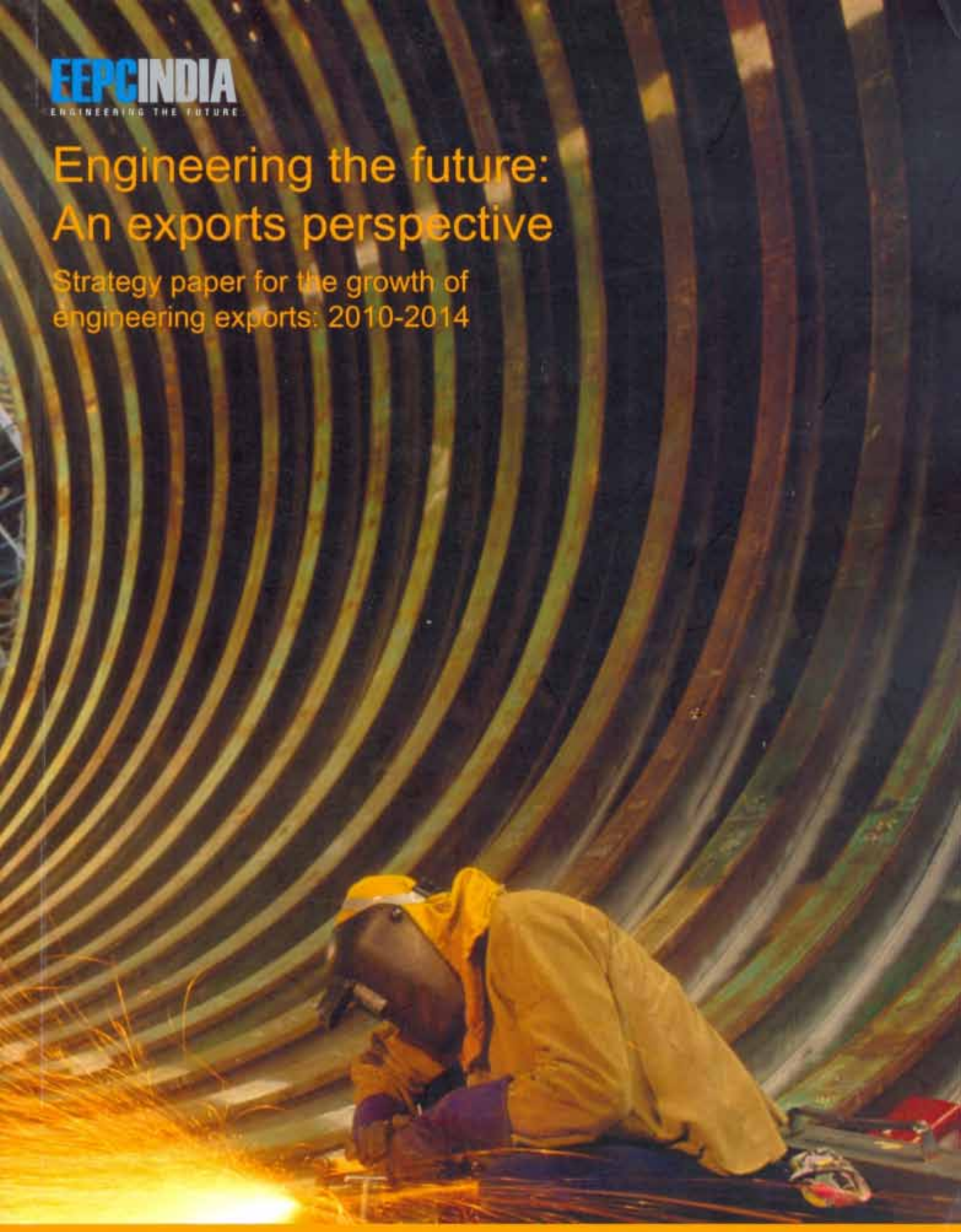
EEPCINDIA
ENGINEERING THE FUTURE

Engineering the future: An exports perspective

Strategy paper for the growth of engineering exports: 2010-2014



An EEPC India-Ernst & Young Report

Strategy paper for growth of engineering exports: 2010-2014

Introduction

With a 0.8% share of world engineering exports in 2008, India ranks 30th - below all India-like countries - in the global engineering exports landscape. This low position is primarily attributable to three factors:

1. Low export-to-GDP ratio ((export-to-GDP ratio of 15% vis-à-vis 27% for other India-like countries)
2. Low engineering-to-export ratio (engineering export-to-total export ratio of 24% vis-à-vis 30% for other India-like countries)
3. Low technology intensity of engineering export (share of high and medium technology engineering exports - 62% for India vis-à-vis 71% for other India-like countries)

However, in spite of this scenario, India should aspire to triple its engineering exports over 2010–2014 to reach USD110 billion. In view of India's current low share of world engineering exports, and considerable scope for improvement in its competitiveness, we believe it can achieve a CAGR of 22–25% over 2010–2014.

To realize this aggressive but achievable aspiration, concerted effort needs to be put in by the government, the council and exporters. The key imperatives for India include (1) enhancing the alignment and effectiveness of trade drivers, (2) boosting the competitiveness of the Indian engineering industry and facilitating upward movement along the value chain, (3) and strengthening enablers for growth by clearing infrastructural and procedural bottlenecks.

These estimations and imperatives for the future growth of Indian engineering exports have been distilled from Ernst & Young's comprehensive analysis of previous year's trade data (2004–2008) at the product and market levels, substantiated and supplemented by insights from exporters, industry experts and secondary sources.

Global engineering exports

When compared to non-engineering exports, engineering exports have grown at a relatively lower CAGR of 12.7%.Germany is still the top engineering exporter with a share of 15% and is faced with strong competition from China which has become the second largest exporter in the world. India's emergence as a low-cost manufacturing hub has aided the strong growth of engineering exports from the country. During 2004–2008, India leapfrogged Australia, South Africa, Ukraine and Malaysia to become the 30th largest exporter of engineering goods in the world.

A key determinant of every country's export performance is its export product portfolio in terms of the technology* used in its products, e.g., High Technology (HT), Medium Technology (MT), Low Technology (LT) and Resource-based (RB). India is ranked below most India-like countries on the technology intensity of its engineering exports, which indicates their low level of value addition as compared to such exports from other India-like countries. However, the share of technology-intensive products[1] (HT and MT) in India's engineering exports has increased from 50% in 2004 to 68% in 2008, indicating upward movement along the value chain.

India's engineering exports performance

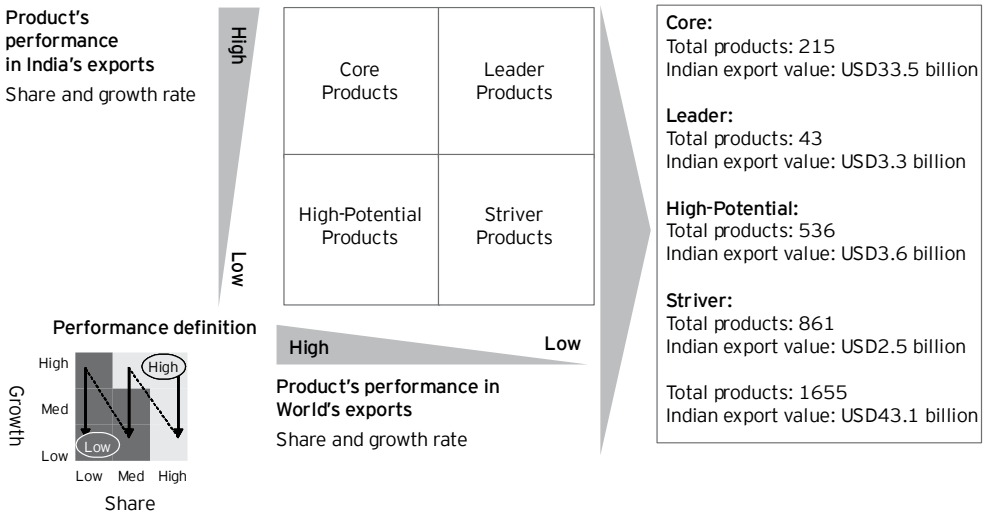
India continues to be one of the fastest growing exporters of engineering goods, growing at a CAGR of 30.1%, trailing only China among major engineering exporters, but well above the global engineering average export growth of 13%. Significantly, the country's engineering export growth rate has been higher than its overall exports.

In 2008, India's goods export touched USD182 billion (CAGR of 23% over 2004–2008), with its engineering exports contributing 21.49% of its total exports of goods, reaching USD43.13 billion (a CAGR of 30% over 2004-2008). However, the country's share of engineering exports in its total exports – like the developing countries of Asia and Latin America – continue to be much lower when compared to developed countries.

Product analysis: Indian engineering exports

The entire set of 1655 engineering products have been mapped by their past export share and growth performance from a global and Indian perspective. Based on their performance in India's exports vis-à-vis that in the world's exports, engineering products have been classified into the Core, Leader, High-Potential and Striver categories The Core, Leader and High-Potential framework helps us to evaluate our relative strengths. While the country's performance in the Core product category has been strong, it has not performed well in High-Potential products. On the other hand, competition is less in Leader products, and consequently, India's relative performance is stronger in this category.

Exhibit 2.12 Products can be classified into Core, Leader, High-Potential and Striver product category based on their relative export performance



Source: International Trade Centre, EY Analysis

Trade policy and promotion

India has benefited less than other India-like countries from the proliferation of bilateral and regional trade agreements – comparatively higher tariff rates apply for Indian exports. Further, some of its export competitors have availed reduction or complete removal of tariffs for their exports, which has resulted in a decline in the competitiveness of exports from India vis-à-vis its competitors. India has been able to avail preferential treatment for only a small percentage of its exports till now, mainly due to the following reasons:

1. **Narrow focus on regional integration:** Most of India's trade agreements that became operationalized till as recently as 2007 were with SAARC countries.
2. **Nature of trade agreements**: Most of India's agreements have been preferential trade agreements that cover only a small cross-section of goods.

Hence, if India wants to improve its export prospects, it needs to ensure preferential market access for its engineering exports by (1) negotiating trade agreements with some of its bigger exports markets and by (2) broadening the scope of the agreements by negotiating for complete FTAs/ CECAs.

Promotional events by EEPC India

EEPC India conducted promotional activities in 45 different countries (majority of which are the thrust markets) during the period 2005–2009, Engineering exports to these countries have been promoted through different events such as INDEE, participation in international trade fairs, trade delegations, BSMs and catalogue shows. EEPC India has also been active in the Indian pavilion of various international trade fairs, to promote Indian engineering exports. It has been observed that generally there is an increase in India's market share in most markets where EEPC India has conducted events over the past four years.

Recommendations

We have defined a key set of imperatives to achieve India's ambition to almost triple its engineering exports to USD110 billion by 2014. These imperatives cover the entire set of initiatives that need to be undertaken by the government, EEPC India and exporters. These imperatives recognize the need for differential action across the thrust and striver products to boost the Indian engineering exports while ensuring inclusive growth of all the sub sectors in the engineering sector. Taking a balanced view, a set of discrete initiatives for thrust and striver products have been identified as given below:

Exhibit 2.24

	Thrust Products	Striver Products

Exporters	► Aggressively target big and tough markets to achieve high growth
	  ► Big Markets – Comparatively low effort as there is marginal Indian presence
	  ► Tough Markets – Comparatively higher effort as India has a negligible presence
	► Target niche markets to maintain the existing levels of growth as lower effort is required due to India's significant presence in these markets
	► Focusing on thrust products can enhance the growth prospects	

EEPC	► Leverage MDA/MAI schemes to enhance growth ► Ensure the selection of thrust products for all relevant events in their thrust markets ► Enhance the publicity of High-Potential products in trade fairs and INDEEs	► Focus on providing informational assistance by identifying relevant trade fairs for participation ► Initiate market study/surveys to enable exporters to effectively target the identified thrust markets ► Launch an aggressive campaign to improve the export orientation of the SME exporters
Government	► Extend the FPS to High-Potential products on a priority basis ► Initiate the TUFS for manufacturers of High-Potential products ► Lower HT+MT imports to enable domestic companies to move up the value chain ► Lower exports in RB products if they offer value added manufacturing opportunities	► Extend the FPS for all the products for the next 5 years to significantly increase their world share ► Remove anti-dumping/ subsidy duties on imported raw materials for cost competitiveness ► Initiate the TUFS for product groups with dominant SME presence ► Enable cheaper credit for SMEs present in these products so as to help them achieve technology and product enhancement

Increasing alignment of trade drivers

For India to capture opportunities in increasingly integrated global markets, it needs to align its trade enablers and drivers – trade agreements, promotions and marketing – with the global trade scenario and the fast evolving engineering trade landscape worldwide. Initiatives under this imperative include:

- Accelerate bilateral/regional trade negotiations, broaden their scope and leverage WTO flexibilities
- Align export promotion activities to the nature of markets and their relative importance to India
- Improve effectiveness of promotional activities
- Focused targeting of thrust markets for all major product categories
- Enhancing trade facilitation

Enhancing competitiveness of Indian engineering industry and facilitating upward movement along the value chain

India has traditionally lagged behind in its engineering exports, since most SME players have not achieved economies of scale or the requisite technological capabilities required to be competitive in the global export market. To rectify this situation, the government and EEPC India will need to take concrete measures, which will have to be supplemented by the initiatives of individual exporters.

The government needs to facilitate economies of scale in the engineering sector by initiating policy-level measures to improve the saleability of engineering SEZs in the developer and user community and also attract higher levels of FDI in the engineering sector. These measures will need additional stimulus in the form of labor reforms to amend the existing archaic laws to meet the needs of current market realities, and also enhance the quality and quantity of manpower.

The government should extend the Technology Upgradation Fund Scheme (TUFS) to the High-Potential and Striver product categories to combat increasing technological obsolescence in them. The TUFS should be first geared towards High-Potential products and later towards Strivers to ensure an immediate boost to engineering exports while enabling higher employment generation at the same time.

While labor reform initiatives have to be taken by the government, improvement in the quality and quantity of manpower can be only achieved by the active participation of the government, EEPC India and individual exporters in various manpower development initiatives. The government should set up a skill development fund to impart training in areas where technology upgradation is being initiated to ensure the enhancement the productivity and quality levels. EEPC should take the lead in enhancing the skill levels in the engineering sector by identifying clusters where it is a necessity as well as developing a training plan so as to quickly implement it across the length and breadth of the country.

While FDI will definitely help improve the technological capabilities in India, certain other important initiatives such as centralized mapping of the R&D activity happening in the engineering sector, incentivizing commercialization of indigenously developed technology, marketing of the developed technologies to ensure sustainability of R&D, enhancing industry-academia-central R&D institution interactions need to be taken up on a priority basis by the government. Additionally, an enhancement of the tax incentives would further boost R&D in the engineering sector.

EEPC India should take the lead in the promoting green technology by spreading awareness on carbon mitigation measures and energy saving concepts in the engineering sector. This is a major imperative going forward as green technology will be seen as differentiator in the global arena and the reduction in engineering sector's carbon emissions will decide whether India meets its voluntary carbon reduction targets by 2020.

Strengthening enablers for growth by clearing infrastructural and procedural bottlenecks

Infrastructural and procedural inadequacies have long been pointed out as sources of competitive disadvantage in terms of costs and timelines for Indian exports. Hence, these issues need to be acted on by the government at the earliest, so that Indian engineering exports can realize their full potential in the next five years.

Greater autonomy for state governments with respect to port projects is also an imperative to accelerate capacity additions. While implementations of port connectivity projects by rail or road are steps in the right direction, last-mile connectivity to various engineering clusters across the country is still inadequate. Since a number of these projects are not taken up due to financial non-viability, the government needs to bundle them with other financially lucrative projects to ensure a gap-free infrastructure for exporters.

The government needs to simplify several customs procedures by reducing the number of requisite procedures or by initiating the process of self-certification for status-holders. In addition, it should undertake other relevant technological initiatives to reduce the overall transaction time and related costs.

A Summary of

"Strategy paper for the growth of engineering exports: 2010-2014"

- ☑ In 2008, India's goods export touched USD182 billion (CAGR of 23% over 2004–2008), with its engineering exports contributing 21.49% of its total exports of goods, reaching USD43.13 billion (a CAGR of 30% over 2004-2008).

- ☑ However despite the high growth achieved in the recent years, India's engineering export share is still lower than other major India-like countries like Brazil, China, Russia, Mexico and Thailand. It indicates that India has not been able to completely exploit its multitude of advantages in terms of engineering skills, a burgeoning domestic market, an established raw material base and availability of a large pool of skilled labor.

- ☑ Ernst & Young was commissioned to conduct a study to chart a growth path for engineering exports from India for the period 2010-2014 and to identify initiatives that have to be undertaken by the government, EEPC India and the engineering exporters to achieve the desired growth.

- ☑ The study sets an achievable aspiration of tripling India's engineering exports by 2014 to reach a size of USD110 billion. To achieve this aspiration, Indian engineering exports would have to show an annual growth rate of 22-25% in the period 2010-2014.

India ranks 30th with a 0.8% share of world engineering exports in 2008. This low position is primarily attributable to three factors:

1. Low export-to-GDP ratio ((export-to-GDP ratio of 15% vis-à-vis 27% for other India-like countries)
2. Low engineering-to-export ratio (engineering export-to-total export ratio of 24% vis-à-vis 30% for other India-like countries)
3. Low technology intensity of engineering export (share of high and medium technology engineering exports - 62% for India vis-à-vis 71% for other India-like countries as seen in exhibit 2.1)

Indian engineering exports: key markets

USA, UAE, Singapore, UK, Germany, Saudi Arabia and Italy continue to be the major markets for Indian engineering products, accounting for 43% of Indian engineering exports. Despite the comparatively lower growth rate of Indian exports in the developed world, its share of engineering exports in the imports of developed markets has gone up considerably. While in 2004, the country's engineering exports constituted 0.33% of total imports from the G-7 countries, the corresponding figure for 2008 was 0.47%. G-7 countries provide a market for 30% of India's total engineering exports. Its major exports to developed countries remain products of low technology (LT).

Product analysis: Indian engineering exports

After analyzing the global and Indian engineering export performance from key export markets, total size, growth rate and technology (HT, MT, LT & RB) perspectives, engineering export sector is decomposed into 1655 products at the basic 6 digit HS code level and analyzed them to identify thrust products and the concomitant imperatives for India.

The entire set of 1655 engineering products have been mapped by their past export share and growth performance from a global and Indian perspective. Based on their performance in India's exports vis-à-vis that in the world's exports, engineering products have been classified into:

- ☑ Core
- ☑ Leader
- ☑ High-Potential
- ☑ Striver categories

The Core, Leader and High-Potential product categories together constitute all the products that are important from an Indian and world perspective and have hence been collectively referred to as the thrust products.

Table1: Different product categories and their relative export performance in 2008

Particulars	Core	Leader	High Potential	Striver	Total
Total Products	215	42	536	861	1655
Indian export value	US$ 33.5 billion	US$ 3.3 billion	US$ 3.6 billion	US$ 2.5 billion	US$ 43.1 billion

Table2: Engineering Products by performance categories

Product category	Products
Core	Automobiles with piston engine displacing>1000ccto1500cc, Pipe line, Flat tolled products, copper cathodes and sections of cathodes unwrought, Aircraft parts, Cargo vessels, Motor vehicles parts, Ferro-chromium etc
Leader	Floating docks & Vessels, Tables, kitchens or other household parts, chassis fitted with engines for the vehicles, Cold rolled iron/ steel-coils > 600 mm, <0.5 mm
High Potential	Injection- moulding machines, AC motors single phase, Bicycles and other cycles (including delivery tricycles), Parts & accessories for app. Based on the use of X-rays, Plate, sheet or strip of aluminum (not alloyed)
Striver	Balls-grinding and similar articles of iron or steel cast for mills, Parts & accessories for machines, appliances, Parts of electrical ignition or starting equipment, Bicycle hubs and free wheel sprocket wheels

Market Analysis

Thrust markets are prioritized on the basis on their accessibility, attractiveness and ease of trade agreement implementation to enable identification of quick wins. Market accessibility and attractiveness for India is decided by

- ☑ The level of tariffs imposed on imports from India
- ☑ Comparative distance from India vis-à-vis other India-like countries
- ☑ Willingness to source from India-like countries
- ☑ India's performance vis-à-vis other India-like countries.

Ease of trade agreement implementation depends on the progress (or lack of progress) of India's negotiations with such countries.

Markets are also segmented into Core, Leader and High-Potential markets based on their relative import performance. Following table depicts the details of identified thrust markets.

Table3: Identified thrust markets

Core Markets	Leader Markets	High-Potential Markets
Europe Union: Germany, France, UK, Italy, Spain, Belgium, Netherlands, Poland, Sweden, Czech Republic **North America:** USA **Other European Countries:** Turkey, Ukraine **Asia:** China, Japan, Republic of Korea, Chinese Taipei, Singapore, United Arab Emirates, Thailand, Saudi Arabia, Qatar, Australia	**South America:** Brazil **Africa:** South Africa, Egypt, Nigeria, Ghana, Kenya **Asia:** Malaysia, Iran, Indonesia, Oman	**North America:** Mexico, Canada **South America:** Venezuela, Argentina **Europe:** Austria, Switzerland, Romania **CIS:** Russia, Kazakhstan **Asia:** Hong Kong SARC

Opportunities in emerging sectors

Civil nuclear Sector

As a result of the India-USA 123 agreement and NSG waiver, coupled with the acute need for reliable power supply in the country, there is a renewed thrust on setting up Greenfield nuclear plants. There are plans to increase India's nuclear capacity by ~3.8 GW during the period 2007–2012 and a 12,000 MW addition is being planned for the subsequent five year period 2012–2017. As a result, an opportunity of ~15 billion will arise for the manufacturing industry and a significant 61% can be captured by the domestic manufacturing industry.

Defence sector

India's extended borders, with hostile neighbors, as well as its rising status as a regional superpower have resulted in sustained expenditure on its defense sector. As a result, its defense sector budget is expected to grow at the rate of 8% till 2014, with an anticipated budget share of 54% being spent on procuring manufactured items. This is likely to translate to a market opportunity of approximately of USD 91 billion for the period 2010–2014. In addition, governmental initiatives, such as allowing private sector participation, reinforced by opening up the sector to 26% FDI inflows, and its offset policy is expected to enhance private sector (including SME) participation.

Engineering services

Numerous factors, such as the quality of talent available in the country, reduced time to market, low costs and easy access to local markets, have been instrumental in the emergence of engineering services in India. This growth has been driven by an increased focus on R&D and product design by domestic companies as well as MNCs setting up their captive centers. It has been led predominantly by requirements in the telecom, automotive, aerospace and utility sectors. India's total market share is expected to increase in the future due to certain sustainable advantages in the country, leading to a market opportunity of ~62 billion in the period 2009–2014. Captive centers and pure-play engineering services firms are expected to garner a large piece of this pie during this period.

Recommendations

A key set of imperatives are defined to achieve India's ambition to almost triple its engineering exports to USD110 billion by 2014. These imperatives cover the entire set of initiatives that need to be undertaken by the government, EEPC India and exporters. Following table depicts the recommendations.

Table4: Recommendations

Particulars	Thrust products	Striver Products
Exporters	❖ Aggressively target big and tough markets to achieve high growth o Big Markets –Comparatively low effort as there is marginal Indian presence o Tough Markets –Comparatively higher effort as India has a negligible presence ❖ Target niche markets to maintain the existing levels of growth as lower effort is required due to India's significant presence in these markets ❖ Focusing on thrust products can enhance the growth prospects	
EEPC INDIA	❖ Leverage MDA/MAI schemes to enhance growth ❖ Ensure the selection of thrust products for all relevant events in their thrust markets ❖ Enhance the publicity of High-Potential products in trade fairs and INDEEs	❖ Focus on providing informational assistance by identifying relevant trade fairs for participation ❖ Initiate market study/surveys to enable exporters to effectively target the identified thrust markets ❖ Launch an aggressive campaign to improve the export orientation of the SME exporters
Government	❖ Extend the FPS to High-Potential products on a priority basis ❖ Initiate the TUFS for manufacturers of High-Potential products ❖ Lower HT+MT imports to enable domestic companies to move up the value chain ❖ Lower exports in RB products if they offer value added manufacturing opportunities	❖ Extend the FPS for all the products for the next 5 years to significantly increase their world share ❖ Remove anti-dumping/ subsidy duties on imported raw materials for cost competitiveness ❖ Initiate the TUFS for product groups with dominant SME presence ❖ Enable cheaper credit for SMEs present in these products so as to help them achieve technology and product enhancement

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