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Since 1895

# MM MANUFACTURING MATTERS

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## Highlights



**Venu Srinivasan**
Chairman,
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# From The Chairman's Desk

Manufacturing holds the key to India's gradual progression towards sustained GDP growth. The challenges that the future holds in store are many, especially since the manufacturing sector has failed to keep pace with the services sector, which, growing so spectacularly in the post-liberalisation period, accounted for approximately 57% of the national GDP. Manufacturing accounts for less than 16% of the GDP in India. On a comparative scale (in other emerging countries), manufacturing accounts for 40% of GDP in Thailand, 34% of GDP in China, and 28% of GDP in Malaysia. It is important to keep this as context when we discuss the growth and development of the manufacturing sector in India.

The lack of adequate traction in manufacturing over the past two decades has had a negative impact on industrial job creation and has limited the sector's global competitiveness. Given this scenario, the CII Manufacturing Council welcomes the proactive proposal put forward by the Department of Industrial Policy and Promotion (DIPP) for the creation of National Manufacturing and Investment Zones (NMIZs) in the country.

The DIPP proposal has generated much debate, especially on matters like exit policy, labour laws, environmental norms, land acquisition and fiscal provision. It is hoped that the debates and discussions allow a clear roadmap to emerge for the setting up of NMIZs across the country. We are hopeful that the National Manufacturing Policy will enable the manufacturing sector to achieve its key objectives of enhancing industrial employment, boosting manufacturing exports and ensuring the nation's self-sufficiency in both consumer goods and those of strategic importance.

In this edition of Manufacturing Matters, we have covered the broad contours of the proposal for NMIZs. Many key aspects of the proposal have been amplified in an interview with Mr R P Singh, Secretary, DIPP, Ministry of Commerce & Industry, Government of India. Mr Singh has explained that the NMIZs would be of much bigger magnitude than special economic zones (SEZs) though no additional fiscal benefits would be accorded to units operating within any NMIZ. Besides, NMIZs will help to decongest the cities as the migratory workforce will move away from cities to these zones for employment.

The enhanced focus on manufacturing could result in India becoming a key global manufacturing hub. In the recent past, China was clearly the preferred off-shoring destination for the US and other western manufacturing giants. But this mindset is changing and many leading manufacturing companies in the West are now open to exploring India as an attractive, alternative destination. Read about this trend and about the advantages that India holds as a potential global manufacturing hub in this edition of Manufacturing Matters.

Talking of outsourcing, drug and pharmaceutical contract manufacturing and research are emerging as big opportunities for the Indian pharma sector. Manufacturing Matters presents an overview of these emerging opportunities.

The lack of adequate regulation has meant that e-waste is handled without sufficient safeguards, putting many people's health at risk. This edition looks at the broad issues that underline e-waste management in the country.

Manufacturing Matters has benefited greatly from the feedback and suggestions made by our esteemed readers. I look forward to your continued support to develop this journal into a communication medium, most definitive, for the manufacturing sector in India. MM

## Inside This Issue

## Speedy reforms needed: CII ASCON Survey

The CII ASCON Survey April-June 2010-11 has suggested some proactive reform measures and incentives to boost manufacturing. These pertain to ensuring speedier implementation of ongoing and already announced projects, improving regulatory environment, early implementing the recently proposed National Manufacturing Investment Zones (NMIZs), while ensuring timely availability of credit and directing banks to provide easier and cheaper credit especially for SMEs.

Some of the issues faced by the industry include: Rise in the cost of raw material, Infrastructure bottlenecks, Environmental regulations and procedures, Threat of Chinese imports, Discriminately excise duty on many items, Import of second hand machinery, Weak global demand, Lack of technical skills and R&D activities, Inadequate credit supply, and Non uniformity of sales tax structure, price hike by iron ore companies in case of steel, , Low Import duty (5%) on Polyester Filament Yarn, Polyester Staple Fibre and Polyester Tyre Cord Fabric vis a vis other fibres , Inconsistency in the supply of Natural Gas both in terms of quality and quantity affecting production in case of sponge iron, shortage of Hot Rolled Coils, the basic input for the Cold Rolled Steel industry, and High duty on natural rubber compared to ASEAN countries in case of rubber goods industry.

## Thought leadership for manufacturing

CII has set up a Visionary Leaders for Manufacturing Institute (VLMI) in Tamil Nadu which will play a key role in transforming the Indian manufacturing sector. The institute's objective will be to develop leadership capabilities among people representing leading premier institutions, manufacturing industry and academia who are dedicated to these sectors and build a high-powered manufacturing community over the next ten to 20 years.

On the policy front, CII would seek state-level manufacturing policies in south to provide an impetus to the manufacturing sector. Southern states contribute close to 26% of India's GDP; 21% of the country's FDI flows and continues to mark its position as the ideal destination of choice for investments into new generation businesses.

The institute will work towards facilitating green manufacturing, fast tracking infrastructure and flexible labour rules without diluted social security net. Every additional 1% growth in manufacturing creates 20-30 million additional jobs. CII's key focus will be on infrastructure development. It would identify key infrastructure projects in south for fast track implementation. MM

## 28mn new jobs in manufacturing likely by 2015

With industrial output picking up, the manufacturing sector will be a major contributor to new employment and is likely to generate 27.95 million jobs by 2015, but the share of agriculture is expected to decline, according to a study. The study has projected 87.37 million new jobs by 2015, with 32% share held by the manufacturing sector, followed by trade and construction. And within manufacturing, textiles, food and beverages, transport equipment, metals, leather and machinery are expected to contribute the most to employment generation, it says. Manufacturing will have the highest employment potential because after agriculture it accounts for the largest share of jobs at 12.5% among different divisions of economic activity. A faster growth of employment in it, therefore, would mean addition of a large number of jobs. A 1% growth in employment in the manufacturing sector would mean over 6.25 lakh new jobs and suggested that if manufacturing was made to grow at 10% per annum, its employment potential will grow at over 5%. MM


## Look East Policy will serve manufacturing cause

India's outward foreign direct investment (FDI) was $10.3 billion in 2008-09, and $16.2 billion in 2009-10. Nearly half of the outward investment is in manufacturing, and many projects are by small and medium size firms. Given that India's Look East Policy has bolstered the economic partnership with East and South-east Asian countries, a substantial portion of the Indian FDI in this region will flowing into the manufacturing industries. Reports say this augurs well for deeper intra-industry linkages with the recipient countries. These countries will increasingly find India's outward FDI as an additional avenue for diversifying their global investment sources and risks, particularly as most of India's outward FDI is led by the private sector whose investment motivation is commercial and not state directed strategic interests.

Nearly two decades since India initiated its Look East Policy, there has been substantial progress in expanding economic and strategic engagement with the rest of Asia. India is now a member of the East Asian Summit (EAS) comprising 16 countries, which include the 10 members of the Association of Southeast Asian Nations (ASEAN), Japan, China, Republic of Korea, Australia and New Zealand. India is also a member of the ASEAN Regional Forum, which promotes dialogue among Asian and select major non-Asian powers on security issues. MM

# Dedicated defence SEZ

To capitalise the emerging opportunities in the industrial sector, the Gujarat government is planning to set up a dedicated Special Economic Zone (SEZ) for defence supply industries, Mr Saurabh Patel, Minister for Industries, Gujarat government, has been quoted saying. The minister informed this during his address at the fifth seminar on Emerging Opportunities in Defence Sector, organised by the Confederation of Indian Industries (CII) at Ahmedabad. Currently, 70% of India's defence products are being sourced from abroad, but now India is aiming to reverse the trend by manufacturing 70% of its defence equipment in India.

# GST will improve profitability: Survey

A joint survey by CII and global tax advisory firm KPMG has shown that the majority of businesses want a single rate of goods and service tax (GST), both at the state and federal level, and expect the tax reform to have a positive impact on profitability. 88% of the respondents said they prefer having a single national GST enactment, both for centre and the states. About 84% of the respondents said implementation of GST would have an overall positive impact on the profitability, and a majority wanted the new structure to come into effect from April 1, 2011.

One of the key features of the GST would be seamless flow of input tax credit for business. The new scheme is said to ensure no or very limited cascading of taxes. According to the survey, 44% of the respondents considered GST as an opportunity to consolidate their business operation. The respondents also said they may consider consolidating their operations including manufacturing locations, warehouses, contract manufacturing after the introduction of GST.

# Manufacturing growth pushing up rates

India's manufacturing growth accelerated in July, increasing pressure on the central bank to raise interest rates, say media reports. Bond yields touched a three-month high. The Purchasing Managers Index rose to 57.6 from 57.3 in June. A reading above 50 indicates expansion. The data, along with rising bank credit and automobile sales, adds to evidence of strengthening consumer demand in India. Reserve Bank of India Governor D Subbarao has increased rates for the fourth time in five months, pointing to capacity constraints building up in industries.

RBI on July 27 raised the reverse repurchase rate to 4.5% from 4% and the repurchase rate to 5.75% from 5.5% as the benchmark wholesale-price inflation rate held above 10% since February.

# Captive iron ores may have to be hived off

The government is working on a proposal whereby all steel companies would have to hive off their captive iron ore mines, if any, into separate companies. Iron ore is a key raw material in steel-making since 1.5 tonne of the material is used to make one tonne of steel. The country's largest steel manufacturer, the state-owned Steel Authority of India (SAIL) and the third largest Tata Steel meet their ore requirements through captive mines while the second largest, JSW Steel meets around 10% of its requirement through captive mines. Reports say that according to the proposal, which is at the preliminary stages, even if the companies hive off their iron ore mines into separate entities, they would be assured of raw material supply.

# MES for enhancing plant automation

Growing competition in the Indian manufacturing sector has led to increased adoption of manufacturing execution systems (MES), says an industry release. With IT service providers playing a bigger role in the Indian manufacturing sector, many international and domestic participants are entering the Indian MES market. The Indian MES Market is above $30 million and will grow at a CAGR in excess of 18% from 2010 to 2016.

MES delivers information that enables the optimisation of production activities from order launch to finished goods. Using current and accurate data, MES guides, initiates, responds to, and reports on plant activities as they occur. The resulting rapid response to changing conditions, coupled with a focus on reducing non value-added activities, drives effective plant operations and processes.

Need for real-time information to improve operational efficiency and need to comply with regulatory standards, such as FDA regulations, are the two main drivers that will stimulate MES growth in the Indian market. However, easy availability of low cost labour and significant integration costs with ERP and other automation systems are major restraining factors for MES implementation.

# Wind energy generation: a huge opportunity

A study conducted by the Global Wind Energy Council and the Indian Wind Turbine Manufacturers Association found that India needs a national level revolution in the wind energy sector similar to the National Solar Mission which aims at installing 20,000 MW of solar energy power plants by 2022. While wind energy is the most popular renewable energy resource in India and, at 12,010 MW, comprises nearly 70% of the total renewable energy generation capacity installed in India. As far as installed capacity is concerned India is the fifth largest wind energy market. But there is still a huge gap in the installed capacity and the actual generation.

# Exclusive Policies For Inclusive Growth

Department of Industrial Policy and Promotion (DIPP) has released a discussion paper on a new National Manufacturing Policy that advocates the setting up of National Manufacturing & Investment Zones (NMIZs)

The discussion paper on a new National Manufacturing Policy released by the Department of Industrial Policy & Promotion (DIPP) portends of glad tidings for the manufacturing sector which is expected to play a key role in pushing India to achieve double digit GDP growth in the foreseeable future. As such, the sector's contribution to national GDP had tapered at 15% (15.8% in 2009-10) for nearly two decades since the opening up of the Indian economy. For the government and industry, the challenge is to raise this contribution to 25%, which in turn will positively impact industrial output and employment, income distribution and inclusive growth imperatives. The DIPP paper envisages doubling industrial employment by year 2022. But, there are challenges to be met in realising these goals.

The policy paper mentions that the state of the manufacturing sector in India is a cause of concern especially when seen in the context of transformation registered in this sector by other Asian countries in similar stages of development. Manufacturing growth in the country has been largely circumscribed by various bottleneck situations: inadequate physical infrastructure complex clearance and approval mechanisms and limited availability of skilled workforce. The DIPP discussion paper purports to address these very issues while advocating the need for creating National Manufacturing and Investment Zones (NMIZs). The paper calls for Good physical infrastructure, a progressive exit policy, structures to support clean and green technologies, appropriate investment incentives, and business friendly approval mechanisms will be the cornerstones of this new initiative.

## Composition

The proposed NMIZs would be a combination of production units, public utilities, logistics, environmental protection mechanisms, residential areas and administrative services. It would have a processing area, where the manufacturing facilities, along with associated logistics and other services and required infrastructure will be located, and a non- processing area, to include residential, commercial and other social and institutional infrastructure. The processing area may include one or more SEZs, industrial parks & warehousing zones, export oriented units, DTA units duly notified under the relevant Central or state legislation or policy.

DIPP has proposed that an NMIZ would have a governing body, which would be in the form of a Special Purpose Vehicle (SPV) formed with the constituents of that specific NMIZ. The SPV would have delegated authority from the state government, ministries in the Central Government and other government agencies for issuing necessary clearances, as may be necessary for the inception and continuation of business ventures inside the NMIZ.

The Central government will ensure the availability of external physical infrastructure linkages to the NMIZs including Rail, Road (National Highways), Ports, Airports, and Telecom, in a time bound manner. This infrastructure will be created or upgraded through PPP to the extent possible. State governments on their part will be responsible for providing or facilitating (i) land; (ii) power connectivity and availability of reliable and good quality power; (iii) water supply, road connectivity, sewerage and effluent treatment linkages, from edge of NMIZ, to the final disposal sites; and (iv) appropriate infrastructure to address the health, safety and environmental concerns.

The State Government may also notify an additional package of incentives for the development of the NMIZ, including moratorium of all municipal and other local taxes for 10 years, for the NMIZ developers as well as the units which are located in the Zone. Each NMIZ will be notified separately by DIPP.

The policy paper has recommended certain drastic steps to infuse flexibility in the labour laws that will be applicable on the NMIZs. These include (i) employment of women in three shifts; (ii) temporary status of employees; (iii) flexibility to downsize; (iv) Contract Labour Abolition Act will not be applicable to the units in the NMIZ; (v) the right to join unions would be confined to workers drawing salary below a certain limit; and (vi) a separate social security scheme for all the workers engaged in the NMIZ as developed by the SPV. The paper adds that wherever application of labour welfare legislation is suspended or diluted, an alternative safety net will be put in place to take care of the interest of labour by the SPV.

For a seamless exit policy, the paper proposes that the closure of a unit in NMIZ should be made easier by settling the dues of the labour in time. Also, for settling labour dues independent of other creditors claim a sinking fund should be created for each NMIZ to be maintained by the SPV which would be built through a contribution out of the profits of all the units in NMIZ. Alternatively the companies in NMIZ will be obliged to take a job loss policy from

any insurance company.

### Green Manufacturing

Green manufacturing is an important facet of the proposal. The paper notes that the emerging global carbon market and growing demand for green products and technologies will offer significant opportunities for growth in the years to come. On the other hand, escalating carbon costs could, over time, have significant implications on future global supply chains and influence market access for Indian companies.

Offering special sops on green technologies for units in NMIZs, the DIPP has proposed, "low-interest loans for manufacturing to invest in new plans to produce clean /green technology or invest in new plants to produce green products". Other incentives include grants for workers' training. Globally, the green products market is estimated at $190 billion and is expected to grow at 15 per cent year on year across segments like alternative energy, green buildings and green consumer products like organic food and cotton.

### Incentives

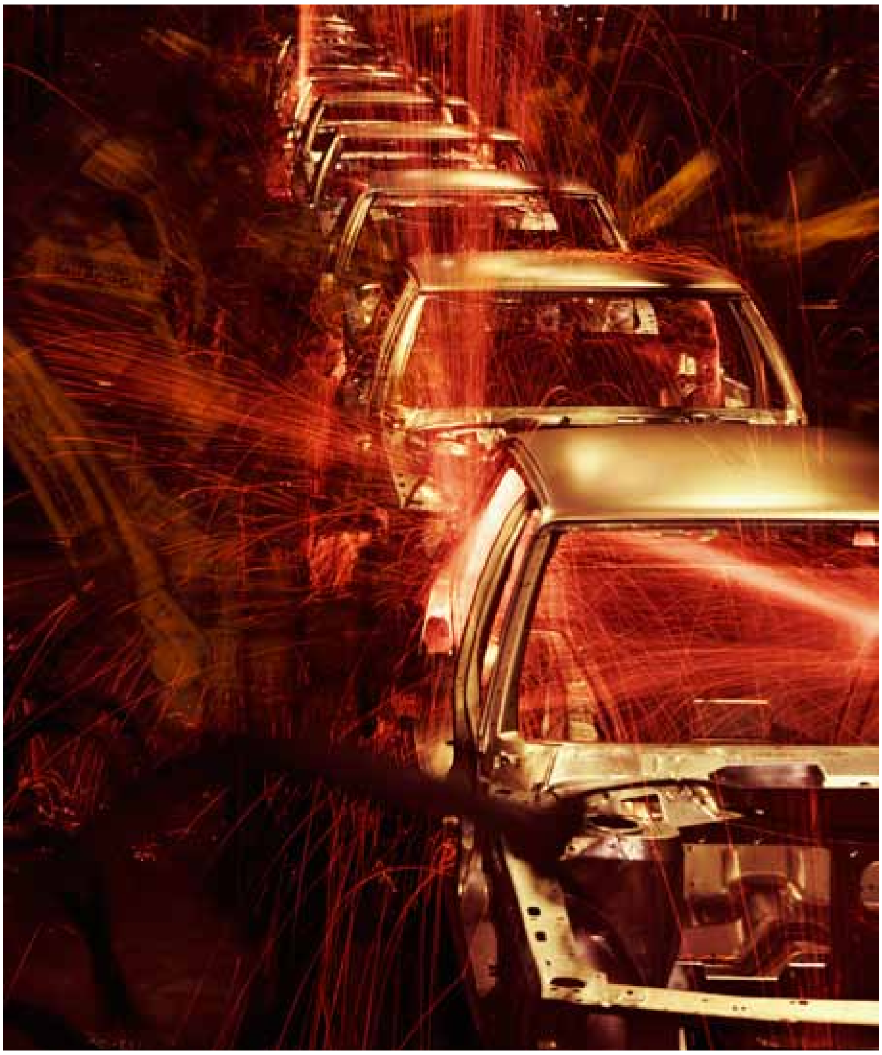
The proposal also takes up the need for incentives for units in the NMIZs. For this, the paper has recommended the following:

- To encourage industrial units in taking on training/retraining of the workers, such expenditure be treated at par with R&D expenditure.
- Tax exemption on expenditure incurred in taking national/international process/product certification/approvals like ISO 9000, BIS 14000, BEE, IS, CSA, UL, VDE, etc.
- 50% of the expenditure incurred in filing international patents to be shared by the Government.
- Subvention of interest on working capital by 4% to create parity with international counterparts.
- In government purchases preference be given to units located in the NMIZs.
- To encourage supply chain development, Income Tax exemption to suppliers in proportion to the supplies made within the NMIZ.
- Special incentives for certain crucial industries where import dependence is very high.

### Human Capital

Keeping a clear focus on human capital formation for the manufacturing sector, the paper states that India's comparative advantage lies in its large workforce. About 800 million persons will be in the productive working age group of 15-59 by 2015, with about 12 million persons expected to join the workforce every year. Over the last few years however industry has encountered shortage of personnel with shopfloor skills. Industry estimates have shown that only about 50% of the students from various technical and vocational streams are actually employable.

The SPV for the NMIZ will therefore continuously review the requirement of skilled manpower. A training centre for the zone would be set up as a PPP initiative with courses being tailored to the demand of specific industries in the zone. Skill-building in this seg-



ment would include Farm to Work, and School to Work programmes targeted at the minimally educated workforce entering the non-agricultural sector for the first time and/or seeking seasonal employment.

In addition, DIPP has proposed (i) enhancing employability of the skilled workforce through certification of prior learning and modular training for manufacturing and service sectors; and (ii) setting up of institutes of specialised learning such as a specialized institute for the automobile sector, or an institute focused on high-tech manufacturing and semi-conductors for the electronics sector.

The DIPP paper states that the Contract Labour Act, which prohibits companies from hiring temporary workers, will be relaxed in these zones. At the same time, a suitable social security system has been proposed to protect the interest of the workers, which will be supported by a judicial process that enables affected workers to seek timely redressal from unfair treatment, if any.

According to a recent World Bank study, India is amongst countries with the highest degree of rigidity in hiring and firing regulations. The industry circumvents these constraints by outsourcing its activities, which leads to informalisation of labour force. The labour laws, therefore, limit the scope of expansion of formal manufacturing activity. The inflexibility to hire/fire also makes the industry more reliant on capital-intensive means of production. This is clearly an undesirable outcome in a labour-surplus economy. The inability of firms to cut their workforce accentuates their financial stress during a downturn and reduces their ability to come out of it. If these patterns continue and employment opportunities do not pick up, the perceived demographic dividend can morph into a demographic nightmare.

At a macro-level, the NMIZs are expected to function like islands of excellence with high quality infrastructure, easy labour laws and fast track procedural norms.

## Challenges

The growth opportunities notwithstanding, there are fears expressed that the proposed policy might create islands of elite industrial activities that might go against the interests of workers. It has been claimed that if the 500 odd SEZs have not delivered the goods for the manufacturing sector, then how will the proposed NMIZs achieve them.

Critics point out that the liberal concessions offered by the government could be misused they will enhance the profitability of the manufacturing units instead of leading to an increase in the production. They call for safeguards against the CEO of the special purpose vehicle to be constituted, who will have wide powers to issue approvals, may misuse the power, resulting in corruption.

It is also pointed out that the government proposal to share 50% of the cost of filing international patents is highly unreasonable since the benefits of the patents would be fully enjoyed by the patent holder but the cost of application will be shared by the government.

The moot question being raised is if such a policy will lead to the creation of a set of specially privileged manufacturers who would take undue advantage of the concessions offered by the government. Earlier, the SEZs were essentially meant for export-oriented industries. But, the proposed proposal would be applicable even to indigenous marketed products. There will lead to discrimination against industries that will not operate within the NMIZs.

Critics have said that contractorisation and casualisation of labour has converted a large number of jobs from regular to informal status. The proposed policy framework talks of "a progressive exit policy". As a matter of fact, several thousand industrial units have been closed down despite legal restrictions but the government has never taken any action against such illegal closures.

The jury is out on the efficacy of the proposal for NMIZs. Manufacturing Matters will closely track the discussion on the topic. MM

# High on Potential

Increasing adoption of ICT applications in India for eGovernance and digital storage of information has created fresh demand for office automation & imaging devices. But, will this encourage global manufacturers to set up manufacturing units in India? Read on.

The office automation and imaging industry in India is at an early stage of growth. As a result, manufacturing activities in this domain are rather limited. However, with rising demand for faster decision making, improved response time and transparency in government and businesses, these devices are gradually finding larger markets within the country. As the demand picks up, there is a high probability that manufacturing of these devices will also receive significant boost.

As on date, government is the single largest customer of these systems. So, the demand is largely concentrated on first and second generation systems.

Further, as the digital divide in the country is bridged, the demand for office automation and imaging will rise at a rapid pace. Alongside, there will be increasing need for the creation of G2X interfaces, improvements in efficiency, accountability and transparency of the government processes, and e-Governance. The growth in demand for the devices would also be fuelled by ICT application in the rural areas. This would require low cost scaled down products offering the essential product functionalities with focus on standardisation and interoperability.

As such, office automation is intended to provide elements which make it possible to simplify, improve, and automate the organisation of the activities of a company or a group of people (management of administrative data, synchronisation of meetings, etc.). Considering that companies require increased communication, today, office automation is no longer limited to simply capturing handwritten notes. In particular, it also includes the following activities:

- exchange of information
- management of administrative documents
- handling of numerical data
- meeting planning and management of work schedules.

When considering office automation three main areas need further discussion: people, and how automation affects them; the constantly changing tools used in automation; and the ways in which automation has changed the workplace.

People involved with office automation basically include all users of the automation and all providers of the automation systems and tools. A wide range of people including software and hardware engineers, management information scientists, and secretaries use office automation. All are also involved with providing information. This dual role of both provider and user gives rise to two critical issues. First, training of personnel to effectively use an office automation system is essential; the office automation system is only as good as the people who make and use it. Second, overcoming workplace resistance is a must if the full benefits of automation are to be realized. Change is difficult for some workers, yet must occur for a business to remain competitive.

Practical tools for office automation include computer hardware and software currently available in a number of models, applications, and configurations.

Practical workplace issues of office automation often involve the budget and physical considerations involved with creating, exchanging, and managing information. Equipment, rewiring, training, security, and data entry all cost money and require space. Newly recognized medical problems such as repetitive motion syndrome are a significant issue for some people using office automation systems. Repetitive motion syndrome is a medical disorder associated with lengthy keyboard inputting and seating arrangements. Likewise, environmental safety concerns might also include vision and overall health considerations related to electromagnetic computer emissions.

By integrating raw information with exchange mechanisms and management structuring and guidance, office automation creates advantages as well as disadvantages. Benefits in using electronic management systems include savings in production and service costs as information is quickly routed for optimal office performance. Office automation can also be cost effective, as powerful microcomputers continue to drop in price. While office automation often mirrors actual paper transaction and activity, an office automation system may also complement the paper system and provide output only available in digital format. Thus, office automation extends the information activities of the office to surpass physical or geographic limitation.

Manufacturing Matters interviewed Mr Kensaku Konishi, CEO & President, Canon India, and Mr Alok Bharadwaj, Senior Vice President Canon India Ltd, for an overview of the Indian office automation and imaging industry and the manufacturing challenges that underpin the sector.

# 'We are promoting inverse manufacturing'

Kensaku Konishi,
CEO & President, Canon India

**Canon has a large presence in the Indian office automation market. Would you consider setting up a manufacturing unit in India in the coming times?**

Canon factories are meant to serve not just the local market but overseas markets too from a single location. It appears to us that exports from India are not so easy. Besides, there are infrastructural bottlenecks like port congestion and limited port facilities, lack of fiscal benefits and limited financing, which all add up to making exports from India a low priority at this stage.

Infrastructure is a huge problem in India and hence we are not keen on setting up a manufacturing unit here at this stage. We have factories in China, Malaysia, Vietnam and Thailand and these are essentially our export hubs as well. So for us to set up a manufacturing unit in the country means it needs to have an excellent supply chain management with sophisticated infrastructure.

I would like to add that a good location in India is very expensive. At the same we are not looking for any JV.

**You run a large R&D facility in Noida? How has this helped in your global manufacturing?**

We had already set up an R&D centre in Noida. Our R&D Center in Bangalore was opened in the year of 2008 although the number of staff is around 50. Our original plan was to have 100 people on board. Due to worldwide recession we scaled down but we will expand this operation by 2012 to up to 300. India has the potential of becoming an R&D hub for us but it does not have much expertise in hardware development. As part of the efforts to build human capital for our India operations, we plan to send five professionals to Japan to learn the way the Japanese do the R&D.

**India is being seen as the next global manufacturing hub. Would you subscribe to this view?**

There are many pre-requisites to be met before we can talk about a manufacturing hub. These pertain to labour laws, technology, finance, infrastructure, etc. I would add that policy initiatives such as for duty free zones will also help create the conditions for a manufacturing hub.

**Are there any specific parameters that you would set for your products destined for the Indian markets?**

Difficult to point this as the Indian markets are very diverse. The only noticeable trend is that customers look for value for money.

**To what extent is green manufacturing relevant to Canon India? How does green procurement work for you?**

We have several initiatives to talk about in this area. We make an assessment of the environmental impact of our entire product lifecycles and explore ways to minimise environmental burden. We promote R&D of technologies and materials essential for environmental assurance and share the achievements with society. We comply with all applicable laws in each country or region and other requirements the Canon Group agrees upon with stakeholders, and promote energy and resource conservation and elimination of hazardous substances in all corporate activities. In procuring and purchasing necessary resources, we give priority to materials, parts and products with lower environmental burden.

We have also established an Environmental Management System (EMS) and establish and periodically review environmental objectives and targets to prevent environmental pollution and damage, and steadily reduce environmental burden. And, we raise the environmental awareness of employees and educate them to take the initiative in environmental protection. We also pay a lot of attention toward recycling. For instance, Canon utilises a waste toner solution solidification system to harden waste toner, modifying its properties to enable its reuse as material for factory pallets and other applications.

**Is e-waste a concern area for you?**

This is key to staying competitive. The domain is big and we are working on developing new solutions.

**How important are industrial clusters in the promotion of manufacturing of office automation products?**

Industrial clusters help a larger number of units to adopt office automation devices and these can be shared resources.

**Canon lays heavy emphasis on energy efficiency in the production processes? Could you explain this?**

We are using green energy. Other than that we are reducing energy consumption itself. We have introduced sleep mode and fuse for temperature management.

**How important is resource recycling? Is Canon moving in this direction as well?**

Canon is building recycling systems in regions around the world. We are promoting inverse manufacturing (IM), in which used products collected from customers are disassembled and sorted and their parts reused.

**What are the key goals set for Canon India?**

We aim to take the turnover to Rs 1,200 crore by end-2010 and increase our headcount. We will also make efforts to push out the cheap alternatives in the market, build awareness of quality products, create a rural demand for our products, reduce wastage, and encourage people to move to digital storage of information. MM

# 'India is a good place to conduct R&D'

**Alok Bharadwaj** ,
Senior Vice President Canon India Ltd

ICT application is central to the economic growth process. In the corporate sector, ICT enables efficient information management and documentation, which are critical to the manufacturing industries as well. Digital technology enables these functions in a cost-effective, environment-friendly manner. As such, more than 2 lakh multi-function copier devices and 23 lakh laser printer devices are in use every day in the country, which use up huge quantities (around 800 crore of paper per month) . With efficient office automation devices, the use of paper can be greatly minimised. Not just that, digital document management architecture in offices enhances the accountability of all people engaged in the paper movement, storage, retrieval, dissemination of information & security of information which becomes particularly important in more sensitive domains like manufacturing. In India, the adoption of office automation devices is in various stages in the government and private corporate sectors.

## Could you explain the pattern of office automation adoption in India?

Every industry has its own unique way in which the office automation devices and applications are adopted. BFSI & telecom verticals have big challenge of handling applications & contracts. Pharma has document security as a big challenge. IT industry looks for higher efficiency & speed of information flow for decision making. Logistics look at storage & retrieval of information with speed. The need drivers vary from digital archiving in offices to workflows to secure printing which is password protected etc while all companies pursue setting up of knowledge centres.

## Given that the Indian market for office automation is growing, is Canon India planning to set up a manufacturing plant in the country?

Our manufacturing units operate on global economies of scale. We have a global supply chain management and the manufacturing units cater to a broad regional market rather than just the market needs of the host country. So, while we understand the specific needs of each market, we do not set up manufacturing units only to meet the local demand. At this stage, India cannot be a hub for regional manufacturing of office automation devices. Post recession global supplies far exceed global demand. Hence current need is to make our supply chain more efficient. As demand increases which it certainly will in next few years, more manufacturing centres will need to come up. That is the time, India will appear on manufacturing radar. For us, the current challenge will be to manage the excess capacity. It also takes a while for eco-system to develop for any industry. In the foreseeable future, if Canon India were to consider setting up a manufacturing plant in the country, that would also depend on whether an eco system in favour of this industry has evolved. The eco system shall comprise ancillary units and support service providers.

The limited domestic demand for office automation devices is another constraint. India's overall demand is only 1% of the total world demand for office automation products.

## If the Indian market for office automation devices is relatively at a nascent stage, with limited demand for high-end products, are you making products that are exclusively meant for this market?

While the usage pattern suggests that the bulk of the demand is for first and second generation devices, we do not follow such patterns. Technology will always stay ahead of the curve and our focus is on developing and promoting products at a global level.

In India, we would expect the government to begin to shift focus from procuring first and second generation devices to start adopting third generation document management practices to stay efficient and agile. India's corporate sector has already started demanding higher end products, solutions and services. In this, sectors like IT-BPO, banking, financial and insurance (BFSI), Pharma, Telecom, Logistics firms and others are likely to opting for high-end products. The new trend is to outsource entire document management & printing architecture & maintenance to domain experts like Canon which saves cost (guaranteed) and makes office operations efficient under strict SLAs

Also, in the major governance projects that are taken up by the private sector under PPP as systems integrators, would be looking for high-end office automation devices.

## Canon India has set up an R&D unit in Noida? What are the key takeaways?

Our Noida R&D unit is focused on development of application software solutions. We leverage the work created by them in offering better and customized solutions to Indian customers. We also have a design centre in Bangalore that works on hardware technology and firmware on digital imaging. They all function as part of an integrated R&D platforms.

## Is India an attractive destination for R&D activities in the manufacturing domain?

India is indeed a good place to conduct R&D owing to the availability of suitable talent & low cost application ideas.

## Canon has laid emphasis on green manufacturing. Can you elaborate on this?

Even as India aims for double digit GDP growth, sustainable growth models would become increasingly important. At Canon, we aim for reduction in the energy consumption in our manufacturing processes and promote use of bio-degradable plastics, among various other green initiatives. As of now, our products contain 33% of the bio & recyclable plastics that is bio-degradable. We hope to make this 100%. MM

# 'India has vast potential to emerge as a global hub of manufacturing'

**R P Singh**
Secretary, Department of Industrial Promotion & Policy (DIPP), Ministry of Commerce & Industry, Government of India

**The proposed national manufacturing and investment zones (NMIZs) have created new excitement for the manufacturing sector. How different would these zones be compared with the SEZs?**
The NMIZs have been conceptualised as integrated industrial townships with state-of-the-art infrastructure and land use on the basis of zoning; clean and energy efficient technology; necessary social infrastructure; skill developing facilities, etc. The NMIZs would be managed by an SPV which would ensure pre-clearances for setting up an industrial unit. In short, they would be large areas of developed land, with a facilitative business environment and a complete eco-system for manufacturing industry. They would differ from SEZs in terms of size, level of infrastructure planning, and governance structures related to regulatory procedures and exit policies.

**What steps would you recommend for promoting India as a global hub of manufacturing?**
India has vast potential to emerge as a global hub of manufacturing. To my mind, in order to capitalise on this potential, we need to focus primarily on four critical areas. First, creation of good quality physical infrastructure; second, large scale intensive skill development efforts to ensure ready availability of trained workforce. Third, simplification, rationalisation and consolidation of the clearances required to set up industry. Fourth, a facilitative policy regime and eco-system for innovation.

**Are the current FDI norms facilitating greater fund flow into the manufacturing sector?**
The FDI policy aims to encourage and promote the manufacturing sector through an investor friendly regime. Under the current FDI norms, the manufacturing sector is open 100% to foreign direct investment through the automatic route except for very few sectors. FDI inflows into the manufacturing sector have grown from US$ 1.69 billion in 2004-05 to US$ 8.82 billion in 2009-10.

**Are there barriers to technology and capital flows into the domestic manufacturing industries?**
The barriers to technology and capital flows into the domestic manufacturing industries have been progressively eased over the last few years. As a result, we have seen an eight-fold increase in FDI over the last 5 years. India has also emerged as a leading manufacturer of technologically complex products such as pharmaceuticals, auto-components and IT software.

**Inflexible labour laws are often cited as the undoing of the manufacturing sector. What kind of labour laws would create a win-win situation for both employers and workers in this sector?**
Currently, there is a multiplicity of labour laws and compliance requirements of some of them are fairly outdated. These need to be modernised in keeping with the prevalent economic environment; rationalised and consolidated in order to reduce compliance burden and ensure better compliance. It is proposed to look at these issues along with the Ministry of Labour with a view to provide flexibility to the employers while safeguarding the welfare of the workers. We have to encourage industries to create employment and promote worker welfare without sacrificing their cost competitiveness.

**What level of skills development initiatives are needed to enhance the human resource base for the sector?**

Skills development is already a major focus area for the government. A number of programmes have been initiated to rapidly expand the quantity and quality of people trained in the country so that this is not a constraint to industrial growth. Some recent initiatives include establishment of 1,500 new ITIs and 50,000 Skill Development Centres; 15 Advanced Training Institutes for training of trainers, 12 Regional Vocational Training Institutes for Women - all in a PPP mode, and upgradation of 100 ITIs.

**The policy has sought a dilution of the environmental regulations to give impetus to the manufacturing sector. What are your views on this?**

India is committed to maintaining high standards of environmental protection and abiding by all its international commitments in this regard. However, we have proposed to expedite and simplify the procedures related to environmental clearances to facilitate industrial growth. The new Manufacturing Policy also seeks to provide incentives for appropriate clean and green technologies.

**What measures would you recommend for Indian manufacturing to move up the global value chain?**

Indian manufacturing can move up the global value chain by focusing on high quality human resource development including periodic skills upgradation and productivity improvement; acquisition and development of appropriate technologies; and product design and quality as per international standards. The new National Manufacturing Policy will inter alia focus on these areas.

**Are the state industrial promotion policies properly aligned with the DIPP initiatives?**

Attempts are being made to achieve greater alignment between state industrial promotion policies and DIPP initiatives. The states themselves are taking steps to improve the business environment and promote themselves as attractive investment destinations.

**Is DIPP making any special efforts to encourage MSME manufacturing?**

The MSME Act 2006 provides a comprehensive framework for the development of the micro, small and medium sector. DIPP has also kept the interests of the sector in view while formulating its policies and programmes. For instance, the Industrial Infrastructure Upgradation Scheme (IIUS) and the leather sector programme are both based on clusterisation. It is the SMEs which are normally benefited by cluster scheme. The proposed National Manufacturing Policy will also benefit new units in the SME sector either in the NMIZs or outside.

**Are the current FDI norms facilitating greater fund flow in the manufacturing sector?**

Under the current FDI norms, the manufacturing sector is open 100% to Foreign Direct Investment, under the automatic route, except for very few sectors, such as:

- Defence, which has an equity cap of 26% and is subject to licensing.
- Any industrial unit, which is not a Micro or Small enterprise, but is manufacturing items reserved for the MSE sector, which requires FIPB approval for equity of over 24% and an Industrial license under the IDR Act.
- Manufacture of cigars and cigarettes.
- Hazardous Chemicals and Industrial Explosives: where FDI, up to 100% is allowed, subject to obtaining of a license under the IDR Act.

As such, the FDI policy aims to encourage and promote the manufacturing sector, through an investor-friendly regime, in which there are very few restrictions on foreign investment into the sector.

The FDI inflows into the manufacturing sector have grown steadily, increasing from US $ 1.69 billion in 2004-05 to US $ 9.50 billion in 2008-09 and US $ 8.82 billion in 2009-10. MM

# Collaborative R&D: Key Growth Driver

## A CII-DIT Study of Collaborative R&D Between Industry and Academics/R&D Institutions In ICTE puts forth key recommendations for Government, industry and academia

Electronics is a technology driven industry. Shortening of product life cycles, miniaturisation, portability, multifunctionality, time to market, mass customisation are some of the underlying features of this industry. Digitalisation and convergence of communications, computer and consumer electronics technologies, emergence of internet as the global communications platform, coupled with the developments in wireless technologies have revolutionised the product portfolio in the Information Communication Technology and Electronics (ICTE) sector.

ICTE manufacturing sector in the country is largely operating in the domain of mature technologies, low value added and price sensitive market. In order to become competitive in exports as well as the domestic market and to leverage the ICTE manufacturing sector in creating wealth, larger employment, and overall economic growth, it is important to transition from low-value added assembly oriented activity to design lead manufacturing. The industry needs to be encouraged to manufacture differentiated, value engineered products, using its R&D strengths for moving up the value chain.

Recognising the benefits of design lead manufacturing, IPR ownership, countries world over encourage R&D through different funding models. Considering the predominant share of private sector in ICTE production, their strengths in R&D need to be harnessed. In the context of the rising cost of R&D, need for sharing of risks, requirement of multidisciplinary expertise, and creating a source for technology inputs to the SME sector, there is a need for encouraging collaborative R&D among the industry themselves (industry consortiums) and also involving academic research/ R&D institutions.

With the aim to encourage industry to collaborate with premier academic and government R&D institutions Department of Information Technology (DIT) in 2008 announced the Multiplier Grant Scheme (MGS). The scheme provides for grant up to twice the amount committed by industry for undertaking R&D with an institute. The grant would be released to the institute/industry consortium.
The objectives of the scheme are:

i. Establish, nurture and strengthen the linkages between the Industry and Institutes;
ii. Promote industry oriented R&D at institutes;
iii. Encourage and accelerate development of indigenous products and packages; and
iv. Bridge the gap between R&D / proof-of-concept and commercialisation / globalisation.

Details of the scheme are available on DIT website www.mit.gov.in

The CII-DIT Study on Collaborative R&D between Industry and Academics/ R&D Institutions in ICTE conducted through Frost & Sullivan besides identification of thrust areas for collaborative R&D, covers study of the R&D support models adopted world over, analysis of best practices, concerns of stakeholders. Recommendations have been made on enablers for promotion of creation of industry-academia/ research institutions linkages and broadening of the scope of the scheme.

Based on discussions with the key stakeholders including representatives of industry and academia and on the basis of ongoing research, potential and need for collaborative R&D, market scope for new product development, extent and potential for local design influenced manufacturing, following thrust areas have been identified; LED Lighting, Automotive Electronics, Power Electronics, Instrumentation, Electronics Security and Communication

The Study has advocated the need for supporting incubation centres at universities to develop research practices according to the needs of industries. This would call for:

- Policies supporting a research-oriented education system, primarily focused on fulfilling industry's technology needs; and better management and availability of skilled resources.
- Flexibility to faculty in academia to encourage spread of synergistic effects of collaboration.
- Policies to encourage universities to become centers of excellence.
- Providing seed fund to cooperative programme and encouraging collaborative Research.
- Direct funding by government for R&D in SME sector

The Study has made specific recommendations to DIT, Ministry of Communications & Information Technology, Government of India; industry; and academia.

To DIT, the key recommendations for enhanced R&D and MGS are:

- Creation of Centers of Excellence either attached to universities or stand alone centers.
- Promotion of technology innovation in SMEs
- Government direct funding for in-house R&D
- Investing in innovation infrastructure.
- Creation of dynamic database on existing expertise in academic institutions and research organizations.
- Creation of standard MoU format (for IPR agreement etc).
- Simplification of application process.
- Active marketing of the scheme.
- Extending the MGS for design houses

To the industry, the recommendations are:

- Proactive participation in collaboration with academia.
- Exhibiting preference to Indian Academia over foreign institutions for collaboration.
- Encouragement for university internships for employees.
- Optimal use of Government schemes

And, to the academia, the recommendations are:

- Promotion of academic researchers capabilities.
- Encouragement for industry internships for academics.
- Develop dynamic database of existing expertise in academia.
- Flexibility in system that encourages enhanced participation in collaborative projects.
- Flexible approach towards IPR agreements in collaborative projects.

Implementing these recommendations will go a long way toward building the reach and competitiveness of the Indian electronic hardware manufacturing industry.

Full text of the Study is available on the CII website. The URL is:
http://www.cii.in/PolicyAdvocacyDetails.aspx?id=208&SectorID=S000000012 MM

# Advantage India

## India could emerge as a key manufacturing outsourcing and FDI destination with China no longer being seen as the preferred destination

Even as the US manufacturing sector increasingly relies on China as a low-cost offshoring base, there are fears expressed about this excessive reliance, which in turn might induce many large US and other western manufacturing firms to look at India as an alternative manufacturing base. The fears stem from situations such as the one reported in BusinessWeek in April wherein an American CEO was quoted saying that his $15-billion company's decision to offshore its manufacturing operations to China had come a cropper as the clients for whom the low-cost base was selected had cut their orders and instead asked for products specifically tailored to their needs.

The report said, With production facilities half a world away and six months of inventory already in the pipeline, it was impossible for him to change course quickly. This created a huge headache. He had massive amounts of his own capital and debt capacity tied up in his inventory. And he had little leverage: If he didn't give his customers what they were now demanding, he would risk losing their business altogether.

Harold L. Sirkin, a Chicago-based senior partner of The Boston Consulting Group and author of the article stated that this scenario is all too common these days and underscores a tough decision many Western companies now face: should they tie their futures to China, or should they rethink the relationship.

De-coupling is what is being discussed now but for the US manufacturing firms engaged in China, that is easier said than done. The fact that the economies of the US, European Union, Japan, and Britain, among others, sank into recession virtually in tandem last year shows the world's major economies are more tightly coupled than ever. When one country sneezes, everybody needs to reach for the tissue box.

The report added that this is particularly true of the US and China. China will do what it can, of course, to maintain necessary growth. It's speeding up planned infrastructure projects, for example, and recently announced a $600 billion economic stimulus plan. But it will be a struggle to make up for the dramatic decline in demand for consumer and industrial goods from top trading partners hard hit by recession, wrote Sirkin.

What is most significant about the China-US relationship isn't the amount of trade between the two countries. It's that countless American companies are now doing business in China, and dozens of Chinese companies are making plans to do business here in the US. The US firms are not just manufacturing in China or sourcing from China but have long-term business plans that recognise a significant portion of their future business will come from China's burgeoning middle class.

The report notes that Chinese companies are also establishing beachheads in the US. The recession may have caused things to slow down, but it doesn't change the fact that in the pantheon of nations, the US and China have become a couple. But there is a big difference between mutually beneficial economic relationships, involving large numbers of individual companies. US business and political leaders now have to decide whether it's in their interest to tie the knot with China.

Some companies might be wise to consider other options. Maybe a more open relationship would be beneficial, with some companies outsourcing to China and other low-cost locations closer to home. Exclusive China sourcing, for example, can be a risky proposition at times.

## India: likely alternative

Companies need to create a more balanced portfolio of manufacturing facilities properly aligned with where they are and where their customers are to help set the right risk-benefit balance. While China is key to competitiveness of many companies, it's not the only low-cost option. There are good reasons for some companies to do certain things here at home or in India.

In a similar vein, India could be a recipient of a higher volume of FDI given that China has raised the walls for foreign investments. In the manufacturing sector, FDI is important to the extent that it triggers technology spillovers, assists in human capital formation, contributes to international trade integration, helps in creating a more competitive business environment and enhances enterprise development.

All of these contribute to higher economic growth, which is the most potent tool for alleviating poverty in developing countries. FDI often contributes to creating a more transparent environment. Besides, the presence of foreign corporates and multinational firms encourages more open government practices, raising corporate transparency and assisting in the fight against corruption.

FDI in China has been one of the major successes of the past three decades. Starting from a baseline of less than $19 billion just 20 years ago, FDI in China has grown to over $300 billion in the first 10 years. China has continued its massive growth and is the leader among all developing nations in terms of FDI. Even though there was a slight dip in FDI in 2009 as a result of the global slowdown, 2010 has again seen investments increase. The Chinese continue to steam roll with expectations of an economic growth of a 10% this year.

It appears only natural that capital investments from developed countries would eventually find it safe to invest in democratic countries, with open market economies, and rule of law. India, with a large emerging market, still remains a country that is often overlooked by investors in favour of its neighbours in the east.

The level of FDI that came into India as a percentage of total global investment is about half per cent only. However, it does not reflect India's vast industrial capability, its well-developed political, legal and corporate institutions, the prevalence of the English as a national language, its highly educated labour force, nor its achievements in sectors as diverse as computer software, engineering, medicine, literature and film making.

## Advantage India

In India, FDI is freely allowed in all sectors including the services sector, except a few sectors where the existing and notified sectoral policy does not permit FDI beyond a ceiling. FDI for virtually all items/ activities can be brought in through the Automatic Route under powers delegated to the Reserve Bank of India (RBI), and for the remaining items/activities through Government approval. However, the government approvals are accorded on the recommendation of the Foreign Investment Promotion Board (FIPB).

FDI is now recognised as an important driver of growth in the country. Government is, therefore, making all efforts to attract and facilitate FDI to complement and supplement domestic investment. To make the investment in India attractive, investment and returns on them are freely repatriable, except where the approval is subject to specific conditions such as lock-in period on original investment, dividend cap, foreign exchange neutrality, etc. as per the notified sectoral policy.

Over the years, FDI inflow in the country is increasing. However, India has tremendous potential for absorbing greater flow of FDI in the coming years. Certain new rules put forth by the Chinese government placing restrictions on foreign investments in their domestic manufacturing sector could facilitate a greater flow of foreign investments into the Indian manufacturing sector, which has acquired its own compelling competitive strengths in recent years. Investment opportunities galore for the Indian manufacturing sector. To leverage the investment and outsourcing opportunities, all stakeholders in this domain would be required to create an efficient and enabling environment that draws FDI into the Indian manufacturing sector. MM

# A Killer Hiding in Plain Sight

The principle of making the polluter pay should solve the problem. And, increasingly, polluters are being held to account.

by **Richard Fuller**

What poisons - and sometimes kills - people across developing countries such as India, lies around for all to see, yet isn't talked about or even noticed? It's toxic pollution from hazardous metals and chemicals, such as lead, mercury, cadmium, arsenic, hexavalent chromium and azo-dyes.

We care deeply, and rightly, about health risks like HIV/AIDS, malaria, and tuberculosis. We worry about global environmental issues like climate change and depletion of natural resources. Yet we remain blissfully unaware of toxic sites that are both health and environmental disasters.

In theory, the principle of making the polluter pay should solve the problem. And, increasingly, polluters are being held to account. But what to do about legacy pollution, where the toxic site outlives the polluter? That is, the polluter is defunct or bankrupt, but the polluted site continues to poison lives? Who pays for clean-up then?

Or what if the polluter is a micro-enterprise, panning gold (using mercury) or an SME tanning leather (with hexavalent chromium), and cannot afford to pay for clean-up?

You may think that legacy, and small-scale, toxic pollution is a comparatively minor problem. And you would be wrong. The WHO estimates that 20% of deaths in developing countries can be traced to environmental factors. Toxic pollution is a major culprit, and is now estimated to affect more than 150 million people worldwide. And its health impacts are truly horrendous: shortened life-spans, stunted physical and mental development, organ dysfunction, cancers, respiratory diseases, stomach and skin lesions, and psychiatric disorders. It also undermines immune systems, so people fall ill easier and die easier (with the illness or death not attributed directly to the toxic exposure that may have been substantially responsible).

Worse yet, toxic pollution hits children the hardest. Their smaller bodies and maturing biological systems accumulate higher doses of toxins per unit of body-mass. They also play outdoors, and are thus more exposed to toxic pollution than adults.

But the real tragedy is that toxic sites persist in our midst, when they can be eliminated at (relatively) little expense. The solutions are well known. In the US, for example, the government cleaned up toxic pollution under the (still ongoing) SuperFund (or Comprehensive Environmental Response, Compensation and Liability Act, its full name). Other developed countries have similar programs. As a result, toxic pollution is no longer a killer in these countries. In the process, we have learnt what works and what doesn't.

## What works is:

- an alliance of public bodies, business and civil society, in the community where the toxic site is located
- one or more local champions to drive the alliance
- access to proven clean-up technologies (often low-tech and low-cost)
- providing funding for clean-up directly to the stakeholder alliance.

The good news is that the money required is fairly modest. Low-cost solutions make clean-up inexpensive. The cost per disability-adjusted life-year or DALY (an internationally accepted measure of overall disease burden) can be $1 to $50 (or between $40 and $500 per life saved). This makes clean-up of toxic sites as cheap as, if not cheaper than, bed-nets for malaria or vaccinations.

There really is no good reason why legacy and micro toxic sites should continue blighting young lives in India and other developing countries. And tackling them will yield a bonus: added pressure on active polluters to clean up their act. Raising billions of dollars for climate change doesn't block or delay international funding of bed-nets and vaccinations. Why should toxic pollution be any different?

An advanced developing country like India has its share of toxic sites. Economic growth will see their number rise, unless steps are taken to clean up and prevent further pollution. As industry leaders, CII members could show the way cleaning up their own operating processes and taking the initiative with government agencies and others to clean up as many toxic sites as possible.

- **Richard Fuller** is President, Blacksmith Institute, an environmental non-profit

# Pharma Contract Manufacturing on Growth Trajectory

Indian drugs and pharmaceutical manufacturing segment, which produces more than 20% of the world's generics, has a key role cut out in the global pharma business in the areas of pharmaceutical production and research. Contract research and manufacturing on a limited scale has already touched the Indian shores. Current trends indicate that this activity could increase manifold.

India is a growing pharma manufacturing outsourcing destination with a growth rate of 43% that is thrice the global market rate, driven by its ability to create a differentiating cost value proposition powered by lower manufacturing costs, skilled manpower and strong technical capabilities (contract manufacturing is work sub-contracted to a manufacturer by a company that owns the product design and intellectual property rights).

The Indian contract pharma manufacturing segment has been rated highest in terms of cost efficiency, technical competency and skilled manpower attractiveness as per one survey done by Ernst & Young covering India, Puerto Rico, Ireland, China, Singapore and Eastern Europe. Besides, India is rated as an attractive destination for cost efficiency in contract manufacturing on the back of low manufacturing costs, which are only 35-40% of the cost of manufacturing in the US.

In drug discovery and development services, India is emerging as a lucrative destination, growing at 65%, i.e., more than three and half times the global growth rate, driven by strong chemistry capabilities, skilled manpower and cost value proposition. Not only is the cost factor driving more outsourcing deals for India, factors like scarce pipeline of new molecules are also contributing to this trend.

Thriving contract manufacturing market in India with the country offering significant cost-quality proposition in end-to-end research and development with potential savings of 61% as compared to the US which is coupled with a strong supply of skilled manpower and capital efficiency makes many global pharmaceutical companies lean towards outsourcing to concentrate on marketing their products, without spending time in drug discovery and process of manufacturing. These pharmaceutical companies increasingly turn to contract manufacturing organisations (CMOs) solely to achieve efficiencies in cost, capacity and time-to-market, or to obtain a specific expertise not available in-house.

However, the most dynamic driver behind the use of CMOs in the pharmaceutical industry is the unique, innovative, and state-of-the-art process and production technology offered by Indian pharmaceutical companies. The rapid development of technologies and major changes in market behavior justify focusing on this segment by global pharma players.

Research and Markets, Dublin-based market research firm, has reported that the Indian contract manufacturing market was worth $874 million in 2007. At present, the market occupies a fraction of the total global opportunity; the future potential of the market seems immense. The Indian contract manufacturing market, with its low cost advantage, strong chemistry and reverse engineering capabilities, improving infrastructure and strong incentives from the government, is expected to grow strongly in the next five years. By 2012, the Indian industry is expected to grab nearly 8% of the total global market.

The report comprehensively evaluates that Indian contract manufacturing market is expected to grow in excess of CAGR 37% between 2007 and 2012. Most companies presently outsource APIs and intermediates from India. Moreover, India is also becoming a major hub for outsourcing formulations.

According to the report, the cost of secondary manufacturing in India is around 13-15% of the cost in the US, the UK and Germany, with companies making substantial savings on costs of plant set up, labour and operations. It said that India has more than four times the total drug manufacturing staff than the US and more than 12 times that in the UK. The growth of the contract manufacturing market is expected to provide a major boost to the pharma machinery market in India, which is expected to register revenues up to $822 million by 2010. However, the appreciation of the Indian Rupee against the US Dollar is having a detrimental effect on the profits of many Indian contract manufacturers.

## US Healthcare Bill

The approval of the US Healthcare Bill will also put a thrust to contract manufacturing in the pharmaceutical industry in the near future and is expected to double in the next five years after. The Bill, which aims to bring an additional 32 million people under the insurance net and also plans to reduce the healthcare bill of the state, has opened up opportunities for the use of more generic drugs in the US market. Moreover, the Bill prohibits insurance companies from excluding people with pre-existing medical conditions and dropping policy holders on account of coverage limits.

As India is a prime destination for manufacturing generic drugs due to its low manufacturing cost and the availability of good facilities, contract manufacturing industry will definitely see a rise. Reports say the contract manufacturing industry will see a 10-15% in the near term as many global generic drug companies will place manufacturing orders to feed this new demand.

Besides, with 95 facilities approved by US Food and Drug Administration (FDA), the Indian pharma industry boasts of having the largest number of the US heathcare regulator approved production facilities outside the US.

## Key Elements of Growth

The growth of biologics is at the heart of CMO growth. Unlike pharma-derived new chemical entities (NCEs), material used in Phase III studies for biopharmaceuticals must generally be produced using the final manufacturing process that will be employed in commercial production, including the site of manufacture. This requirement makes outsourced manufacturing even more attractive for biotech drugs than conventional pharmaceuticals, since drug developers risk major capital investment before an investigational compound has demonstrated safety and efficacy. Accordingly, in a 2005 survey 40% of biotech scientists believed GMP manufacturing should be outsourced.

The second major driver of growth in CMO is in biosimilars, with many high selling biologic drugs reaching patent expiry in the next few years. In addition, the approval process for biosimilar drugs is making progress in many countries. With the regulations for bioequivalent drug approval imminent there is a need for more efficient and cheaper methods for manufacturing, which is also helping drive investment in CMOs.

## Conclusion

The Indian government has recognised the situation and is building an environment conducive for research and innovation. There are number of initiatives planned/implemented to provide the much needed impetus to research and innovation in pharma and biotech space. However, India's current spending is only 0.8% of its total GDP on research and innovation which is much lower as compared to developed countries such as US (2.8%), Japan (3.1%), Germany (2.5%) and France (2.2%).

India as an outsourcing market is approximately 3% of the global outsourcing market. The global pharmaceutical and biotech industry is yet to harvest the full potential of India's skilled talent pool, strong technical capabilities and cost value proposition. The domestic Indian drug industry, pegged at Rs 40,000 crore by 2009-end, will get support as many drugs will go off patent by 2013, throwing opportunities for generic drug makers. Around $70 billion worth of drugs are expected to go off patent in the US over the next three years and India is capable of manufacturing a substantial share of the products.

Global players in the pharmaceutical industry are seeing immense prospects in the India as several Indian firms have already entered into research partnerships with multinationals. Besides, India has the world's second biggest pool of English speaking population and a strong system of higher education, so it should be well-positioned to serve as a source for talent for research professionals.

According to a report by PricewaterhouseCoopers (PwC), India will join the league of top 10 global pharmaceuticals markets by 2020 with the total value reaching $50 billion by then. This attributes that India has set its sights on becoming the strategic partner of choice to the global pharmaceutical industry. MM

# Think Twice Before You Throw

Government of India plans to enact a new rule, called the E-waste (Management and Handling) Rules 2010, which makes a producer of electrical and electronic equipment responsible for the collection and appropriate disposal of e-waste generated at the end of life of its products.

Next time your laptop breaks down, when you take fancy to a new model television set, your cellphone dies, or your fridge needs to be replaced, think before you throw.

A recent UN study says waste from discarded electronics will rise dramatically in the developing world within a decade, with computer waste in India alone to grow by 500% by 2020. The report released by the United Nations Environment Programme (UNEP) predicted that by 2020, e-waste from computers would grow by up to 400% in China and South Africa.

According to the United Nation's Environmental Programme, 20-50 million tonnes of e-waste is generated worldwide each year. Besides exponentially increasing the volume of trash, the processing of e-waste causes health and pollution problems because of the toxic component which are contained in electronic equipment. The report says that the United States is the biggest producer of e-waste, creating around 3 million metric tonnes a year. Close behind is China, which produces around 2.3 million metric tonnes domestically and is where a lot of the developed world's e-waste is sent.

## Indian Scenario

The study predicted that mobile phone waste in India would be about 18 times higher. However, the report outlines smart new technologies and mechanisms which, combined with national and international policies can transform waste into assets, creating new businesses with decent green jobs.

Like China, Brazil and Mexico, who are facing a serious challenge of e-waste management, India will also face rising environmental damage and health problems if e-waste recycling is left to the vagaries of the informal sector.

India's e-waste recycling industry is dominated by informal sector, where tens of thousands of people are estimated to make their living from material recovery. Low technologies are applied by low-skilled workers, resulting in high health and environment risks, including open-sky incineration and wet chemical leaching of metals.

Reverse logistics, especially collection and transport, is the main challenge for the formal recycling sector. Difficulties to access the materials and direct competition with the informal sector make the formal recycling sector extremely tougher for survival. No secure financing operation is available for non-profitable recycling centres. All costs, including collection, transport and disposal of hazardous fractions are taken by the recyclers themselves.


### New Rule

At present, India does not have any dedicated legislation dealing with e-waste. However, the Government of India plans to enact a new rule, called the E-waste (Management and Handling) Rules 2010, which makes a producer of electrical and electronic equipment responsible for the collection and appropriate disposal of e-waste generated at the end of life of its products.

The management and handling of e-waste in India is currently governed by legislation such as the Environment (Protection) Act, 1986, and Hazardous Material (Management, Handling and Transboundary Movement) Rules, 2008. However, existing rules address mainly the handling and disposal of industrial waste generated in manufacturing, and do not take into account the e-waste generated by products like computers at the end of their lifecycle.

The new draft rule, which is available on the website of the Ministry of Environment and Forests, proposed by the government attempts to regulate not only producers, but also recyclers and intermediaries such as operators of collection centers. Consumers are also brought under the scanner of the proposed rule to turn in end-of-life products for recycling.

Under the new rule, producers include manufacturers of products under their own brand as well as those who sell under their brand products that are manufactured by contractors. Importers of products for sale in India are also included under the classification. The proposed rules will also ban the import of used electrical and electronic equipment for charity in the country. The draft rules mandate producers of electronic equipment to ensure that e-waste is collected, transported to specific recycling units, and safely disposed of.

The UNEP report suggests that countries should establish e-waste management centers of excellence, building on existing organisations working in the area of recycling and waste management.

### Gains of Recycling

Recycling is far more efficient, in terms of energy consumption, than producing something out of fresh raw material. If it is done on a nationwide scale, this could lead to significant reduction in energy costs. The energy requires to extract, process and transport metal from a mine to a refinery is much greater than what's required to recycle metal from used products. It costs more energy to manufacture a brand new aluminum can from fresh material than to make 20 cans out of recycled materials.

Recycling generates more jobs than landfilling or incinerating waste. That's a benefit we can't lose sight of. The disposal of 10,000 tons of solid waste: burning it for electricity will create 1 job; collecting and dumping this on a landfill will create 6 jobs; processing the waste for recyling will generate 36 jobs, says experts. A World Bank estimate says that over 1% of the population of a big city in the developed world comprises waste recyclers. In India, this sector, predominantly informal, works like a pyramid, with waste-pickers at the bottom and the re-processors at the top, employing over 15 lakh people.

Every cost-reduction, energy efficiency, materials conservation, and job generation benefit of recycling adds up to help build a strong economy for the country. Recycling, done on a country-wide scale, has a huge positive impact on the economy.

So, think twice before you throw!

## Army of Waste-Pickers

The scrap trade in Delhi is one of the biggest and most robust in India. Before the ascent of China, in the mid-1990s, it was believed to be one of the biggest trading spots in Asia. Approximately 2,000 tonnes of scrap is recycled in Delhi. This responsibility rests on the shoulders of a giant army of over 80,000 waste-pickers, over 25,000 small scrap dealers, a few thousand itinerant buyers and over 50,000 sorters and bailers, and e-waste dismantlers.

# Toward Digital Inclusion

Persistent demand for faster decision making, improved response time and transparency in government and businesses are driving the demand for office automation & imaging, said Mr M Raman, Director General(S&D) in his inaugural address at the CII National Seminar on Office Automation & Imaging Sector: Status, Trends & Opportunities. He added that the government is the single largest customer of these systems and the challenge in the faster adoption is the procurement procedures. He stressed upon the importance of IT asset lifecycle management to extend the usable life of the products.

Dr B K Gairola, Director General, National Informatics Centre in his keynote address brought out the need for providing connectivity to 70% of the population who do not have access to cyber space. Creation of G2X interfaces, improvements in efficiency, accountability and transparency of the government processes, empowering citizens and meeting the national objectives of digital inclusion are key to the e-Governance. He mentioned that the growth in future would be fueled by ICT application in the rural areas. This would require low cost scaled down products offering the essential product functionalities with focus on standardisation and interoperability.

Mr Anurag Goyal, Director (e-Governance), Department of Information Technology, in his special address highlighted the government's initiatives in e-Governance, setting up of one lakh community service centres and capacity building for e-Governance projects. He shared the need for recognising changes taking place in our work approach at 3 levels of human, workplace and in the government.

Mr Kensaku Konishi, Chairman of CII Office Automation & Imaging Division and President & CEO Canon India Ltd in his welcome address mentioned that workplace technology which started as a productivity and business tool, evolved into a high priority requirement and is now a prerequisite for doing business. While the industry is committed to delight the user at the same time it is conscious of its social responsibilities towards minimizing e-waste. He mentioned that the objective of the seminar was to create a platform for interaction with the user segments in an effort to communicate the OA&I solutions being offered by the industry and elicit suggestions for making this industry more responsive to the customers requirements.

Mr Alok Bharadwaj, Senior Vice President Canon India Ltd, brought out the importance of this sector in the networked government, society and economy. He drew attention to the correlation between ICT integration in the economy and the growth of GDP. Mr. Bharadwaj added that given the high order of skill set available in the country, we must strive to position India as the documentation hub for the world.


(From left) Mr Kensaku Konishi, Chairman, CII OA&I Division & President and CEO, Canon India; Dr B K Gairola, Director General, National Informatics Centre; Mr M Raman, Director General, Directorate General of Supplies & Disposals (DGS&D); Mr Anurag Goyal, Director, Department of Information Technology; Mr Alok Bharadwaj, Senior Vice President, Canon India; Dr R C Chopra, Senior Advisor, CII


(from left): Mr Vipin Tuteja, Executive Director, Xerox India; Mr Prasanto Kumar Roy. Group Editor, Cybermedia; Mr Sujit Sanyal, Senior Vice President, Ricoh India; Dr Gulshan Rai, Director General, CERT-in & GC CCBT, Department of Information Technology; Mr Alok Bharadwaj, Senior Vice President, Canon India; Mr P B Prasad; Managing Director, Rex Rotary India; Mr Ashish Jain. Deputy Director, CII

# Indian Mining Explores Chile

The CII Mining and Construction Equipment Division recently led an investment and technology based mining mission to Santiago, Chile coinciding with the Expomin 2010 held during 12-16 April 2010. A 13 member delegation formed part of the group comprising representatives from companies such as Tata Steel, Mc Nally Bharat, Vedanta, Konkola Copper Mines, Tega Industries, JSW, BEML, amongst others.

At a meeting held with Mr Pablo Wagner San Martin, Vice Minister of Chile, the group was informed that Chile was looking eagerly at India for investments in the automobile, gas and mining sectors. Chile is the copper basin of the world producing more that 70% of the global copper production. However, the Vice Minister mentioned that iron ore reserves were present in Chile but a need for exploration was needed for companies to take up these iron ore blocks.

Tata Steel which is scouting for iron ore blocks to supply raw material for their Corus plant in Europe showed keen interest in looking at investments in iron ore blocks. As informed by their representative, they would return to Chile with a larger contingent to take the issue to higher levels.

Among other companies, Mc Nally Bharat, a member of CII's Mining Equipment Division, who are turnkey solution providers for metal beneficiation plants, also showed deep interest in investing in Chile's mining sector. Hindustan Copper Ltd, a PSU under the Ministry of Mines, is also looking at Chile as a potential partner in modernisation and expansion of copper mines in India.

At a meeting with Invest Chile Corfo, Chile's federal and statutory rules and regulations for starting business in the country were mentioned to the delegation. Chile's business start-up processes are considered one of the simplest and quickest in the whole of Latin America and this was found to be of immense interest to the delegation members.

At a meeting, Mr Mittal, Joint Secretary and Financial Commissioner, Ministry of Mines and Coal, Mr Pradeep Kapur, Ambassador, Embassy of India in Santiago, mentioned that trade between India and Chile was US$ 2.2 billion. He further mentioned that Indian companies already present were TCS who had over 7,000 employees in Chile and needed to see Indian mining companies in the future. On the trade side, there was a Preferential Trade Agreement between India and Chile signed in August 2007. There are possibilities to discuss CEPA/FTA between India and Chile in April / May shortly, he mentioned.

CII mining delegation to Chile

# India: World's Workshop

Speaking at an interactive session on FDI policy organised by CII, Minister for Commerce and Industry, Mr Anand Sharma, outlined his vision for India to emerge as the world's workshop. Mr Sharma stressed that global investors have shown their confidence in India and the country has emerged as one of the most attractive investment destinations in the world. So much so that FDI flows into India remained robust even during the economic downturn.

Highlighting the importance of transparency and facilitation, Mr. Sharma expressed confidence that the new comprehensive document on FDI policy released by the ministry that consolidates all FDI related policy information will go a long way in creating investor confidence. The minister was emphatic that the next decade is a crucial one for India's future as this nation of over a half a billion young people seeks to leverage its demographic dividend. To emerge as the world's leading manufacturing centre, focus will have to be on attracting new technologies such as green manufacturing and developing the skills of Indian workers. Mr Sharma was hopeful that the new Manufacturing Policy being developed in consultation with stakeholders would be a driving force in making India the manufacturing hub of the world.

Mr R.P. Singh, Secretary, DIPP, said that the ministry was already working on several discussion papers to address various concerns of the industry with reference to industrial and FDI policy. These discussion papers would be made available to industry stakeholders for consultations and this process would lead a more robust reform process.

Speaking at the same forum, CII Past President, Mr Shekhar Datta referred to the importance of transparency of policy for prospective investors and the need for government and industry to work together to make sure that the initiative by the ministry to simplify FDI regulation by the means of the comprehensive FDI policy document was made known to prospective investors globally.


(from left) Mr R P Singh, Secretary, DIPP, Ministry of Commerce & Industry; Mr Anand Sharma, Minister of Commerce & Industry, Government of India; Mr Shekhar Datta, Past President, CII; Mr Chandrajit Banerjee, DG, CII.

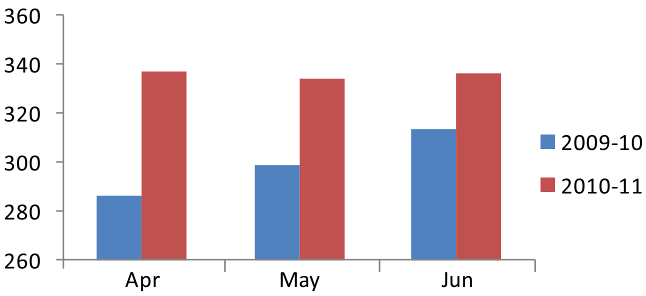
# Manufacturing: Key Growth Drivers

### IIP

According to the Quick Estimates of Index of Industrial Production (IIP) for the month of June 2010, the General Index stands at 312.4, which is 7.1% higher as compared to the level in the month of June 2009. The cumulative growth for the period April-June 2010-11 stands at 11.6% over the corresponding period of the previous year.

The IIP for the manufacturing sector for the month of June 2010 stands at 336.4 with the corresponding growth rate of 7.3% as compared to June 2009. The cumulative growth during April-June 2010-11 over the corresponding period of 2009-10 was 12.2%

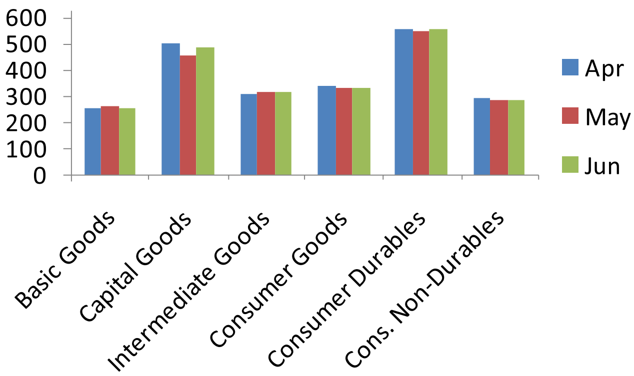
**IIP - Manufacturing (base: 1993-94 = 100)**




Indices for June 2010 are Quick Estimates.

In terms of industries, as many as 13 out of the 17 industry groups (as per 2-digit NIC-1987) have shown positive growth during the month of June 2010 as compared to the corresponding month of the previous year.

**IIP Use Based - April-June 2010-11 (Base: 1993-94 = 100)**




As per Use-based classification, the sectoral growth rates in June 2010 over June 2009 are 3.4% in basic goods, 9.7% in capital goods and 8.7% in intermediate goods. Consumer durables and consumer non-durables have recorded growth of 27.4% and 1.3% respectively, with the overall growth in consumer goods being 8.3%.

### CII ASCON Survey: April-June 2010

The manufacturing sector has maintained its growth momentum in the quarter April-June 2010, as cited in the CII ASCON survey for the period April-June 2010 over April-June 2009. The Survey cited that out of 110 sectors covered, 30 sectors (27.3%) have registered excellent growth rate of more than 20% in April-June 2010 compared to 10 sectors (9%) in April-June 2009. The sectors registering high growth rate increased from 18 (16.4 %) in April-June 2009 to 31 sectors (28.2%) in April-June 2010.

The share of the sectors registering negative growth rate significantly declined to 15.5% (17) in April-June 2010 from 41% (45) in the corresponding period of the previous year. The share of the moderate growth sector also declined to 29.0% from 33.6% during the same period.

According to the Survey, the sectors which recorded excellent growth are: air-conditioners (50%), refrigerators (32%), vehicle industry (33.2%), M&HCVs (91, 57%), passenger cars (32.5%), natural gas (43.5%), ball & roller bearings (30%) and machine tools (16%).

Energy meters (16.06%), forging (15.0%), nylon filament yarn (10.2%), fluid power (15%), electric fans (16.0%), induction furnace (10.0%) were the sectors in the high growth category while sectors like asbestos cement (6.4%), caustic soda (2.06%), rubber goods (5.0%), sponge iron (1.64%) were in the moderate growth category. Polyester staple fibre (-0.65%), tea (-4.5%), groundnut oil (-28.4%), cigarette & tobacco (-2.0%) reported negative growth.

The CII ASCON survey also revealed that out of 38 sectors reporting for sales, 16 sectors recorded excellent growth, 8 sectors reported high growth, 8 sectors reported moderate growth and 4 registered negative growth.

The Survey also tracked export performance of manufacturing industries. Out of 23 sectors reporting exports, 11 were in the excellent growth category, 4 have showed high growth, two sectors were in the moderate growth category while five reported negative growth.

**Growth of Manufacturing during April-June 2010-10**

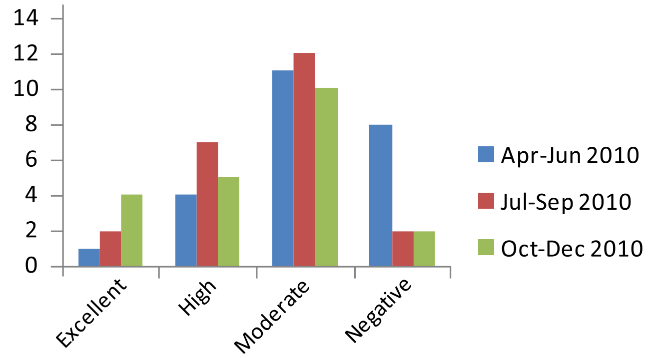
| Period | Excellent (>20%) | High (10-20%) | Moderate (0-10%) | Negative (<0%) | Total Sectors |
|---|---|---|---|---|---|
| April-June 2010 | 27.3% (30) | 28.2% (31) | 29% (32) | 15.5% (17) | 110 |
| April-June 2009 | 9% (10) | 16.4% (18) | 33.6% (37) | 41% (45) | 110 |

* the figures in the bracket indicate number of sectors.

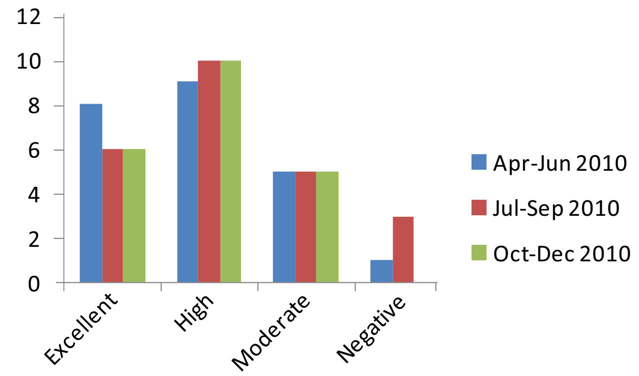
The Survey further cited that the manufacturing sector is expected to maintain buoyant growth levels in the quarters July-September 2010 and October-December 2010. Out of 110 sectors covered, 27 sectors are expected to register excellent growth rate of more than 20%, 30 sectors are expected to record high growth rate of 10-20%, 42 sectors are expected to record moderate growth rate of 0 to 10% while 11 sectors are expected to be in the negative zone in the quarter July-September 2010.

The quarter October-December 2010 is expected to be better

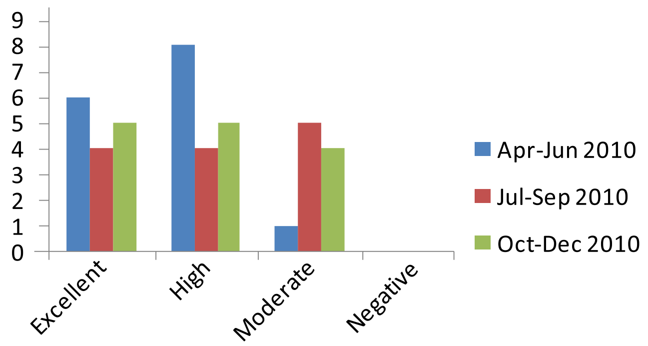
**Basic Goods (Q1 growth & Q2 & Q3 projections)**



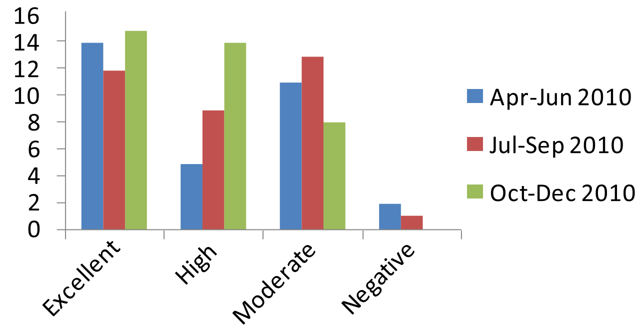

**Intermediate Goods (Q1 growth & Q2 & Q3 projections)**



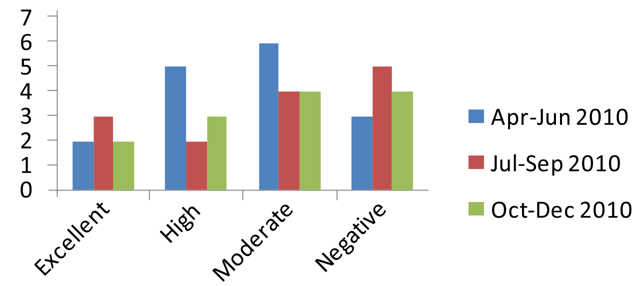

**Capital Goods (Q1 growth & Q2 & Q3 projections)**




**Consumer Durables (Q1 growth & Q2 & Q3 projections)**




**Consumer Non-Durables (Q1 growth & Q2 & Q3 projections)**




than the July-September 2010 quarter in terms of more sectors recording excellent and high growth rates. Out of 110 sectors, 32 sectors are expected to record excellent growth, 40 sectors are expected to record high growth. Consequently, the number of sectors recording moderate and negative growth is expected to

**Production Growth Expectations in Q2 (July-Sept 2010) and Q3 (Oct-Dec 2010).**

| Period | Excellent (>20%) | High (10-20%) | Moderate (0-10%) | Negative (<0%) | Total Sectors |
|---|---|---|---|---|---|
| Apr-Jun 2010 | 31 | 31 | 34 | 14 | 110 |
| July-Sept 2010 | 25 | 28 | 43 | 14 | 110 |
| Oct–Dec 2010 | 30 | 32 | 40 | 8 | 110 |

decline to 32 and 6 respectively.

Sectors that are expecting to grow at an excellent rate include automotive, electronics & consumer durables, ball & roller bearing and forging. Other sectors like tractors, electric fans, machine tools are also expected to perform fairly well in the next two quarters.

## Contact us

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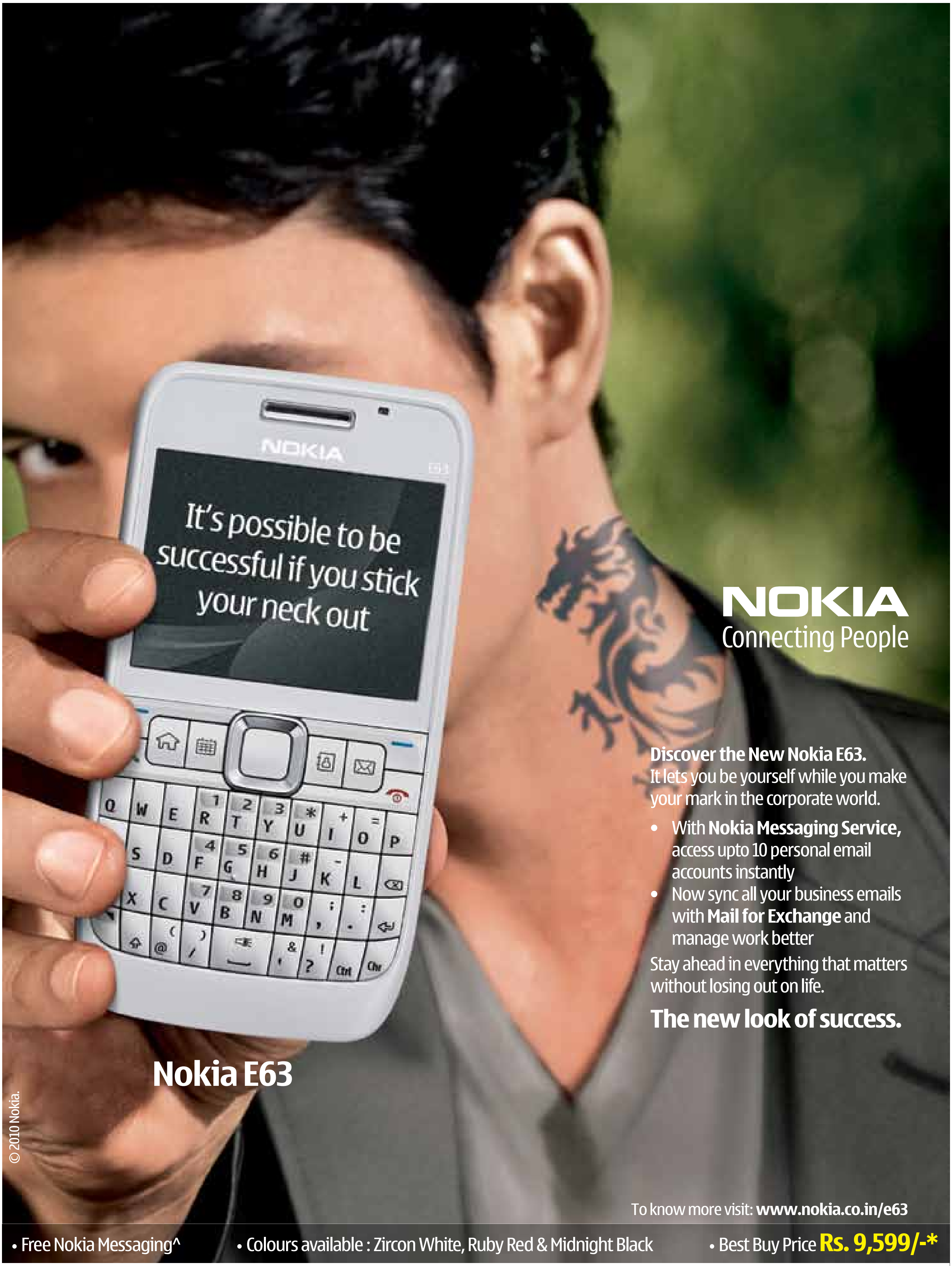

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