

# ‘Make’ to ‘Design’ in India: An emerging paradigm

As the world recognises the true potential of India in engineering and manufacturing acumen, many products across industries will soon bear the note saying ‘Designed and Manufactured in India’, says **Vikas Khanvelkar**.



Daimler Trucks' production facility in Chennai



Tibrewala Electronics Limited's plant

A survey conducted by FICCI and PwC estimates India to become fifth largest manufacturing country in the world by the end of 2020. Manufacturing sector's contribution in the total GDP of India touched a record high of Rs 5,010 billion in the second quarter of 2016–17. With this optimistic surge, the government of India has set a goal to increase manufacturing contribution to 25% of the total GDP, a drastic 9% over and above the current contribution of 16%.

The world has just begun to notice and recognise the true potential of India in engineering and manufacturing acumen. For much too long, across the boundaries of Indian Subcontinent, the subtropical land of India was mostly known as an agrarian economy, country of IT services provider and a nation of call centres. Not that it is not true, and not that we are not proud of our strengths in agriculture and IT services, but India has much to offer

besides these widely known and popular work areas.

Breaking these image stereotype barriers, are the dynamic new initiatives introduced by the Government of India that will establish India as a preferred global destination for product design, engineering and manufacturing.

Some of the key factors that will propel and bring about this transformation are explained below.

## Revolutionising education and training

Government of India is putting in dedicated and systematic efforts in understanding the gaps and introducing necessary changes in updating and upgrading the quality, and standards of engineering education that would match with industry expectations. Focussed initiatives such as setting up specialised skill development centres across lengths and breadths of India will ensure availability of trained manpower that will support, and contribute significantly to the

growth and productivity of the manufacturing industry.

Through Public-Private Partnerships (PPPs), Government is also engaging and involving actively the private companies that will bring in the industry knowledge and insights to the trainings and skills imparted at these centres. Idea is to expose students to the new knowledge, technologies, applications and industry oriented trainings that would bring them up to speed with the latest developments and trends in the products engineering and manufacturing sector. India has the highest number of engineering graduates passing out of engineering institutions every year. If they are well trained and educated to proficiently use the new technologies and possess latest knowledge, it would make highly productive manpower available for the industry at extremely competitive remunerations.

## Formation of SEZs

Special Economic Zones (SEZs) are

dedicated geographical locations for a particular industry that provides them with the necessary infrastructure to support their manufacturing and production activities. These industry specific SEZs are meticulously planned and strategically located so as to gain from the resources available at a particular terrain while considering the other advantages such as proximity to the suppliers base, customers market, and such many more important factors.

With Government setting up more of these zones for industries including aerospace, automotive, engineering, textile, agro, etc, it would provide tremendous thrust to the manufacturing industry. This will in turn result in the growth of supportive sectors such as die and mould industry, machine tools industry that works with and supplies to the companies from all these cross vertical industrial domains.

### **Infrastructural development**

Government is focussing heavily on setting up the right civil, cyber, energy, logistics and overall networking infrastructure of the nation. This would facilitate easy trade and distributions of goods within the country, sharing of knowledge and data between and within the countries through cyber connectivity, providing the necessary energy support to back the manufacturing and production activities, thereby building a robust foundation and support structure for augmenting industrialisation.

Not only that, but several other potential initiatives such as smart cities project, solar power plants and nuclear energy plants, end-to-end highways and rail network, airports at smaller cities, water conservation programs, metros and bullet trains, etc would also make India a progressive country offering enhanced quality of living.

### **Ease of doing business**

Emphasis on ease of doing business initiatives such as uniform tax system across the country, digitalisation of governing processes, benefits for the start-up companies and many more such programs will attract many foreign investors and companies to set-up their operations in India who earlier refrained to do so due to complex transactional legal, revenue, governing and logistical systems. This would also encourage the indigenous industrialists to expand their reach and scale of operations within the country. Moreover, it would further promote entrepreneurship and boost start-up companies in India.

Embracing digital processes in business management and operations will make it easier for the companies to track, monitor and measure their performance and address process, documenting and statutory irregularities and discrepancies. This will, thus, bring more transparency and end-to-end tracing of goods and money flow between the suppliers, vendors, and the entire ecosystem right through to government. This will help companies maintain clean and balanced accounts and documents, improve operational efficiency and effectiveness, thus making their life easy by negating the chances of non-compliances.

### **Policy reforms and statutory decisions**

Increasing the customs duties on select products which can be manufactured and built in India, would encourage the companies to set-up their manufacturing operations within the country itself, so as to make their products available at competitive prices. Right from sourcing of material to manufacturing of goods, if done in one country will greatly optimise products development costs and in turn make companies more

competitive and resilient.

Start-up incubators, special exemptions for new businesses and similar other initiatives undertaken by the Government will boom entrepreneurship and industrialisation across sectors including engineering and product development. Sanctioning greater FDIs in various industries and privatisation of many sectors would also encourage the foreign entrants as well as indigenous companies to make the most of this opportunity and capitalise on it in a big way.

### **International trade and co-development agreements**

Inking international trade agreements would encourage the Indian exporters to invest in expanding their reach and operations outside of India. Also, it will make it easier for the domestic companies to source some of the specialised material from out of India through hassle free and seamless trade understanding and network with the foreign country. Joint development agreements with different countries will facilitate in bringing the advanced knowledge and technologies in the country that can be leveraged or referred to for other or subsequent projects and assignments, while still creating new opportunities for product engineering and manufacturing.

In their efforts to build bridges and identify areas of synergy, Government of India is proactively reaching out to and engaging with many countries for signing mutually beneficial trade and other infrastructural agreements based on the individual parties' interests and strengths. This shall definitely open up new avenues and doors for expansion and business for companies in various sectors.

### **Technological advancements**

India is creating new waves in technological advancements. Space program of India is highly acclaimed

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worldwide, which is not just limited to launching indigenous satellites but also launching the satellites for the other countries.

Heavy research activities are being carried out in defence sector which will see India designing and building cutting edge military technology and artillery.

Growing emphasis of the government on embracing digital processes has brought in a new tech savvy culture within the country on an individual, industrial as well as national level. New age technological trainings and introducing students to the new approaches in products design and manufacturing is one of the key objectives of the Skill India movement.

**Setting up more R&D units**

While Government is not only encouraging privately conducted research and development initiatives, but they themselves are also backing, supporting and investing lot of resources and building favourable environment for carrying out wide range of research activities. They are doing so by setting up dedicated Government funded R&D centres for industries such as automotive, defence, agriculture, biotechnology, medicine and medical devices and many more.

One of Government of India's pet projects, 'Imprint India' initiative aims to bring in and involve industries to create a single

channel or system for sanctioning and clearing research funding. The IITs will drive this initiative and make technologies and their benefits available to researchers at affordable costs. This will result in a lot of knowledge, innovation and novel ideas coming out of these institutions, which can even contribute to developing new paradigms in design and manufacturing.

**Engineering clusters**

As a part of their Public-Private Partnership initiatives, Government, jointly with the private sector, is establishing dedicated engineering clusters at various industrial units across India. These clusters house some of the advanced software solutions, and technologies in products design and development. SMEs can avail required services from these clusters at competitive rates. This will give a huge boost to the MSME segment and SME companies in India, who now do not have to arrange for big funds or shell out lot of money in investing in expensive technologies and trained manpower to operate them. They can still derive complete benefits offered by these technologies to optimise products development costs and time, while yet ensuring robust product quality and performance. Making advanced and latest technologies available to smaller industrial units at remote locations will help companies leverage these facilities to the fullest to build great products.

This is also a good news for the OEMs and big MNCs, as their suppliers can now meet their expectations of products standards by accessing the advanced technologies at the engineering clusters. This entails greater dependence and confidence of the OEMs in their suppliers and together they can meet all their objectives of product deliverables timelines, and quality.

**Summing up**

With Government building three solid pillars of growth namely infrastructure, knowledge development and conducive governing & operational environment, more and more foreign companies will start designing and manufacturing in India as it would give them a sharp competitive edge.

All these factors would not only encourage and increase manufacturing in India (ie Make in India), but also 'Research and Develop in India', 'Design-in-India', 'Engineer-in-India', and also 'Innovate-in-India' while selling and marketing the products worldwide. This will see many companies, overseas including, setting up their hybrid R&D units in India besides manufacturing. Moreover, it would be also convenient for them to have their R&D and manufacturing units in the same country for ease of operations management. Strategic geographical location of India also makes it convenient to cater to the entire Asian, South East Asian, European, Pacific Australian and African territories.

Poised with tremendous potential and opportunities, India will now also be recognised and respected as a leading engineering hub. In the years to come, global companies will make India their preferred destination for engineering and development activities, and many products across industries will bear the note saying 'Designed and Manufactured in India'.



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