

“Technology will drive the manufacturing sector of tomorrow”

Indian industries have always been the late adopters of technologies. However, if India aims to become a manufacturing hub of the world, it will have to embrace advanced technologies and systems. This, **Vikas Khanvelkar**, Managing Director of DesignTech Systems Ltd, believes will increase the country’s efficiency, productivity and cost effectiveness. In this interview with Shashank Chaurey, Khanvelkar explains the importance of government initiatives to make India not just the manufacturing destinations, but also a product engineering hubs of the world.

Do you think government initiatives to boost manufacturing are showing results?

Post demonetisation and GST introduction, the overall manufacturing sector in India experienced a slight setback. However, the industry is reviving now

and after posting negative growth and industrial slowdown for the consecutive 3 quarters subsequent to demonetisation, the last quarter showed positive growth. The GDP is now getting back on track and posted 6% and above growth in the last quarter, which is a very optimistic sign.

Manufacturing sector in India including the process equipment segment has a huge potential. Government’s focus on introducing new policies and reforms to facilitate ease of doing business will certainly provide the much needed momentum and thrust for the industry to recover and revive. This will see new start-ups arising, bring more foreign direct investments in India, and encourage the Indian companies to expand their operations.

New Policy decisions will attract global companies to set-up operations and manufacturing units in India which will give a huge boost to the industry. Make in India campaign has now started to resonate overseas and we should be able to see some positive results in the industry very soon.

With more focus on water treatment and recycle initiatives, agriculture revival and

efforts being taken for augmenting crop production, diverse environmental initiatives being undertaken, more research being conducted in alternative material testing for fuel efficiency in the automotive and aerospace industry involving plastics, polymers, metals, the process industry in India is also expected to thrive.

Besides that, with government planning special SEZs for establishing dedicated aerospace manufacturing parks in South India, increasing railways manufacturing with new initiatives such as bullet trains and metros for the smart cities projects, focus on electric cars and solar energy harvesting units, emphasis on indigenous product development rather than importing, the entire manufacturing industry in India is set to grow manifolds and holds a bright future for itself.

How important is India for the global economy?

India being one of the fastest growing economies in the world that provides resources and skilled manpower at affordable and competitive prices, and we being also one of the biggest consumer nations with enormous buying potential holds a special significance for the global economy - both as an engineering and manufacturing geography and also as a target market for the product development companies.

While China has enjoyed being one of the most preferred



destinations for manufacturing so far, India is now fast emerging as a strong alternative for competitive manufacturing. With our government introducing initiatives to lure the foreign companies to set-up their R&D and manufacturing units in India, we are set to become not just the manufacturing destinations, but also a product engineering hubs of the world.

We have the largest numbers of engineers, and with more infrastructural development efforts, and initiatives to make trained and skilled manpower available, we will attain a key position in the world economy. Government's infrastructural development initiatives such as smart city projects, resources management initiatives such as water harvesting, alternative energy and electricity generation systems through nuclear power plants, harnessing wind and solar energy, dedicated SEZs for manufacturing, etc will go a long way in building a solid foundation for the manufacturing industry.

Policy decisions such as GST and other ease of doing business initiatives will attract the companies from overseas to set-up their operations here, besides also encouraging home grown entrepreneurs. Redefining education for enhanced skill development through various focussed Centres of Excellence and other training institutes, will guarantee availability of trained manpower to bring about and support the growth for the manufacturing sector.

What are the challenges & opportunities before India at present?

Biggest challenges faced by India, which if not addressed may deter our aspirations to become the manufacturing hubs of the world are infrastructural development; availability of skilled & trained manpower; capital investments; and availability and access to advanced & modern technologies for the SMEs through engineering clusters and common R&D units at diverse geographical locations.

About Vikas Khanvelkar

Vikas Khanvelkar has rich experience of over 30 years in CAD/CAM industry. Prior to starting his own business DesignTech Systems Ltd in 1998, Khanvelkar was associated with HCL Infosystems for 9 years, where he was heading CAD/CAM Division as a Country Manager for 5 years. He has always worked on introducing latest technologies in the Indian market right from the concept stage, be it CNC technology; variable speed DC, AC and servo drives; or CAD/CAM technology. After establishing DesignTech, he has pioneered use of CAD/CAM/CAE software solutions in SMEs across all industrial segments all over India. He extensively worked and supported to convert conventional 2D based designers to move to 3D modeling based design solutions and also popularised use of FEA solution amongst many of them.

At the same time, there are many opportunities such as largest number of engineers in the world; manpower & resources available at competitive prices; government's focus on infrastructural development and skills enhancement initiatives; policies introduced for ease of doing business; allocation of SEZs & IT parks; increased focus on research and development activities; and emphasis on indigenous product development.

Which are the industries, where India has the potential to emerge as a major manufacturing powerhouse by 2020?

Some of the key industries expected to experience huge growth are:

Automotive: We already have the world's leading brands having their manufacturing plants in India. With time we will see surge in the number of new entrants and carmakers carrying out end-to-end development and manufacturing domestically.

Aerospace and space: With government allocating dedicated SEZs for aerospace manufacturers and with ISRO already working with foreign countries to launch their satellites, this sector will grow manifolds in the years to come.

Defence: With the increasing focus on indigenous artillery, equipment, weapons and allied defence systems development, this sector will experience huge growth in the following years.

Heavy engineering and earth

moving equipment: Government's serious focus on building the infrastructure will help this sector experience enormous growth.

Process industry: Growing chorus for water harvesting, recycle and treatment initiatives, plastic and paper recycle, harvesting solar and wind energy, evaluating oil exploration in Indian waters, researching new ways and means for augmenting agricultural productivity, indicates huge potential for growth in this segment.

Consumer goods: With the greater than before disposable incomes, the consumption powers of the people are growing. This will necessitate greater demand for consumer goods and commodities and hence this sector will experience steep growth

Why is it important for India to adopt new-age manufacturing technologies?

If India has to remain competitive and relevant in the global economy, we have to adapt ourselves by adopting the latest technologies and advanced manufacturing processes. Industry 4.0, smart manufacturing and IoT (Internet of Things), artificial intelligence, etc are the future.

Technology backed digital automation and intelligent systems will drive the manufacturing sector of tomorrow. We have always been the late adopters of technologies, but if we are to attain a significant position as a manufacturing and engineering hub of the world, we have to be proactive and enthusiastic in our

approach to experiment and adopt the latest and advanced technologies and systems. This will only increase our efficiency, productivity and cost effectiveness.

Robotics has already secured a strong platform in the manufacturing sector. Additive manufacturing and 3D printing technologies are important for developing customised limited batch products in lesser time and costs. Today, 3D printing is not just used for product design validation and functional prototyping, but is also used for final product development for end-use applications.

Right from building human organs for mock surgeries planning and strategising in medical and healthcare industry, to developing wearable fashion jewellery; from building bridges and other applications in civil engineering, to

developing parts for space applications, 3D printing has emerged and evolved to become one of the key technologies for producing parts. If we remain laggards in these new trends and technologies, we will fall back as our knowledge and capabilities as a nation will become redundant and we will lose our cutting edge.

How can SMEs and start-ups help in making India a global manufacturing hub?

SMEs and start-ups are a key and a significant part of a healthy economy. The spirit of entrepreneurship in India is growing across industry verticals. Today we see more and more young entrepreneurs coming up with fresh ideas that become an instant hit. All-inclusive development across geographies and demographics is essential for building an economically

strong nation. Government's thrust to SMEs and start-ups will ensure that we see more budding entrepreneurs making an entry in the manufacturing and services segment in the years to come.

Outlook for Indian manufacturing industry by 2020

A PricewaterhouseCoopers (PwC) study indicates that if India continues its growth of average 6.6% GDP every year, it can become a \$ 6.8 trillion economy by 2034 with manufacturing sector being one of the key contributors to this growth. By 2020, India would have hopefully attained some major milestones in infrastructural development and skill enhancement initiatives that will result in the next big manufacturing revolution in India like the IT revolution in the mid to late 90s.

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