increasing the working age population from approximately 761 million to 869 million during 2011–2020. Consequently, until 2020, country will be experiencing a period of 'demographic dividend', where the growth rate of the working age population would exceed that of the total population. Around 64% of India's population is expected to be in the age bracket of 15-59 years by 2026, with only 13% of the total aged above 60 years. This decade and the next offer a golden opportunity for the country to skill these youngsters and build a strong workforce. It is imperative that we promote manufacturing sector with the full zeal. Manufacturing sector possesses necessary potential in raising income levels, provide greater employment opportunities and support infrastructure sector of economy to grow at a higher trajectory. Services led growth would only be sustainable when supplemented with indigenously-supported industrial growth. The demographic dividend has to be earned or else we will lose the advantage if the situation does not change in the next ten years. Therefore government has set the target to increase share of manufacturing in GDP to 25% by 2025 and skill 500 million people by 2022 with a promise to create better jobs.

Realising 'Make In India'

I think recent clarion call for “Make in India” by Hon'ble Prime Minister of India is one of the best platforms to strengthen domestic manufacture ring. Major fillip has been given to foster domestic capabilities in the strategic area of defence, one of the

first being domestic manufacturing of light armoured vehicles, artillery weapon systems, UAVs and underwater systems which will have a cascading effect on various other industries too.

The success of this initiative will depend on our efforts to scale up our level of operations, meeting global quality standards, and indigenize technology intensive manufacturing and not just by being a hub for assembly of manufactured components.

The Make in India' campaign has the capability to make India one of the world's manufacturing hubs for many global companies. It will lead to more localisation and offer opportunities to achieve economies of scale for both international and domestic suppliers to help them become more competitive and grow. This will enable the development of domestic manufacturing giants by creating a large manufacturing base by providing an entire ecosystem conducive to low-cost and high-quality products.

In our growth journey, the manufacturing sector will continue to face challenges unless it transitions itself while keeping quality and price in mind. Appropriate quality standards are needed if the country has to emerge as a destination for global manufacturing. Prime Minister's call for 'zero defect and zero effect' manufacturing to produce quality products without any adverse impact on the environment very well recognizes shape of the things to come in future. The government plans to introduce quality standards for automobile, food processing, electrical machinery, garments and textiles products among others as part of a drive to make the country a manufacturing hub for quality products.

Further, what is important for the Indian manufacturers is to create an ecosystem for higher value creation. Today, Value Added by

the manufacturing sector in India is less than half that of China (30-35%). Even smaller countries (in terms of GDP and population) like South Korea and Brazil have larger manufacturing imprint than India. The manufacturing sector in China has evolved tremendously in terms of capabilities to mass manufacturing products at low costs. India, on the other hand, is yet to catch up.

Focus on Innovation

This can only be ensured with the right kind of focus on R&D and innovation. Today, Indian manufacturers face a daunting task in transition from being solely low-cost manufacturing centre to competing on the basis of innovation. In the global market economy, the ability of companies to create, absorb and commercialize innovations determines their competitiveness. Manufacturing and technology development are closely interconnected as technologies are used to make products through manufacturing and the feedback from manufacturing fosters technology up-gradation continuously. Therefore, technology 'depth' is an imperative for increased value addition to enhance competitiveness. As a country, we spent just around 0.8% of GDP on R&D against 1.5% by Chinese and 3.4% by South Korean during 2005-10. This is not a good sign. We should aspire to become 'Germany of the East' and not 'Factory to the West'. We need to enhance our R&D spend so that we are not left behind in emerging technologies and we do higher value added manufacturing. We as a nation, need to focus on improving tri-axial relationship of Industry, Government & Academia, encouraging technology transfer through FDI or joint ventures with technology leaders/OEMs, pursue proactive M&A in acquiring cutting-edge technologies, build an ecosystem which encourages successes and tolerate failures, and enhancement of Intellectual capital governance leading to technology edge.

Technology Development at BHEL

Here, I would like to touch upon the fact that indigenization of leading technologies and technology development has been one of the major factors for the success of BHEL which has majorly exhibited sustained growth and faced the onslaught of global competition all along its fifty years journey. BHEL has stood up to the global challenges of climate change, resource scarcity and social inequities by leveraging technology and innovation for developing products and providing services in an environmentally sustainable and socially responsible manner.

Traditionally, BHEL has been a dominant player in the sub-critical thermal power plants in India with product offerings limited up to 500 MW. But the company has progressively introduced 660 MW, 800 MW & 1000 MW units based on fuel efficient supercritical technology. As a further commitment to increasing efficiency, BHEL is also working on indigenous development of India's first coal fired Advanced Ultra Supercritical (AUSC) power plant along with IGCAR & NTPC.

Most recently, BHEL has indigenously developed Fuel Flexible supercritical boilers which can operate and maintain steam generation in the extreme cases of 100% specified Indian coal as well as 100% specified imported coal, one of the firsts in the Indian market, keeping in view the coal situation in the country.

With the right drivers in place, I am sure we will have many more successful examples to share in the coming future.

Road Ahead

My young friends, I have an abiding faith in the destiny of our country. Country has great expectations from you. Looking at you,

I am filled with a hope about India's future. I urge you to cherish precious dreams to make our country strong, prosperous and fully developed. Today no dream is out of reach, if you remain focused in your actions and steadfast in your commitments. Let the golden advice of Swami Vivekananda guide you all in realizing your dream; Swamiji said

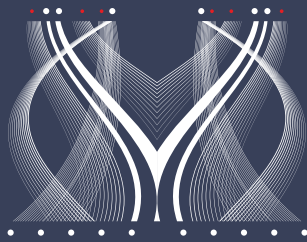
“Take up one idea. Make that one idea your life- think of it, dream of it, live on that idea. Let the brain, muscles, nerves, every part of your body, be full of that idea, and just leave every other idea alone. This is the way to success”.

Let these golden words of wisdom always inspire you in life. I am sure this great institution has prepared you well to follow the path of industriousness, perseverance and honesty. Be upright in whatever you do and ultimately you will succeed.

Once again, I wish you a bright and rewarding future and hope that your contribution would uphold the pride of your Alma Mater & the Country. May the Almighty bless you all with success and fulfilment of your ambitions.

Thank You.

Jai Hind!



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