



September 2014



Thinking Aloud

A new manufacturing revolution awaits - **Jay**

Podium

Interview with **Viren Joshi** - CEO & President, Sigma Electric Manufacturing Corporation

We Recommend

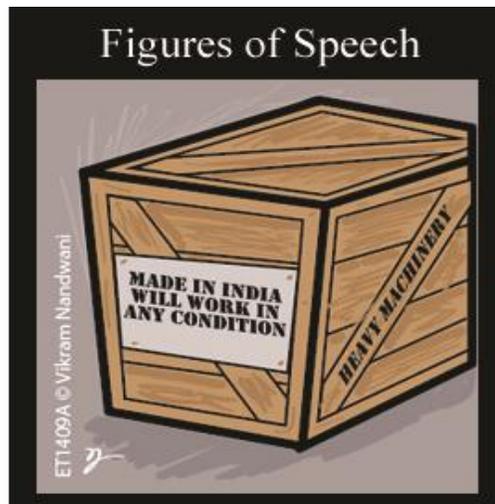
At the Helm - V. Krishnamurthy

Standing Ovation

Technology Informatics Design Endeavour (TIDE), Karnataka

Dear Reader,

India's manufacturing segment has always been a crucial cog in the wheel of the country's economic progress. The engineering sector has witnessed tremendous growth, powered by significant investments in power projects and infrastructure development. New opportunities, such as outsourcing of engineering goods and services, new product design, product improvement, maintenance and designing of manufacturing systems are providing fresh growth avenues. With the development in associated sectors such as automotive, industrial goods and infrastructure, coupled with a well-developed technical human resources pool, engineering exports are expected to touch US\$ 120 billion by 2015.



Amid the many challenges that are faced in the manufacturing and exporting of engineering goods, Prime Minister Narendra Modi seeks to make the country a global hub for manufacturing through his 'Make in India' campaign, with the main focus being to build physical infrastructure as well as to create a digital network, among other objectives of this campaign.

ET this month throws light on the Indian engineering exports industry.

In **Thinking Aloud**, Jay fortifies the fact that the manufacturing sector is the backbone of the Indian economy. This is further reinforced by the 'Make in India' campaign which promises the success of the country's manufacturing sector. However, the sector will have to go a long way as much needs to be done given that the manufacturing sector's share to the GDP is just 15%, the lowest in the past 10 years. The other side are India's engineering exports which have risen over the last few years; this segment too has great growth potential.

This month on the **Podium**, Mr. Viren Joshi, CEO & President of Sigma Electric shares the fact that the export of Indian engineered goods is on a growth trajectory and the manufacturers competitive. Indian engineering companies have set up world class manufacturing facilities and have delivered consistently high quality precision products and systems to global customers. Mr. Joshi also backs Modi's 'Made in India, compete globally' mantra. Empowered with unique demographic advantages and guided efforts, India is poised to position itself among developed economies within the next few years in the engineering goods segment.

In **We Recommend**, the book *At the Helm* authored by V. Krishnamurthy is a memoir of the author who began a career as a technician and eventually went to become one of the biggest names of the country's public sector. The author narrates his experience and the challenges that he faced while making BHEL, SAIL and Maruti a success. He also manages to change Mrs. Indira Gandhi's impression that Indian managers were not competent enough to manage large organisations. The book is a must read for those who wish to get a glimpse of how the public sector machinations work.

Standing Ovation features Technology Informatics Design Endeavour (TIDE), an association conceived as a link organisation between technology generating institutions and end users of technology who are most often the very disadvantaged sections of the society. The founding philosophy of TIDE has been to facilitate sustainable development in communities through technology interventions. Over a period of 20 years, in addition to fulfilling this objective, TIDE has expanded beyond technologies to offer societal solutions for water and environment, women and livelihood and local entrepreneurship.

In **Figures of Speech**, Vikram's package is truly 'Made in India'.

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Thinking Aloud

A new manufacturing revolution awaits - Jay

For all the hype about the Information Technology sector, the fact remains that the Manufacturing sector is the true backbone of a nation. Not only does it provide employment opportunities to a much larger number of people but also the physical output of the sector creates a major sense of achievement to everyone.

The new government's 'Make in India' campaign promises an Indian manufacturing renaissance. There is no denying that there is a chasm waiting to be bridged. As any economics major will tell you, the share of the manufacturing sector in an economy will vary depending on the stage of maturity of the economy. A McKinsey study has shown that in a largely agriculture based, low income economy – by definition – the share of manufacturing will be in the 10 to 20% bracket. And, as the economy progresses the share rises to a peak of 30 to 40% before dipping again as the service economy gathers steam.

The picture for India is miserable to say the least: a study by the think-tank Indian Council for Research on International Economic Relations (ICRIER) shows the dramatic contrast in the Asian scenario. The share of manufacturing in India's GDP is around 15%, in contrast to China (expectedly) and even Thailand & Malaysia, which hovers in the range of 25 to 35%. What is of great concern is that this share of 15% is the lowest in the past 10 years.

Suffice it to say that much needs to be done, as Prime Minister Modi stated in the grand conclave at Delhi where the new government unveiled its vision of 'Make In India'.

What is painful to note is that the fault really does not lie in the lack of knowledge and skills, though admittedly many sectors still have to substantially upgrade technology. The real challenge has been to convince the government that industry works not on platitudes but the hard business reality of financial numbers. If the return on investment numbers does not stack up, the business will fall sick: such is the inexorable law of the business enterprise. And the reasons for lack of success lie on a number of fronts, ranging from ease of doing business to availability of land, skilled labour and capital, and the flexibility in regulations that is necessary to enable a firm to change its market offerings in the face of rapidly changing customer requirements.

The government desires to raise India's ranking in the World Bank's Ease of Doing Business Index from 134 to 50 in double quick time. Laudable that the intention is, one look at the sub-indices will tell you what kind of dramatic transformation is called for. The elements of the index include, starting a business, dealing with construction permits, property registration, getting power, availing credit, enforcing contracts, resolving insolvency, etc. – all major bug bears for not just an industrialist but also the common citizen in India.

While the entrepreneurial Indian thrives in a fertile business climate, he is stifled at home with non-transparent bureaucratic hurdles. With proper support, much can be achieved. A case in point is India's engineering exports. The sector has shown in the past that it can achieve a great deal. And, with over 4 million labour strength, this is the largest segment in the Indian industry. While exports have risen over the last few years by about 11% from US\$ 33.7 billion in 2007-08 to US\$ 56.7 billion in 2012-13, much more is possible.

Studies show that not only has the nature of engineering exports changed (from low-value to high value goods for the western world), India's frugal engineering skills (which is a measure of good engineering propensity) has attracted global manufacturing bases to the country. If we can couple this with better ease of trade, then Indian firms can become a key component of global supply chains, as in today's world, goods move from continent to continent before being assembled into its final shape.

Can we drive faster into the future? Of course, capability is not an issue, witness the Mars Mission. But what this really requires is more than just policy pronouncements from pulpits. The acid test is on the ground – the industrial space where a factory official feels frustrated at the penal powers of the petty bureaucrat who hinders operations, or a customs or excise inspector who first wants his pound of flesh.

With a holistic ecosystem that incorporates good governance, ease of business and an ambitious mission to transform the socio-economic landscape, there is no reason why faster economic growth rates cannot be achieved.

[back to top ^](#)



Podium

Mr. Viren Joshi - Chief Executive Officer and President of Sigma Electric



Mr. Viren Joshi is the Chief Executive Officer and President of Sigma Electric, USA. He has over 30 years of experience in leading engineering companies in India, Asia, MEA and Europe.

He previously worked at Parker Hannifin, USA, where he set up operations in India and over 15 years led it to a market leadership position. Mr. Joshi also has wide experience in growing new businesses from Start Ups and managing large engineering MNCs.

He keenly practices Lean Enterprise, Policy Deployment/Balance Scorecard and Talent Development.

Mr. Joshi is the recipient of a National Award from The President of India, for a paper on Alternate Sources of Energy. He has attended Global programs on Leadership, Change Management, Balanced Scorecard, Talent Development and Mergers & Acquisitions.

ET: It is commonly believed that Indian engineering manufacturers cannot compete in the global market. Is this true or a fallacy?

VJ: The share of heavy and light engineered goods in India's total exports has grown from 13% to 19%. Since 2008, engineering exports have posted a compounded annual growth rate (CAGR) of 11%. In fiscal 2012, engineering exports were Rs 346,150 crores (US\$ 56.7 billion). The Government of India is targeting growth to over Rs 12,21,000 crores (US\$ 200 billion) by 2017.

This data proves that Indian engineering manufacturers are competitive in the global market. The range of products exported is wide —from castings, forgings, diesel engines, valves, pumps, machine tools and heavy duty plant machinery. India has a good ecosystem of small and medium enterprises that form a reliable supplier base to large engineering enterprises.

Indian engineering companies have set up world class manufacturing facilities and have proven performance to deliver consistently high quality precision products and systems to the satisfaction of the most demanding global customers.

ET: In the light of the 'Make in India and sell anywhere' vision of the new Indian government under the leadership of Prime Minister Narendra Modi, what can Indian manufacturing firms do to become competitive globally?

VJ: 'Made in India, compete globally' should be the mantra of every manufacturing company. To achieve Prime Minister Narendra Modi's wonderful vision, manufacturing firms need to embrace the following practices in order to

become globally competitive:

1. **Focus on – Quality, Quality, Quality**

There is no substitute for just supplying a quality product.

Quality must flow through the company at every stage, every activity from the sales quote, engineering, manufacturing shop, delivery system, documentation etc.

2. **Focus on 3 P's - Processes, People and Product**

Standard Operating Procedures, well trained and motivated People and a quality Product are the 3P's that every company must adhere for global customers.

The organisational mind-set should be calibrated so that every function ensures that standard work procedures become the way of working.

India has a large pool of technically qualified manpower; they must be trained to participate in this manufacturing revolution.

Products must meet the customers' specifications and expectations including aesthetics - no less will be acceptable.

3. **Global mind-set, local execution**

A positive winning attitude – “ We Can” will go a long way, towards developing a successful organisation. Successful 'Execution' at the operations level to meet commitments is of prime importance.

4. **Lean**

Lean Enterprise, Lean Manufacturing - are two famous mantras which can change the face of Indian manufacturing. Lean is a cultural evolution of the company to create continuous improvements. Change will not have occurred until “ Lean is the way we do things around here” .

Lean Enterprise —covers the whole organisation, and is arguably one of the best tools available today to improve financial performance and customer service, leading to unlocking organisational value, considering the VUCA (Volatile, Uncertain, Complex and Ambiguous) global and Indian environment.

ET: Are the Indian demographics well placed to reap dividends from the growth of the engineering export industry?

VJ: India will become one of the most populous nations by 2025, with a headcount of 1.4 billion. The country's population pyramid is expected to “ bulge” across the 15 – 64 age bracket over the next decade, increasing the working age population from approximately 760 million to 870 million by 2020. Around 64% of India's population is expected to be in the age bracket of 15 – 59 years by 2026.

India is poised to become the world's youngest country by 2020, with an average age of 29 years and account for around 28% of the world's workforce. In comparison, during the same period, the average age is expected to be 37 years in China and the US and 45 years in Western Europe. While China's demographic dividend would start

tapering off by 2015, India is expected to enjoy the benefits until 2040.

The increased proportion of working population will provide a window of opportunity to:

1. Improve labor productivity, 2. Increase domestic production, 3. Enhance revenue from services, 4. Increase savings and reduce the burden of old residents on the working population.

Empowered with unique demographic advantages and guided efforts, India is poised to position itself among developed economies within the next 10 – 15 years.

ET: Please share as what makes Sigma Electric unique as an Indian engineering company focussed largely on exports?

VJ: Sigma's key strengths are our world class manufacturing plants; focus on quality, processes and people, lean manufacturing practices, engineering & design skill sets, global customer relationships, international business practices and compliances and an excellent highly skilled team.

Lean Manufacturing: All Sigma facilities practice lean manufacturing principles and employees practice 'lean' in their day to day activities. This helps in identifying and eliminating waste in the manufacturing and business processes, creating value for our customers by offering end to end cost effective and innovative solutions with focus on Quality, Cost, Delivery and Safety and Environment.

Sigma has created excellent relationships over the past decade with leading global customers including Eaton, Hubbell, ABB, Lowes, Siemens, Electrolux, Whirlpool, Stanley Black Decker, Timken, Baumer, Endress+ Hauser, Crompton and Kirloskar.

ET: What message would you give to the Indian Engineering Export Industries to sustain the global competitiveness?

VJ: I do believe that the Indian economy and global markets will continue to face a VUCA environment for many years. Industries need to prepare themselves to face this global situation. The key message that I would like to convey to all Indian engineering export companies is to focus on lean enterprise / manufacturing:

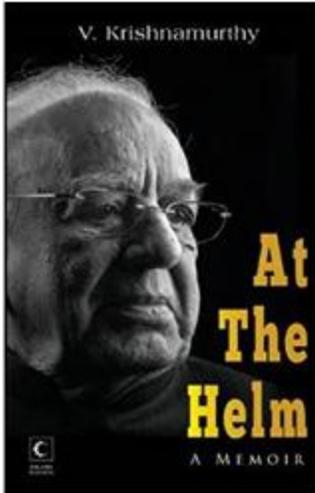
- Lean Enterprise is arguably one of the best tools available today to improve financial performance and customer service, leading to unlocking organisational value, considering the uncertain environment today and in the future.
- Lean is all about empowering people throughout the organisation, to execute changes in workflow process.
- Lean starts and ends with each individual's sense of accountability.
- Lean instils a culture of execution through disciplined tracking methods using the Balanced Scorecard.
- Lean requires accelerating the cultural change of top leadership talent.
- Lean will prosper if the leadership retains a sense of lack of satisfaction.
- Lean manufacturing produces higher levels of quality and productivity and better customer responsiveness.
- Securing the full benefits of lean manufacturing requires the organisation to concentrate on their whole value chain by implementing comprehensive lean tools.

[back to top ^](#)



We Recommend

At the Helm - V. Krishnamurthy



Indian business history is largely centered around the vision and exploits of Private Family Business Leaders. And rightly so. From the days of Jamsetji Tata, G D Birla, Walchand Hirachand, and many more, the strength of the private sector has been brought to fruition by these giants.

But, this is not the whole story. The Nehruvian Public Sector has played a crucial part in the industrialization of India as we must acknowledge. But, the public sector manager is largely faceless – just another government employee carrying out the diktats of the Ministry. A reasonable historian, however, would admit that some of the largest public sector enterprises had some exceptional managers who created companies that are leviathans in the national sphere. The Oil companies, the Steel Plants, State Bank of India, LIC and the Power companies, etc. are a few that come to mind.

Topping this list of stalwarts who created these firms perhaps would be the name of V. Krishnamurthy. In the autumn of his life (he is 89 now), Krishnamurthy has authored his life story in 'At the Helm'. Widely noted as the man behind the success stories of not just 1 but 3 enterprises (BHEL, SAIL and Maruti), Krishnamurthy reveals details of the challenges of being a civil servant and a public sector manager.

'People often ask me how I, with absolutely no knowledge of automobiles or steel, made a success of Maruti and SAIL. For me, it was not important how cars or steel were made; my main task was to identify people who knew the work, wherever they were, and get them on board and also to create an environment where they could perform unhindered in a professional atmosphere. This is what I did in the three organisations that I helmed', he says.

The challenges were immense. Early in his career at BHEL, Mrs. Indira Gandhi, the Prime Minister, told him that she had no faith on the ability of Indian managers to manage large enterprises. Consequently, she wanted to split BHEL into smaller single unit enterprises. Convincing her to give him a year to prove his capability, Krishnamurthy says that 'I did everything possible to demonstrate to her and the world that even Indian managers working under Indian conditions could manage large enterprises as efficiently as those in western countries. That became, in a sense, my driving mission.'

And, he did so outstandingly, winning multiple accolades as a technocrat par excellence over his lifetime.

But life was not all smooth for him. The book reveals very briefly about the personal travails he faced in a crucial period of eight years when his name was sullied in a witch-hunt and how this took him back to his roots to the village, where for a man of science and technology, he had to take recourse to astrological advice to face the tumultuous turns in his family's fortunes.

Be that as it may, the book is recommended reading for anyone who wishes to get a glimpse of how the public sector machinations work. From lobbying by Ministers, and foreign collaborators and the lack of vision in timeserving managers, the book serves as a contrast by presenting the story of someone who made a significant difference to many sectors nationally by believing in his abilities and a deep desire to do the right and rational thing.

[back to top ^](#)



Standing Ovation

Technology Informatics Design Endeavour (TIDE), Karnataka



In 1993, Technology Informatics Design Endeavour (TIDE), an organisation in Bangalore was set up to promote sustainable development through technological interventions. TIDE aims at being a link organisation connecting research in various research institutions and the need of the community. The work of TIDE is to match the technology needs of the community with the research from the research institutions and assess their suitability, and if needed also engage with the community for participatory technology adaption and finally enable widespread dissemination.

TIDE has a vision “ to be consistently successful in addressing developmental concerns of needy communities through technological interventions.”

In its quest to fulfil its mission to identify suitable technological interventions, effect improvements needed for field deployment and undertake measures to promote the spread of these technologies, TIDE has over the past 18 years associated with various partners (UNDP, DST Government of India, ETC Netherlands, British High Commission etc.) and delivered projects in the areas of:

- Renewable Energy / Energy Efficiency
- Water and environmental management
- Women and livelihoods
- Training
- Technologies for informal process industries
- Building local enterprises/ entrepreneurs

Strengths & Competence

- Need assessment of the community
- Technology identification and adaptation
- Understanding of rural socio economic systems and livelihoods
- Development of networks and local capacity building
- Development of micro-enterprises success

TIDE regularly conducts training on the construction/usage of its own technologies/products. These trainings are

directed at creating entrepreneurs who can manage a small enterprise to disseminate these technologies. Thanks to this rich experience, TIDE has developed various resources ranging from manuals, movies and case studies which is scientific knowledge presented in a form useful to all. Since its inception, TIDE has in the past 20 years worked on over 200 projects experimenting with about 30 technologies and products.

To know more about TIDE, please visit <http://tide-india.org/>.

Here's to TIDE for their noble cause for the society!

[back to top ^](#)



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