

## India to witness the next BIG wave in Engineering Services Outsourcing

White Paper by

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### Economic Downturn – Its Effects and Opportunities

Today, everyone is talking about the global financial turmoil and no one is really able to fathom the depth of the impact this economic tsunami is going to have on our everyday lives. While some experts say that this started a while ago, the world witnessed the bubble burst early this year. The crisis started with sub-prime mortgages in the housing sector in the U.S. and soon affected the Finance and Banking, Oil and Gas, and Consumer Products segments. Virtually no industry segment has been left untouched. The epidemic has already spread across Europe and Asia. Incoming data show the outlook for economic growth has worsened – a sign that the world economy is now headed for a recession.

While we cannot predict when the market will bounce back or what the world economy will be like in 2010, the article throws light on the emerging trend, which some of the global OEMs have spotted. They have already started outsourcing their Engineering and Design work to India. The economic downturn has made global organizations rethink their future plans and strategies to stay competitive. They have now widely recognized that to compete effectively, it is essential for their business units to concentrate on what they do best and focus on only where they can add value. The rest is better outsourced. This article discusses some of those aspects of “SmartSourcing” in the context of Engineering Services.

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### Lessons from Growth of the Indian IT Sector

As far as India’s growth story is concerned, we have seen the growth in our economy, the lion’s share of which goes to the IT sector. During 1998-99, more than 203 of the Fortune 1000 companies outsourced their software requirements to India. Since then, it has been growing at a compound annual growth rate (CAGR) of over 35% and it has survived and grown through the difficult times in 1990, 1995, 2000 & 2006. It’s important for us to ponder over what made it happen.

When the US government capped the H1B visas in 2002, it posed a threat to the Indian IT sector, as the businesses of many IT organizations in India were dependent on body-shopping. As a response to the threat, the opportunities for offshoring emerged, including what is known today as BPO – Business Process Outsourcing – which accounts for around 60% of the IT-enabled services in revenue terms. This happened due to large enterprises worldwide seeking alternatives on which they could capitalize in order to keep their own businesses more agile, cost effective and more competitive!

Similarly, when it comes to outsourcing today, the Engineering and Manufacturing industry is said to be where the IT companies were in 1990. India is already on its way to becoming the major destination for global manufacturers to outsource their Design and Engineering Services.

## Differences in IT and Engineering Outsourcing

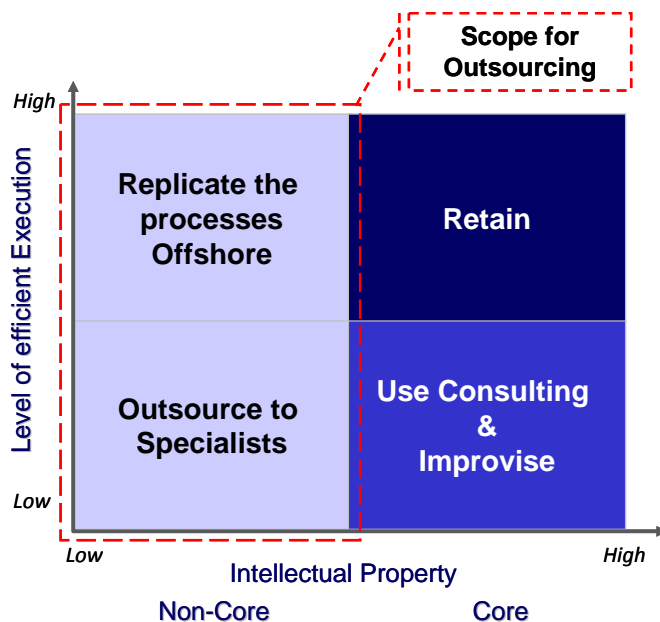
The Manufacturing industry worldwide has thrived for over a century, whereas the IT industry is relatively new. Outsourcing by no means is new to the Manufacturing industry and we all know how China has captured a huge market share. Ranging from the ear phones to high tech equipment, things are manufactured cost effectively in China. Auto majors have successfully outsourced their complete “Concept-to-Customer” processes to their outsourcing partners creating an “Extended Enterprise.”

However, the new trend is one in which OEMs are increasingly looking at developing their next generation products in India. For years, business has talked about being “global.” But global often meant having the headquarters operation in the US or Europe with distant branches located elsewhere, and the manufacturing of products being done in countries with low labor costs.

Thanks to the technological breakthroughs, Aero, Auto and other manufacturers are developing new products more frequently and bringing them to market faster. The new model introduction time has reduced from five years to two years or less depending on the product or the number of enhancements. Most of the products, as well as their tooling designs, are developed and tested for manufacturability and performance digitally using CAD/CAM/CAE technologies.

The material properties, product usability, performance and the manufacturing process are tested digitally, thereby eliminating the need of creating physical prototypes and enabling drastic reduction of the time taken for the iterative revisions in designs. Collaborative tools also have enabled OEMs to involve their suppliers and customers to participate in the development cycle much earlier, thus ensuring product success. In fact, information technology has now enabled global corporations to realize the dream of DABA – Design Anywhere, Build Anywhere.

## SmartSourcing



So what's really the Key to outsourcing Engineering Services? What factors are to be considered while identifying what should be outsourced? It has been very well described in the book “SmartSourcing” by Thomas M. Koulopoulos, the ex-president of the Delphi group. In his book, he admits Jack Welch implemented the same principles years ago and helped GE continuously disrupt the markets and propel its growth worldwide. The book articulates the view points that are important in developing an awareness of today's business challenges and knowledge of opportunities to achieve results through technology-based solutions.

Open markets and information technology have made intellectual work movable. Work will naturally go to where it can be done best—in quality and price. Today, people, goods, and ideas move freely across the globe. Many organizations

have invested heavily in improving (or re-engineering) their business processes, building new enterprise systems, implementing Six Sigma and getting ISO certified. However, the same steps have been taken by

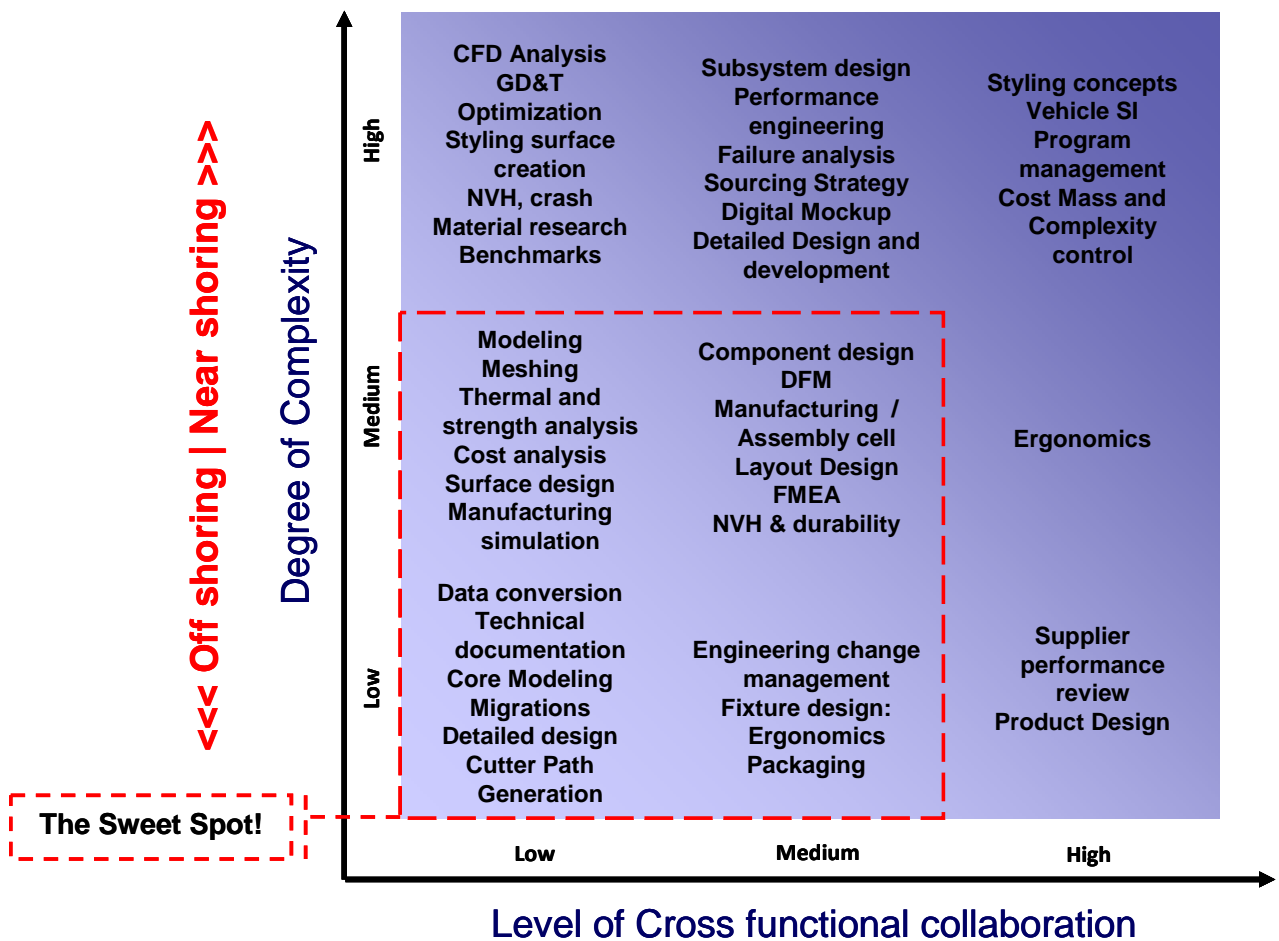
their competitors as well, causing competitive advantage to diminish. The one thing, however, that sustains the competitive advantage is Innovation – which is key in Engineering!

From Jacob Schick’s electric razor, to Akio Morita’s transistor radio, Walkman, and CD players, to Edwin Land’s instant photography, to Steve Job’s iPod, markets do not shape innovation as much as markets are shaped by innovation. The free email – Hotmail really took the technology to the common man – created its own market and disrupted the market for the postal services. There are numerous such examples – the latest being Tata’s Nano, where innovation in product design is expected to disrupt the market.

According to the book SmartSourcing, the processes that are truly “core” to the OEM need to be retained within the organization. However, there are a plethora of activities and processes that are “non-core.” These processes are the best candidates for outsourcing.

From within the non-core activities, the criteria that help to further simplify the selection of candidates for

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outsourcing pertain to operational excellence. Among the factors to be considered are degree of complexity and the level of interaction or collaboration required in order to execute well. Therefore, the ideal candidates for outsourcing are the processes that are simple to execute and require a minimal level of cross-functional interaction. Hence, the above diagram illustrates the processes ideal for outsourcing in the Engineering services context.

## The India Advantage

It's not new how organizations have capitalized on the India advantage. The same advantages, if sustained well would help India Inc. grow continuously even through the global economic turmoil. The factors listed below are helping India maintain its stature as the most preferred offshore location for the Engineering Services business – as concluded in a study by AT Kearney Global Services.

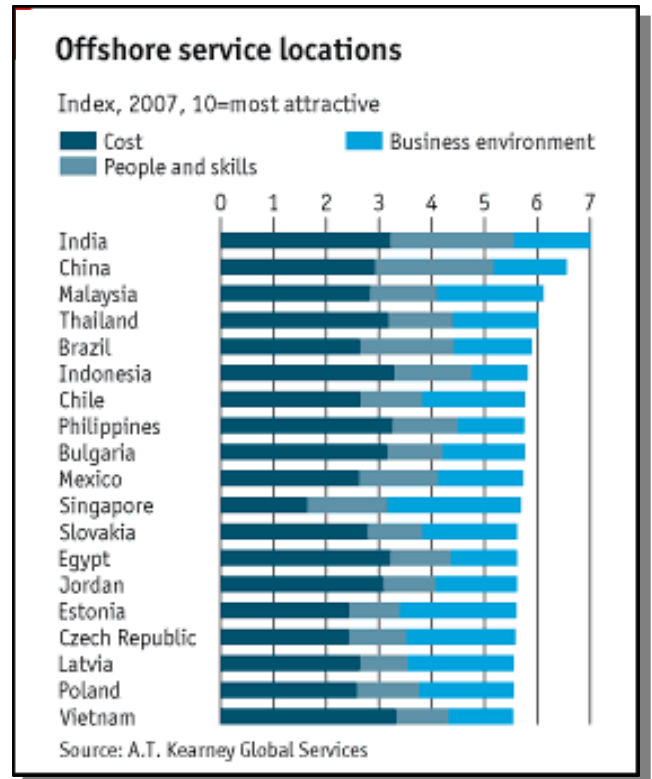
- ▶ Government offered Strong incentives for export oriented services
- ▶ Large base of highly-skilled engineering resources
- ▶ Leaders in process maturity and quality initiatives
- ▶ Proven Intellectual Property Rights (IPR) protection
- ▶ English language proficiency
- ▶ Quality engineering institutes and universities system
- ▶ Strong entrepreneurial skills and start-ups
- ▶ A growing global reputation as an IT and BPO leader and
- ▶ Track record in staffing, outsourcing, and innovation

According to a study by Booz Allen Hamilton for Nasscom, published in August 2006, the global spending on engineering services was close to \$750 billion in 2004 and is growing. The study estimated that by 2020, India could earn close to \$30 billion from offshored engineering services.

The Indian defense establishment has plans to invest in 126 fighter aircrafts. The deal, which is estimated to be worth over \$10 billion, has also propelled growth in engineering in India. Owing to the offset clauses, global aerospace majors – Boeing, Lockheed Martin, EADS, Russian MIG and SAAB Aerospace are also making plans to grow their bases in India.

In addition to the above, Indian firms are now entertaining global ambitions. There are examples in the recent past where Indian organizations have gone on a shopping spree overseas. Apart from INCAT's and Jaguar/Land Rover's acquisition by Tata, the other examples include Quatech by Wipro, Plexion and Engines by Mahindra, Global engineering services division of Modern Engineering by Geometric Software, and Harita by KPIT Cummins.

In addition, due to rise of local demand, many global automotive companies such as GM, Ford, Chrysler, Honda, Volkswagen and Renault/Nissan are not just setting manufacturing bases in India, they are trying to design new India-specific models, which they can take to other emerging markets.





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