



## SOMETHING IN THE AIR

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# The future is India's to engineer

After the Information Technology (IT) outsourcing phenomenon, which put Indian software engineering talent on the world map, the next wave is rising – and this one is about real engineering, where you design, test and build things that can be touched, felt and experienced. This new wave is exemplified in the rise of India's private sector Aerospace industry, as we will see this week at the country's military aerospace event, Aero India.

India's population boom, once feared and sought to be brought under control, is turning out to be a boon. India is the most populous young country. The economic liberalisation started in the 1990s, and the growth of the middle class, has resulted in a fast-growing economy with a stable democratic government. The growth in the purchasing power of Indians is attractive to a variety of large and small product companies looking for greener pastures to grow their businesses as the economies in their home markets slow down. At the same time, while purchasing power has risen, Indians have not forgotten the economic hardships of the past.

Collectively, therefore, while India is a growing market, it is an extremely price sensitive market. This, in turn, is forcing localisation of products to suit Indian buyer preferences at lower price points. This automatically creates a huge need for engineering talent to enable companies to engineer such products.



India's geopolitical situation necessitated a policy of self-reliance in core sectors such as aerospace, defence, space, energy/power, etc., resulting in many public sector enterprises and applied research establishments. This has created enough capability in many areas of engineering and, in turn, supported the growth of private enterprises offering engineering services to global customers.

India's ability to generate a large pool of engineering talent year after year has resulted in global players, as well as Indian product companies with global aspirations, establishing product engineering centres in India. Today, leaders across multiple verticals have a product engineering centre in India that help them build and differentiate their products in the global markets.

The lower labour costs of engineers makes the engineering talent pool attractive for reducing cost of introducing and owning engineering products anywhere in the world. While some have concerns about the rising cost of engineers, the fact is that the Indian talent pool will stay 'attractive' for at least another three decades as India overtakes China to be the most populous country even as its demographic profile lags China's by approximately 15 years. The competitive advantage will not go away very soon. Besides, India is a fiercely competitive market. Shrewd Indian business leaders will innovate to keep costs 'attractive', driven by the competition amongst themselves, and that is good for their customers and for all stakeholders.

Fortunately, the past couple of generations of Indians have sought education as the means to a better quality of life. Significant emphasis on education within the family and governmental support have created the culture and infrastructure for increasing numbers of students keen to learn 'difficult' subjects such as mathematics, physics, chemistry and engineering. The knowledge of English has been a key advantage for India to teach and learn Engineering and to conduct engineering work with ease across the globe. The pursuit of higher education sees, year after year, scores of graduates travel all over the world seeking best-in-class education. In the past, most of them used to settle in those countries, but now the improving economy back home has reversed that trend. Highly educated and experienced engineers are now returning in large numbers and setting up engineering businesses.

With increasing job opportunities, more and more students are pursuing engineering education and, correspondingly, more and more engineering colleges are coming up. The competition among these institutions is also pushing the quality of education up. The free market economy is at work, assuring a steady and growing stream of engineering talent to feed the demand.

As one can guess, the young talent pool is low on domain expertise, compared to that available in the developed countries where highly engineered complex products have been made for decades, if not generations. Indian companies have, therefore, embraced various process frameworks such as People Capability Maturity Model (PCMM) to systematically develop competency and accelerate the 'learning curve' of the individual engineer and the organisation. Indian engineering companies are typically highly customer focused and strive to deliver good quality deliverables to customers and have adopted the best-in-class quality and project management frameworks, such as Capability Maturity Model Integrated (CMMI).

The 'experience curve', however, is harder to shrink. Progressive engineering services companies have accepted this reality and have built excellent global presence to bring in domain expertise from wherever it is available and complement it with the abundant raw engineering talent available in India to create a local-global service model that balances the capability and capacity dilemma in a project team-set.

India is an entrepreneurial country and has traded across the globe for millennia. Indian entrepreneurs are adept at setting up and running businesses in much of the world. World over, 'engineers are engineers', except that some are easier to do business with, than others. Reputed engineering companies in India are open, transparent, collaborative and ethical in business practices and are easy to do business with. This is no less important than other factors. The products are not getting simpler, and so it takes the highest levels of trust, teamwork and collaboration to design and produce products demanded by the new generation of customers.

Many forces have come together to make India unique in the evolving engineering landscape. These are long-term trends, certain to change the way engineering is done in the future. Catch the wave.

*(Ajay Prabhu is Chief Operating Officer of Quest Global)*