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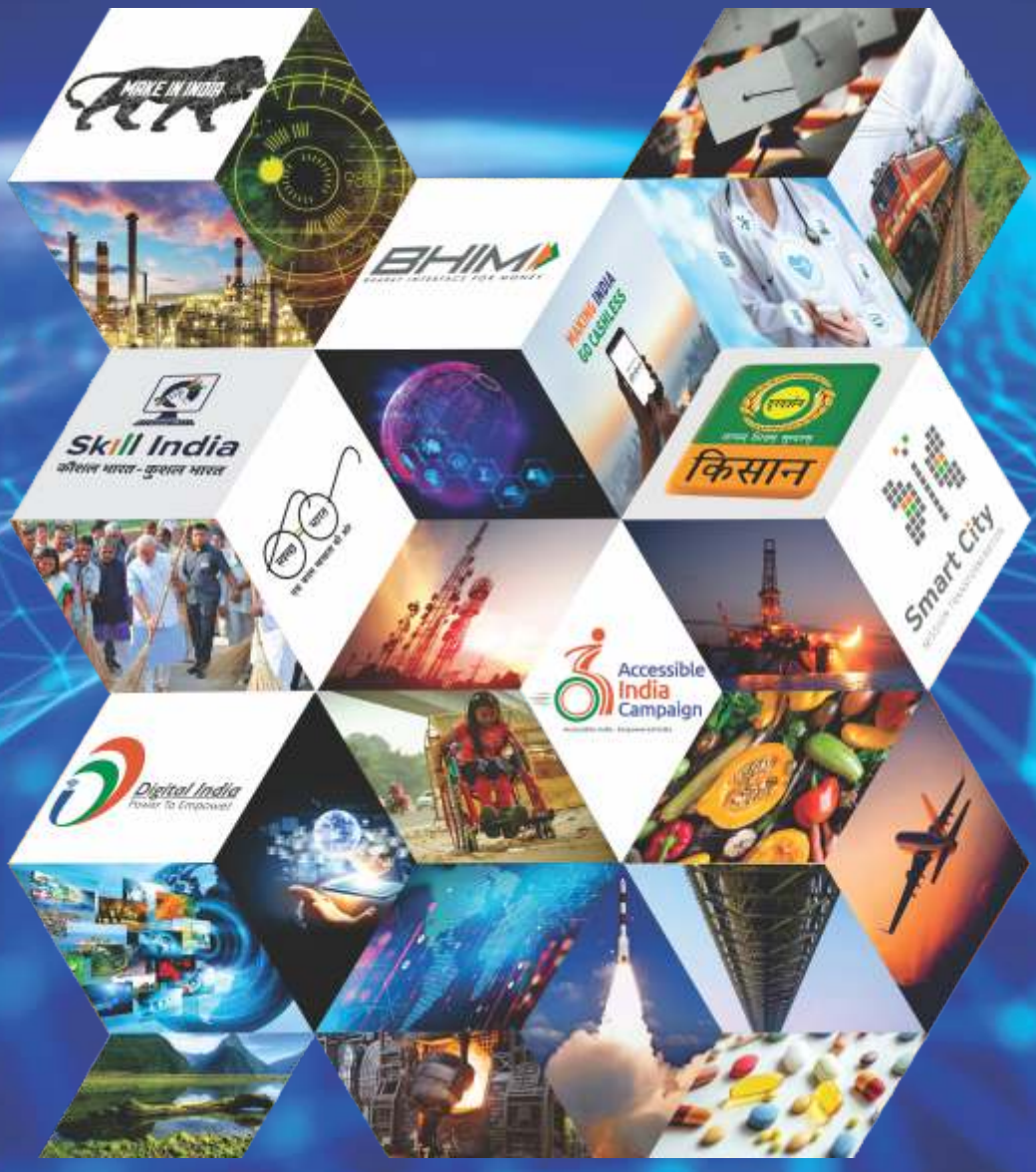
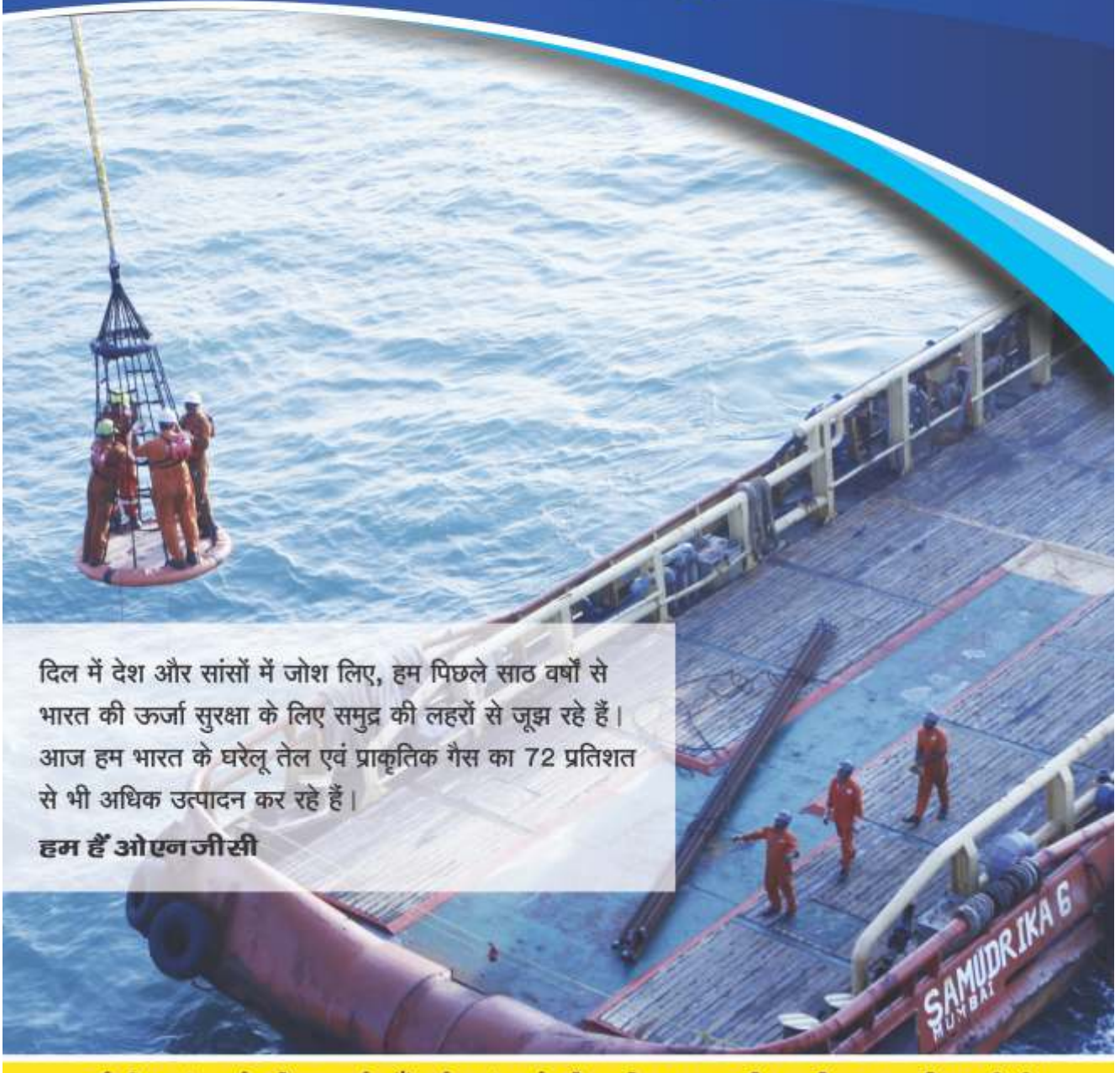
STANDING CONFERENCE OF PUBLIC ENTERPRISES



NEW INDIA VISION 2022

ओएनजीसी
ONGC

समुद्र की लहरों से, देश के दिल तक...
ऊर्जा के संचालक



दिल में देश और सांसों में जोश लिए, हम पिछले साठ वर्षों से भारत की ऊर्जा सुरक्षा के लिए समुद्र की लहरों से जूझ रहे हैं। आज हम भारत के घरेलू तेल एवं प्राकृतिक गैस का 72 प्रतिशत से भी अधिक उत्पादन कर रहे हैं।

हम हैं ओएनजीसी

नई दिशाएं, नई खोज, नई ऊँचाई एवं नई सोच के साथ आगे बढ़ते हुए - ओएनजीसी

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Vol. 38 No. 4 September, 2018

KALEIDOSCOPE
STANDING CONFERENCE OF PUBLIC ENTERPRISES

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के. वि. चौदरि
K.V. CHOWDARY

केन्द्रीय सतर्कता आयुक्त
केन्द्रीय सतर्कता आयोग
Central Vigilance Commissioner
Central Vigilance Commission

MESSAGE

It is heartening to note that Standing Conference of Public Enterprises (SCOPE) is coming out with a special issue of KALEIDOSCOPE on "India Vision 2022".

The onus of fulfilling the dream of a self-reliant and prosperous nation by 2022 lies with every citizen of the country. Public Sector Enterprises (PSEs) being the proponents of socio-economic development have to be at the forefront of this massive movement. This calls for excellence in corporate governance, as only a transparent and ethical system can ensure a durable result. The contribution of PSEs is essential to acheive our national goals and "Vision 2022". Such contributions to be extensive and inclusive, excellence, transparency and ethical system are fundamental needs.

I extend my best wishes to PSEs in this journey. I also congratulate SCOPE for coming out with this special issue.

(K.V. Chowdary)

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MESSAGE

In the year 2022, India would be celebrating its 75th Independence Day. To accelerate the economic development by then it has to tackle the prominent problems like Poverty, Corruption, Terrorism etc. to meet the aspiration of country's 125 crore people. Independence from these will ensure India accomplish its noble vision **New India – 2022** which is a hexagonal approach of making India – *Swachh* (Clean), *Swastha* (Healthy), *Shikshit* (Literate), *Sampann* (Prosperous), *Saksham* (Capable) and *Surakshit* (Safe).

Public Sector Enterprises (PSEs) with its vast reach and experience can strengthen the agenda of inclusive and sustainable growth. Their contribution in the past has been exemplary and I am sure they would continue to work with dedication and commitment to take the country forward.

I am glad to learn that Standing Conference of Public Enterprises (SCOPE) has come out with the special issue of KALEIDOSCOPE on the **country's Vision New India – 2022.** This issue would certainly throw light on important aspects to realize the dream of New India.

(Amitabh Kant)
21.08.2018

CHAIRMAN'S DESK

India is one of the fastest growing economies in the world and is expected to be among the top economies in the near future. As per available data, India has grown at 8.2 percent in the June 2018 quarter and the Indian economy is expected to grow around 7.9 percent in 2018-19. Growth is supported by strong urban and rural demand and improved industrial activity. International bodies like International Monetary Fund, World Bank etc. are optimistic about India's growth prospects.

India has improved its ranking in the World Bank's ease of Doing Business Report by 30 ranks over its 2017 ranking and is ranked 100 among 190 countries. This significant improvement in the ranking reflects India's commitment to emerge as preferred investment destination.

India has retained its position as the 3rd largest start up base in the world and also boasts of having a vast pool of skilled professionals. With ambitious development programmes like Digital India, Make in India, Skill India Start up India etc. government aims to transform India into a modern and competitive economy.

As the country is moving forward, PSEs have been contributing immensely to the long term prosperity of the nation. They have been using new technology to improve their systems and processes. In line with the Make in India initiative, they have been giving boost to indigenous production and thrust to research and development. In line with Skill India initiative, they have taken numerous initiatives to empower the work force with required skill set which make them employable and self reliant. Through this CSR initiative and welfare measure,

PSEs continue to enhance the quality of life of the communities in and around their projects/office/ units.

Hon'ble Prime Minister has posed five challenges to PSEs viz., Maximizing Geo Strategic Reach of PSEs; Minimizing India's import bill; Ways to integrate innovation and research in PSEs; Optimum utilization of CSR funds and, New development model by Indian PSEs. PSEs have been gearing up to fulfill these for the better future of the country. Their performance is directly linked to the development of the country and hence they are embracing change, adopting new technologies and adhering to good governance practices to achieve higher excellence and increase the contribution to nation building for the benefit of India's 1.3 billion citizens.

The country is aggressively moving forward to accelerate the pace of development and has targeted to achieve Vision New India by 2022. However, some of the issues viz., poverty, corruption, illiteracy, remain a concern which are leading to economic inequalities. For the sustained economic growth, these issues need to be urgently tackled. The country needs the concerted efforts of each and every individual to make the Vision of New India of our Hon'ble Prime Minister a reality. PSEs are committed to play a key role towards national priorities and make India a Superpower.

We have come up with the special issue of KALEIDOSCOPE to focus on key areas leading to New India 2022 and PSEs contribution to realize this noble vision. I hope this issue will be a good read for everyone.

I appreciate the efforts of SCOPE team in bringing out this special issue and wish SCOPE and PSEs all success in their constant endeavour.

Ved Prakash
Chairman, SCOPE

Sovereign Wealth Fund - Consolidated Investment Arm for Indian CPSEs

Dr. U. D. Choubey
Director General
SCOPE

India announced a strategic decision in 1991 to divest the government shareholding in public sector units gradually so as to align the temples of modern India with a dynamic corporate world which the country was exposed due to liberalisation of the economy in the same year. The intent behind disinvestment was to shift focus of the government to economic growth and development of the economy by garnering money through divesting its stake in public sector enterprises (PSEs). The amount collected through disinvestment was to be used for the purpose of financing large scale infrastructure projects, reduce fiscal deficit and develop the economy socially by increasing spending in education and health. However, over the years, government has been finding it difficult in meeting its disinvestment targets on account of multiple reasons including unfriendly investor market.

Statistically, INR 4.88 lakh crores were budgeted to be collected on account of disinvestment since 1991-92 to 2017-18 however, only about 74% of the amount has actually been collected. In recent years, especially post the global financial crisis of 2007-09, private/ foreign participation in disinvestment has not been encouraging. Even the most recent case of disinvestment of Air India has found itself in jeopardy due to non-availability of suitable buyers. Also, on further analysis of the disinvestment proceeds collected till May 2018, it is observed that 14% of the proceeds are from a CPSE to CPSEs sale and 35% of the divestment proceeds have been contributed by CPSEs and other Government entities through various ways. Hence, it seems that disinvestment is a convenient arrangement towards meeting economic deficits and to a large extend puts a drain on the resources of the CPSEs primarily the Ratna enterprises.

Therefore, the time is ripe to look at minimising government involvement in the functioning and operation of CPSEs by moving from a coordinated agency model of governance to a flatter structure of Sovereign Holding Company, being the apex body for the public sector fraternity. Also, it is time to explore creation of a Sovereign Wealth Fund (SWF) under the apex body so as to look at creating high returns investment portfolio using surplus corpus of the PSEs instead of divesting the government stake in them.

Dynamics of a Sovereign Wealth Fund- What and Why SWF?

As per the World Bank, Sovereign Wealth Fund represents a large and growing pool of savings for the purpose of intergenerational equity and macroeconomic stabilization. OECD defines SWF as " a pool of assets owned and managed directly or indirectly by governments so as to achieve national objectives". Hence, simply put, SWF is a state owned pool of money that is invested in various financial instruments ranging from bonds, equity and even lately used as FDI tool and above all as an investment arm in the domestic as well as international market. The purpose is to funnel the resources into investments than keeping it idle in banks or channelling it back to the economy thereby stabilizing the economy through diversification and even generate wealth for future generations.

The first SWF in its present form came into being in 1950s.

It was created by Kuwait under the name of Kuwait Investment Authority (KIA) to invest its surplus oil revenues. Post KIA new funds were created typically by oil majors including Abu Dhabi Investment Authority, Kirbati Revenue Equalization Fund etc. However later emerging economies such as China and Singapore also launched their own SWFs and presently China Investment Corporation (CIC), State-Owned Assets Supervision and Administration Commission (SASAC), of China, GIC and Temasek Holdings, Singapore are amongst the largest SWFs in the world.

The advantage of SWFs was particularly seen during the bursting of economic bubble during the global financial crisis in 2007-08 when they injected the much needed investment in the financial industry and funds to the worldwide market presenting themselves as stabilizers being the shareholders of last resort. Some of such instances can be found in case of Lehman Brothers debacle wherein CIC started buying stocks of Chinese banks listed on local stock exchanges so as to cushion the banks stock prices due to the fall of the fateful investment bank and also provide liquidity to the major State controlled lenders. Hence, key advantage of SWF is that it provides the much needed economic stimulus to the economy.

Further, SWFs prove to be great bank stimulators by providing capital inductions to domestic banks whenever required. It has been seen time and again that SWFs have been recapitalising banks so as to strengthen their lending capacity. In the past CIC provided major capital inducement to Agricultural Bank of China prior to its IPO so as to increase its capital strength to raise funds. Also, in 2009 KIA rescued Gulf Bank by injecting over $ 420 million in the bank.

As per the World Bank, Sovereign Wealth Fund represents a large and growing pool of savings for the purpose of intergenerational equity and macroeconomic stabilization. OECD defines SWF as " a pool of assets owned and managed directly or indirectly by governments so as to achieve national objectives". Hence, simply put, SWF is a state owned pool of money that is invested in various financial instruments ranging from bonds, equity and even lately used as FDI tool and above all as an investment arm in the domestic as well as international market.

Besides being capital providers, SWFs also prove to be major fuelling engines to economic sectors. They play a significant role in financing key economic sectors of domestic as well as global economy. At present SWFs hold key interests in infrastructure and real estate globally. Lastly, since they are long term shareholders and wealth creators, they provide much needed stability to otherwise highly speculative and volatile financial markets.

International Presence of Sovereign Wealth Funds and their performance

Since the presence of SWFs is almost a century old, their portfolio size has also increased manifold. As per Reuters, SWFs investment witnessed a strong growth of 13% in 2017-18 and as in March 2018 the underlying asset value held by all SWFs globally tantamount to $7.45 trillion with 10 largest funds managing 74% of the total assets globally.

It may also be noted that as per a report by PWC , in 2015 there were 125 SWFs which is expected to grow to 146 by 2020, an increase of 17% in 5 years. Further, as per the report, sovereign investors' assets are likely to grow to USD 15 trillion by 2020. Infact, the report points out that even now top 15 sovereign investors hold 60% of the total assets base of which 6 funds are based in Asia (including two in China and Singapore each), 2 in Europe, 4 in Middle East and 3 in North America (particularly USA and Canada). Even though not amongst the top, Africa also has significant presence of sovereign fund with $0.17 trillion asset under management of the sovereign fund in 2015 which is expected to grow to $0.30 trillion by 2020.

Performance wise, Asian SWFs have been performing extremely well. Taking the example of Temasek, the portfolio value of the fund has reached $235 billion which was $86 billion in 2009. Even looking at the return

to shareholders, it has reached 20% in 2018 whereas the average return to shareholder since the fund's inception in 1974 has been 17%. Similarly, Khazanah of Malaysia has been showing a strong performance with an increase of 13% is asset value to RM 115.6 billion in 2017 from RM 102 billion in 2016. The annual return to shareholder has been close to 11%. The worlds' largest SWF is in Norway valued at $1 trillion with an average shareholder return of 13.7%.

Owing to impeccable management of the sovereign funds, countries have not only been able to earn a rich return on their investment but also reap benefits of high returns on investment in form of fast and stable growth in their economies.

Exploring Sovereign Wealth Fund as replacement for disinvestment of Indian PSEs

After being liberated from the colonial rule in 1947 India opted for a mixed economy wherein private and state enterprises coexisted so as to provide the much needed impetus to the growth of the struggling Indian economy. However, so as to protect the social interests of the nation and build a development path, Public Sector Enterprises (PSEs) were created so as to provide much needed economic upliftement along with meeting the social welfare measures such as employment generation, development of backward areas etc. At that time, private sector was neither financially strong nor prepared for providing the welfare approach to the country. Till the present time PSEs have been the frontrunners in assisting the socialistic development of the country without compromising on the commercial parameters.

However, with liberalisation process of disinvesting PSEs started, which is continuing till now and infact being more aggressively done in the present times. Target for disinvestment is being scaled up every year with 2018-19 disinvestment target fixed at INR 80,000 crores of which about INR 10,000 crores has been achieved so far. Nevertheless, as per historic trends, yearend efforts are rampantly scaled up and profit making CPSEs and Public FIIs are mandated to buy stakes being offered by the government through disinvestment so as to meet disinvestment target as well as manage the fiscal deficit.

In the budget of 2015-16 the government had outlined its intent of taking steps and drafting policies so as to efficiently manage its stake in CPSEs to ensure maximum return on investments made in them. Time and again the government has been signalling that the approach of disinvestment is shifting from 'divestment based approach' to 'investment based approach' however results just show the contrary. CPSEs are still mandated to pay higher dividends, maximise their capital expenditure, maintain lesser cash and bank balances by investing surplus in other PSEs (generally that are being divested) or in government schemes etc. Hence, it is of utmost importance that PSE funds are utilised in the best possible manner without compromising on returns or security of their investment along with ensuring that not all is lost in meeting economic deficits but same should be retained for furtherance of PSEs commercial and welfare objectives.

In 2016-17, CPSEs had liquid funds (cash and bank) and surplus of INR 11.17 lakh crores. The surplus funds available with PSEs could be used to form a Sovereign Wealth Fund (SWF) to be invested both in domestic and overseas assets so as to earn return on investments made which shall either be reinvested or used for furtherance of commercial and social objectives of the PSEs. However, PSEs should be allowed to prioritise their capital expansion and cash needs for organisational functioning before the same is fully absorbed into the SWF.

Creation of a SWF would not only provide a stable fund to CPSE but also provide a momentum to the economic development of the country. Looking at international trends of return to shareholders and assuming that the investment portfolio for the Indian SWF is done efficiently, return on investment is likely to be more than what the government is able to mobilise through disinvestment.

Further, investment of SWFs is likely to bridge the gap that the government budgets face due to investing in infrastructure which is augmented by weak banking systems and increasing global infrastructure demand. As per the World Economic Forum approximately $ 2 trillion is required every year to fund global infrastructure. SWFs prove to be a very effective tool in building infrastructure requirements of economies (especially emerging and under developed) as such projects are strong on fundamentals, have a long term vision and generally provide good yields on investment made. Internationally, there is a fierce competition for investing in prominent infrastructure assets. To exemplify, London Heathrow Airport has 7 institutional investors including SWFs from China, Singapore and Qatar. Also Gatwick Airport in London has 5 owners including SWFs from Abu Dhabi and Korea. Hence, Indian SWF can also explore to invest in infrastructural opportunities both in domestic and global economies. However, as a caution especially for SWF formed from PSE funds, decision to invest in infrastructure by such SWFs should be solely based on commercial grounds and not economic or social externalities of the country. If not done so it is likely complicate accountability of the fund as its management cannot be equated to appropriate returns.

Formation of Indian SWF can go a long way in stabilising and meeting the capital needs of the banks in particular public sector banks. At present, public sector banks need to be recapitalised so as to maintain their regulatory requirements and also undertake reforms of the banking system. However, such infusions put pressure on the government financing arrangements. SWFs, once formed, can be used to infuse capital into banks as shareholders. This would help the bank in getting funds and the government would save on the money that it would have otherwise capitalised to the banks. Additionally, banks would be more accountable and sincere in their operations as SWF would be a shareholder scrutinising its every lending decision.

Investment of SWF in overseas assets may also be explored. This is likely to create not only influx of foreign exchange but also meet the twin objective of reducing current account deficit along with fiscal deficit thereby improving the overall economic growth of the country.

Amongst many benefits that the SWF is likely to reap, the key would be that there would be no loss of dividend to the government. This is because they would not be required to lose anymore shareholding interests in the PSEs. Also, since the indirect owner of the SWF would be the government, any return earned by the SWF would also be the return on investment to the Government. In fact, an arrangement to this effect may be made at the time of formation of the fund however the terms should be based on commercial prudence and not subject to economic or budgetary requirements of the government that may change from time to time.

Also, like Temasek Singapore, Indian SWF may also engage in divesting of its holdings from time to time. In 2017-18, Temasek invested S$ 29 billion in companies while divested S$ 16 billion. Since its inception, Temasek has invested S$ 203 billion and divested S$150 billion. Divestment of shareholding should be based

upon commercial reasons such as realisation of capital gains, management of asset allocation and managing of risk appetite. This would also give the fund competitive edge and better bargaining power to offload its shareholding.

Formation of an Indian Sovereign Wealth Fund would go a long way in providing high returns on its investments along with mobilisation of resources much more than what the government has achieved or seeks to achieve from dilution of its holding in CPSEs.

Indian Sovereign Wealth Fund under the Sovereign Holding Company – Probable Model

PSEs have time and again been branded as pioneers of Indian economic development who have always engineered growth for the country in the toughest times be it at the time of independence when the British handed over the country in the most shackled state or at the time of global meltdown in 2007-09 when they provided the much needed cushion by growing strongly. However, the 'temples of modern India' have always been subject to stringent conformance norms by following multiple checks and balances.

It is high time that PSEs are provided real autonomy by converging heterogeneous checks and balances into necessary few and progress towards a flatter structure of governance for PSEs by creating a Sovereign Holding Company as the apex body.

The Apex body shall be created so as to consolidate multiple synergic PSEs into a single sector thereby not only making the governance simpler and measurable but also take advantage of economies of scale, greater negotiating powers, higher value of assets etc. A probable model for a Sovereign Holding could be drafted as a three-tier structure wherein at the top is the Apex Sovereign Holding Company exerting ownership over sector specific sub-holding companies which entail responsibility of core sector and related PSEs.

The Sovereign Holding Company (SHC) should be declared as owner of central public sector enterprises (CPSEs) with power to allocate fund out of the consolidated sovereign fund from CPSEs surplus for project expansion. Besides, it should also be empowered to invest in domestic/ global markets through its SWF in line with similar international bodies like Temasek, SASAC, CIC, Khazana, Norway SWF etc. The return on such investments is expected to wipe out the fiscal deficit completely and would create surplus for research, development and social sector.

Key responsibility area of the Apex body shall also include being custodian of the Sovereign Wealth Fund formed out of the surplus funds of the PSEs after retaining amount required by individual PSEs for capital expansion, project execution and working capital requirements. The SWF should be directly under the supervision of the Finance Minister and free from multiple political interferences. The fund may be governed by Department of Investment and Public Asset Management (DIPAM) or an equivalent body through a 12 member board that would be responsible for investment decisions and application of the fund. The Board should comprise of a perfect blend of intellect and experience so as to ensure that the portfolio being invested reaps maximum returns while ensuring effectively managed risks. The probable members of the board could include academicians especially from field of maths, statistics and economics, portfolio managers, researchers, industry, professionals etc.

The investment strategy of the fund could also be varied. The Board could decide to invest a predetermined fraction of the fund into domestic markets so as to ensure development of domestic economy as well. Similar approach is followed by many international funds such as SWFs of Singapore which invested 27% in Singapore markets, 26% in China, 15% in other Asian markets, 13% in North America, 9% in Europe, 7% in Australia and New Zealand, 2% in Africa and 1% in Latin America in 2018. Investing

funds in different geographies not only results in geographical diversification but also portfolio diversification thereby insulating the portfolio against any major or volatile risk.

Though the aforesaid model is only a rough sketch to begin with, the creation of SWF would require multiple deliberations and discussions to arrive at the best possible model suited for the Indian appetite. However, the underlying intent of creating a SWF should be to diversify investment of PSEs surplus instead to divesting its shareholders (primarily being the government) altogether.

PSEs may invest its surplus in domestic & international market

Those PSEs who have generated surplus, keep the amount for their project development & Capex. However, it has been felt that such surplus remains idle for long time. In case such surplus is invested in domestic & international market, the same would yield better return than merely keeping it in banks. It would require expert portfolio management. PSEs should be allowed to invest in domestic & international market through financial experts.

Time to begin – Proposed Action Plan

We are living in the era when megatrends and macroeconomics forces are shaping the world. India is not and cannot be untouched by the developments happening around it. However, in order to maintain pace with the outside world PSEs should be able to perform better with more operational and financial autonomy.

Lately, the government has modified its approach towards PSEs. Policies such as dividend policies, capital restructuring policies etc. have been developed so as to manage its investment in PSEs most efficiently. Further, consolidation of sector specific PSEs (such as merger of HPCL and ONGC) so as to improve their international presence is an appreciable move but so far vision seems to be limited. Hence, time has come to form an apex Sovereign Holding Company (SHC) with its independent Board under Chairmanship of Prime Minister/ Finance Minister.

The SHC should have a twelve member Board drawn from professionals, researchers, academicians, legislators and other persons of eminence. There should be four to five sub-holding companies under the SHC representing sectors like energy, manufacturing, consultancy, construction and MSME.

The SHC should be declared as owner of central publics sector enterprises (CPSEs) with power to allocate fund out of the consolidated sovereign fund from CPSEs surplus for project expansion. Besides, it should also be empowered to invest in domestic/ global markets through its SWF in line with similar international bodies like Temasek, SASAC, CIC, Khazana, Norway SWF etc. The return on such investments is expected to wipe out the fiscal deficit completely and would create surplus for research, development and social sector. Therefore, the Government must envision consolidating its Sovereign Holding in Public Sector to strengthen CPSEs and manage SWFs which can prove to be an effective tool for meeting both social and economic objectives of the Sovereign.

GAIL
Vision 2022

B. C. Tripathi
CMD, GAIL

Formation of GAIL heralded a new era of clean energy in the Indian hydrocarbon sector. The vision of GAIL is to "Be the leading company in natural gas and beyond with global focus, committed to customer care, value creation for all stakeholders and environment responsibility". Over the last three decades, GAIL has grown and diversified into the entire gas value chain. For its continued dedication and ensuring energy security of the country, GAIL was accorded the Maharatna status, highest status for a public sector company in India providing greater autonomy. GAIL is the youngest among all 8 Maharatna companies in India.

From its humble beginning as a gas transmission company, GAIL has become an integrated energy major having around 11,000 Km Gas Pipelines, over 2000 Km LPG Pipelines, six gas processing plants having LPG / Liquid Hydrocarbons capacity of 1.3 MMTPA and a gas based petrochemical plant of 810 KTA polymer capacity. GAIL's subsidiary, Brahmaputra Cracker and Polymer Limited (BCPL), has implemented 280 KTA petrochemical complex in Assam. GAIL is also one of the promoters in ONGC Petro additions Limited, which has commissioned a petrochemical complex of 1.4 MMTPA polymer capacity in Gujarat. GAIL is also a JV partner in Ratnagiri Gas & Power Private Limited (RGPPL) which owns one of India's largest gas based power generation facility along with a 5 MMTPA LNG regasification terminal at Dabhol. GAIL operates Dabhol terminal as "Owners Engineer". Apart from that, GAIL is a promoter of Petronet LNG Limited (PLL) which operates two LNG regasification terminals at Dahej & Kochi. GAIL holds participating interest in 10 E&P blocks in India and 2 in Myanmar and has acquired 20% interest in South Texas Eagle Ford shale, USA from Carrizo. GAIL also holds participating interest in South East Asia Gas Pipeline Company Limited which transports gas from Myanmar to China. GAIL has established a subsidiary, GAIL Global (USA) Inc. (GGUI) to focus on US operations which has acquired

shale assets in Texas. GGUI has formed subsidiary, GAIL Global (USA) LNG LLC which has booked 2.3 MMTPA capacity in Dominion Cove Point LNG liquefaction project. Another subsidiary GAIL Global (Singapore) Pte Ltd. undertakes trading activities in Singapore. Considering the increasing hydrocarbon import bill and to free up LPG for the rural market, India has put renewed emphasis on City Gas Distribution (CGD) in recent years. GAIL is a pioneer in CGD business in India with 9 JVs, notably IGL in Delhi and MGL in Mumbai and one fully owned subsidiary GAIL Gas Ltd. Today, GAIL operates more than 2/3rd of India's total CNG stations through its alliances. Further, it also holds equity stakes in Fayum Gas Company & National Gas Company in Egypt and in China Gas Holdings Limited in China.

GAIL has also diversified into renewables with 118 MW wind and 11 MW solar power projects. Further, GAIL is also a stakeholder in a Special Purpose Vehicle (SPV) created under the aegis of Ministry of Petroleum & Natural Gas (MoP&NG) and Ministry of New & Renewable Energy (MNRE) for pursuing the setting up of Grid Connected Renewable Energy Power Projects.

Achievements

During the last couple of years, GAIL has endeavoured to develop the Indian natural gas sector. Significant achievements of GAIL at various levels are worth mentioning – be it renegotiation of gas contracts, construction of cross country pipelines or developing city gas across the nation. GAIL has successfully renegotiated LNG Supply and Purchase Agreement (SPA) contract with RasGas, Qatar to ensure affordable gas availability to the end consumer. Construction commenced for 1st phase of 2,540 Km Jagdishpur-Haldia-Bokaro-Dhamra pipeline project. This project is referred to as "Energy Highway of Eastern India" and it is a step towards extending the "National Gas grid" to eastern regions with the aim of creating new gas markets and also revival of the closed fertilizer plants.

Commissioned 280 KTA Brahmaputra Cracker & Polymer Limited (BCPL) first integrated Petrochemical complex project and started marketing of polymer products. GAIL has doubled its Petrochemical Capacity to 810 KTA with successful commissioning of Pata-II petrochemical expansion project including C2/C3 recovery plant at Vijaipur for bridging demand – supply gap.

GAIL is actively pursuing Turkmenistan–Afghanistan–Pakistan–India (TAPI) Pipeline project for sourcing 38 MMSCMD gas from Turkmenistan. Shareholders Agreement of TAPI Pipeline Company Limited (TPCL) has been signed and GAIL is an equity partner. Construction in Turkmenistan leg has started.

GAIL has also actively executed the role of "e-bid RLNG Operator" for sourcing and supplying of LNG for stranded gas based power plants. GAIL also successfully executed the role of "Pool Operator" for Gas Pooling Scheme for Fertilizer Sector. Under this pooling arrangement, demand and supply gap under existing contracts were bridged by GAIL through imported LNG. Talcher Fertilizers Limited, a consortium of GAIL, RCF and Coal India was floated to implement surface coal gasification based urea project which envisages production of 2200 MTPD Ammonia and 3850 MTPD Urea. GAIL has signed MoU with Dhamra LNG Terminal Pvt. Limited (DLTPL) for taking equity in the 5 MMTPA LNG receiving, storage and regasification terminal being put up at Dhamra Port, Odisha. LNG terminal at Dhamra will provide clean fuel for the Industrial Development of Eastern states of Uttar Pradesh, Jharkhand, Bihar, West Bengal and Odisha.

City Gas Distribution for Six Eastern India cities Varanasi, Jamshedpur, Patna, Ranchi,

Bhubaneswar, and Cuttack was also approved under Urja Ganga Project. CGD authorization received for Bengaluru, Haridwar and North Goa geographical areas.In line with GoI's mission to accelerate usage of natural gas, GAIL though City Gas Distribution JVs serves over 19 lakhs households & 19 lakh vehicles. For efficient upkeep of its pipelines, GAIL has developed software for geo-mapping of pipeline routes.

Satellite images of the route are taken at intervals and sequenced for monitoring. Change detection software has also been developed to identify encroachments through analysis of sequential images known as "Bhuvan-GAIL Portal". GAIL has commissioned 5.76 MW grid connected roof top captive solar power plant at Pata Petrochemical complex, Uttar Pradesh. GAIL also initiated the famous 'HawaBadlo Campaign'. This campaign is one of the most effective initiatives against air pollution which has managed to engage as many as 6.8 million people.

GAIL's charter hire LNG ship Meridian Spirit for import of LNG from USA.

Vision 2022

Government of India is striving towards the rapid socio economic transformation of the country keeping in view with the vision of 'New India-2022'. Roles of Central Public Sector Enterprises (CPSEs) have been pivotal for the development of nation, especially in the development of the core sectors of the economy. GAIL, as a Maharatna CPSE has also significantly contributed towards nation's energy sector developments in past decades, despite changing economic scenarios across the globe. GAIL has also been continuously striving towards aligning its goal in line with National Priorities. It is working towards enabling energy security of the Nation and has an international portfolio of energy supply from diverse geographical sources of approx. 14.23 MMTPA. GAIL is geared up for realising the development of National Gas Grid with 15000 kms of Pan-India Natural Gas Grid, including 11400 kms of existing pipeline network. It is developing pipelines across nation, with an estimated project cost of Rs. 20164 Cr. of 4200 km length. The government has provided budgetary support of Rs. 5176 Cr. (40 % of estimated capital cost of Rs. 12940 Cr.) to GAIL for JHBDPL popularly known as "Pradhan Mantri Urja Ganga" of eastern India.

One of the key focus areas for GAIL remains minimization of import bill of the country. Imported LNG plays an important role in reduction of country's import bill. LNG is more energy efficient when compared with crude oil in energy terms. Import of LNG is approx. 25% cheaper than crude oil in energy terms. Approx. US $200 Million (Rs. 1300 Cr.) of import bill gets reduced per MMTPA of LNG vis-à-vis importing crude oil at current price levels. In view of above and being a cleaner fuel, the government should target to make it more commercially attractive by suitable enabling policy. The government has envisaged increasing the use of gas in the energy mix from present 6.2% to 15%.

GAIL has been promoting and supporting the flagship schemes of India like Start-up India, Skill India, etc. GAIL has also launched an initiative 'PANKH' to nurture the spirit of entrepreneurship. Investment agreements have been signed with 4 Start-ups for a total commitment of Rs. 12 Cr. Another 4 numbers of start-ups are being examined to assess their potential to improve existing businesses, create new business and increase manufacturing base. Given the government policies are also increasingly in favour of start-ups, GAIL has allocated a corpus of Rs. 50 Cr. for taking up investments in this sector to give a fillip to the government's efforts and to reap benefits from the start-ups portfolios. GAIL has taken up initiatives for engaging young minds. It has engaged apprentices up to the level of 10% of the total work force across all work centers on Pan India basis by Dec'2017 on a continuous basis.

GAIL is exploring the possibility of opening three new global

offices to complement its LNG and E&P businesses as well as to ensure energy security of the country. With a vision to reduce the import of these items, GAIL has enhanced the domestic petrochemical production by increasing existing plant capacities. In addition, revival of gas based fertilizer plants, through project 'Pradhan Mantri Urja Ganga', it is executing 2600 km long Jagdishpur-Haldia-Bokaro - Dhamra Pipeline (JHBDPL) project and connecting three fertilizer plants under revival mode at Gorakhpur, Barauni and Sindri along with urea manufacturing unit at Durgapur (WB), Chambal (MP) and Ramagundam (Telangana) which shall help in enhancing fertiliser production thereby reducing import bill.

Additionally, GAIL has been partnering with other major public sectors towards New Development Models for the country. It is partnering for commissioning of additional LNG import infrastructure, expansion of pipeline and other logistics infrastructure and network, gas pipeline network in the North-East. In order to realize the Hydrocarbon Vision 2030 for North East India for development of pipeline network in North East Area and connect the North-East part of India with the major Gas grid of the country Pipeline from Bara-uni to Guwahati (via Siliguri & Bongaigaon) and Guwahati to Tinsukia via Numaligarh are proposed. Preliminary activities for construction of Barauni to Guwahati pipeline have started.

BPCL Leads the Country in its Transformation Drive

D. Rajkumar
CMD, BPCL

Bharat Petroleum Corporation Limited (BPCL), one of eight Maharatnas in the PSU fraternity, is leading the country in its transformational drive. Recently been awarded as the Star PSU of the Year at the Business Standard Awards for Corporate Excellence, BPCL is one of the leading players in the energy sector.

India is one of the fastest growing economies and its growth critically impinges on energy consumption, particularly in the transportation and manufacturing sectors. BPCL enjoys 28% share in the market for transport fuel and 15% in industrial fuel during 2017-18. In both the areas of sectoral consumption, BPCL has experienced growth at 5.4% and 24.5% respectively.

In furtherance of the country's drive for inclusive energy consumption, BPCL shares 25.8% of the LPG market in the domestic segment and has led consumption in the segment to grow at 9%. Serving 66 million households for their daily cooking fuel with uninterrupted supply is a great service that BPCL is committed to do. This drive will continue till all the households in the country get covered with clean cooking fuel by 2019. BPCL played a key role in implementing the Pradhan Mantri Ujjwala Yojana (PMUY) across the country, since its launch by our Hon'ble Prime Minister in May 2016. As on 31st March 2018, BPCL has enrolled 92.88 lakh below poverty line households into PMUY.

BPCL spearheaded the Swachh Bharat drive and constructed 1930 toilets in far-flung villages and 3008 toilets in BPCL's Retail Outlets as a public convenience, since 2015. This is a continuing drive and it touches the lives of common people at the basic existential level.

BPCL has taken up the task of renovation and beautification of some iconic tourist places like Madurai temple as part of its cultural and aesthetic promotion. This again is a continuing mission and is an integral part of BPCL's contribution to society.

BPCL has a long tradition of contribution to society and the environment. During 2017-18, BPCL incurred Rs 166.02 Crores towards CSR activities and has an allocation of Rs 347.26 crores during 2018-19. BPCL remains at the cutting edge of technology all the time, providing innumerable digital amenities to its customers. A customer can do all LPG transactions online through my-LPG.in. There is a 24x7 toll free Emergency Helpline - 1906 to attend to leakage complaints, besides a SmartLine - 1800224344 to address all complaints of LPG customers. Some customer centric initiatives in the Retail business are: enhanced 'Pure for Sure', improved offerings in Allied Retail Business, Integrated Fleet Management and new offerings in the loyalty program. By end 2017-18, about 25% of retail transaction with customers was by way of digital mode and it is expected to touch 30% in 2018-19.

Since 2006, BPCL has been operating as an integrated oil company, with its upstream exploration and production activities handled through its 100% subsidiary, Bharat Petro Resources Limited (BPRL). BPRL has stakes in 23 Oil and Gas assets across seven countries including eleven overseas assets (six in Brazil, one each in Mozambique, UAE, Indonesia, Australia and Timor Leste), along with equity stakes in two Russian entities holding the license to four producing assets.

The equity stake in the two Russian entities was acquired

in 2016 in consortium with other Indian PSUs (OIL India and IOCL), and the oil production equivalent for the Indian consortium is approx. 90,000 bopd (barrel of oil equivalent per day).

In 2018, a 10% participating interest in the Lower Zakum concession in UAE was acquired by a consortium comprising BPRL, ONGC Videsh and IOCL. The consortium is entitled to equity crude oil of about 40,000 bopd. Further in 2018, a consortium comprising ONGC Videsh, BPRL, IOCL and OIL India have been awarded a deep water exploration block (Block 32) in the Mediterranean offshore area of Israel. As on 31.03.2017, BPCL has 1859 km of cross-country product pipeline with throughput of 9.6 MMTPA, 28 km LPG pipeline with throughput of 314 TMTPA and 49 km Aviation Fuel pipeline carrying above 1 MMTPA. There are plans and projects for additional pipeline of 1280 km to be laid by 2023.

Bharat Petroleum's LPG Import Terminal at Uran

During the last 5 years (from 2013-14 till 2017-18), BPCL incurred capital expenditure of Rs 54,437 crores. There are projects on the drawing board with an investment plan of approximately Rs. 68,000 crores,including investment in projects of Subsidiaries and Joint Ventures in the coming five years.

A few of the major infrastructure projects which are likely to be commissioned in the next 3 years are as follows:

S. N.	Projects in Progress	Cost (Rs Cr.)	Scheduled completion date
1	Propylene Derivative Petrochemical project (PDPP) at Kochi	5246	Feb-19
2	Heat Traced Pipeline project, Kochi	337	Aug-18
3	Heat Traced Pipeline project, Mumbai Refinery	193	Jan-19
4	BS VI MS Block Project (MSBP), Kochi Refinery	3288	June-20
5	Installation of Gasoline Hydro-treatment Unit at Mumbai Refinery	554	Dec-19
6	Additional Tankage at Devangonthi for Irugur-DKN Pipeline (in Karnataka)	121	Dec-18
7	Budge Budge Installation: Revamping of Tank Farm and Tank Lorry Loading	140	June-19
8	LPG Plant at Bolangir (in Odisha)	103	March-20
9	MMBPL Pipeline Rerouting	450	Dec-19
8	LPG Import facility at Haldia	1097	Dec-18
9	Haveli Terminal with Railway siding (in Maharashtra)	283	Aug-20

BPCL is one of the three joint venture partners in the proposed Ratnagiri Refinery and Petrochemical Company, which has attracted participation from two major international players like Saudi Aramco and ADNOC. BPCL's Kochi Refinery is currently on enhanced capacity of 15.5 MMT per annum, assuming the position of the largest refinery in the public sector. BPCL's JV Refinery at Bina is slated to augment its capacity from the current level of 6 MMT to 15.5 MMT per annum.

Amongst the business portfolio, BPCL has ambitious plans to grow in petrochemical, gas and in green fuel (ethanol). BPCL will produce 1.4 MMT niche petrochemical products from its Refineries in Mumbai and Kochi and has plans to further augment the petrochemical capacity in Bina.

With focus on gasification of energy, BPCL's Gas business has been transferred to a 100% subsidiary, named Bharat Gas Resources Limited (BGRL). In October 2016, BPCL entered the elite club of LNG importers in India by directly importing its maiden LNG cargo at Dahej. BPCL has also

started supplying LNG by Tank Trucks for those customers who are located away from the Gas pipelines. BPCL is expanding its wing in the CGD business by participating in the bid rounds conducted by Petroleum and Natural Gas Regulatory Board (PNGRB).

Besides blending about 320 TKL of ethanol last year, BPCL is on its way to set up a 2G ethanol plant at 3 locations in the country. This will be a major step in the direction of de-carbonization and will also help to reduce import of crude oil.

BPCL has set its foot in generation of solar power, with 13.07 kw solar power currently being generated. BPCL has plans to put up Solar Plants at 56 Retail Installations / LPG Bottling Plants. Feasibility has been carried out at 18 COCO ROs (Company Controlled and Company Operated Retail Outlets) for installation of Solar Plants.

BPCL's dynamism stems from its responsiveness to customer needs and changes in a business environment. By virtue of being a Central Public Sector Enterprise, BPCL remains part of the policy making and policy implementation system.

Customer aspirations are factored in by the mechanism of bottom-up business planning processes. Each of its eight Business Units prepares their annual business plan which are 'Made in the Market', in the sense that Company gears up to meet customers' expectations and to face emerging competition. Market impulse is felt by each of the frontline management staff of BPCL and they bring those vibes into the annual business plan exercise. Macro trends and futuristic developments in the environment are captured by the Five Year Plan (like the current one - Project Sankalp for 2016-17 to 2020-21). Capacity enhancement and quantum jump opportunities are captured in the Five year Plan. The Annual Business Plan at the Business Unit (BU) level and at the corporate level is kept aligned.

The Apex level Committee and Management Committee review the strategy of the Corporation periodically. The Strategy Department is the role holder for maintaining the strategic outlook for the organization. Initiatives like 'Promoting Start-ups' and 'Digitization' are currently being given exclusive focus.

Innovation at the business level is promoted by the 'Ideas' platform, where every year, innovative business practices are recognised and rewarded.

With 'Energising Lives' as its core purpose, Bharat Petroleum's vision is to be the most admired global energy company leveraging talent and technology.

Bharat Petroleum's Integrated Refinery Expansion Project at Kochi.

ARTICLE

BEL: In Alignment with India's Vision 2022

M. V. Gowtama
CMD, BEL

Central Public Sector Enterprises (CPSEs) have played a critical role in India's growth, contributing crores of revenue to the central exchequer, generating massive job opportunities and driving several flagship development programmes of the Government of India. The Government's 'Vision 2022' for New India envisages redefining the role and functioning of CPSEs to take them on the road to faster growth.

Bharat Electronics Ltd (BEL), India's leading Defence Electronics Company, has aligned its growth plans with New India's Vision 2022. BEL is ranked 140th in the Fortune India 500 List of Companies 2017 and plans to figure in the India Fortune 100 list by 2022. To achieve this, BEL has various plans/strategies in place including a Vision document, Marketing Plan, R&D Plan, Manpower & Training Plan. Besides, the Company has an annual business plan for Marketing, R&D, manpower and training, which is released every year in April. It gives detailed action plans for order acquisition, technology/ product development, manpower recruitment and competency building.

Research and Development has been the core strength of BEL. Presently, BEL is investing about 8-9% of its turnover on R&D, which is expected to be sustained in the coming years.

Some of the major R&D initiatives undertaken by BEL include the setting up of a Product Development and Innovation Centre (PDIC) for developing futuristic products, appointment of Chief Technology Officers to spearhead technology planning, Collaborative R&D to develop cutting-edge technologies/ products with the shared capabilities of academia/ industry/ R&D houses, thrust on developing Intellectual Property Rights by publishing technical papers and filing patents, and competency building of the workforce through various training programmes organised at its Academy for Excellence in Bangalore and in collaboration with reputed academic institutes including the IIMs. BEL is launching an M.Tech programme in collaboration with IIT Chennai at the BEL Academy for Excellence. Several new training programmes are also being conceived for competency building of the employees. To keep pace with the changing business environment, BEL is focusing on inorganic growth options like formation of Joint Venture Companies with reputed leading global Defence companies to bridge technology gaps. BEL Thales Systems Ltd, a Joint Venture initiative between BEL and Thales and a subsidiary company of BEL, is presently engaged in the design, development, marketing, supply and support of civilian and select Defence Radars. BEL has a JVC with General Electric, USA — GE BE Pvt Ltd — which manufactures CT Max and other latest version X-Ray Tubes.

BEL has been investing in modernisation and creation of special infrastructure to cater to current as well as emerging Defence business opportunities viz. establishing a Defence Systems Integration Complex at Palasamudram, Andhra Pradesh, with an estimated investment of Rs. 500 crores to tap the huge business potential in Missile business. Another Electro Optics plant is coming up at Nimmaluru, AP, to manufacture IR seekers, Night Vision Devices and Thermal Imaging Cameras. BEL is also upgrading its Image Intensifier technology based tubes fabrication facility from the present XD-4 to XR-5 technology with a proactive investment of about Rs.200 crores to capture the Night Vision Devices

business in India. BEL has been carrying out business reorganization to augment its growth and meet futuristic business needs. In the last few years, new Strategic Business Units (SBUs) have been formed to address business areas such as Missile Systems, Antenna and Satellite Communication and Cellular Communication Systems.

As per Vision 2022, Navratna CPSEs have to convert 4 townships into Smart Cities by 2022. Recently, BEL, which is a Navratna Company, has created an SBU — Homeland Security & Smart City Business, at Bangalore. BEL has already executed projects for City Surveillance, Access Control Systems, CCTV Surveillance for IAF, DRDO labs, etc, in the Homeland Security business segment. The Smart Cities Mission was launched by the Government of India in the year 2015 for 100 cities with an estimated annual outlay of Rs.35,000 crores for a duration of 5 years. The Smart City projects mainly consist of area based development projects, which are primarily core infrastructure development based and accounts for 70-80% of investments. Other projects are PAN city projects which are mainly IT based. BEL will be able to address 60-70% of opportunities in the PAN city projects. BEL will focus on Smart City requirements related to Smart Governance, Smart Security, Smart Mobility, Smart Energy, etc, and will develop expertise in system design and architecture to provide integrated solution for the Smart City projects. Vision 2022 also encompasses the Government's 'Make in India' dream, which includes, among other initiatives, promotion of micro, small and medium scale enterprises. BEL has formulated a long-term Outsourcing and Vendor Development Policy and has been taking several initiatives in order to broaden the domestic vendor base by implementing online vendor registration and e-procurement processes. BEL has also started entering into Long Term Agreements with reputed vendors with an objective to secure the supply of items or services over a specified period of time as per mutually agreed terms and conditions. 'Make in India' Display Cells have been established at all Units of BEL. The Company's Test facilities are also being provided to private vendors. The procurement from MSMEs by BEL has increased to more than 20% in the previous financial year.

BEL has been actively involved in the government's plans to set up two Defence Corridors in the country, one in Tamil Nadu and another in Uttar Pradesh. BEL has organized and participated in events held recently such as the Defence Industrial Corridor (Tamil Nadu) meeting at Chennai, state level MSME Vendor Development Meet organised by the MSME Development Institute, Chennai, and 'Defence Indigenisation Expo' at the Codissia Trade Fair Complex in Coimbatore organised by the Ministry of Defence, along with the Coimbatore District Small Industries Association (Codissia). Another major defence industrial MSME meet is planned at Aligarh to promote indigenous defence production in Uttar Pradesh with the help of local players.

BEL along with HAL has incorporated a not-for- profit company namely 'Defence Innovation Organisation' to encourage

Weapon Locating radar-BEL.

creation of an ecosystem to foster innovation and technology development in Defence and Aerospace. Vision 2022 also envisages Export promotion. BEL is fast expanding its global presence, putting its best foot forward to give a thrust to exports worldwide. Exports play a key role in BEL's strategic perspective. Ever since BEL established an International Marketing Division, the range of products and services exported has been increasing over the years.

BEL has been exporting products such as Communication Systems, Coastal Surveillance System, Missile Systems, Radars, Electronic Warfare Systems, Electro Optic Systems and Electro Optic Fire Control Systems, Radar Finger Printing System, Naval Systems, Radar Warning Receivers, Electronic Voting Machines and various other equipment to many friendly countries. BEL, which already has two Regional Offices in Singapore and USA, is now opening more foreign offices to market its products globally. Spotting a niche market in Vietnam, BEL recently inaugurated its first Representative Office at Vietnam (VIRO) for addressing export business opportunities and provide unstinted

Defence Minister, Smt Nirmala Sitharaman, inaugurating the first Representative Office of BEL in Vietnam.

product support and services to users in that country. BEL has also planned to have marketing offices in Sri Lanka, Myanmar, Oman, Singapore and New York in the very near future. The Company has appointed marketing representatives in more than 10 countries including Namibia, Indonesia, Malaysia etc., to market BEL products systems and to generate the business.

BEL is also entering into partnerships with foreign OEMs for Offset business and Indian companies like Mahindra, Tata, L&T and Reliance to leverage the Strategic Partnership model in the Indian Defence industry and develop big ticket modern military platforms like aircraft, ships, submarines and Armoured Fighting Vehicles / Main Battle Tanks.

Toilets constructed for girls by CHN Unit under Swachh Vidyalaya Abhiyan.

Another agenda covered in Vision 2022 is 'CSR: The Joy of Giving'. Even at times when Corporate Social Responsibility (CSR) was an alien concept — and not mandatory as per government guidelines —BEL had been reaching out to the needy. As the super cyclone of 1990 wreaked havoc on the coastal belt of Orissa, BEL was among the first companies to come forward for relief work. The Company constructed 500 cyclone-proof houses for the affected families in two villages of Ganjam district.

The Companies Act, 2013, further strengthened BEL's resolve towards the empowerment of communities and inclusive socio-economic growth. As part of its CSR activities, BEL has taken major steps in the areas of health, sanitation and safe drinking water, education and rural development. BEL has been setting up borewells, overhead tanks, water distribution pipelines, solar water pumps, water filtration plants, etc to provide drinking water to villages. As part of the Swachh Bharat Abhiyan, the Company is setting public toilets and sewage and drainage systems across the country. As part of the Swachh Vidyalaya Abhiyan, BEL is constructing new buildings, classrooms, kitchen and other facilities for rural schools. BEL is also providing infrastructure to villages by setting up solar street lights, anganwadis, community centres, panchayat platforms, bus shelters, cement concrete roads, etc. BEL has also contributed to the Prime Minister's Clean Ganga Fund and Swachh Bharat Kosh.

Being a technology driven company, BEL has taken on itself the onus of skilling India's youth in a bid to nurture the country's wealth of human capital. BEL has adopted seven Government Industrial Training Institutes in six states across India at Gowribidanur, Karnataka; Guindy in Tamil Nadu; Panvel & Mulshi in Maharashtra; Noida in Uttar Pradesh, Raipur Rani in Haryana; and ITI Kotdwara in Uttarakhand. BEL is hand-holding these ITIs in their journey to becoming model institutions — that is by upgrading their infrastructure, providing state-of-the-art equipment and machinery.

BEL has been making efforts to upgrade the infrastructure and medical facilities at Government district hospitals in states like Karnataka, Haryana and Maharashtra. BEL has taken up six projects under Healthcare & Preventive Healthcare for providing the best of health care estimated to benefit over 2,000 patients.

Outlook For The Future

BEL will continue its indigenisation efforts in line with 'Make in India' and 'Vision 2022' for making a New India.

AAI believes in Skilling India

Dr. Guruprasad Mohapatra
Chairman, AAI

As part of its Corporate Social Responsibility (CSR), Airports Authority of India (AAI) has partnered with Construction Industry Development Corp. (CIDC), for Employment - Oriented Training and Skill Development Programme for 2000 women and unemployed youth candidates from SC, ST, OBC and people from EWS section of the society during 2016-18.

Skill India is an initiative of the Government of India which has been launched to empower the youth of the country with skill sets which make them more employable and more productive in their work environment. The National Skill Mission chaired by the Hon'ble Prime Minister Shri Narendra Modi on 15 July 2015, has gathered tremendous steam under the guidance of Shri Rajiv Pratap Rudy, Union Minister of State for Skill Development and Entrepreneurship, during the last one year. The target to train more than a crore fresh entrants into the Indian workforce has been substantially achieved for the first time. 1.04 Crore Indians were trained through Central Government Programs and National Skill Development Cooperation (NSDC) associated training partners in the private sector. The time is not far when India will evolve into a skilled society where there is prosperity and dignity for all.

As part of the agreement with CIDC, Training and Assessment fees are completely paid by the Airports Authority of India.The initiative also helps in livelihood promotion for people from backward and remote areas as well as helps them gain meaningful employment leading to their social and economic up-liftment.

The program is aimed at providing job oriented skill development and training to the marginalized and economically weaker sections of the society across India. The training was provided to the beneficiaries in CIDC centers and is geared to provide job-oriented skills to rural youth, women, SC/ST/OBC and other marginalized sections enabling their gainful employment in the construction industry. The training centers are located in Ranchi (Jharkhand), Rairangpur (Odisha), Daltonganj (Jharkhand), Dumka (Jharkhand), Chaibasa (Jharkhand), Ghaziabad (UP), Dhaulana (UP), Amethi (UP), Faridabad (Haryana), Gorakhpur (UP), Bharatpur (Rajasthan), Sidhauli (UP), Rewsa (UP), Chapaguri (Assam), Agartala (Tripura), Bheemli (AP), Ongole (AP), Vizianagaram (AP), Dilsukhnagar (Hyderabad), Srikakulam (AP) leading to successful delivery of training courses resulting in increased creation of employment opportunities for marginalized sections and meeting of skilling India goals.

With two of CIDC's bigger centers located in the National Capital Region (NCR) at Dhaulana and Faridabad respectively, the largest number of trainees, 47% students were trained in North region along with a sizeable number being trained at Bharatpur District in Rajasthan, Ghaziabad and other centers in UP. North East contributed 6% of the candidates and East India had 32%

beneficiaries. The maximum concentration of training centers in Eastern India was in Jharkhand and sizeable number of students took training in Odisha.

The AAI project and other similar initiatives are a step in the direction of providing gainful employment to the weaker sections of the society and helping generate livelihoods and helping provide a boost to rural economies.

The perceived four fold benefits of the intervention are:

- Will help provide job-oriented training to rural youth, women, SC/ST/OBC and other marginalized sections whereby they can be gainfully employed.
- Direct resultant will be poverty reduction, rise in self-esteem of the individual and provide value addition to their skills.
- The resultant skilled workforce translates to capacity enhancement in the construction sector helping in smooth implementation of construction and infrastructure projects leading to nation building.
- CSR activities can be leveraged on this initiative to create a bigger impact and help in livelihood promotion for people from backward and remote areas as well as help the marginalized sections gain meaningful employment leading to their social and economic emancipation.

Out of the 2048 candidates, all candidates have successfully completed their training and are gainfully employed, 1005 have availed direct employment with leading construction companies across India and 98 have opted for self-employment or have chosen other avenues. The people who have been trained, from which some of them are working with reputed companies like Sobha Limited, Ekdant Buildtech Pvt. Ltd. and Gypsum India and many more.

The training methodology, during the course, was based on field tested model which is an amalgamation of 20% Classroom teaching and 80% hands on experience. Trainees are encouraged to pick up their tools and work on the site under the watchful eyes of their instructors. They are explained the nuances of handling their respective tools, to take necessary health and safety measures while using these tools and the importance of respecting the environment in which they work.

This initiative is a 'constructive' beginning towards skilling India and has met with a resounding success. AAI, through this association, has been able to leverage its CSR competence to create a bigger and an effective impact on the livelihood promotion for people from backward sections and remote areas. This initiative not just helps citizens from the marginalized sections to gain mainstreaming by way of imparting life skills and training leading to their future employment, but also makes them self-reliant, thereby ensuring a better future to them.

BDL:
Exploring New Horizons

V. Udaya Bhaskar
CMD, BDL

Bharat Dynamics Limited (BDL), a premier Defence PSU, is a Mini - ratna Category-1 Company under the Department of Defence Production, Ministry of Defence, Government of India. Headquartered in Hyderabad, BDL has been catering to the needs of the Indian Armed Forces since its incorporation in the year 1970. BDL, today, is amongst a few defence industries in the world having state-of-the-art manufacturing facilities.

The company deals with the following range of products and services :

- Guided Missiles and associated equipment.
- Underwater Weapon Systems. (Torpedoes, Anti - Torpedo Decoy Systems etc.)
- Airborne Weapon Systems (Counter Measures Dispensing Systems).
- Ground Support Equipment.
- Product Life Cycle Support.
- Refurbishment / Life Extension of vintage Missiles.

Over the years, BDL has been working in collaboration with foreign Original Equipment Manufacturers (OEMs) such as M/s Aerospatiale, France, M/s MBDA, France, M/s KBP, Tula, Russian Federation, M/s IAI, Israel etc for manufacture and supply of various missiles and allied equipment. In order to reduce its dependence on imported technology, the company has successfully achieved significant levels of indigenization of "all-time import items" of the ATGMs being currently supplied to the Indian Army.

BDL became a listed Company with its debut in Bombay Stock Exchange and National Stock Exchange in March 2018.

BDL has three manufacturing units located in Hyderabad, Bhanur (near Hyderabad) and in Visakhapatnam. The Visakhapatnam Unit is dedicated exclusively for manufacture of underwater weapons.

The missile manufacturing divisions have been certified with ISO: 9001- 2008 certificate and few of its Divisions have AS 9100 D certification. The Company has also been certified for its ISO: 14001:2004 Environmental Management System Compliance practices.

Expansion Plans: As a part of its expansion plan, BDL is setting up two more units - one at Amravati District in Maharashtra and another one at Ibrahimpatnam in Telangana state, to cater to the growing demands of the Indian Armed Forces.

At its Amravati Unit, BDL plans to produce Very Short Range Air Defence Missile Systems (VSHORAD). The unit is spread over an area of about 530 acres.

At its Ibrahimpatnam Unit, the Company plans to set up a Surface to Air Missile Defence Project. The unit is spread over an area of about 630 acres. The test facilities required for SAMs, ATGMs are being established to meet the future requirements. BDL has acquired Technology for Missile Integration from DRDO & IAI through concurrent engineering by associating with MRSAM

Hon'ble Raksha Rajya Mantri Dr. Subhash Ramrao Bhamre presenting the LA ToT documents pertaining to productionization of Varunastra and Astra to CMD, BDL, Mr. V. Udaya Bhaskar in the presence of Raksha Mantri Ms. R. Nirmala Seetharaman on the sidelines of DEFEXPO – 2018.

program right from the concept stage. The LRSAM, manufactured by BDL, was handed over to the Indian Navy during August 2017. Production infrastructure at BDL is being enhanced to ramp up the missile production rate for future requirements.

Exports: With over four and a half decades of manufacturing experience in the field of missiles and allied equipment, BDL is set to expand its footprints in the international market.

Recently, BDL has bagged an export order worth USD 14.33 Million for export of Light Weight Torpedoes to a friendly country. With this, the Company has achieved sixty-five percent of export target set for the financial year 2018 – 19.

The products and services which BDL proposes to offer for exports include the Akash Weapon System, Anti -Tank Guided Missiles, Torpedoes, CMDS. To meet the global demands, BDL has also stepped-up its in-house R & D facilities which complement the R & D activities of the DRDO.

CSR & Sustainable Development: As a socially responsible Corporate Citizen, BDL is committed to go "beyond business" through its Corporate Social Responsibility (CSR) strategy. In pursuit of this, the Company has taken up several CSR initiatives to improve lives of the less privileged.

"Water is life." To facilitate one of the basic needs of human life – water, BDL has commissioned three water treatment plants in one of the water-drought districts – Nalgonda in Telangana state in the year 2013-14. Since then, BDL has been providing safe drinking water to the beneficiaries in Narayanpur, Janagaon and Peepalpahad villages of Narayanpur Mandal in Nalgonda district through an NGO.

"The soul of India lies in its villages and so does its future". BDL has adopted villages – Kyasaram (Telangana state), Gondupalem, (Andhra Pradesh), Military Madhavram (Andhra Pradesh) and Malpur (Maharashtra) with a focus on providing the basic necessities of human life – health, water and other conveniences.

In Kyasaram village, BDL has constructed a Health Centre, Community Hall, toilets in individual houses and in Government schools and installed a RO Water Treatment Plant for providing safe drinking water. In Gondupalem village, BDL has commissioned an RO Water Treatment Plant for providing safe drinking water and constructed Community Hall and constructed toilets in individual houses. Developmental activities such as Construction of Community Hall, Gym, Classroom, Library building have been planned for execution in Military Madhavram village and Malpur Village.

Understanding the importance of sanitation, BDL has taken up the responsibility of maintenance of toilets in Government schools. BDL has constructed 193 toilets in Government Schools at Medak, Ranga Reddy, Nalgonda Districts of Telangana State and in Visakhapatnam District in Andhra Pradesh State under Swachh Vidyalaya Abhiyan. The Company has entered into an MoU with Sarva Siksha Abhiyan, Education Department of Government of Telangana and Andhra Pradesh for the maintenance of toilets for a period of three years in 132 schools.

As an endeavour to be a partner

in one of the flagship programs of Govt. of India- 'Skill India Mission', BDL has undertaken various skill development training programs with the emphasis to impart skill among the youth to enable them to earn a sustainable livelihood.

Job-Oriented Skill Development programs have been conducted in association with CIPET, Hyderabad for 600 candidates. Out of which, 80 of the first phase have got placement and other 520 are undergoing training. Similarly, Job Oriented program has been planned in association with Indo-German Institute of Advanced Technology (IGIAT), Visakhapatnam for 200 candidates. Out of these, training has been completed for 175 candidates and the rest are undergoing the training.

A sizeable percentage of the Indian Population is suffering from one or the other kind of disability. BDL believes in promoting the rights and well-being of Persons with Disabilities (Divyangjans) in all spheres of the society. To make Divyangjans lead a dignified life in the society, BDL has entered into an MoU withArtificial Limbs Manufacturing Corporation of India (ALIMCO), Kanpur to contribute an amount of Rs. 300 Lakh for implantation of Cochlear devices and an amount of Rs. 20 lakh for distribution of Artificial Limbs & Calipers to beneficiaries.

BDL has extended support to Indo-German Institute of Advanced Technology (IGIAT), Visakhapatnam to establish five digital classes as a part of BDL's CSR initiative.The facility was inaugurated by CMD, BDL.

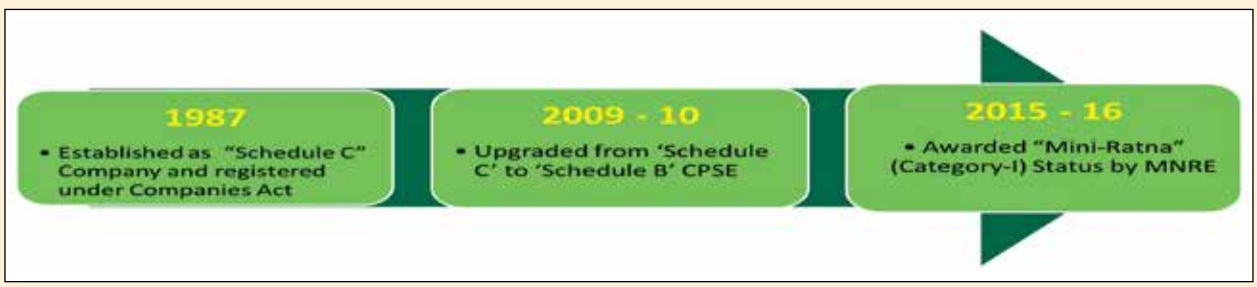
In addition to the above, BDL has contributed significantly to Mid-Day Meal Schemes for about 15,000 Govt. school children in Telangana and Andhra Pradesh, Swachh Bharat Kosh, Armed Forces Flag Day Fund, Health Minister's Cancer Fund, Blind Organisation of India and National Sports Development Fund. BDL is focussing its CSR spend largely on one specific theme for each year. In-line with this, the Company has identified a specific theme for each year till the year 2022. One such theme is "Development of Aspirational Districts"which has been identified for the year 2019 – 20. Apart from this, BDL is also focusing to work on Skill Development of unemployed youth in the coming years.

BDL, as a Socially Responsible Corporate Citizen, is committed to improve the quality of life of the less privileged in the society and contribute immensely to the Nation–building process. The qu-est for technological excellence has been the guiding principle of BDL and living up to the sobriquet, *The Force Behind Peace.*

IREDA - The Leader in Renewable Energy in India

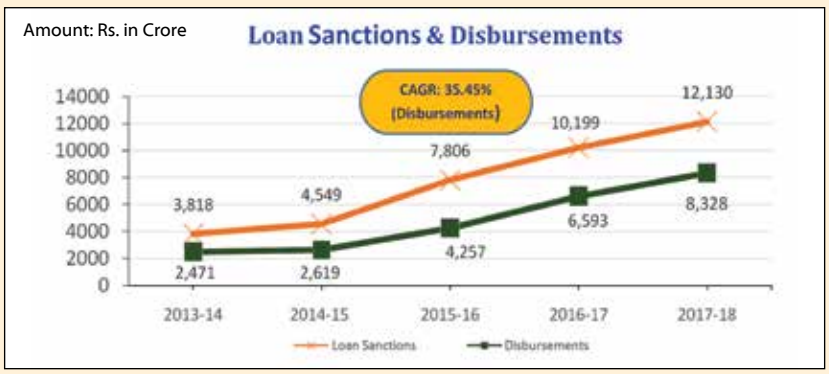
K. S. Popli
CMD, IREDA

Indian Renewable Energy Development Agency (IREDA) is a specialized public sector financial institution dedicated for financing renewable energy (RE) projects in India and has been playing pivotal role in developing renewable energy. IREDA has been maintaining its leadership position in Renewable Energy space for more than 31 years and developing several innovative financial schemes/solutions for meeting the market requirement from time to time. IREDA has an excellent track record of financing more than 2400 renewable energy projects in the country with cumulative loan sanctions of more than Rs. 61, 987 Crores (disbursed more than Rs. 37736 cr), supporting green power capacity addition of more than 12,127 MW. IREDA is an IS/ISO 9001:2008 certified company and has also been awarded ISO: 27001 certification during 2016.



Performance Highlights

During the last three decades IREDA has evolved and recognized as one of the most important player in financing and development of renewable energy sector. IREDA registered a growth of more than 26% over the previous year in term of loan disbursements and around 19% in term of loan sanctions. The highlights of last five years' loan sanctions and disbursements are given below:



Resource Base

IREDA has been the focal point for attracting international finance in the Indian RE sector and enjoys high brand equity among multilateral/ bilateral lending agencies like Asian Development Bank, JICA, KFW, AFD, EIB etc. These institutions prefer to route their funds through IREDA for supporting the Indian renewable energy sector. Ongoing International assistance under various Lines of Credits from multilateral and bilateral agencies are as under:

- KfW, Germany (5th LoC) : € 100 Million
- JICA (2nd LoC) : ¥ 30 Billion

- AfD (2nd LoC) : € 100 Million
- ADB – (2nd LoC) : $ 200 Million
- KfW (Access to Energy) – 6th LoC : € 20 Million
- World Bank(2017) : $ 100 million
- EIB II(2018) : € 150 Million

Masala Bond

IREDA has successfully raised Rs. 19.5 billion (US$ 300 million) through a five-year rupee-denominated Green Bond at an annualized coupon rate of 7.125% p.a. which has been the lowest among all the green masala bonds issuances so far by the Indian companies. This is a major milestone for IREDA as it continues to enhance its position in financing of renewable energy projects in the country. The overwhelming response to IREDA's Masala Bond is a testimony of strong investors' confidence in Indian economy and RE sector in particular.

Initial Public Offer (IPO)

The Cabinet Committee on Economic Affairs (CCEA) has approved IPO issue of 13.9 crore fresh equity shares of IREDA of Rs.10 each to the public on book-building basis. The IPO will enable IREDA to increase its equity base which will help in raising more debt resources for funding Renewable Energy (RE) projects. Such public issue will also enable it to unlock its true value and increase its visibility in domestic and international financial markets. The draft red herring prospectus (DRHP) has already been filed with SEBI and obtained in Principle approval.

Upgradation to "Schedule A" Category PSU

PESB has already recommended the upgradation proposal of IREDA to Schedule-A Company and Notification by DPE is awaited.

Sectors being financed

IREDA is probably the only organization that focuses solely on the development of the renewable energy sector in India and is the single largest "Green Financier" in the country. It caters to all technologies of the RE sector and predominantly provides financing for Sector.

Innovative Financial Products/ Schemes introduced by IREDA

IREDA has always been the prime mover and showing the way to its peers. As part of its business operations to meet growth aspirations, IREDA has been constantly developing new instruments/ innovative products for the renewable energy sector. IREDA has been offering most competitive rate of interest for financing renewable energy projects and acting as a trend setter for other FIs and banks. IREDA in the last 3-4 years has implemented various schemes/ Business strategies, which has helped in increasing the lending to the sector and also the overall Business growth of IREDA. The new Financing Schemes introduced are as follows;

- **"Guarantee assistance to RE suppliers / promoters":** To facilitate Suppliers/Manufacturers/ EPC Contractors for successful implementation of RE projects.
- **IREDA-NCEF RE-finance Scheme:** For revival of stressed projects in biomass and small hydro sectors. Concessional funds @2% p.a. to Banks / FIs.
- IREDA "**Top up Loan**" Scheme
- IREDA Loan Scheme/ **Line of credit for financing Large scale rooftop grid** connected/ interactive projects
- **Scheme for discounting of Energy Bills:** To address the issue of delay of payments by DISCOMs.
- **Policy for issue of Letter of Comfort (LoC)/ Letter of Undertaking (LUT) for opening Letter of Credit (LC):** Letter of Comfort (LoC)/Letter of Undertaking (LUT) can be issued to all sanctions of term loan where LC opening is a requirement under EPC/ Equipment Supply contract to enable the borrower to open LC with its bankers.
- **Scheme for Roof Top Solar through Aggregator (RESCO):** To promote Roof top Solar projects under Aggregator

Category and Direct Category.

- **IREDA Scheme for Underwriting of debt/ loan syndication**: To facilitate the early financial closure, implementation and commissioning of the project
- **Short term loan assistance to RE developers/ suppliers/ contractors:** For meeting immediate fund requirements towards project development, implementation/operations of renewable energy projects
- **"Lines of credit to Non-Banking Financial Companies for on-lending to RE/EEC projects":** To cater to regional level financing, LoC to Non-Banking Financial Companies (NBFCs)/ State Govt. Financial institutions & corporations for on-lending to RE.
- **Credit Enhancement Scheme:** for raising Bonds towards Renewable Energy Projects (Solar / Wind).
- **Loan Scheme for** "Access to Energy Projects" with "First Loss Mechanism" under KfW Line of Credit - To increase the supply and use of sustainable clean energy services in rural areas through improved access to financing for project developers.
- **Dedicated Policy for Financing of Transmission Projects:** To meet the growing evacuation infrastructure developments.
- IREDA Bridge Loan schemes to support projects under MNRE Programmes

  - **Bridge loan assistance to RE promoters / developers against capital subsidies / VGF:** to bridge the gap till the time Capital subsidies/Viability Gap Funds (VGF) are available/released to the developers

  - **IREDA scheme for financing to Concentrated Solar Thermal (CST) projects set up under the GEF:** UNIDO - MNRE program.

Future Business Strategy

IREDA continues to maintain its market leader position in its core business segment/client retention /business development .The following strategies would be undertaken:

Streamlining Delivery Processes

- Reducing the transaction costs of customers
- Improving geographical reach by increasing branch offices at different locations
- Improving customer satisfaction parameters such as employee performance and professionalism, willingness to solve problems, friendliness, level of knowledge, communication skills and selling skills
- Reducing transaction time by strengthening key departments such as technical, legal, etc
- Simplification in IREDA's Policies / Norms.

Increasing visibility of IREDA

- Clearly defining the differences between IREDA's services from its competitors and increasing the visibility of these differences in the products and services offered
- Corporate re-branding and commercial advertising
- Undertake significant business developmental activities through seminars and workshops to showcase IREDA's offerings during such events

Diversification and Leveraging Past experiences

- Financing Transmission and RE evacuation infrastructure projects
- Funding new technologies within core Business sectors
- Advisory and consultancy services
- Introducing new products and schemes, as per market requirements.

Raising Low cost funds

- More focus on emerging technologies like Rooftop systems, Off Shore Wind Projects, Wind/ Solar Hybrid Projects, Floating Solar Projects, E-Mobility& Storage infrastructure etc.

IREDA's role –Development of Indian RE Sector

IREDA has successfully been

financing its core renewable energy and energy efficiency sectors for more than 31 years. Taking a cue from the successful business model created by IREDA, other financial institutions / banks have been increasingly coming forward to finance the RE sector.

Besides fulfilling its role as a financial institution, IREDA has been pro-actively disseminating information to stakeholders on various facets of the Renewable technologies by way of Awareness Programs, Best Practices Manuals, Compendiums and Trade Journal. Imbibing the very essence of its mission, IREDA shall continue in its endeavor to provide ethical and useful financial instruments to accelerate the growth of Renewable Energy sector in India.

The initiatives taken by IREDA have also had positive impact in the following area

Positive Environmental Impact: Even though Renewable energy projects are environmentally benign, IREDA ensures that environmental impact of any project financed by it is minimized. IREDA analyses the expected impact of the project on the local ecology at the appraisal stage itself and suggests suitable mitigation measures, if required.

Rural Development: Many of the Renewable energy projects financed by IREDA are located in far flung and logistically difficult regions. Setting up of projects in these areas lead to development of local infrastructure and create employment, both directly and indirectly.

Green House Gas Mitigation: Grid-connected Renewable energy projects financed by IREDA have resulted in significant abatement of Greenhouse gas emissions.

Green Financing: As IREDA finances only Renewable Energy and Energy Efficiency projects, IREDA's entire operations are for sustainable development. Ever since its inception 30 years ago, it has led and showed the way to the commercial financing community. Following the lead taken by IREDA, commercial banks are now financing Renewable projects and take pride in calling themselves 'Green Financiers'.

Low-cost Funds: Due to its impeccable credentials, multilateral/ bilateral agencies like the World Bank, ADB, KfW, AFD, EIB, JICA have been committing long-term low-cost funds to IREDA for promotion of Renewable Energy sector of India. This has led to enhanced funding support to project developers at competitive terms.

IREDA owned 50 MW Solar Power Project

Recently, IREDA has itself set up & own a 50 MW Solar plant, located at Kasargod in the State of Kerala. More such IREDA owned projects may be set up, which may open up new business avenue for IREDA

Corporate Social Responsibility (CSR) Initiatives

Projects undertaken by IREDA under CSR initiative are:

- Construction/ renovation of toilets under Swachh Vidayala Abhiyan
- Installation of Solar PV Systems and Hot Water Systems
- Solar Street Lights in rural Areas
- Supported Cochlear implants and modern electronic artificial limbs
- Contributed to CM Relief Fund and J&K Relief Work
- Solar decentralized power plants in remote areas

IREDA's Networking for promotion of RE

- IREDA and IFC have partnered to boost financing for RE infrastructure in India
- MoUs with Yes Bank and Tata Capital for working together in the field of financing RE
- MoU with PFC and PFCCAS – Power Lenders Club comprising of 22 Banks/other FIs.
- MoU with SECI for setting up of Solar Projects.
- MoU with MNRE, NIWE, Consortium of Partners consisting of NTPC, POWERGRID, PFC, IREDA, PTC and GPCL to develop off-shore wind power projects
- MoU with IIFCL to strengthen co-operation in consortium/co-financing of RE projects.

IREDA do provides consultancy & Advisory services in the field of RE sector.

ARTICLE

WCL Launches Mission 2.0 to scale new heights

Rajiv Ranjan Mishra
CMD, WCL

Public sector Undertakings in India has been pivotal to Nation building through creation of infrastructure, delivering strategic output, providing large scale employment besides meeting societal needs at large. With the advent of liberalisation of Economy there has been sea change in objective and operation of PSUs. These Government owned entities which few years back were perceived as Non Profit generating establishments for meeting societal obligations are now competing with Private sector conglomerates on all front. Amidst rapid growth in Private participation, even today, the core sectors which are highly capital intensive and works on low margin but are critically important to country's economy like Petroleum, Power Generation, Coal, Minerals and Metal, is still dominated by PSUs. The essence of Corporate Governance which takes care of vivid stakeholders expectations is no where better manifested than in PSUs.

Sustenance and Growth

The sustainability of any business Enterprise is fundamentally governed by its efficiency, effectivity and innovation. Only those Organisations survive the perenniality, which incorporates Change Management in its Business charter.

Hon'ble Prime Minister in his address in CPSE Conclave has aptly exhorted towards achievement of 5 Ps for building of New India and corollary Public Sector Enterprises, namely Performance, Process, Persona, Procurement and Preparedness. Basically, all this translates to survival mantra of any entity in present global competitive era which defines survival of the fittest.

WCL:The Journey so far

Western Coalfields Limited (WCL), a wholly owned subsidiary of Coal India Limited operates 66 mines spread in state of Maharashtra and Madhya Pradesh. WCL was reeling under negativity for 5 consecutive years till 2013-14. Since then, Company started a new journey marking 2014 as baseline year. In last four years, WCL made a remarkable turnaround and achieved growth in all deliverable such as Production, Over Burden removal, coal off take and notably in societal acceptance and employee satisfaction through adoption of series of initiatives.

The efforts were synchronized towards attainment of organizational objective through formation of coherent synergetic team, "TEAM WCL."

Some of the notable initiatives undertaken includes :

- **Opening of 19 Projects:** WCL created World record by opening up of 19 Projects in 3 years. The coal production from these Project in financial year was 27.48 million tonne i.e. approximately 60% of total production.
- Liberalization of R&R Policy and trust building amongst the Project affected populace and stakeholder translated into facilitation for record possession of land. Total possession of land in last 4 years was 6932 Ha, which is more than total of previous 20 years.
- **Gainful Utilization of Water:** WCL has been a pioneer coal company in the country which had identified and implemented 30 schemes for gainful utilization of mine discharge water benefitting over 1.9 lakh local populace.
- **Eco Mine Tourism:** First of its kind, Eco-Park and Mine tourism concept, was aptly appreciated by Hon'ble Prime Minister in his "Mann kiBaat." WCL entered into MoU with

MTDC (Maharashtra Tourism Development Corporation) for its inclusion in tourist circuit of Maharashtra and so far more than 1.5 lakh footfall has been registered.

- **Sand from Overburden:** WCL's first indigenous Sand segregation plant, fabricated with old & used material at Regional Workshop, Silewara of Nagpur Area was installed at Bhanegaon OC has produced and supplied more than 7200 Cubic meters of sand to Nagpur Improvement Trust (NIT) for its low cost housing under Project Pradhan Mantri Awas Yojna (PMAY).
- **Skill Development:** WCL has established and operates 4 Skill Development Centres imparting courses on Paramedical, Nursing, injection molding, plastic extrusion and other fields for promoting employability and self employment. Around 12000 youth have benefitted from the programme in last 3 years.

And many more ....

The changed outlook and sustained effort culminated into achieving highest ever production (46.22 MT) and despatch (48.76 MT) in history of company since inception in the financial year 2017-18. With this, company benchmarked its attainment as WCL 1.0. However, WCL is constrained with adverse mining conditions with deep seated reserves and low grade coal, increasing stripping ratio, increasing production cost and therefore forced to operate on very thin margins. Any additional heavy financial burden plunges the company into red which happened in last two years when

WCL incurred substantial financial loss. The company do not have large reserve blocks with lower stripping ratio amenable to Mega Coal Projects, which can add larger production volumes to cover-up losses. Hence, it is necessary for the company to take its efficiency to highest level to reach next level of physical and financial sustainability.

The Way Forward:Mission WCL 2.0

Capitalising on Human Capital as most important asset for transformation of Company, WCL after achieving highest ever Coal Production & Despatch during 2017-18, is now forging ahead in a Mission mode to scale new heights during current fiscal and beyond. Mission WCL.2.0, a unique joint initiative by all employees, has been launched to establish robust system for both physical and financial sustainability. The uniqueness of the exercise lies in fact that probably Mission WCL 2.0 is the biggest ever participative management exercise done by any PSU in shortest span of time. Mission WCL 2.0 is a System Improvement exercise conceived to make all operations of the company more effective for all round development. It empower every employee as agent of change and aim at transforming each individual and thereby the Organization and its process for its betterment. The aim is to define the best possible alternative through collective thinking and simultaneously own the decision for its implementation. The scope of the exercise has been kept holistic covering every aspect from Productivity to Quality of life to public perception about the Organisation.

For reinforcing "Team WCL" for greater participation, direct personal contact was established by the Chief Executive, along with specially formed team, with employees working at all Areas including visit to residential colonies, hospitals etc. The exercise covered around 50,000 people consisting of workers, operators, supervisors, clerical staff, junior to senior level executives, consumers, transporters, contractors, trade unions, stakeholders through 80 meetings, social media & other communication channels.

The scope of improvement has

Launching of the Roadmap document on 16th July, 2018 by (From right) Mr. Vikas Mahatme, MP (Rajya Sabha); Mr. Sudhir Mungantiwar, Minister of Finance & Planning and Forests, Govt of Maharashtra; Mr. Nitin Gadkari, Union Minister of Road Transport & Highways, Shipping and Water Resources; Mr. Piyush Goyal, Union Minister of Coal & Railways; Mr. Krupal Tumane, MP (Lok Sabha).

been envisaged in all arenas with a common theme of Betterment and participation of all in building strong and sustainable WCL working toward building of New India. All stake holders were exhorted for suggesting transformation and system value addition and providing workable solution to existing and impending constraints.Though the scope of suggestion had been in-exhaustive, but it was categorized on the basis of priority for its implementation and in sync with outcome emerged from CPSE conclave for redefining the role of CPSEs. Some of the notable are aincluded:

- Human Capital Management
- Capacity Building
- Coal Despatch
- Sales Realization
- Coal Quality
- Productivity
- Financial Sustenance
- Cost Control
- Business Diversification
- Quality of Life
- Image Building

In response to sincere and sustained effort, more than 10000 suggestions were received from Category-I worker to Senior most executives. Some of these out of box suggestions were extremely innovative and eye opener. As a token of appreciation, each and every employee who has contributed by giving their invaluable suggestion was felicitated. All the suggestion were carefully evaluated and collated to form roadmap with measureable target towards fulfilling the vision of sustainable, strong and exemplary WCL contributing in building of New India as exhorted by Hon'ble Prime Minister.

Photo journey through building of Roadmap

CMD & Directors interacting with Executives & Workers in meetings across all Mine Establishments.

Contact programme through 80 Meetings for sensitizing stakeholders

Meeting Schedule	Contact Group
6th-9th June, 2018	All Executives of WCL
9th-12th June, 2018	Sales/Finance/Quality/Personnel/CSR/Civil Executives
9th-12th June, 2018	Trade Union Members & Major Contractors
12th-15th June, 2018	Supervisory Staff of WCL
20th-22nd June, 2018	Female Employees of WCL
25th June-2nd July, 2018	HODs/Nodal Officers/Area Nodal GMs
3rd July-5th July, 2018	Visit to WCL Hospitals & Colonies
6th-15th July, 2018	Preparation of Roadmap Document
16th July, 2018	Launch of Roadmap Document

IT tools have been extensively used for documentation and monitoring the implementation along with physical intervention of specifically constituted task force. With the launch of roadmap, the implementation has begun and within a short span from conceiving of idea, perceptible changes are being observed which are getting transformed into improved quantifiable deliverables and qualitative performance. Few of the initiatives, which were identified through this brain storming exercise and has been brought to actionable arena includes:

- Pending land issues for 9 expansion projects have been cleared by WCL Board.
- Relaxation of norms for augmentation of despatch.
- For capacity enhancement, 4 new projects in MP have been cleared by the Board.
- Three Central Hospitals, Barkuhi in MP, JLN at Nagpur & Rajiv Ratan at Wani have been earmarked for immediate renovation & will start operating from 1st April'19.
- For graceful exit and manpower rationalization, new VRS have been launched. Over 350 application received within one month.
- Sustained action towards grade conformance and further improvement in coal quality.
- To generate higher premium, mine wise coal quantification for auction.
- Steps for improvement in OMS, Capacity.
- Rationalization of executive manpower through inter company transfer.
- For monetizing the waste, special drive on Scrap disposal was observed for all establishments of the Company, wherein auctionable Scrap have been identified and is being auctioned.
- For business diversification, tender for setting up of commercial Overburden to Sand Plant have been floated.
- Commercial launching of Coal Neer is shortly expected.
- Special drive for reduction in litigation enabling amicable settlement of 41 cases in a month in High Court of Nagpur.
- Creating congenial work environment and inculcating sense of belongingness amongst stake holders for formation of coherent, energetic and goal oriented "Team WCL" competent to scale new heights.

Sensitising Gen-Nxt executives through Video Conference.


CMD & Directors interacting with Executives & Workers in meetings across all Mine Establishments.

WCL has set a target of 52.5 million tonnes (MT) of coal production & 59.7 MT of despatch during 2018-19. This sets a double digit growth of 13.6 % in production and 22.4 % in despatch which has never happened in the history of the company. WCL has already commenced the journey by registering highest ever growth of 18.7 % in production and 22.2 % growth in despatch during 1st quarter of current fiscal.

With all members of Team WCL geared up to take up the challenge in a Mission mode, WCL has started its journey to create record not only in production, despatch but also in registering better financial turnaround during 2018-19 and beyond.

ARTICLE

EdCIL- Study in India

Diptiman Das
CMD,EdCIL

EdCIL (India) Limited, is a "Mini Ratna", Category –I, CPSE under the administrative control of the Mi-nistry of Human Resource Developm-ent, Government of India. The Company offers Project Management and Consultancy Services in the entire education and human resource development value chain within India and overseas. The Company has registered four times an increase in its turnover from Rs. 74.13 crore to 288.75 crore over the period FY 15 to FY 18. EdCIL undertakes end-to-end projects on turnkey basis from concept to commissioning in the Educational space and ensures effective management of activities from identification of objectives through continuous monitoring leading to optimal fulfillment of targets within the stipulated time frame.

Vision

To be a highly respected consultancy and project management organization that provides expertise, services and innovation solution to drive impact in the education and HR space.

Key Verticals

Online Testing & Assessment Services (OTAS)

Based on two decades of expertise in handling offline recruitment tests, the company switched over to offering online recruitment solutions to bring in higher transparency and efficiency to the system. Presently, this is the biggest vertical of EdCIL which has during the year received overwhelming market response. The clients include Central and State Govts, large PSUs and Autonomous bodies etc. The vertical organizes online recruitment tests across multiple segments of employees covering varied sectors of the economy. Being a PSU targeted towards meeting educational needs, the company focuses on organizing online examinations for recruitment of teachers & principals as a specialized service. The Company has rendered critical online recruitment services to organizations covering varied sectors such as Education, Coal, transportation, Labour and Civil Aviation.

Advisory Services (AS)

Following key services are offered by the Advisory vertical in the Education (School Chains and Higher education) and HR advisory space:

- Preparation of Detailed Project Reports (DPRs) (Greenfield and Brown field)
- Organization Restructuring (sectoral/ institutional)
- Improving Operational Efficiency
- Digitization Planning
- Training Designing
- Impact Assessment (ICT/other schemes)
- Designing of new education schemes
- Education content Design

The Company renders education consulting services for both green field and brown field projects.

Digital Education Systems (DES)

The Company strongly believes that digitization will be a game changer in addressing of quality, quantity and governance needs in both Schools and Higher education. The Company accordingly focuses on all emerging areas of IT/ICT applications in the sector. One of our major projects include supplying of around 27000 tablets to the government of Mauritius, making EdCIL first ever Indian PSU to complete any project in Mauritius. Following key services are provided by vertical as part of the Digital Education System:

- Wi-Fi and Network Solutions
- ERP implementation
- Digitization of Records
- E-content preparation
- Virtual Classrooms

- Smart Campuses
- Online Admission System
- Computer labs

Education Infrastructure Services (EIS)

Following key services are provided by the vertical covering Educational infrastructure management (turnkey execution and project management consultancy) services

- Concept Design
- Detailed Drawings
- Detailed Project estimate with Bill of Material
- Construction Schedule/ Procurement Plan
- RFP documents
- RFP Process Management
- Project construction monitoring
- Incident monitoring
- Modifications in schedule
- Quality Assurance and Control
- Billing and Payments
- Getting Completion/ Occupancy Certificates from Statutory Authorities
- Final Project Completion Report with Expense Analysis.

Education Procurement Services (EPS)

The Company assists in the capacity building of educational and training institutions in India and abroad through procurement of educational aid ranging from IT equipments to hi-tech laboratory equipments. We have been providing procurement services on turnkey basis meeting the client requirements by facilitating optimal utilisation of client resources. Leveraging three decades of experience in domestic and overseas sector, following key services are provided by the vertical as part of the Procurement Services focusing on maximizing TCO in educational and human resource development space:

- Educational Product research
- Vendor empanelment
- Demand Aggregation
- Development of Sourcing Strategy
- E-Tendering
- Bid Analysis
- Finalization of contract
- Order Placement
- Monitoring receipt of shipment including Quality check at client site
- Annual maintenance services

Technical Support Group (TSG)

This is EDCIL's project management and logistical support vertical (also known as Technical Support Group –TSG) to extend operational support to MHRD in implementing several Mega Pan-India projects. The company provides Logistic Support for national level implementation of prestigious social sector projects of Government of India and International Funding Agencies. The services include:

- Logistical support to various large MHRD schemes (e.g. SSA, MDM, RUSA and RMSA)
- Outsourcing of consultants etc.
- Event management support
- Procurement services
- Transportation support

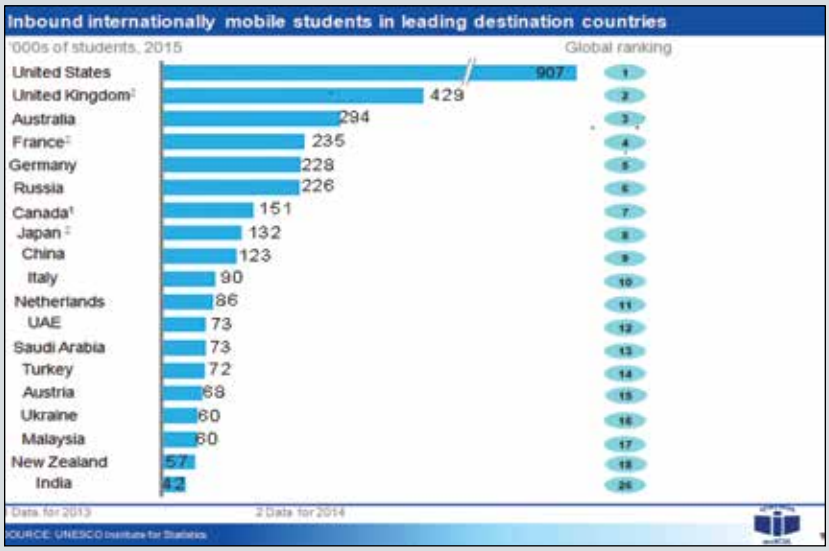
Overseas Education Services (OES)

Student Placement is one of the core service of the Company. The objective is to place International/ NRIs /PIO students in reputed and accredited Indian Institutions. The Company has been designated by the Ministry of Human Resource Development, Government of India as the exclusive "Coordinating agency and Single Window facility" for the direct admission of eligible Foreign Nationals / Persons of Indian Origin (PIOs) / Non-Resident Indians (NRIs) to Undergraduate, Postgraduate and Research programs. The Company places International/PIO/NRI students in more than 150 associated/ MoU institutions which have accreditations by regulatory bodies like UGC, NAAC, NBA, MCI etc.

Based on strong MEA/MHRD endorsement with in India, client confidence and alliances gained globally over three decades, the vertical executes sponsored and aggregated inbound overseas student admissions and faculty hiring and also effectively meets the individual needs of inbound students wanting to study in India. The company presently executes aggregated student placement of about 3000 students from Afghanistan, Nepal and Bhutan. The vertical focuses on high potential target markets covering mostly SAARC, Middle East and African nations.

Study in India

The Indian Education network is the world's third largest Higher Education System with more than 800 universities, 39,000 colleges and a capacity of enrolling more than a whopping 30 million students. Higher Education Institutions in India offer courses/degrees that are competitive in the world market in terms of quality but are delivered at one fourth the cost, hence guaranteeing value-for-money education.



Although India technically witnessed a 12 percent CAGR in inbound foreign students since 2009 to 2016, this is to be viewed against the backdrop of a very narrow base. India, with its vast educational network has been operating at this narrow base of International students' population (e.g. 20,000 in 2009).

Other benchmarked countries, who have established themselves as preferred destinations in the recent past, have exhibited higher CAGR over equivalent periods (i.e. when their Incoming International student population base was similar to India) with a much smaller educational network.

Study in India program: an initiative by MHRD, Government of India was launched on 18.04.2018 to attract international students from across the globe. More than 100 top Indian institutes participated in this program and offered 20,000 seats across various discipline and courses for international students. Through this program we are aspiring to attract 2 lakhs international students by 2023. This will increase India's market share of global education exports from less than 1 percent to 5 percent in five years.

The core of study in India programme comprises the following:

- 3 Key elements
- Unlock Demand
- Strengthen Supply
- Create an enabling environment

4 Key outcomes

- Overseas Student Recruitment
- Overseas Student Exchange
- International Campus
- Development
- School Enrolment

8 geographic segments

- South Asia
- West Asia
- Central Asia
- South East Asia
- Africa
- East Asia, China
- OECD
- Indian Diaspora Abroad

Key strategies/ interventions

- We started with identification of target countries and partnering institutions based on high NAAC and NIRF scores and shortlisted 100 odd institutions to be the part of the programme.
- The Study in India team set up a one of its kind " web portal" which integrates the eligibility criteria stipulated by the partnering institutes. The portal went live on 5th May 2018 and the last date for application under the first cycle of counseling was 30th June 2018. The second round of counseling is under process and will commence on 20.07.2018 and the entire process will be completed by 31.07.2018.
- The details of Registrations and conversions after the first cycle are as follows:
- Hits on the website: 65,000
  Registrations on the website: 5,663
  Conversions/Final completion and submission of applications: 1,624
- Next was developing a comprehensive social media and branding strategy, consisting of multiple interventions, with a special focus towards a set of target countries initially. Following Branding activities have been undertaken so far,
- Newspaper Advertisements in three of the target countries
- Social media activities including Facebook, Google SEO, Instagram and twitter.
- Road shows/ Registration camps in Nepal, Bangladesh, Tanzania
- Participation in global education fair- GETEX Dubai
- Hiring of high quality professionals for the programme.

Way forward

- Identification of countries which can be added to the target countries.
- Organization of a common entrance examination with the name of "INDSAT" to provide level playing field to the students of various countries
- Setting up a mobile app and call centre to address to the queries of the present and prospective candidates.

Enabling governance environment

- Improving ease of entry and stay of international students by recommending policy changes (e.g., visa, mutual recognition/ equivalence of degrees, internship, job related policies for international students etc.) to the concerned regulatory authorities.
- Forming an interdepartmental task force that will look into the administrative problems, plaguing international students coming to India, in a comprehensive manner.
- Identification of policy related bottlenecks/ issues and problem solving in the Institutions/ Government subcommittee as to what would be the best solution for the problem:
- Educational Policy related Issues (e.g. Approvals for supernumerary quota in colleges, High student fees in select govt. institutions, Lack of participation of best in class institutes in students intake)
- Visa Related Issues like

  - Granting visa for the whole duration of the course in one go.

  - Improving condition of FRROs (e.g. better infrastructure and counselling services)

  - Stricter visa norms for Universities/ Institutes not recognized by statutory bodies like UGC, AICTE, etc.,

  - Setting of facilitation counters in downtown districts of target countries
- Overseas campus regulation issues

The programme is one of its kind and shall help portray India to be one of the preferred educational destination.

ARTICLE

NHPC Initiatives – Skilling India

Balraj Joshi
CMD
NHPC Limited

Nikhil Kumar Jain
Director (Personnel)
NHPC Limited

NHPC Limited is a premier Govt. of India enterprise under the Ministry of Power engaged primarily in the Construction and Operation of large Hydro Power Projects with an authorized share capital of Rs.1,50,000 Million. The installed capacity is 7071.2 MW, inclusive of1520 MW of Hydro in Joint venture and 100 MW of Renewable Energy i.e. wind and Solar. NHPC is a multi-disciplinary organization that has acquired sufficient expertise and state-of-the-art technology for investigation, planning, designing and executing hydropower projects of all capacities. NHPC is accredited with Integrated Management System (IMS) Certificate for its Quality System, Environment Conscience and Occupational Health & Safety measures.

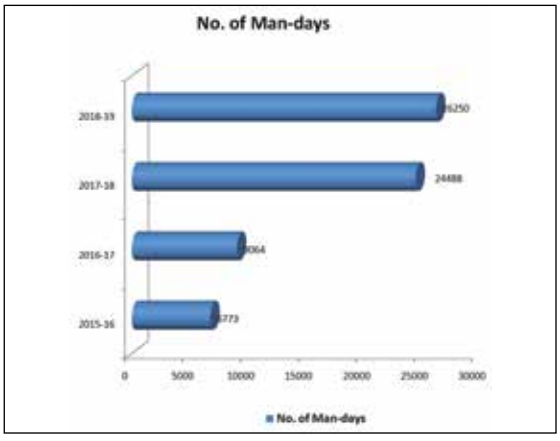
NHPC's future is fraught with challenges due to stringent norms of CERC, generating hydropowerat competitive rates, tapping renewal energy potential, increasedprivate participation in solar energy field and stringent environmental norms. Moreover, NHPC while exploring the new avenues for expanding its footprints and having already ventured into power trading business has redefined the entire business dynamics of the organization. Therefore,need of the hour is that NHPC has to work with a holistic approach, synchronizing all its activities, optimizing all its resources and develop the emerging skills within existing human resource to create an environment that stimulates all-round growth to transform challenges into opportunities.

To keep pace with the emerging skills required by the human resource and to keep them abreast in a dynamic landscape of disruptive technologies, NHPC hasa comprehensive and robust employee development plan encompassing all areas like domain knowledge, functional competence,self-development and leadership development.A total number of 350 programs covering almost 20 percent of the employee strength across the organization are planned for the year 2018-19. Out of these, nearly 70% of the programs are structured to enhance technical competencies of the employees. The man-days of training organized during the previous 3 years are:

In the recent past, NHPC was facing an acute shortage of technicians in some of the key trades i.e. Electrician, Welder, Machinist, Crane Operator etc. this created an urgent necessity to explore the possibility to carry out an exercise for bridging the gaps in the desired trades to run the Power Stations effectively. NHPC undertook a unique initiative to impart skill up gradation/multiskilling training to those unskilled/skilled workers who were identified surplus to the requirement depending upon technological advancement, outsourcing of some non-core activities for cost reduction etc. Out of whicharound 100 unskilled workmenwere sent to ITI Patiala for skill up gradation training on residential basis with a financial investment of Rs.60 lacsin the year 2017-18 & 2018-19. These workmen were provided training in Electrician, Welder and Machinisttrade for 6, 3 and 3 months duration respectively.

On completion of training theyhave been awarded trade certificates from Department of Technical Education and Industrial Training, Government of Punjabandsubsequently redeployed as Electrician, Welders and Machinist in required functions of Power stations for their gainful utilization.This improved the manpower productivity and resulted in saving ofRs.18 crores on year to year basis.

NHPC has also promoted and partnered in the Government of India Mission on National Apprenticeship Promotion Scheme for Skill Development by providing Apprenticeship training to the people graduating from different ITIs under Apprenticeship Act 1961. At present NHPC has been able to provide apprenticeship training to 355 Nos. candidates, which is about 10.72% of total strength of our workmen. These apprentices are engaged in different trades like Electrician, Fitter, Mechanic, Welder, Riggers, Plumbers, Firemen, Carpenter, Stenographer & Computer Operator etc. for a period of one year across all Power Stationssituated in the states of Himachal Pradesh, Uttarakhand, Jammu & Kashmir, Manipur, West Bengal & Sikkimetc. The approximate stipend for these Apprentices is about Rs.6,000/- per month. This endeavor will make these graduated ITI traineesemployable in key and strategically important trades in the power sector and otherorganizations. It has also helped in narrowing down the skills gaps within the Organization and in all the regions across the country.



NHPC has also significantly contributed in the Skill Development of un-employed persons in the vicinity of Power Stations. The activity was carried out in the extremely remote areas in the States of Arunachal Pradesh, Manipur, Sikkim, J&K, Himachal, Uttarakhand etc. under the skill development program of Govt. of India. The Skill Development training was organized in association with National Skill Development Corporation (NSDC) and CIDCwherein about 3780 unemployed persons havebeen provided training in various trades i.e. Electrician, Beauty Therapist, Health Care Assistant, Carpenter Surveyor, Organic Grower, Hospitality Services etc. with an investment of Rs.13 crores. These programs were of 3 to 6 months duration depending upon the trade requirement. NHPC by supporting this endeavor has created opportunities for the youths of far-flung locations to acquire the requisite skills and increase their employability. Out of 3780 trained youth, around 70% have been self-employed/employed.

For the year 2018-19 too, NHPC has fixed the target of providing skill development training to 4000people in and around the project area. The focus will be on skill up-gradation in the three aspirational districts i.e. Baramulla (J&K), Chamba (Himachal Pradesh) and West Sikkim including provision of skill development training to 1000 persons with disabilities. NHPC has also entered into an MOUwith ALIMCO (Artificial limb Manufacturing Corporation of India) for providing aids and assisting device with financial implication amounting to Rs.50 Lacs for empowering differently abled youth in Baramulla District(J&K). NHPC is going to execute the similar process also for other two Districts i.e. Chamba (H.P.) and West Sikkim. NHPC by taking these initiatives has immensely supported the vision of Government of India to empower the youth through their skill development and provide adequate skilled work force to the industry. The organization is forging ahead with full vigor to create the skill development opportunities to make people more employable and productive at their workplaces. NHPC has also given priority to skill development and re-skilling of its own workforce as a key to its business success.

ARTICLE

RCF Initiatives for Vision 2022

U. V. Dhatrak
CMD, RCF

Rashtriya Chemicals and Fertilizers Limited, is a leading Fertilizer and Chemical manufacturing company accorded with "Miniratna" status by Government of India. It has two operating units, one at Trombay in Mumbai and other at Thal, in Raigad district of Maharashtra.

RCF manufactures Urea, Complex fertilizers, Bio fertilizers, micro nutrients, 100% water soluble fertilizers, soil conditioners and a wide range of Industrial chemicals. RCF is committed to be a Responsible Corporate towards our stake holders including employees, communities etc. In line with New India Vision 2022, RCF has taken up flagship programmes comprising Make in India, Digital India, Swachh Bharat, Skill India etc.

Make in India

Agriculture has played an important role in the economic development of India. Even today, about 50% of Indian population is dependent on Agriculture and associated activities for livelihood.

Being a leading fertilizer producer, RCF endeavours to be one of the main driving forces behind India's sustainable agriculture. In order to meet demand supply gap of Urea and achieve self-sufficiency in line with the "Make in India" mission, RCF is engaged in projects as below:

Coal Based Fertilizer Plant at Talcher: RCF in association with GAIL, CIL and FCIL has taken up revival of FCIL's unit at Talcher based on Clean Coal Technology. The project entails setting up Urea plant of 1.27 million MT per annum capacity. The project is of strategic importance for the country as it aims to make breakthrough for use of an alternative source of feedstock in the form of abundantly available coal from domestic sources in place of scarce natural gas. It will also help in meeting much needed Urea production capacity for the eastern part of the Country.

In order to utilize country's huge coal reserves, Talcher Fertilizers will be a game changer for India in terms of opening a new avenue in coal gasification and shall reduce dependency on Natural Gas for Urea manufacturing.

Setting up of new Ammonia Urea complex at Brahmaputra Valley Fertilizer Corporation Limited (BVFCL): RCF in association with OIL, BVFCL and Govt. of Assam has taken up setting up of new Ammonia Urea plant in the existing premises of BVFCL.

This project will replace the existing inefficient Namrup II and III Ammonia: Urea Units. The project comprises setting up Urea plant with annual capacity of 1.27 million MT per Annum & will help in meeting much needed Urea production capacity for the eastern part of the Country.

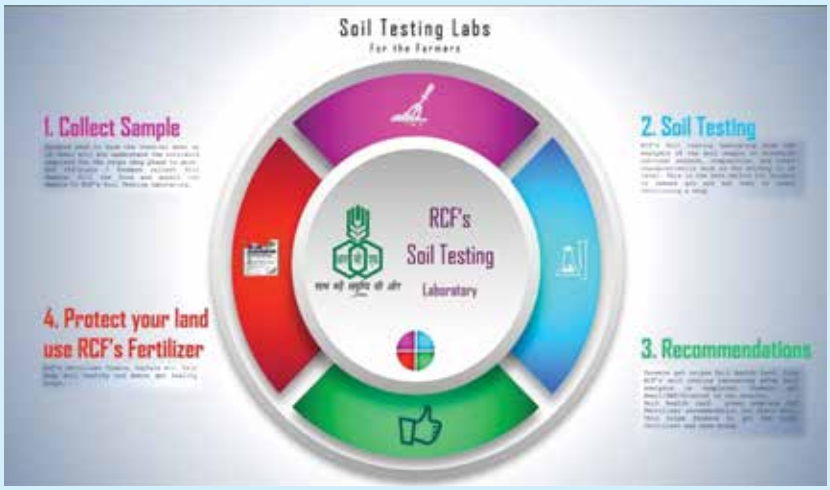
Digital India

RCF has been at the forefront in the adoption of ICT (Information and Communication Technology) for improving its business operations and also for sharing information with users, customers, government as per their needs.

Soil Testing Portal

To promote balanced use of fertilizers for improving the farm productivity and to help in maintaining soil health, RCF has established 10 (ten) static Soil Testing Laboratories (STL) in the country at strategic locations, namely Mumbai, Nagpur, Ahmednagar, Satara, Latur, Kolar, Suryapet, Raipur, Nanded and Lucknow covering the soil testing activity in the districts around these STLs. In addition to the static STLs, the Company also operates 6 (six)

Mobile Soil Testing Labs. This Soil analysing facility is rendered free of cost to farmers. Since last 40 years, RCF has analyzed more than 50 lakh soil samples.



Web based soil testing portal is implemented at all the Soil Testing Laboratories (STL). Soil samples are collected by the field /sales officer and are despatched to the nearest STL for soil analysis. Soil sample is tested for following parameters Nitrogen, Phosphorus, Potassium, pH and conductivity. Also, micronutrient analysis is done at the STLs. Soil testing helps diagnose soil health and evolve soil specific and crop specific solutions. It helps to identify problematic soils, their nutritional status, texture and structure. Based on the analysis, farmers are advised on soil fertility management through rational use of manure, fertilizers and amendments to make agriculture more productive and sustainable.

Soil analysis data is stored at RCF's Primary Data Centre in Mumbai. Soil Health Card is available once fertilizer recommendation i.e. soil analysis is entered into system. Soil health Card is available in Marathi, English, Hindi and Kannada language. Soil testing reports (Soil Health Cards) are mailed directly to farmers after analysis (if the farmers had provided their e-mail address). SMS is sent to the registered mobile number of farmer.

Fertility status report is available for a State, District and Taluka/ Block Level in 6-tier or 3-tier i.e. Very low, Low, Medium, Moderate High, High and Very High. Micronutrient analysis in 3-tier is available in the system. Approximately 1,30,000 samples are analyzed at 10 static and 6 mobile soil testing labs.

As a future step, the database of soil samples can be analyzed to provide a soil map of a region along with the variances in the health of the soil over a period and the factors therein. This would provide valuable insight towards a more productive crop growth.

e-Recruitment

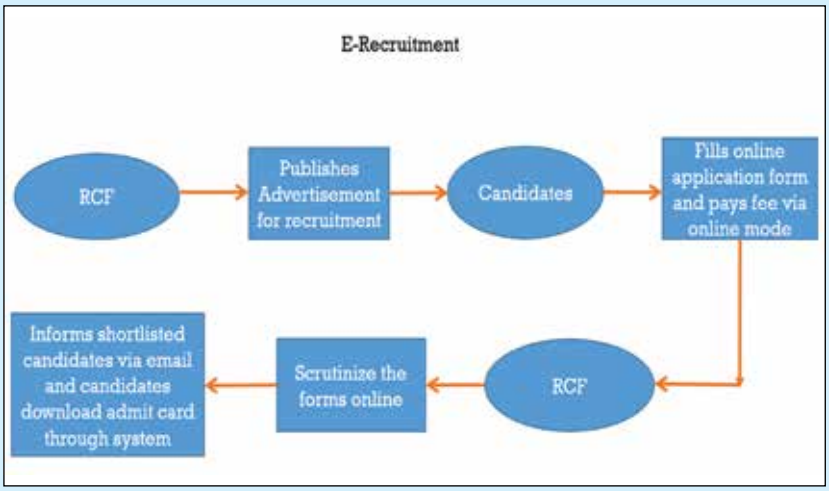
Recruitment activity in RCF is conducted by HR department. This has been a manual process which required a lot of efforts and manpower. Some of the activities involved in the manual process of recruitment were:-

- Candidate would send his/her paper based application form along with hard copies of supporting document to the company as per the advertisement
- Application fees, if any, would be paid via bank challans and copy of the challan would be attached
- Forms received would be scrutinised by the company and candidates would be shortlisted
- Admit card would be printed and sent to the selected candidate

The decision was taken to develop an online e-recruitment application with enhanced facility for cashless payment.

The recruitment portal has the following functionalities-

- An online form facilitates the candidate to fill the form
- All the necessary checks are built in the application with respect to the criteria set by company for the post
- Application has the facility to upload the required documents in electronic format
- Photograph and signature can also be uploaded to the online application
- On submitting the application form, system stores both the accepted/rejected candidates application
- Reason for rejection of the application is displayed to the candidate on submission
- An email with unique application number is sent to the accepted application of the candidate



- Facility to re-print the application form is provided
- The online application is integrated with payment gateway, enabling valid candidates to pay application fee online
- Short listed candidates can download and print the admit card

Benefits

- Online application has enabled paper less operations
- Minimal manual efforts are required for the entire process
- Enables digital cashless payment
- Elimination in errors during shortlisting
- Information is easily available for reporting in digital format

Web portal: To better serve the external entities interacting for business, web portals have been deployed. This web portal provide a consolidated view of RCF.

SAP ERP: SAP ERP was one of the major initiative taken for supporting core business functions with an enterprise Portal for employee so that they can avail many of the self-service applications online.

Paperless initiatives: Going further towards paperless office, applications like E-recruitment Portal, Dashboard for Employees, Department wise web-spaces, Online Medical Bill Reimbursement, e-tendering, Document Management System (DMS) applications for online approval for procurement etc are developed.

Digital transaction: In an efforts to promote digital economy, a cash management product from State bank of India is being used for collection and disbursements of payments to customers and vendors. To promote transparency in its operations, RCF is providing SMS alerts and notifications to its customers, vendors, employees and top management about the transactions, reports and status updates.

Use of Social media: Social networking sites like Facebook, Twitter, Instagram etc. are used as communication tools to easily communicate and educate the farmers.

Mobile Apps: As the mobile segment is becoming prominent, more and more use of this device is being taken. Mobile Apps like RCF Kisan Manch , provide valuable information and tips towards crop and farming. Information like weather report, tides report, Mandi rates, Sheti Patrika, Farm Advice, and RCF Soil Testing Labs location is incorporated into the app.

Swachh Bharat

Swachhata Abhiyaan: Swachh Bharat Abhiyan, was formally launched in RCF on 2nd October'2014 in response to call given by our Honorable Prime Minister. Number of phases of "Swachh RCF Factory drives" are being conducted in RCF every year since Oct 2014. RCF has whole heartedly organized a massive cleanliness campaign in Factory and Township premises with participation of employees as well as their families.

To give more encouragement to this noble cause, management has decided to have a structured approach to this important activity, so that it will continue throughout the year in every corner of the factory without any interruption.

As a part of factory-wide "Swachh RCF Drive" the cleaning activities are performed in common areas in factory premises for one and half hours on every third Saturday. Employees irrespective of their Plants and Departments are participating in the drive.

All initiatives taken by RCF, as part of the Swachh Bharat initiative are recorded and made available on the RCF website. Also periodic updates from the governments are posted to spread the awareness.

Start up India, Stand up India

With an aim to support Start up India drive of Government of India, RCF is making every attempt to reach out to Micro and Small Enterprises (MSE) vendors. RCF is regularly sponsoring and organizing Vendor Development cum exhibition Programme. To encourage the participation of Micro and Small Enterprises and Start-ups, relaxation in pre-qualification conditions related to Annual turnover target, experience etc is provided.

Farmer Walfare Programes

Soil Testing Services

In addition to the Soil Sample analysing procedure both for NPK & Micronutrients which are currently being offered free of costs to the farming community Pan-India, RCF will also offer Water & Leaf analysing facilities to the community.

Kisan Suvidha Kendras

RCF is planning to offer on-Job training to Agriculture Graduates / Agriculture Diploma Holders under National Employability Enhancement Mission (NEEM) scheme in RCF's 150 Kisan Suvidha Kendras.

Urban Marketing through e-Commerce platforms

We plan to market our in-house produced 100 % Water Soluble NPK Fertilizers and Liquid Micro-nutrient fertilizers, Organic Manure in the Urban Markets. We have listed Mumbai, Pune, Bangalore, Hyderabad & Luck-now as our potential platforms. RCF plans to have enter the Urban market through available e-commerce platforms.

Farmer Knowledge Centres

RCF is having two Farmers Knowledge Centres one at Nagpur (Maharashtra) and the other one at Thal (district Raigad, Maharashtra). We are planning to increase the intake capacity of the farmers to be trained from 30 to 50 per batch. In addition we are also planning to increase the yearly training schedule from 40 to 50 every year.

Live Field Demonstrations "Seeing is believing"

RCF's concept of transferring Lab to Land technology to improve farm productivity is very popular among the farming community. We will increase systematically the number of Demonstrations to be undertaken ever year.

Crop Literatures

We in RCF are planning to print Crop literatures in Comic book form to capture the farmer's interest.

Community Radio

RCF's experience of educating the Farming community through this set-up has been encouraging. We have plans to extend this experience to Karnataka, Telangana, AP & UP.

CSR activities

RCF has undertaken several initiatives under CSR activities with the objective to benefit the needy and for well being of the society. The schemes supported under CSR are

- **Mid-day meal scheme:** Nutritious food is provided to children studying in 28 unaided schools. Around 9000 students are benefited though this scheme per day.
- **Mobile Medical Van:** RCF is operating three Mobile Medical Vans in slum area of Trombay & rural area of Thal. This helps in giving timely treatment to the patients. Annually 75,000 patients are benefitted through this scheme.
- **Medical Camps:** Regular medical camps are organized in the schools at slum area of Vashi Naka and Cheetah camp near Trombay Unit. During the camp primary health check-up is done and deworming, iron tonic, calcium supplement, vitamins tablets are provided. Computerised eye testing is done and spectacles are provided if required.

Bird eye view of Sewage Treatment plant.

- **RCF Super 30 scheme:** Started a unique scheme to adopt 30 under privileged children from interior places of Maharashtra. These Selected students are trained for admission in to IITs and NITs. 11 months Lodging, boarding &coaching expenses are borne by RCF. In Academic Year 2017-18, all 30 students have cleared IIT Mains.
- **Education oriented recreation program:** "Khel Khel Mein", an education oriented recreation program for slum area children is supported by RCF. 1080 children in the age group of 5 to 12 years benefited through this scheme. Six Edu-recreation centers are operating in slum area near Trombay Unit.
- **Supply of drinking water:** RCF is supplying drinking water to villages around Thal Unit -Thal, Vaishet, Tudal, Boris, Gunjis, Navgaon & Bhal. More than 20,000 families are benefitted. This facility is provided and maintained by RCF since last 22 years.

A Sustainability initiative by RCF

Sewage Treatment plant

RCF has been successfully operating a Sewage Treatment Plant (STP) of 22.75 MLD (Million Liters per Day) sewage capacity at Trombay unit since January 2000. This is a showcase plant producing about 15 MLD of recyclable water which is used in process plants. The STP serves a dual purpose. Firstly, it takes care of the treatment and disposal of 22.75 MLD of municipal sewage which otherwise would have entailed treatment by MCGM, prior to releasing it into sea. Secondly, since RCF is using Treated Water from STP for its plant requirement, RCF has reduced intake of fresh water from MCGM by equivalent quantity thereby making 15 MLD fresh water available to residents of Mumbai city for domestic purpose.

Thus this initiative has made it possible to meet requirement of about 30,000 happy families. This is a unique example of conserving scarce natural resource like water on perpetual basis and makes it Sustainability Development project. RCF's Sewage Treatment Plant helps city in protecting its environment and conserving its scarce natural resources.

RCF is setting up another STP Plant of similar capacity with an Objective of making RCF self-dependent in terms of its process requirement of Trombay unit. The New STP when goes on-stream will also generate 15 MLD of fresh water thereby saving fresh water to that extent. RCF has started supply of treated water to M/s BPCL from June 2018. Hence RCF STPs are of great help to residents of Mumbai and society at large, besides being beneficial to both MCGM and RCF. In a way our STPs at RCF can be called Sustainably Sustainable Development Projects.

Solar Power Generation Facilities

In its bid towards India's vision of achieving ecologically sustainable growth, RCF has already forayed into solar power generation.

RCF has set up a 2 MWp ground mounted Photovoltaic Solar power plant within the factory premises in Trombay Unit in January 2016. During the year 2016-17 and 2017-18, the plant has generated 2922 MWh and 2990 MWh of solar power respectively. The power generated is used for captive consumption of the Trombay unit, thereby reducing Company's power import to the equivalent extent.

RCF has also installed 6 rooftop solar power generation facilities, with an aggregate capacity of 84 KWp a top at its offices of Trombay, Thal and marketing offices. The totally green power generated by solar plant replaces the conventional power generated through burning of fossil fuels leading to reduction in overall Greenhouse gas emissions of the surroundings. In addition to above, RCF has commissioned

solar rooftop facilities at five locations at Thal and one at Trombay with an aggregate capacity of 1.29 MWp. RCF is targeting to take up many more Sustainable Development activities in the near future.

Skill India

Training centres: To get the hands on experience and good knowledge of plant processes and operation, skill development training is provided to the students of various Academic Institutes.

To enhance employability of youth by imparting knowledge & skills, intensive training on plant operation, plant processes, equipment operation, maintenance activities and safety aspects etc is provided to Diploma engineering, BSc (Physics and Chemistry) and 12th completed students.

Farmer Knowledge Centres: RCF has two Farmer Knowledge centres, one at Nagpur and the other at Thal. These knowledge centres are equipped with latest facilities. Experts from Regional Agricultural Universities are regularly invited to give guidance to the farmers. Special programmes are designed for women farmers and the scheduled caste and scheduled tribes on a regular basis.

Krishi Melas and Exhibitions: Krishi Melas are organized in areas where major crops and cash crops are cultivated. Leaflets comprising details on crops and fertilizer products, their use in the field etc. are distributed during Krishi Melas.

Agricultural Exhibitions: Agricultural Exhibitions are organized at block / district level especially during fairs / rural events considering the crops grown in the area

with advanced and new package of practices. RCF is a responsible corporate and believes in holistically working for better future for stake holders, company and nation. RCF is committed to put the best efforts and join in the transformational growth path for New India mission.

RCF's Action Plan for "New India – Vision 2022"

The Department of Public Enterprises (DPE) has embarked on a collaborative exercise for re-defining the role and functioning of Central Public Sector Enterprises (CPSEs) in the context of challenges and expectations emerging from broad vision of 'New India-2022'. This exercise had culminated in the CPSE Conclave "New India - Vision 2022" held on 9th April, 2018 at Vigyan Bhavan, New Delhi which was addressed by Hon'ble Prime Minister.

RCF has prepared the Company specific actionable points with targets and has been working on achieving the same.

Some of the key targets includes:

- Setting up of a 1.27 MMTPA Benchmark Urea plant at Talcher, Orissa using Domestic Coal as feed for Synthesis Gas by 2023-24 to reduce Urea import bill of country.
- BVFCL Revival by Setting up of 1.27 MMTPA capacity of Urea Unit at Namrup-IV, Assam by 2024/2025 to reduce Urea import bill of country.
- RLNG saving after commissioning of ARC IV at Thal unit by changeover of Steam turbine drive to Motor drive.
- To extend Geostrategic reach, setting by a JV project for overseas investment by 2023 as One Ammonia-Urea JV project out of Gabon or Saudi Arabia and One DAP / Rock phosphate/ MoPJV Project out of Algeria or Jordan.
- To Support development of one start up unit by 2020 through Atal Incubation Center/IIT's/ R&D Institute in the field of Agriculture/Agro chemicals/ Fertilizers and Chemicals.
- To increase in percentage of Apprentices engaged from 2.5% to 10% during the year by 2020.
- To Spend 80% of CSR fund in Aspirational districts

Osmanabad, Maharashtra.

- 1 % increase over procurement from MSEs during 2017-18.
- All out efforts being made by RCF to achieve new stringent energy norms fixed by the GoI under New Urea policy (NUP-2015) applicable w.e.f 01-04-2018 / 01-04-2020. Various Energy efficiency improvement schemes have been planned to achieve these targets and are under implementation.
- Development of RCF Trombay Township as Mini Smart city by 2022.
- Plan to improve RCF rank in India Fortune to 165 by raising turnover to 8100 Crore By 2023.
- To Partner with atleast 16 Academic & Professional Institutes Including Engineering colleges/ ITI/ Polytechnic Institute by 2019 to enhance skill development among students/ professionals.
- To impart Industrial training to 900 Students participants and short term Skill enhancement training to 1350 Students/ Outside participants by 2019 to increase RCF participations in youth skill development.
- RCF wishes to share infrastructure like e-recruitment portal developed by RCF, Training Centre, Hostel and Sports complex facilities with CPSE's. Office/ Township with other Industries/Govt. agencies.
- RCF is setting up 2nd sewage treatment plant for treating 22.75 million litters per day of sewage and will provide part of the treated water to M/s BPCL, Chembur.
- RCF has set up two innovation cells in the company to harness the innovative idea among employees to improve productivity and profitability.

Other Significant initiatives

- Planting sapling on employee's birthday.
- In line with Honourable Prime Minister directions that no bouquet may be presented for felicitation purpose instead books can be given. RCF started presenting books for felicitation.
- For Promoting gender equality, RCF always keep one women representative in the panel of recruitment and promotion.
- Prior to the amendment in Maternity Act, RCF was already sanctioning 6 months maternity leave to its female employees. RCF has also started 15 days paternity leave to the Male employees.

Vision 2022:
India's far-flung farming community dreams

Dr. S. P. Mohanty
CMD, HIL

HIL has drawn a Vision-Statement "To be a global player in the field of Crop Protection and Public Health" in such a way that to become a single stop shop for farming community by providing all three major agri-inputs, i.e., Pesticides, Seeds and Fertilizers.

A sustained growth of agricultural sector in India, and to widen the geo-strategic reach, HIL proposes to put up a Manufacturing and Packaging Unit in the 15 acres surplus land available at Mouza-Humma, Tehsil- Chatrapur, District- Ganjam as all the manufacturing facilities of HIL at present are in the western part of the country in the forefront of the government's commitment to double farmers' income by 2022.

Following the target given by hon'ble Prime Minister to reduce the imports by 10%, the company is planning to launch its own manufacturing facility for producing the speciality and intermediate chemicals used as raw materials for our products and are presently being imported from China.

In order to bring sync with the vision of doubling farmer's income, the company's innovation and Research includes:-

- To Enhance Soil Fertility and Farmer's income by introducing new formulations of Pesticides compatible with Water Soluble Fertilizers.
- To develop Chemical Alternatives to DDT, which can be used as Indoor Residual Spray.
- To produce Long Lasting Insecticidal Nets (LLIN) as part of vector borne disease control program.

The Company is planning to conduct around 25 nos. of training programs every year for farmers across the Country to train them for the judicious usage of pesticides. The Company is planning to introduce off patent products through close monitoring of pesticides which are going off patent and put up manufacturing facilities depending on market potential and viability. The Company is planning to put up its own Seeds processing plants for seed processing and purification. Vision 2022 envisages increasing agricultural production and thereby doubling the farmer's income.

Is it feasible?

Quoting the words of Nelson Mandela, "It always seems impossible until it's done."

India is among the fastest growing major economies of the world and over 58 per cent of the rural households depend on agriculture as their principal means of livelihood. Agriculture as a sector contributed 13.5 per cent to the nation's Gross Value Added (GVA) in 2015-16. Within the sector, the sub-sectors of horticulture, livestock and fisheries have been contributing a larger share of value to agri-GVA since the last decade. Agricultural development continues to remain critical for economic growth, poverty reduction and ensuring food and nutritional security of the country besides meeting other mandates of the agricultural sector.

Water is a scarce commodity which needs to be used judiciously by farmers. Information relating to method of irrigation, quantity and quality of water, time of irrigation, water use efficiency by adopting micro-irrigation systems and sensor, besides crop alignment etc. now need to constitute the new context of advice that the Extension machinery needs to offer to the farmers.

The company's actions in achieving the government's commitment to double farmers' income by 2022 are by increasing the agricultural

Contract Signing Ceremony with UNIDO for LLIN Project by Dr. S. P. Mohanty, CMD, HIL and Dr. Rene Van Berkel, India Representative – UNIDO.

production. Imparting training to farmers across the Country to train them for the judicious usage of pesticides along with scientific knowledge of plant protection to avoid the huge losses caused by the pests and to minimize the cost of plant protection is one among the action.

Increasing the Geo-strategic Reach

The company proposes to put up a Manufacturing and Packaging Unit in the 15 acres surplus land available at Mouza - Humma, Tehsil - Chatrapur, District-Ganjam. The Department of Industrial Policy and Promotion (DIPP) owns around 61000 acres of salt pan lands administered by its attached office, SCO for salt manufacture. Out of these, around 1500 acres of land are identified as surplus and not being used for salt manufacture.

HIL operates through three manufacturing Units for manufacturing pesticides at Alwayee (in Kerala), Rasayani (in Maharashtra) and Bathinda (in Punjab) to cater the needs of farmers. HIL now plans to cover the eastern zone as well and accordingly exploring the opportunities to put up a new manufacturing and packaging unit in eastern region with the availability of surplus land with DIPP. This will help to not only increase turnover of company substantially but also the company will mark its presence in eastern region as well, so that farmers of eastern and north-eastern part of the country may also be served. This will also help in creating the employment in eastern and north-eastern region and also the increased availability of good quality plant protection chemicals, thereby reduced crop loss.

Reducing Import Bill of the Country

Following the target given by hon'ble Prime Minister to reduce the imports by 10%, the company is planning to launch its own manufacturing facility for producing the speciality chemicals used as raw materials for our products and are presently being imported from China. This will not only reduce the dependency on import and reduce the import cost but also the manufacturing cost will be reduced leading to availabity of high quality products at affordable prices to farmers. The Company imported said chemicals for an amount of around Rs. 62 crores and by putting our own facility, the same can be reduced. This will also be an initiative under "Make in India" flagship programme envisaged by Hon'ble Prime Minister.

Integrating Innovation & Research

To Enhance Soil Fertility and Farmer's income by introducing new formulations of Pesticides compatible with Water Soluble Fertilizers

The Company in association with IPFT is planning to introduce new formulations of Pesticides compatible with Water Soluble Fertilizers which can be used as a single option for both pesticides as well as fertilizer for farmers. This will not only save the farmer's cost of agriculture but also will improve soil fertility. The Company is also planning to launch customized formulations for fertilizers based on the soil health card of various regions. The formulation will be developed based on the composition indicated by soil health card, for example, the areas which have Phosphate rich soils will be provided with Phosphate less fertilizer formulations.

Chemical Alternatives to DDT which can be used as Indoor Residual Spray

HIL has already entered into a collaborative research project with Institute of Chemical Technology, Mumbai, and the molecule has been isolated and the preliminary results are very encouraging. ICT after detailed literature survey for the synthesis of the new molecule have started lab studies for development of isostere. They have developed a lab sample of the new chemical and the same is being sent to a lab to assess its insecticidal properties. Once the insecticidal property is proved, chemical assay and other studies will be undertaken. Once the chemistry is established, a pilot plant will have to be designed and on satisfactory pilot plant studies, which will also establish the economic feasibility, the scaling up activities will commence. It is

estimated that it will take around 3 years to launch the product.

Long Lasting Insecticides Treated Nets (LLIN)

HIL is in advanced stage of launching LLIN Project under UNIDO's scheme for "Development of Non-POPs Alternatives to DDT" on co-funding basis. LLIN is a polyethylene based net by incorporating Alphacypermethrin as an insecticide (WHO approved insecticide for LLIN). The objective of the project is to develop High Density Polyethylene (HDPE) based LLIN having the active ingredient content (i.e. insecticide) as per the specification of WHO Pesticide Evaluation Scheme (WHOPES). The long lasting insecticide Mosquito net (LLIN) is becoming more and more important in the control and prevention of diseases like Malaria, dengue, Chikunguniya, Yellow fever, filariasis, encephalitis, leishmaniasis and other diseases spread by insect vectors. The Company has already set the target for launching LLIN Project in the financial year-2018-19.

Annual Theme for CSR Activities - Empowerment of Farmers through Knowledge Dissemination for enhancing safety and income:

The public and private extension systems highlight on "what to do", rather than also educating on "what not to do". The latter is equally critical for farmers who are practicing agriculture from generations and may be carrying the baggage of certain undesirable farm practices. With new technologies and understandings forthcoming, some practices that could be even more recent, may need to be dissuaded in light of such developments. Farmers need to be educated holistically, not only in new practices but also on the need or ineffectiveness of on-going habits to pre-empt risks and failures. The Company is planning to conduct around 25 nos. of training programmes every year for farmers across the Country to train them for the judicious usage of pesticides. The company is targeting to train around 25,000 farmers every year across the country. The Company has set a vision to train 1.5 lakhs farmers till 2025.

Mr. Ram Naik, Governor, Uttar Pradesh, Dr. S. P. Mohanty, CMD, HIL, Dr. Shailendra Rajan, Director, Rahmankheda, Director ATARI and DGM (Seeds) Mr. Anil Yadav on the dais.

Venturing into Bio-pesticides/Bio-fertilizers and Organic Manure

The Company is in the process of tying up with the Tamil Nadu Agriculture University for launching Bio-pesticides manufacturing facility at Udyogamandal Unit. The Company is also exploring the possibilities for launching Bio-fertilizers and Organic Manure.

Expansion of Exports Business

The Company is already exporting DDT to South African nations and is also exploring the possibilities of exporting other agrochemicals to South Africa. The company is also exploring the possibilities of exports to Europe and Latin America. The Vision – 2022 of HIL is derived in such a way that the growth of the company directly aims in development of farming community and thereby doubling the income of farmers.

Participants includes females also for the farmers training program.

ARTICLE

Initiatives taken by the CCI and Future Action Plan

Dr. P. Alli Rani
CMD, CCI

The Cotton Corporation of India Limited (CCI) is a Public Sector Undertaking under the administrative control of Ministry of Textiles, Govt. of India. CCI operates in all the cotton growing States with about 350 procurement centres under 17 procurement/ sales branches.

The major role of the CCI is to undertake Minimum Support Price (MSP) operations on behalf of Govt. of India when the prices of Fair Average Quality (FAQ) grade seed cotton fall below the MSP level. As per role assigned, CCI procures entire quantity of FAQ grade kapas offered by the cotton farmers in various APMC yards at MSP rates. This mechanism not only caters to the abundant supply of cotton during peak arrivals but also ensures that kapas prices do not lead to distress sale by the farmers. Besides MSP operations, to fulfill the raw material requirement of the domestic textile industry particularly during lean season, CCI undertakes commercial purchase operations. CCI offers its cotton stock throughout the season through e-auction without any hoarding and speculation so that textile mills including Micro Small & Medium Enterprise (MSME) Units do not face any problem in the availability of cotton.

Highlights of CCI activities and future action plan are as follows:

- **Scientific Assessment of Cotton Crop:** The assessment of cotton crop is done by CCI on the basis of frequent visits and field survey by CCI officials during entire period from preparation of sowing till harvesting. The total production of cotton in the Country is estimated on the basis of month-wise G&P factory-wise pressing figures.

- To ascertain more scientific and realistic data on area under Cotton, Yield & Production, CCI is also coordinating with ISRO for implementation of their satellite based cotton crop assessment system.

- **CCI- a model purchaser of kapas and a friend of cotton growers:** As a matter of policy, CCI purchases directly from the cotton growers in the regulated Agricultural Produce Market Committees (APMC) yards of the respective State Governments. CCI's share in the entire cotton marketing is about 5% in Commercial Operation and upto 30% in MSP operation. It checks the wrong practices of private buyers to form a cartel and beat down the prices of kapas.

CCI officials remain present in the market yards from the beginning of cotton season till end and keep close watch on prevailing market situation so as to protect the interest of cotton farmers. In many markets, auctions do not start unless CCI representative is present to participate in the auction.This speaks about the credibility of the organization in safeguarding the interests of the cotton growers of the country.

- The Corporation is under process for registration of cotton farmers and developing a farmers' friendly mobile app for sharing of information i.e. CCI procurement centres, MSP rates, payment details, notifications if any, on cotton etc with registered cotton farmers and settlement of their grievances.

- CCI is targeting to achieve more than 25% market share by 2022 to Command better pricing in market and plough back benefit to the farmer as well as to the employees in order to achieve maximum possible market share.

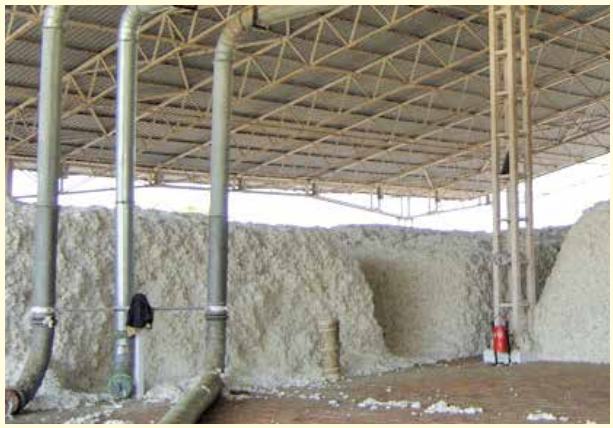
- **CCI's purchases in tribal areas:** Considering the need to

increase domestic cotton production by bringing in non-traditional areas under cotton cultivation, the Corporation had made special efforts to lend marketing support to the tribal cotton growers in Orissa to encourage the farmers to bring in more and more areas under cotton cultivation. CCI operated 7 purchase centres in Orissa during the cotton season 1998-99. The same has continued till date. Like-wise, CCI continues to purchase cotton in tribal areas of Adilabad, Warangal, Karimnagar in Telangana and also tribal belts of Andhra Pradesh, Madhya Pradesh, Gujarat and West Bengal.

- **CCI makes 100% payment promptly:** As a matter of practice, the CCI ensures 100% payment to the cotton farmers within 2 to 3 days directly in their account through online. In order to avoid any instances of malpractices, CCI has also requested State Governments to introduce Bar-coded Identity Card System/ electronic system for identifying the genuineness of cotton farmers so that the benefit of MSP can be transferred directly in the account of real cotton farmers.
  - The Corporation is developing a computer based programme for electronically generation of documents on the basis of necessary inputs/farmers data from concerned APMCs and prompt payment to the cotton farmer's bank account.
- **Processing of Contaminant-controlled Cotton:** With a view to meet the demand for contaminant controlled cotton from 100% Export Oriented Units and other quality conscious textile mills, CCI is making all out efforts for processing of cotton with least contamination.While purchasing cotton from farmers in APMC Yards, CCI encourages the farmers to bring their kapas in open form instead of Jute bags to avoid contamination.

CCI also motivates the farmers under its CSR activities to adopt best farm practices and usage of hand-handled kapasplucker machines to maximize the yield and quality at farm level. Besides this, efforts are made to maintain the quality of cotton under process in Ginning & Pressing factories by constant monitoring through surprise checks and frequent visits by CCI officials at the time of processing of cotton.

- **Benefits for Indian Textile Industry:** CCI facilitates the Indian Textile Industry, including Micro Small & Medium Enterprises (MSME), in sourcing their raw material requirement i.e. good quality, contamination free cotton at market driven rates for production of quality yarn to meet international competition. CCI offer its cotton stock throughout the season through e-auction without any hoarding and speculation so that textile mills including MSME Units do not face any problem for supply of cotton. Thus, CCI try to maintain the price intact for safeguarding the domestic textile Industry and to make them available the good quality raw material at market driven reasonable price.
- For making the sales system more transparent and market driven, CCI has commenced the sale of FP cotton bales through e-Auction by way of Yankee auction where the Textile Mills have the choice to bid for the required quantity out of the total quantity offered.
- Infrastructure initiatives and economic improvement:



- CCI has updated its website with latest technology and even a person with disability is able to access the website with the help of assistive technologies.
- It has adopted ERP system (named 'PRAGTI') at its corporate office and branch offices by linking the same with its all core activities like purchase, sale, finance, HR/Payroll, CRM etc.
- IT Auditors had conducted IT System Audit and IT Security Audit for IT systems running in CCI and found it completely satisfactory. Zonal Coordinators and help desk at head office is setup at Head Office for help in case of any difficulty in implementation/ running of ERP.
- Introduced sale of FP cotton Bales branch wise/centre wise by customizing ERP system for better realization in sale price.
- Video conferencing has been started for optimum utilization of working time, monitoring the branch operations/meeting with the Branch Heads and prompt decision making.
- Warehouse Management System is being prepared for online managing stocks in godowns.
- Besides this, CCI is planning for:

- Extension of ERP system to centre level by 2019-20,
- Implementation of e-office through National Informatics Centre Services Inc. (NICSI) by 2019-20 at corporate office and thereafter at Branches by 2020-21.

VISION 2020:
Decade of Revolution in Telecom & Electronic Manufacturing

K. Alagesan
CMD, ITI

Today, we are sitting close to the end of second decade of the 21st century; we face fundamental change in not only how we diversify our business, but how diversification of business is defined. The fast pace technology is rapidly replacing the traditional mechanisms. Today, we are witnessing the wireless technology almost at every place as far as telecommunication industry is concerned. The last decade has observed the industry's toughest times and still manages to come out with competitive edge and world-changing products and services.

The vision ITI Limited, formerly known as Indian Telephone Industries Limited is independent India's first public sector unit in telecommunication segment has already turned around and shifting its gear to manufacture latest requirements for telecom industry.

As part of vision 20:20 approach, the company is latching now on to the start-up bandwagon and throwing open its facilities to the companies with new ideas. It is also foraying into new domains like Internet of Things (IoT). ITI has signed teaming agreements with 22 start-ups that work in engineering, mechanical and software development domains. Working with the start-ups will help the company foray into newer areas and bring in revenues.

Rs. 8000 Cr project of Army Static Switched Communication Network (ASCON) from the Ministry of Defence for providing and maintaining strategic communications network for Army is also a significant achievement for ITI. ASCON is the army's telecom network backbone implemented in phases along the borders. The project includes civil works for the infrastructure and optical fiber network, installation, commissioning and maintenance of equipment such as IP MPLS routers, Microwave Radio, Satellite terminals, NMS (Network Management System) and testing tools.

ITI has achieved a significant milestone by being a part of phase I of Government of India's flagship project "BharatNet" connecting over One Lakh Gram Panchayats across the country with high speed optical fibre network. The project envisages hi-speed broadband connectivity at an affordable price in over 2.5 lakh villages. The tenders for phase II project are announced and ITI is making all out efforts to participate in all the tenders.

The company also consolidates its diversification into Information and Communication Technology (ICT) to hone its competitive edge in the convergence market by deploying its rich telecom expertise and vast infrastructure. Network Management Systems, Encryption and Networking Solutions for Internet Connectivity are some of the major initiatives taken by the company.

In addition to telecom projects like GPON (Gigabit Passive Optical Networks), MLLN (Managed Leased Line Network), SSTP (Secure Socket Tunnelling Protocol), Wi-Fi, DWDM, OTN, Radio modem etc., ITI has introduced manufacturing of Smart Energy Meters, HDPE duct, Optical Fiber Cable, Solar panels, mini PC, Set Top Box, Smart Cards, Banking Cards etc. ITI has already upgraded the infrastructure to manufacture Banking

cards. The infrastructure has been accredited by National Payment Corporation of India (NPCI) for Rupay cards.

ITI's state-of-the-art Data Center is currently spread over more than 2, 00,000 Sq. ft. with world class facilities. It has the capability to house thousands of IT Infrastructure equipment and is designed to offer a wide spectrum of core hosting services with best suite of value added services under highly secure and stable environment. We are adding 1000 additional racks in the existing set up in Bengaluru out of which 150 racks are already commissioned. We are also setting up a new Data Centre of 200 racks capacity in Naini (Allahabad, UP) Plant. The new infrastructure will enable PSU Banks, Central & State Government undertakings, MNCs, corporates and large enterprises to have their data located within the country. The company has also started providing Aadhar authentication services, e-tendering services, core banking applications, mobile wallet application etc.

ITI is committed to the 'Digital India', 'Make in India', "Skill India" and 'Smart Cities' initiatives of Government of India and has launched TAG ITI Digital Wallet Service to provide cashless transactions to the nation's economy under the Digital India Initiative of GoI. All ITI transactions are carried out through Digital Wallet. On the other hand, ITI has imparted skills to youth on 'Optical Fibre Splicer', 'Electronics Switching System Manufacturing and Testing' and 'Mobile Communication' under the flagship of PradhanMantri Kaushal VikasYojana.

In a first of its kind, ITI will be manufacturing smart meters for implementation of smart grid projects in Haryana and Uttar Pradesh and will help these states to significantly reduce the AT&C losses and completely change the way in which electrical energy is presently being consumed in the two states. Installation of these smart meters will enable the power distribution companies to obtain real time energy consumption data of each consumer for subsequent analysis. This will pave the way for initiating various smart measures like Time of Day (TOD)/Time of Use (TOU) billing, prediction and management of peak demand, providing real time energy consumption data to consumer, prepaid billing facility, remote connection and disconnection of load, accurate billing, etc.

Under the Swachh Bharath Mission, ITI in association with the Ministry of Urban Development (MoUD) has started manufacturing and installing feedback devices at public toilets in almost 12 states to regularly monitor and maintain cleanliness of toilets with support from district municipal corporation bodies. The flagship programme of MoUD is supplemented by government's vision of Digital India and Startup India where ITI is helping start-ups in manufacturing prototypes and lending a helping hand to enter the market.

As a part Corporate Social Responsibility, ITI has established a special school 'Snehalaya' for imparting special education for specially abled children in the year 1985 under ITI Education Committee. The school teaches the children social academics consisting mainly basic functional literacy to develop their day today activities, skill development, self-care activities. In 1999, ITI set up ITI Central School as a premier Educational Institution in South India. The school is affiliated to Central Board of Secondary Education. The school provides state- of- the- art facilities and aims to develop students as global citizens.

To create synergies among the seven PSU's of DoT, the department has unveiled a strategic plan including framework to facilitate manpower sharing, utilize vacant land and buildings, boost technology innovation and export promotion and to settle legal issues and financial claims. The strategic roadmap will cover the areas like 5G and Internet of Things (IoT). ITI has signed an MOU with TCIL pertaining to export of products, with CDOT for transfer of technology and with MTNL for joint execution of Internet of Things and Smart City projects. Telecom equipment and electronic manufacturing industry are the prime sectors needed for rapid growth of the country's economy. Driven by various policy initiatives and regulations, the sector witnessed a complete transformation. It has achieved a phenomenal growth during the last few years and on the way to become one of the fastest growing sectors in the world. Telecom sector will continue to generate both direct and indirect employment opportunities for millions of youth in areas like start up manufacturing, telecom, BPOs, ancillaries, channel distribution, branding and infrastructure labour. ITI is also poised to take up the opportunity and become one of the leading telecom and electronic equipment manufacturer in the country in the coming days.

Make In India

Dr. M. B. Athreya[2]
Padma Bhushan
Management Adviser

Make in India is one of our most important Missions, to reach the national Vision of New India, by 2022. This article deals with its origin; goals; strategies; and the management challenges involved in accomplishing this exciting Mission.

The Origin of Make in India

MiI was a call to the nation, including our PSUs, by the Prime Minister Shri Narendra Modi, in his very first Independence Day address, from the Red Fort, on August 15, 2014. The MiI Campaign was formally launched by the PM on 25th September 2014. A National workshop was held, in Delhi, on 29th December 2014 on Sector-wise Perspectives and Initiatives, for achieving MiI. Twenty-five sectors of the Indian economy were identified for the MiI thrust. Government, on its part, has to make it easier and faster for India-based Indian and foreign companies, to do business in their existing and new locations. It also has to attract new foreign investors and facilitate their manufacturing in India.

The Goals of Make in India

MiI has specific, quantified, time bound goals. There are three inspiring goals --- two quantitative, and one qualitative.

- To raise the share of Manufacturing, in India's GDP, from 16% in 2014, to 25%, by 2022.
- To create 100 million jobs by 2022.
- To transform India into a Global Manufacturing Hub.

These are very relevant Goals for the Indian economy and society. Since the 1990s, India has done well in Services such as IT, BPO, Tourism, Banking, Insurance, etc. While this growth has been valuable in creating jobs, exports, better India image etc., there has also been an over-reliance on Services. Some had begun to feel that Manufacturing is not India's competitive strength, compared to China and the earlier East Asian, Tiger "miracle" economies. India, a country with a large population, with an unprecedented high share of youth, can not grow and create the necessary jobs, without strengthening the Manufacturing sector.

We and the world have been talking about the potential benefits of India's "demographic dividend", of a comparatively higher proportion of youth, in our population. This potential may last for the next two decades. If not utilized, it can turn into a "demographic disaster." In case of mass unemployment of youth, some or more of them are likely to fall into depression, crime, drugs, etc. So, it is imperative that we create jobs. They can be generated not only in the main manufacturer, but also through the backward linkages of vendors of inputs; and the forward linkages of distribution, service, etc.

In the post second world war period, since about 1950, first Germany and Japan recovered miraculously by being manufacturing hubs for the world. They were followed by the NICs, Newly Industrialised countries like South Korea, Taiwan, Hong Kong, Malaysia, Israel, etc. Then came the huge manufacturing expansion of China, as an exporter, under the pragmatic policies of Deng, who talked of socialism with Chinese characteristics. The

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world has been expecting India to gradually replace China as a manufacturing hub, with relative cost advantages. India must raise its share of world trade.

Strategies for Make in India

There are five components of MiI, which call for the formulation and implementation of appropriate business strategies. The five components are –

a) MiI for the Indian Market

b) MiI for the World Market

c) MiI by Indian Companies

d) MiI by existing Foreign Companies

e) MiI by new Foreign Companies

With respect to (a) and (b), the Indian and world markets will pose different sets of opportunities and threats; and, therefore call for different kinds of strategies, in Marketing; Operations; HR; Finance etc.

Similarly, the three types of companies, (c), (d) and (e) will have varying strengths and weaknesses. Therefore, their business strategies for the Indian and World markets will have to be different. In the rest of this paper, we shall focus on PSUs, which are an important part of (c), namely, the total set of Indian companies.

PSU Role in Make in India

For PSUs, MiI is not altogether new. It is a welcome rediscovery, and return to home base. The very rationale for setting up our PSU's in the first three decades of Independence, 1950-1980, approximately, was to MiI. Those were years of idealism in nation building; with strong political support; dedicated civil servants, and idealistic PSU top management. PSUs have to recapture that ethos, rebuild their culture, and enthuse the employees, for this renewed MiI Mission, with challenging goals. They have to deal with the following types of management challenges.

- Take steps for full utilization of existing capacities. Externally, this would mean more aggressive and creative marketing, pricing, service, etc. and increasing the order book. Internally, it calls for better maintenance, equipment utilization, productivity, quality, etc.
- Having initiated the above steps, in parallel, move towards expansion for economies of scale, and cost competitive advantage.
- Expand the domestic market, by exploring regions and states not yet fully covered; and also by modifying the existing products for new customer segments.
- Having covered the fixed costs, and coming into the profit zone, adopt marginal cost pricing, to stimulate latent demand.
- Start attacking the world markets, by adopting global market research, and appropriate marketing strategy. A low hanging fruit will be the markets, where China is becoming less competitive, because of its rising wages, or consciously vacating some segments.
- Where relevant, form partnerships or joint ventures, with suitable local partners, for sales and service.
- Going global would require innovation, for product improvement and new product development.
- As a PSU finds successes in some export markets, it should start building a global organisation structure, systems and processes, where India will be one of several countries of operation.

Action Plan

PSUs can make a significant contribution to MiI, by implementing the following MiI Action Plan.

- Immediately set up an internal Task Force, to prepare a three year MiI Strategic Plan, 2018-21.
- Debate, modify and approve the Plan.
- Communicate the Plan down the organization, motivate and involve the employees in this National and Corporate Mission, and the Vision of New India, 2022.
- Form project groups and implement the plan.
- Review quarterly and make course corrections.
- In March 2019, roll the Plan forward, and prepare the MiI Strategic Plan, 2019-22.
- Share successes and lessons, and benefit from those of others, through SCOPE Conferences on MiI.

JAM in India:
Towards Inclusive Growth

Dr. Shamika Ravi
Research Director
Brookings India &
Member, Economic Advisory
Council to the Prime Minister

Over the last several decades in India, we have often heard that it is not unusual for the rich to receive more welfare money than the poor. As the Finance Ministry noted in its annual economic survey released in January 2017, the problem is "almost intrinsic" to the country's anti-poverty and social programs. Much of the money is funnelled through India's convoluted bureaucracy and ends up "leaking to non-poor and…corrupt local actors." But a promising new idea is catching hold: real time, technology enabled Direct Benefit Transfers (DBTs). Early results show that introduction of DBT in the PAHAL scheme of transferring LPG subsidies reduced leakages by 24 percent. Increasingly, more subsidy schemes are considering the route of DBTs by cutting out the middlemen in the delivery chain. It is important also to note the growth implications from this massive impetus in financial inclusion and stronger connectivity across the country.

JAM trinity comprises of three components - Jan Dhan bank account[1], Aadhaar unique identity number[2] and Mobile phone. A combination of these three elements is seen as the pathway to implementing large scale direct benefit transfers in India. This was one of the first policy target set out by PM Modi in 2014. The PMJDYis a government scheme that aims to expand and make affordable access to financial services such as bank accounts, remittances, credit, insurance and pensions to the poor in India. This has seen a phenomenal uptake within the first few years with an average of 2 million accounts per week[3]. Jan Dhan was awarded a Guinness World record for opening the most bank accounts in a single week (18 million during 23-29 August 2014). This has been an evolving scheme with newer features getting added over time. Just yesterday, the overdraft facility of PMJDY was doubled to Rs.10000. The second component is the unique identity number Aadhaar which is nearly universal today within the country. In early 2017, the government of India declared that more than 1.1 billion people have an Aadhaar number, covering more than 99 percent of the Indian adult population. The third component is access to mobile phones and connectivity, which has seen an unprecedented spread across the country, mostly through private licensed operators.

Almost all government assessments of the state capacity for JAM have been done using administrative data on various parameters. I try to raise this bar, by using a more stringent measure by analysing data directly from the households across India. What do the households report on financial inclusion and connectivity? Do they have at least one bank account, whether at least one member of the household possesses an

1 Pradhan Mantri Jan DhanYojana. The official website is https://www.pmjdy.gov.in

2 Aadhaar is a 12-digit unique identity number that can be obtained by residents of India, based on their biometric and demographic data. The official website is https://www.uidai.gov.in

3 Economic Survey 2016

Aadhaar identification number and whether the household own a mobile phone? The results are extremely encouraging given the efforts of the last few years.

Results and Discussion

Overall, the results show a remarkably high level of JAM preparedness within a relatively short period since the government initiated this concept. There is, however, variation across states of the country which demands precision policymaking going forward. This means that there is a need to target specific regions, states and population groups. The JAM connectivity requires all three components to be accessible to a household. So we look the weakest link of all three components to determine the readiness of a state for DBTs. Among the poorly connected states, Chhattisgarh, Odisha and Jharkhand have the weakest mobile connectivity, while Bihar and most states of the northeast have poor bank linkages as fewer households report owning bank accounts. The poorest Aadhaar coverage is in Assam and Meghalaya where merely 2 percent and 1 percent households respectively report having the Aadhaar ID.

The household data shows that 67 percent of the population has all the three services of JAM. This is a remarkable achievement within such a short timeline. This population segment is ready for a DBT program, if it were implemented today. However, 26 percent of the Indian population has only two of the three factors, and a smaller 7 percent of the population has access to only one of the three components of JAM. What is a matter of great policy priority, however is that 1 percent of the population lacks access to any of the three components of JAM. In relative terms this looks small, but in absolute numbers this is a large number ofpeople. This requires precision policy intervention which aggressively targets this group for inclusion.

JAM trinity comprises of three components - Jan Dhan bank account, Aadhaar unique identity number and Mobile phone. A combination of these three elements is seen as the pathway to implementing large scale direct benefit transfers in India. This was one of the first policy target set out by PM Modi in 2014. The PMJDY is a government scheme that aims to expand and make affordable access to financial services such as bank accounts, remittances, credit, insurance and pensions to the poor in India. This has seen a phenomenal uptake within the first few years with an average of 2 million accounts per week.

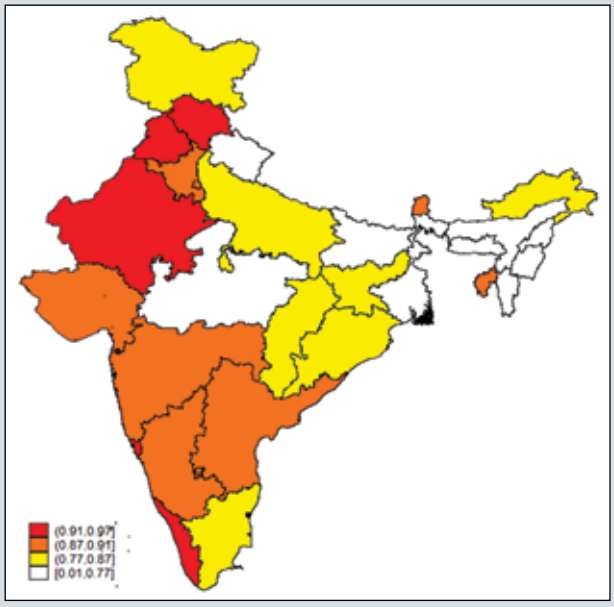
State wise results show that Himachal Pradesh ranks highest in JAM preparedness in India with extremely high penetration of bank accounts, Aadhaar identification and mobile phone access. Other high ranking states are Punjab, Rajasthan and Kerala. Overall the western and southern states are relatively better connected, while northern and eastern parts of India have some way to go. In particular, connectivity has to be improved in states of Bihar, West Bengal and most states of the northeast except Tripura and Sikkim which are well connected.

Besides regional variations, the data also shows a rural-urban difference in overall JAM connectivity which is essentially driven by differences in mobile access. Urban Indian households have particularly better connectivity than rural households in mobile phones. The distribution of Aadhaar looks very similar across rural and urban households, which is not surprising given the UIDAI drive across the country. There is little rural-urban gap on PMJDY accounts on average across country. Given the strategic significance of mobile connectivity, it is important to highlight that the rural-urban gap is a policy concern. Unlike Adhaar and bank accounts, the mobile network has been enhanced largely on the back of private licensed telecommunication providers. The differences in market opportunities and cost structures across rural and urban can explain the differences in outcomes that we see today. This gap, however needs to be bridged by creative Public Private Partnerships between the state and private telecom companies.

Financial inclusion goes beyond bank accounts, so we also explore data for other outcomes and measures.We find that the largest

JAM Index for States of India

REGION	State	J	A	M	JAM Index
North	Chandigarh	96%	98%	98%	96% (3)
	Haryana	91%	93%	97%	91% (8)
	Himachal Pradesh	97%	98%	97%	97% (1)
	Jammu And Kashmir	96%	82%	97%	82% (23)
	Delhi	91%	97%	99%	91% (9)
	Punjab	96%	99%	98%	96% (2)
	Uttar Pradesh	94%	77%	92%	77% (26)
	Uttarakhand	93%	60%	95%	60% (30)
Central	Chhattisgarh	93%	97%	79%	79% (25)
	Goa	96%	93%	97%	93% (7)
	Madhya Pradesh	87%	82%	84%	82% (22)
	Maharashtra	89%	93%	91%	89% (14)
East	Bihar	72%	50%	90%	50% (32)
	Jharkhand	90%	98%	84%	84% (20)
	Odisha	88%	87%	81%	81% (24)
	West Bengal	85%	74%	87%	74% (27)
North-east	Arunachal Pradesh	83%	89%	84%	83% (21)
	Assam	84%	2%	87%	2% (33)
	Tripura	96%	95%	89%	89% (15)
	Sikkim	91%	96%	96%	91% (10)
	Manipur	77%	60%	94%	60% (29)
	Meghalaya	79%	1%	89%	1% (34)
	Mizoram	93%	50%	93%	50% (31)
	Nagaland	70%	83%	92%	70% (28)
South	Andhra Pradesh	94%	99%	88%	88% (16)
	Karnataka	90%	91%	92%	90% (11)
	Kerala	95%	96%	97%	95% (4)
	Puducherry	95%	98%	95%	95% (5)
	Tamil Nadu	92%	84%	93%	84% (19)
	Telangana	92%	98%	90%	90% (12)
West	Gujarat	90%	90%	92%	90% (13)
	Rajasthan	96%	97%	94%	94% (6)
	Dadra Nagar Haveli	88%	97%	92%	88% (17)
	Daman and Diu	87%	92%	94%	87% (18)



percentage growth in ATMs in the last few years has been in rural areas across the country. We find that Crop insurance has been steadily increasing for the last several years, with high seasonality in demand. We also find a general upward trend in number of clients and loan sizes for microfinance institutions across most states, except a few major states like Delhi, Gujarat, Tamil Nadu, and West Bengal. Very encouragingly, we find evidence of greater penetration of the RSBY Health insurance in rural areas vis-à-vis urban areas. This is a positive result given the focus of publicly financed health insurance schemes on poor households and the fact that unlike simple financial instruments, health insurance requires considerable financial awareness. An increased coverage and utilisation of health insurance also augurs well for the success of the National Health Protection Scheme under the Ayushman Bharat that was announced by the PM early this year. Our earlier research shows that 7 percent of Indians get impoverished due to healthcare expenses, and collectively India has a high out of pocket health burden. The NHPS, therefore, becomes of extreme strategic importance for the future of the country.

Conclusion

In a famous observation by Rajiv Gandhi, former Prime Minister of India, merely 15 paisa of every Rupee of government subsidy reached the intended beneficiaries in the country. This was the state of affairs in the country for decades. Given the massive leakages, the stranglehold of bureaucracy and entrenched interest groups at the last mile of delivery of government subsidies, a new idea has been gathering

popularity in India over the last few years. The idea is to channel subsidies through massive technology enabled direct transfers into beneficiaries' bank accounts by cutting out all the middle men in the system. In the last 4 years, there has been a massive effort to connect all Indian households through Bank accounts, Aadhaar identification number and mobile phones. This essay looks at the recent data and trends towards this effort. The overall results show remarkable achievements in connectivity within a short period of time since PM Modi's announcement in 2014. There are, however, areas for further improvements. This will require precision policy making in which specific regions, states and demographics are aggressively targeted and brought into the JAM network.

Besides the motivations for a more efficient subsidy network, increased connectivity has significant opportunities for future of employment and growth in India. For years, researchers and policymakers lamented the lack of identification documentation as a key impediment to financial inclusion and growth of micro entrepreneurship in India. The rapid expansion ofAdhaar coverage which is near universal now, creates tremendous opportunities for new markets for products and services. Increased access to bank accounts, has also made it possible to provide other financial instruments such as pensions, payments, crop and health insurance across the country. The experience of the microfinance sector in India over last 25 years shows that increased financial inclusion can lead to significant growth in enterprise. And when these are specially targeted towards women, there are disproportionately large positive impacts on children and welfare of the household through better health and education. Explosion of mobile connectivity across the geographical expanse of India has created numerous new market segments and is now a fundamental component of India's modern exponential growth story.

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Fostering India's Transition to a Resource Efficient Economy

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Growing dependence on natural resources

India has been witnessing rapid transformation due to economic growth and development over the last two decades. This has led to decrease in rates of poverty, and increase in urbanization as well as overall demand for various goods and services. This, along with growing population and rising aspirations of a growing middle class is driving the demand for natural resources and pressures on the environment. Between 2005 and 2012, the middle income class population increased from 300 million to 600 million and by 2025, it may increase by more than 1.5 times. By 2030, urbanization is expected to rise to 50% from its current level of 34%. India is likely to be the largest populated country in the world in a decade, with the share of youth expected to reach as high as 35% by 2020 from 20% estimated in 2011.

India consumes about 7.2% of globally extracted raw materials in a year but supports 17% of the global population. The resource extraction per unit area is one of the highest in the world (1,579 tonnes/acre) compared to the global average of 454 tonnes/acre. Material consumption of India has doubled from 2.5 billion tonnes in 1990 to 5 billion tonnes in 2010. India was the third largest consumer of material (5 billion tonnes) after China (21.5 billion tonnes) and USA (6.1 billion tonnes). India accounted for 7.1 percent of global material consumption; 10.6 percent of global biomass consumption; 6.6 percent of global fossil fuel consumption; 5.8 percent of global non-metal mineral consumption; and 2.3 percent of global metal consumption (EU-NITI, 2017).

Despite high aggregate consumption levels, per capita consumption in India remains lower than the world average although it has increased from 2.1 tonnes per capita in 1970 to 4.2 tonnes per capita in 2010 – less than half the world average and can increase with income and aspiration. India's material productivity is low than the global average. India's resource productivity during 1980 and 2009 may have improved by more than three times the global average of 27%, yet it was less than the rates achieved by countries such as China (118%) and Germany (139%). Key sectors like chemicals, food processing, metal and mineral processing, and textiles contribute to more nearly two thirds of manufacturing sector income. Despite using significant amount of natural resources domestically, the average share of material costs in total production cost has been estimated at more than 70 percent vis-à-vis 40 to 50 percent in developed economies (EU-NITI, 2017).

The rate of recycling in India is also low (20-25%) when compared to the other developing and developed countries like Europe

1 http://re.urban-industrial.in/live/hrdpmp/hrdpmaster/igep/content/e64918/e64922/e67075/e67084/DMS_GIZ_IREP_PolicyBrief.pdf

where the rate of recycling is over 70 percent. Further, material recovery at the end of life stage is concentrated in the informal sector, which has implications on the scale of operation, technology choice and product quality of the recovered materials .

Augmenting resources will prove challenging

Meeting the growing demand for materials will be a daunting challenge. These challenges include growing costs, shrinking geological availability and risk of material exhaustion/ uncertainty with regard to long-term abundance and finally social license to operate that arise from equity and distributional challenges and the associated uneven and unfair access to natural resources.

India is already a net importer of resources, dominated by fossil fuel imports and critical materials. Further import dependence will increase the vulnerability of the economy to global geo-political and economic risks apart from adversely affecting the trade balance. India's imports dependency is very high when it comes to critical and strategic energy and non-energy based resources. Prices of many resources are under pressure, and continuous depreciation of India rupee, is adding to the cost of manufacturing of many items that require imported materials. India imports more than 80 percent of the oil that is processed in the economy for domestic consumption and re-exports. Import dependency is nearly 100 percent for majority of the 'most critical' materials that find application in high technology industry.

India may have endowments of resources.However many of these resources are locked up in ecologically or socially sensitive areas. While technology development in the field of biotechnology, nanotechnology, nano-electronics or micro-electronics, advanced materials, etc., have disruptive potential to address resource security, unfortunately the research and development investment in the areas have been very low[2].

Realizing opportunities of resource efficiency for India

Decoupling economic growth from natural resource use is fundamental to sustainable development. In other words, improving efficient use of resource uses will be key to India's sustaining high growth and enhanced wellbeing. It is even more important as India is not only a major importer of resources but it is also the home of 18% of world population while occupying only 2.4% of the world surface, and hence, by implications, commanding only a small share of global resources.

Resource efficiency encompasses a wide variety of technology, process, policy and institutional issues along the various life cycle stages that typically include mining, design, manufacturing, consumption, and end –of –life of products life cycles. In the context of realizing circular economy, businesses have the opportunity to take the lead while the government can create enabling conditions thereby facilitating transition. The 6R principles often becomes key to driving resource efficiency which are reduce, re-use, and recycle, re-manufacture, repair and refurbish and across multiple resource groups, thus necessitating a coordinated approach to strategy and action that brings together different

2 https://www.thehindu.com/sci-tech/India-to-run-short-of-high-tech-minerals/article14553324.ece

stakeholders across multiple sectors.

Resource efficiency is a key idea which is emerging in political mainstream and has been one of the important discussion points in G20 Agenda, whereby G20 countries are integrating circular economy as part of implementation strategies for Sustainable Development Goals (SDGs). RE is a key element of Sustainable Development therefore judicious use of resources is featured not only in SDG -12 but also eight other goals (2, 6, 7,8,9,11,14 and 15) has bearing on RE and so there is global commitment towards achieving it.

Review of policies of major economies like China, Japan, Germany, USA (to name a few), reveal their recent strategies of not only integrating resource efficiency policies under a unified framework or program, but also adopting value chain/life cycle thinking for addressing efficiency gaps and facilitating stakeholders engagement. The challenge for the policy makers is to create the right balance between the developmental requirements as well as minimizing the negative externalities linked to resource use. Designing novel policies can create an enabling framework for achieving resource efficiency, thereby addressing larger goal of circular economy. Although, resource efficiency has gained salience in India, as reflected through recent initiatives like Zero Effect - Zero Defect, Swachh Bharat Mission, end of life stage policies to tackle all types of waste ranging from hazardous waste to municipal waste, plastic, construction and demolition to e-waste, etc.yet an overarching strategy is the need of the hour. The realization of this potential calls for systematic efforts at prioritizing materials and sectors for short-term, medium-term and long term action, and developing appropriate strategies that are integrated across multiple sectors.

While technological development and process innovation play an important role in adopting circularity during the production phase, mindset transformation and behavioural change promoting life cycle thinking at the consumption phase holds the key to unlock adoption of circular economy.

A strategic framework on resource efficiency will help in establishing the right direction of public thinking whereby, it will reflect the government's even more commitment to facilitate transition. Creating platforms for multi-stakeholder collaboration will result in exchange of ideas and putting them into practice eventually generating new business models, resource efficient products, and demonstrating success. Simultaneously standards for new products will be very crucial that will enhance consumer acceptability and demand. Greater demand will provide economies of scale thereby reducing prices.

New business models on resource efficiency will offer attractive opportunities for businesses and financial institutions, thereby creating avenues of employment growth, and greater growth diversity. However, facilitating such processes through enabling regulatory framework and innovative economic instruments will attract interest from different industries and geographies.

While technological development and process innovation play an important role in adopting circularity during the production phase, mindset transformation and behavioural change promoting life cycle thinking at the consumption phase holds the key to unlock adoption of circular economy.

ARTICLE

Industry - Academia Interaction

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A developed society is cha-racterized by the innovations it makes for improving the current status and challenging the status quo. There is no progress without innovations and striving to do it better. Innovations are key to economic development and prosperity and therefore the current emphasis on promoting innovations and research is a good long term strategy and every effort should be made by all stakeholders to ensure that it stays on course. The scientific and industrial establishment was very carefully designed by our founding fathers - the universities and academic institutions were entrusted with the primary task of training skilled manpower and to generate new ideas for technological growth by research. The Council of Scientific and Industrial Research laboratories, there are 38 of those covering different fields of science and technology - were supposed to undertake translational research for transforming basic research ideas coming out of academic institutions to prototypes for ready adoption of the industry. The industrial establishments were expected to scale up the processes and take the product to the market. Somehow things did not work out according to the plan and instead of working in tandem, all three entities found comfort in working in their own silos.

Prime reason for persistent lack of engagement between the industry and academic institutions is that both sides are not willing to step out of their comfort zones. Academicians love to pursue and philosophize about new ideas and the biggest reward for an academic is the recognition by his/her peers as an original thinker. The idea is soon abandoned in its nebulous state as the curious academician moves to explore new ideas. The industry obviously has little use for these ideas in nebulous state and can not realistically speaking explore each of such ideas for development of a prototype for industry use. Industry needs immediate access to innovations and market ready technologies to remain competitive in the market. Naturally, industry doesn't have time and money to tinker with the ideas in the hope of developing an indigenous technology which is at least five to ten years behind the global standards. Thus, the only way to bridge this gap and address the genuine concerns of all parties, it is essential for industry and academia to look into technology forecasting and start investing on developing on futuristic products which may be ready for market may be ten years down the line and start working from ground zero towards a working prototype by five years with close interactions between academic institutions for theoretical developments and in-house facilities for prototyping efforts. The Prime Minister Fellowship Scheme (http://www.primeministerfellowshipscheme.in) - a joint initiative by the Confederation of Indian Industries (CII) and the Department of Science and Technology, Government of India (DST) is a very promising programme to identify research problems with active participation of the industry. Unfortunately, not many industrial houses are

coming forward, or may be they are not aware of this programme which has been on since 2012. My personal experience is that the queries soliciting support from the industry often go unanswered! While the PM Fellowship is a very good initiative to bring the industry and academia closer, yet another cost-effective engagement would be to invest in the establishment of small start-ups by the students working on these innovative ideas during their graduation thesis to take the next logical step and convert those ideas into reality of working prototypes which can then be adopted by the industry for scaling up. It is futile to expect that the academia can develop as well as transfer useful technologies on its own without any participation from the industry. Although the awareness about intellectual property rights is slowly improving, the academia still finds it extremely difficult to find users for the technologies developed in its laboratories. While the patent portfolio grows as more and more patent applications are filed, most of it remains as non-performing asset. There is no support system to facilitate technology transfer from the academic laboratories to the industry. Industrial houses are too heavily invested in the current technologies and processes and any adoption of new technology has cost implications which should be avoided unless the benefits of technology adoption outweigh the associated costs. This question of cost-benefit analysis does not arise if the industry has been involved in the technology development right from the inception of idea.

Prime reason for persistent lack of engagement between the industry and academic institutions is that both sides are not willing to step out of their comfort zones. Academicians love to pursue and philosophize about new ideas and the biggest reward for an academic is the recognition by his/her peers as an original thinker. The idea is soon abandoned in its nebulous state as the curious academician moves to explore new ideas. The industry obviously has little use for these ideas in nebulous state and can not realistically speaking explore each of such ideas for development of a prototype for industry use.

This is the theory and almost everybody knows it. The trick is in finding ways to make it work. Allocating funds from Corporate Social Responsibility towards supporting start-ups and incubation programmes in academic institutions is the lowest hanging fruit and it also provides much needed mentoring and definite direction for the start-ups if the industry can participate in evaluating and help refine product line and business plans of the start-ups. Another important initiative by the Government of India is the support for industry oriented research through Uchchatar Avishkar Yojna (UAY) (http://www.pradhanmantriyojana.co.in/uchchatar-avishkar), wherein 75% of the total budget of project comes from the Government of India funds and the industry has to pitch in with 25% of the budget. The industry can have exclusive rights for use of the developed technology for a limited period with an option to secure full rights after additional payments. This is a very promising scheme to foster greater collaboration between the industry and academia but its success hinges solely on the choice of problem and the participation of the industry in its formulation and also to steer the progress of the project so that the end product is in the usable form. Several academic institutions have started Corporate Lecture Series to provide a platform for speakers from industry to interact with peers from academia in an informal setting to explore the avenues for partnerships. It is important to strengthen these mechanisms and leverage those with a long term view. It takes time and effort to nurture ideas and partnerships and it is necessary to have realistic expectations from both sides. But together, we shall overcome all obstacles and prejudices and work towards a common goal of nation building through development of indigenous technologies. It takes two to tango and both partners have to be in sync!

ARTICLE

Skill India Mission and the Role of IIFT

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The Ministry of Skill Development and Entrepreneurship (earlier Department of Skill Development and Entrepreneurship, first created in July 2014) was set up in November 2014 to drive the 'Skill India' agenda in a 'Mission Mode' in order to converge existing skill training initiatives and combine scale and quality of skilling efforts, with speed. India has a population of over 1.2 billion and is projected to be the world's most populous country by 2024. The youth population of India (defined as the age cohort between 15-34 years) comprises of 35% of the total population. India currently faces a severe shortage of well-trained, skilled workers. It is estimated that only 2.3 % of the workforce in India has undergone formal skill training as compared to 68% in the UK, 75% in Germany, 52% in USA, 80% in Japan and 96% in South Korea. More than half of India's population of 1.3 billion is below the age of 25. It is estimated that the average age of India's population will be 29 by 2020, compared to 40 years in the United States, 46 years in Europe and 47 years in Japan. India's demographic dividend may prove to be disastrous rather than a source of growth, as the country struggles to create sufficient employment opportunities, and adequately prepare its young workforce. Large sections of the educated workforce have little or no job skills, making them largely unemployable. Therefore, India must focus on scaling up skill training efforts to meet the demands of employers and drive economic growth. Given that India has a relative younger population than the developed countries and with a lot of people employed in low skilled jobs, the government and the public sector enterprises have a huge role to play to upgrade the skill level of our population that would benefit India and the world as a whole for the economic and scientific progress, poverty reduction and sustainable growth.

Skill India mission, a flagship program of the Vision 2022 of the government of India, was launched on 15 July 2015 by the Hon'ble Prime Minister Mr. Narendra Modi to make India the Skill capital of India. The vision, objectives and design of the Mission, draw on the lessons learnt from the implementation of skill development efforts over the past decade. It seeks to provide the institutional capacity to train a minimum of 300 million skilled people by the year 2022. The mission of Skill India is to rapidly scale up skill development efforts in India, by creating an end-to-end, outcome-focused implementation framework, which aligns demands of the employers for a well-trained skilled workforce with aspirations of Indian citizens for sustainable livelihoods.

Mission objectives include - (a) creation of an end-to-end implementation framework for skill development, which provides opportunities for lifelong learning, (b) build capacity for skill development in critical unorganized sectors, (c) develop a network of quality instructors/trainers in the skill development ecosystem by establishing high quality teacher training institutions, (d) promote convergence and co-ordination between skill development efforts of all Central Ministries/ Departments/States/implementing agencies (e) propagate aspirational value of skilling among youth, by creating social awareness on value of skill training.

The Skill India project is complementary to the other important national missions like Digital

IIFT webpage on Niryat Bandhu @ Your Desktop being launched at the hands of Ms. Rita A Teaotia, IAS, Commerce Secretary on 5th Sept. 2015.

India, Make in India and Start up India as the skilled labor will attract foreign investment and the skilled people can create valuable businesses to sustain economic growth of India. Skill India mission operates through The Directorate General of Training (DGT), National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC), Indian Institute of Entrepreneurship (IIE) and National Institute of Entrepreneurship and Small Business Development (NIESBUD). The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) has trained close to 50 lakh people to prepare them for a skilled India. The Deen Dayal Upadhyaya Grameen Kaushalya Yojna (DDU-GKY) is playing an important role in skilling the poorer section of the population to increase their employability. The government through the Pradhan Mantri Kaushal Kendras (PMKK) has focused extensively on building industry standardized infrastructure for driving skill development training. The government has launched Labour Market Information System (LM-IS), which will act as a portal for matching the demand and supply of skilled workforce in the country.

Central Public Sector Enterprises (CPSE) have an important role to play in Skill India mission as they will be one of the biggest beneficiaries of this mission. The government has asked all profitable CPSE to ensure a minimum of 2.5 percent and a maximum of 10% of their total workforce including contractual workforce comprise of apprentices, in order to expand the country's skilled workforce. It is pleasing to see that the CPSE are actively participating in the Skill India mission by imparting skills to the regular employees, customers, apprentices, ITI passed and diploma holders, non-statutory trainees, local tribal and less educated youth through the Corporate Social Responsibility (CSR) initiatives, core programmes, functional and technical management programmes, strategic management programmes, quality management programmes, competency programmes, craftsman training schemes, nursing training schemes, vocational training schemes, apprenticeship training schemes, computer applications training schemes, industrial safety and training programmes for fitters, mechanists and electricians. It is also heartening to learn that the Standing Conference of Public Enterprises (SCOPE), an apex professional organization representing the CPSE is passionately involved in the Skill India mission by coordinating among the CPSE, by organising various seminars, conferences, workshops, and by highlighting training and skilling initiatives by the CPSE through articles in its monthly magazine 'Kaleidoscope'.

Indian Institute of Foreign Trade (IIFT) & Skill Development through Management Development Programmes (MDPs) conducted

IIFT was set up on 2nd of May 1963 and from its inception, it has been engaged in skill upgradation of government, public sector and private sector employees. Today, it has evolved into a world class Institute which encompasses the full spectrum of International Business Management and Strategy, through its focus on the three pillars of Research, Training and Education. The objective of Institute's MDPs is to hone the skills of the participants by equipping them in specialized areas connected with international business and provide an excellent opportunity to develop skills necessary for succeeding in their own business. Institute helps them to crystallize the concepts for better decision making. It facilitates business executives to explore

new frontiers of knowledge, sharpen their skills and help their organizations to achieve newer heights. The first MDP, one of it's kind in India was conducted on 9th Nov 1964 by IIFT for training officers of Ministries, PSUs and Trade and Industry in the area of International Business.

IIFT has conducted various capacity building programmes in the areas of Export/Import Management, Export Procedure and Documentation, WTO, RTAs, International Business and IT related issues including Data Analytics and negotiations. It also acts as a founder organisation for imparting necessary skill set to Indian Trade Service Probationers by conducting 9 month foundation programme in the area of international business. The officers are recruited through civil services examination conducted by UPSC at the behest of Directorate General of Foreign Trade, Deptt. of Commerce, Govt. of India. Niryat Bandu @ desktop - Niryat Bandhu Scheme is an initiative of Government of India for mentoring first generation entrepreneurs in the field of international trade by reaching out to them through training programs, counselling sessions and facilitation. DGFT has identified IIFT as a knowledge partner for imparting skill set required for starting export venture. Online Certificate Program in Export/ Import Management is aimed at reaching out to the prospective exporters at their desktop. Methodology of the program is 40 hours program (2 hours each day, from 6-8 PM, Monday to Friday) taught via online mode by eminent IIFT faculty, Industry experts and DGFT officers. IIFT has conducted 27 batches and trained around 1000 exporters and entrepreneurs across country.

Launch of exclusive weekend batch in Hindi for Niryat Bandhu Participants.

IIFT has also been identified as a nodal agency for imparting skills to ITI Principals and Employment Exchange Officers by Ministry of Labour and Employment as a part of Skill India programme. Some specific programmes conducted by IIFT in the area of Skill Developments are as follows:

- Capacity Building programmes (Total No. 9) for ITI principals - Total participants - around 219 (across country).
- Capacity Building programmes on career counselling techniques (Total No. 37) for Employment Exchange Officers -Total participants-1020 (across country).

Thus, Indian Institute of Foreign Trade has been playing a very vital role in skill development of the country.

ITS Probationers with Hon'ble President of India (2016-17).

Public Sector Enterprises and Chrysalis of the World

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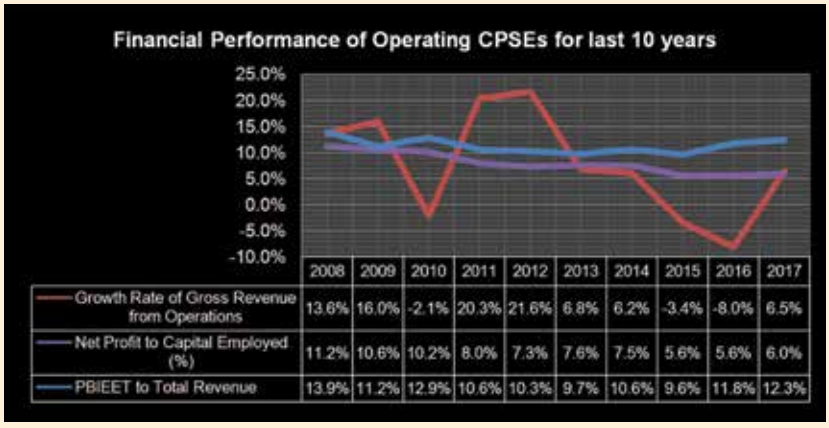
The Central Public Sector Enterprises (CPSEs) in India have been growing in number at a CAGR of 2% since 2008 when total operating CPSEs were 214 as compared to the 257 operating CPSEs in 2017. While the increase in number of CPSEs is an indication of increasing focus on this sector, the CPSEs have managed to be profitable marginally over the last decade. While the gross revenues have seen a major fluctuation, the profitability margin (PBIEETi.e. Profit before Int, Exc. Items, Ex, or. Items & Taxesto Total Revenue) has remained fairly stable. Net Profit to Capital Employed has seen a steady decline in the last ten years. This is indicative of the fact that revenues are falling due to the global volatility in prices of commodities. However, the profits are steady indicating stable business for the PSUs.



	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Growth Rate of Gross Revenue from Operations	13.6%	16.0%	-2.1%	20.3%	21.6%	6.8%	6.2%	-3.4%	-8.0%	6.5%
Net Profit to Capital Employed (%)	11.2%	10.6%	10.2%	8.0%	7.3%	7.6%	7.5%	5.6%	5.6%	6.0%
PBIEET to Total Revenue	13.9%	11.2%	12.9%	10.6%	10.3%	9.7%	10.6%	9.6%	11.8%	12.3%

Source: Annual Report 2017, DPE. Retrieved from: https://dpe.gov.in/sites/default/files/PE%20ENG%20Volume-1%20FINAL%20web.pdf

With the major economic policies focusing on development of public sector enterprises, the PSUs in India will be important levers for achieving the SDGs (Sustainable Development Goals) set by the UN for each country. The strategic roadmap indicates the potential journey that the PSUs can undertake to achieve successful and sustainable expansion by 2022. A closer look at the financial metrics of PSUs, strategies of public sector enterprises around the globe and volatile economic environment reveals that the CPSEs can achieve their goals in a systematic manner as detailed below:

By 2022, how will Indian PSUs maximize geo-strategic reach?

The customer value proposition of the Indian PSUs can be developed to a greater extent by maximizing the geo-strategic reach of the Indian PSUs. The Indian PSUs currently export to the following regions:

- USA
- Middle East
- Parts of Europe
- Parts of South-East Asia

Latin America is a major potential export destination. While Brazil has become a weak customer owing to its political turbulence and recession, Mexico has great potential for car exports. The opportunity for Indian exports will arise by beating exports from China in this region.

Exports to Canada have prospective opportunities especially the farm products. However, these exports are liable to restrictions on the basis of quality.

The major competitor to export to the Western countries is China. The primary barrier for Indian exports is the quality of the goods exported. Increase in certifications, standardization of processes and credibility of raw materials are the key requirements that Indian PSUs need to focus on. This will help meet the customer demands to a greater extent.

Indian PSUs can look at the following pillars for maximizing their geo-strategic reach:

- Improving quality of exports will enable Indian suppliers to market their products to newer regions of the EU, especially for machinery and transport equipment and miscellaneous manufactured articles. There exists a potential of increasing exports into EU at par with the main competitor, China, in these two categories by 10 times for plastics and apparatus and 20 times for machinery. Exports to Canada have prospective opportunities, especially farm products. Further, Mexico has great potential for car exports.
- Maximizing geo-strategic reach is important because PSUs need to focus on not just geographies, but also the DNA of the manufacturing process. Ensuring good quality of exports is a result of a domino effect of technological advancement and reduction in bureaucratic processes. The PSUs can work towards establishing centralized research centres in collaboration with Make In India and Skill India campaigns.
- Another aspect of maximizing geo-strategic reach is to invest in foreign countries. Indian PSUs can invest by outsourcing processes and customer service roles to some of our trade partners like Africa and Latin America. The PSUs can explore the possibility of setting up a centralized BPO committee to explore the potential of African and Latin American markets.

Talent Lens: The PSUs can explore the possibility of setting up a centralized BPO committee to explore the potential of African and Latin American market. This committee may comprise of a centrally elected team by all PSUs and few members of the private sector firms investing in business in these countries. This will create a forum for the PSUs to identify investment opportunities. Setting up BPOs in other countries will not only help reduce the import bill, but also, it will help position India as a strong nation. The global players see India as a BPO destination. However, investing in other countries will open strategic channels to negotiate BPO work being accepted in India.

By 2022, how will Indian PSUs minimize the country's import bill?

Geographically, the top 15 trading partners are scattered and there is great potential of expanding the sale of Indian goods and services to existing trading partners with greater intensity as well as to newer geographies.

The rising trade deficit is a result of trade barriers, especially in the European Union. These barriers are majorly related to the credibility of the goods & services exported. These revolve around certifications, pesticide sprays, waste disposal etc. Corruption is another major drawback that is causing the Indian trade to shine less brightly than it can in the international market.

Some possible steps for the PSUs to help reduce the import bill are :

- Introducing certifications and process checks will give a direct window to expand trade in

the EU. The trade opportunity exists especially for machinery and transport equipment and miscellaneous manufactured articles where India has a trade opportunity of a positive delta of €240 billion in exports i.e. approximately $280 billion increase in exports into EU.

- Further, there is immense scope of enhancing capacity utilization of the manufacturing units. Increase in domestic production will reduce India's dependence on imports for bulk drugs, especially when we export to US, EU and Japan. The PSUs have a major part to play due to the idle capacity available.
- Another opportunity of reducing the import bill is to enhance the oil and gas production in the country.The scope of reducing imports of oil and gas is to enhance production by discovery. The need for building up discoveries is important – example, Cairn India's Barmer has nearly 38 discoveries including 10 major ones. There is immense potential for PSUs to leverage this opportunity to contribute to reducing the import bill as the public sector has 87% of the total mining lease, and yet it contributes to only 70% of the total hydrocarbon production in the country.
- Public - private partnerships need to be enhanced to ensure that the efficient performance of the private sector can be translated into efficient production for the public sector and the production scales of public sector enterprises can be leveraged by the private sector.

Country	R&D spending in PPP$ (million)	R&D spending as % of GDP	R&D spending: Business sector ($million)	R&D spending: Government sector ($million)	R&D spending: Private non-profit sector ($million)	No. of researchers per million inhabitants
USA	479,358.0	2.8%	340,728.0	54,103.0	19,731.0	4,231
China	370,589.8	2.0%	286,453.2	58,564.0	-	1,113
Japan	170,589.5	3.4%	132,644.8	14,202.9	2,284.8	5,386
Germany	110,170.0	2.9%	74,351.7	16,341.9	-	4,363
India	48,063.0	0.8%	17,044.0	29,066.8	-	156
UK	44,202.9	1.7%	28,797.1	3,210.1	0.8	4,299
Russia	38,863.0	1.1%	23,762.3	12,150.9	51.0	3,101
South Africa	4,956.7	0.7%	2,276.0	1,159.3	112.7	437

Source: UNESCO Institute of Statistics, 2015. Retrieved from: http://uis.unesco.org/apps/visualisations/research-and-development-spending/

Talent Lens: The current organization structure have Directors or Chief Execu-tives to lead enterprises which are segregated into functions or divisions headed by Unit Heads. If these independent committees can weave results across PSUs and create a centralized database of goods and services, then the export situation of India can be made leaner. The redundant process steps may be overcome by exploring the possibility of setting up Export Champions across PSUs that report into a central Expert. This set up while similar to that of NITI Aayog will focus on individual PSUs and integrate their activities to develop a central process of exporting. The synergies across PSUs could be realized to enhance the quality of the export process. Also, this could enable PSUs to learn from the accept-ance of various technological advances being undertaken across different PSUs.

By 2022, how will Indian PSUs integrate innovation and research?

Research and Development has been the focus of Sustainable Development Goals set for countries across the world. It is defined as the scientific study and experimental development of ideas. R&D is about developing the technological and scientific muscle – filing patents, creating advance products etc. It is usually not consumer-centric. Some vital statistics of 2015 on R&D for selected countries (based on R&D spend, regional proximity and competition in trade) is listed as:

Innovation, however, is consumer-centric. It is the creation of new products or improvement of existing ones to make them more suitable for consumption. It is usually intended for commercial use, unlike R&D. Enterprises across the globe are indulging in different types of innovation – product, process, business and marketing. Innovation is the creativity spark of R&D which helps the research become more economy-friendly. However, countries have started including innovation in their development agenda only recently in the 20th century.

The government and PSUs have a

major hold over the R&D expenditure, and thus, have power to change the innovation landscape of the country. India's expenditure on R&D has not been at par with its export rivals China and Korea. China has about 25% of manufacturing firms participating in process and product innovation each, while for India only 12% of manufacturing firms contribute in each category.

Talent Lens: It can be observed that amongst the countries analyzed, India has the lowest number of researchers per million inhabitants. Thus, to enhance R&D and innovation, a human resource intervention is imperative. Integrating R&D and innovation can be undertaken by setting up Centres of Excellence. At present, there are 36 centres of excellence for Science & Technology set up across different states in academic institutes. The PSUs may liaison with the existing COEs for converting patents and research ideas into tradable commodities or the PSUs could set up individual or centralized COEs to track R&D and innovation. The COEs will be responsible for crowd sourcing, forming selection committees and undertaking the idea selection process. The conversion of ideas into commodities can be facilitated by the financial aid of PSUs or private investors. Another talent touch-point could be setting up of research labs. The PSUs can work towards establishing centralized research centres in collaboration with Make In India and Skill India campaigns. The Make In India campaign can contribute inputs for setting up research centres – giving insights on upcoming developments and foreseen need of ideas and skills. The Skill India campaign could act as a facilitator for setting up the research labs by developing capability of the people of India in the field of R&D for the sectors highlighted by global developments and Make In India campaign.

Further, a look at the productivity levels of Maharatna CPSEs

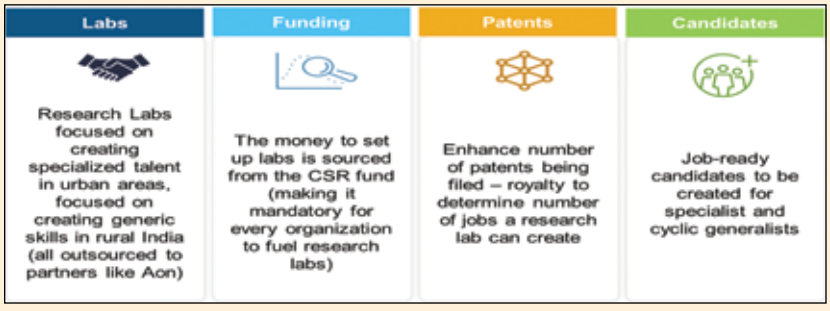
Maharatna Companies	Revenue (2015-16) (INR million)	Total No. of Employees as on 31.3.2016	Revenue to Headcount ratio (INR million per employee)
Coal India Limited	1,771.6	2,734	0.65
Steel Authority of India Limited	43,909.5	88,655	0.50
Bharat Heavy Electricals Limited	27,078.6	42,198	0.64
Oil & Natural Gas Corporation Limited	78,565.2	33,927	2.32
NTPC Limited	71,236.0	21,633	3.29
GAIL (India) Limited	71,236.0	4,316	16.51
Indian Oil Corporation Limited	407,296.0	32,803	12.42
Bharat Petroleum Corporation Limited	218,011.0	12,623	17.27

Source of revenue & headcount data: Public enterprises survey, 2017. Retrieved from: https://dpe.gov.in/public-enterprises-survey-2016-17.

For the same period, some private sector firms had revenue per employee as below:

Company	2015-16 Revenue to Headcount ratio (INR million per employee) (exchange rate as in 2016)
TCS	3.13
Wipro	2.85
Infosys	3.28

Source: LiveMint, 2016. Retrieved from: https://www.livemint.com/Industry/dU17UMnunpXFcKyaOlKBVP/TCS-Infosys-Wipro-see-decline-in-revenue-per-employee-in-F.html.



Further, a look at the productivity levels of Maharatna CPSEs

Talent Lens: As per the above data, NTPC & ONGC are not utilizing employees as best as they can. While they did it better than the IT based private sector firms, the low performance of TCS, Wipro and Infosys was attributed to rise of automation in that period. As the PSUs have not yet adopted technology to their

best capacity, there is scope of increasing utility of their employees. Embracing technology and embedding it into the performance measurement system can improve the productivity of the employees. Employees are enabled to perform better if they understand what they need to do and how. They need to have a measure of their performance to be defined clearly to ensure that their utility in the organization is as expected.

The best earnings per employee in 2017 were that of HDFC which topped the chart with INR 32 million per employee as a mark of its efficient productivity. An analysis of the existing PMS systems of HDFC and ONGC reveal that while the basic steps of performance appraisal are carried out in both organizations, the key difference lies in the way of measuring performance. HDFC has an objective and direct method of measuring performance – rating employees on specific expectations and development areas. On the other hand, ONGC has a grading system that enables reporting officers to grade employees giving a reason for the decision.

The difference in performance evaluation could be a major source of difference in productivity of employees. Measuring performance subjectively results in lack of clarity on goals and development areas thereby preventing employees from functioning at their full potential.

Source of HDFC earnings: Economic Times, 2017. Retrieved from: https://economictimes.indiatimes.com/markets/stocks/news/guess-which-indian-firm-has-highest-earnings-per-employee/articleshow/60376890.cms

Source of PMS systems: Slideshare.Retrieved from: https://www. slideshare.net/SMITARASTOGI3/ pms-in-hdfc-bank-63765050 and https://www.slide share.net/Ganeshawatade study-on-performance-appraisal-system-in-ongc-ltd-mumbai

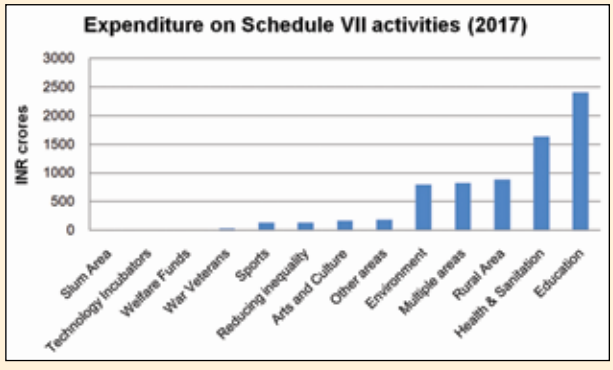
By 2022, what will be the road map for Indian PSUs to optimally utilize their CSR fund?

The aim is to derive maximum impact with minimum costs. The CSR strategy of the PSUs is to integrate CSR into the DNA of their business. Across nations, CSR is being seen as a part of the core value of doing business and not just a peripheral activity. Be it Indonesia where globalization has impacted human resources, or Philippines where the way of doing business is about enhancing partnership than just sharing resources, all enterprises are increasingly moving towards achieving a greater good by way of high impact.

As per India's CSR Survey Report (for 100 largest companies by revenue in India), 2017, Indian origin companies have spent 96% of the prescribed expenditure on CSR. Companies of non-Indian origin in India have spent 145% of the prescribed expenditure. Further, the CSR expenditure split for PSUs and non-PSUs is:

Type of company	2014-15	2016-17	% change
PSU (prescribed#)	INR 23 billion	INR 19 billion	Decrease of 17%
Non-PSU (total i.e. 92% of prescribed#)	INR 35 billion	INR 51 billion	Increase of 46%

While the standard contribution of 2% of profits towards CSR is mandatory in India, some of the most pressing issues of the nation still see negligible spends. Education and Healthcare remain favorites for CSR spending. As per the CSR Survey Report, the split of CSR expenditure for Schedule VII activities is:



As perCorporate Social Responsibility (Policy) Rules (The Act) of 2014, prescribed CSR budget is 2% of average net profit of last three years for companies with net worth of INR 500 cr. or more, or a turnover of INR 1000cr. or more, or a net profit of INR 5cr.or more – all companies in the CSR Survey Report qualify to spend 2% of net profits on CSR

Source: India's CSR Survey Report, 2017. Retrieved from: https://assets.kpmg.com/content/dam/kpmg/in/pdf/2018/02/CSR-Survey-Report.pdf

Potential CSR strategies

- The corporate landscape in CSR is changing and many companies have reduced their contribution towards slum development or PM Relief Fund, however, sports and arts and culture are new themes emerging in the CSR spending space.

- While the PMO and Head of State Office have a major role in identifying the sustainable goals for the nation, the PSUs in India need to focus on multiple projects at the same time to ensure that the fund utilization is done optimally to reduce costs and improve efficiency, thereby, improving the financial performance of the PSUs.

Talent Lens: At present, each company is required to set up a CSR committee to overlook the CSR strat egy of the firm. Like in the case of an export-related committee, Indian PSUs should explore the possibility of setting up a centralized CSR committee which will enable integration of efforts. The objective of this committee should be to make the impact of the whole effort greater than the impact of the sum of individual efforts. A common CSR strategy with operational independence already exists in India. The need of the hour is to centralize fund utilization to gain from the synergies. A representative from every PSU and some top performing private sector firms will prove to be of great value to identify gaps of the CSR strategy for each enterprise. These gaps can be thrashed by overcoming challenges in a classic 'supply-demand' way i.e. channelizing funds together rather than individually.

Another possible CSR fund optimization could be to bridge the rural and urban employment landscapes. The PSUs could create business models that utilize the talent of the rural segment in the "off-season" of the agriculture sector by skilling them via crash courses and enabling them to set up dynamic workplaces. Sectors that could be included in this skilling operation include textile, software and language proficiency. The skilling workshops will serve a two-fold purpose:

- To improve employability of the Indian population
- To create a sustainable business model

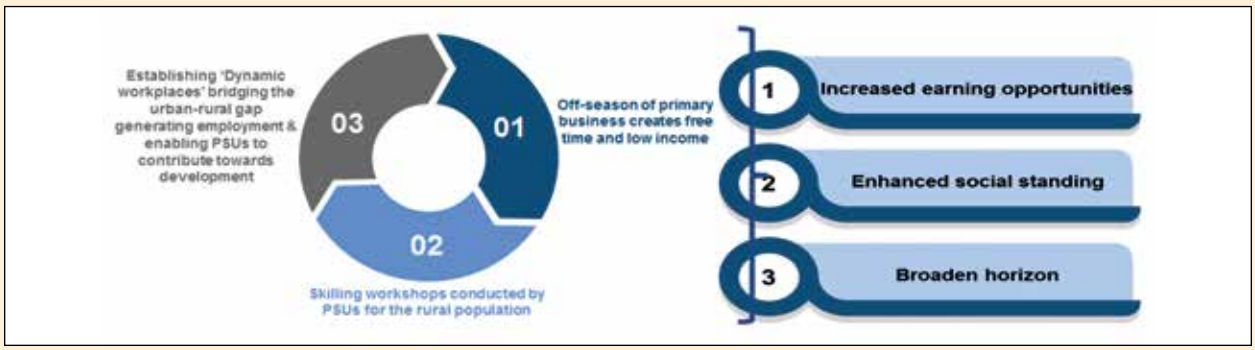
This is an opportunity which can be explored, especially in light of the upcoming CSR strategy analysis report by the Department of Public Enterprises.

By 2022, what new development model will Indian PSUs give the country?

The PSUs need to develop people, processes and infrastructure to compete in the market and achieve their strategic goals. Historically, India has lagged behind in terms of innovation and employability of the population. Since as early as 2013, the Global Competitiveness Index has demonstrated that India needs to pull up its game in terms of innovation, skilling and technology adoption to be at par with similar economies.With the onset of the Fourth Industrial Revolution, the world is being absorbed by digitization.Telecommunications, internet and technology are the key focus areas. This will lead to emergence of newer capabilities like algorithmic skills, strategic ideation, design thinking, lean philosophy, machine learning etc. With the existing campaigns in India, the youth is being educated but employability is an issue.

Talent Lens: This new age of technology will have a direct impact on the structure of the organizations and the operational agility will be under the scanner. It is important to upgrade the skills of existing employees and channelize skills of future employees to ensure that PSUs are at par with the likes of South Korea and China in embracing technology.

Indian PSUs can also contribute to the development of the country by creating a self-sufficient employment cycle. The urban-rural canopy could be integrated by helping the unemployed rural population during dull agricultural seasons to set up dynamic workplaces in the urban areas. This model involves helping the farmers, distributors and workers to develop their skill set – stitching, vocational competence and software development knowledge (basic).These skilling workshops can be developed in line with the National Competency Framework of India. Countries like Singapore and Egypt are running successful development programs to create channelized development of talent. The suggested skilling workshops will enable the less developed sections of the society to increase their earning opportunities, enhance their social standing and broaden their horizon. This is the suggested model of development that PSUs can contribute to the country:



This development model will have great impact on uplifting the marginalized sections of the society. However, setting up the model has its own challenges. The PSUs will need to identify capability and skill gap in the rural areas. Identification of willing and eligible candidates is the first challenge. The second challenge relates to the skilling workshops-infrastructure, trainers, content and scale. These decision points are driven by availability of funds. The Skill India Campaign is also faced with similar issues of funds and wage structures. The PSUs can contribute towards a new way of skilling the population – on the job training by helping them set up dynamic workshops. The fund can be channeled via the CSR budget of these PSUs.

Thus, PSUs have the opportunity of contributing to the Skill India Mission successfully by creating employment opportunities for the skilled population.

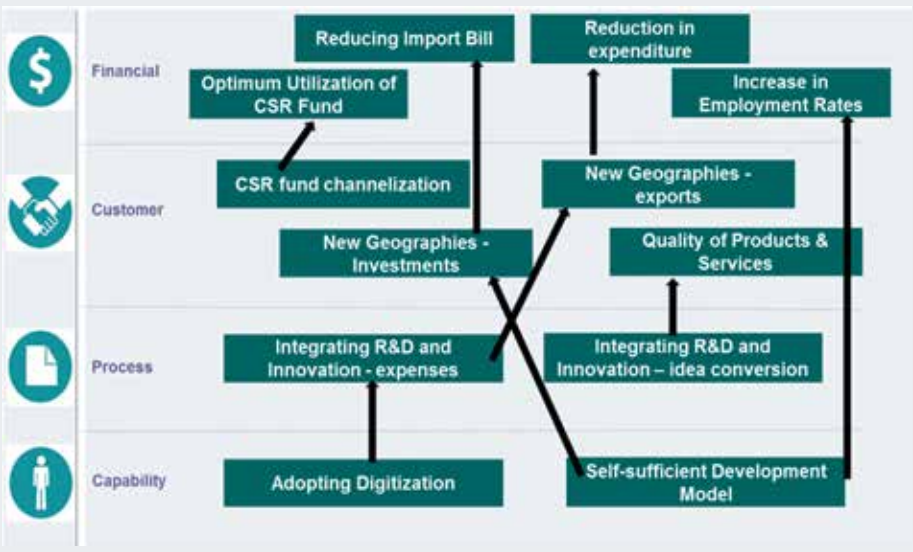
Capability development is also from the point of view of technology. Digital India is the bridging force that is driving technological advancement of the nation. The PSUs should derive benefit from this campaign and leverage the digitized sectors to expand reach. Further, increased investments in new technology will enable the PSUs to supply goods which meet the quality requirements of all nations. Technological advancement has a manifold impact on PSUs – expanding geo-strategic reach, utilizing CSR fund optimally and developing capability to help reduce the import bill.

In this way, the Indian PSUs can make a dent in the economic and social fabric of the country by contributing towards a robust development model.

Conclusion

In conclusion, the Strategic Roadmap for the Indian Public Sector Enterprises is a key focus area of the upcoming political campaigns. It is important for these enterprises to innovate and adapt to the challenges of the 21st century. Each strategic pillar has dependency on the other pillars and it is important for PSUs to realize the synergies that can be realized by collaborating moves across strategic pillars:

The talent implication for each strategic pillar is the central pivot to ensure that the economic and social progress of the PSUs is achieved as per plan. The PSUs should create a detailed process plan to set up the committees and appoint their Heads. Creating a centralized interaction will enable the PSUs to achieve their goals in an efficient manner. Each strategic pillar is significant and it is important to understand the increasing role of human resources in this age of the Fourth Industrial Revolution.



ARTICLE

Improving Infrastructure Delivery in the New India through Management of Construction Disputes

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The term "infrastructure" is a broad term, encompassing provision of power, utilities, roads, bridges, hospitals, airports, telecommunications etc. Infrastructure is what allows a town, a city or a country to operate – to allow its citizens to go about their lives in an orderly and efficient manner. As the US and China have demonstrated to the world, infrastructure is the engine for growth of the economy – the better the infrastructure, the higher the country's GDP.

Today, if there is one factor that is holding India back from taking its rightful place in the world economy, it is the lack of development in its physical infrastructure. The extent of development of mobile telephone infrastructure in India is a matter for envy for the world. The same needs to happen for the physical infrastructure.

The challenges to the development of infrastructure in India are, to a great extent, to be resolved at a policy level. But all participants in the infrastructure industry can take steps to create conducive conditions for infrastructure development in India. I consider that this can be done by the adoption of standard form contracts with a fair risk allocation, the management of disputes by the introduction of mandatory pre-arbitration escalation clauses, and the engagement of experts to assist the tribunal in construction arbitrations.

Today, if there is one factor that is holding India back from taking its rightful place in the world economy, it is the lack of development in its physical infrastructure. The extent of development of mobile telephone infrastructure in India is a matter for envy for the world. The same needs to happen for the physical infrastructure.

Standard form contracts

The potential for disputes is inherent in construction contracting. The very nature of construction requires parties to deal with unforeseen ground conditions, surrounding population, existing infrastructure, changes in design and challenges in execution.

The question is how best to manage these disputes. At the first stage, this can be done by the adoption of standard forms of contracts with a fair allocation of risk. Most construction projects for infrastructure worldwide are carried out pursuant to standard-form contracts. These forms are prepared by independent organisations (such as FIDIC, a French engineering contracts drafting entity) and seek to provide a balance between the risks to be borne by the procurer and those to be borne by the contractor.

These standard forms are often amended to suit the requirements of the project. These amendments can be drafted in a way that

places a lot of risk on one party, or they can be drafted to provide a fair allocation of risk between the parties. In my view, the latter is preferable. A risk should be allocated to the entity that is best able to bear that risk. If a contract lays on the contractor much of the risk of execution, a contractor that is properly will either price for those risks, and, as a result, increase the contract price, or it will quote a low price and seek to make up for the risk through claims during the course of the contract. Neither is an attractive outcome for the procurer.

For example, if the contractor is asked to bear the risk of ground conditions in circumstances where it has not had a proper opportunity to survey those risks, it could lead to claims when it encounters those risks. If a lump-sum turnkey contract has technical specifications which can lead to differing interpretations, it could lead to claims from both sides when something unforeseen arises in the contract.

A major area of contention in any infrastructure project is granting of extensions of time and payment of prolongation costs. A comprehensive contractual scheme for extension of time that contemplates the consequences of all potential risks that may arise is of value not just to the contractor (who can avoid imposition of costly liquidated damages under the right conditions) but also to the procurer of the asset as, without an effective provision enabling the grant of an extension of time, time can be set at large and the liquidated damages provisions will be rendered inapplicable – leaving the procurer with the burden of having to prove losses that it says it has suffered as a result of delay. For public works contracts which do not have a commercial purpose, the task of proving damages can be arduous.

If a dispute cannot be settled, and arbitration results, consideration ought to be given to the engagement of technical experts to assist the tribunal in resolving construction disputes. It is now common for construction arbitrations internationally to see the use of opinion evidence produced by independent experts appointed by the parties. The experts, though appointed by parties, owe a duty to the tribunal to provide neutral, unbiased opinions based on their expertise.

Similarly, if there are clauses entitling the contractor to compensation for costs properly incurred during a prolonged period of execution of the works, the contractor will not have to look for avenues (such as variation claims or asserting breach of contract) to recover these costs. An increase in cost brought about by events for which the contractor did not take the risk goes to the contractor's bottom line, and should the contractor not be able recover these costs, the project will become unprofitable for the contractor – setting in motion a chain of events that could lead to insolvency. This could be a problem for the project at hand. Thoughtful drafting of contracts can seek to avoid these disputes.

Pre-arbitration Dispute Resolution Provisions

In private sector construction projects (for example, the construction of a shopping mall, or a hospital), both the procurer of the facility and the contractor are commercial enterprises. It is in their interest to resolve disputes quickly so that they can go back to their primary business of developing and constructing assets. Many private sector contracts therefore contain mandatory pre-arbitration dispute escalation clauses to promote settlement. Public sector infrastructure contracts could consider the same approach.

A dispute escalation clause which makes discussions and negotiations between senior management, or reference of the dispute to mediation or conciliation, a mandatory pre-condition to the commencement of arbitration, can be of significant value. A party that fails to comply with this escalation of the dispute can

be shut out of arbitration until it complies. This encourages parties to meet and discuss a settlement of the dispute before resorting to arbitration. Very often, disputes are settled through these discussions, as those discussing a settlement of the dispute are removed from the day-to-day issues on the project. Alternatively, contracts can require that a dispute be submitted for resolution either by a dispute board or similar body. A dispute board is commonly found in contracts which use the FIDIC form as the base, and its purpose is to give a non-binding recommendation which can, if neither party expresses its dissatisfaction with the recommendation, become final and binding on the parties. Something similar exists in certain public sector contracts which provide for referral of the dispute to an outside expert committee, but perhaps some type of binding nature of the recommendation can be considered. Also, such referral can be made a mandatory pre-condition to arbitration to encourage settlement without resort to formal proceedings.

To support this settlement process, public sector bodies can consider taking settlement-related advice from external legal and expert bodies on whether a dispute ought to be settled, and at what level (or within what range of figures). These external advisors (lawyers, accountants, technical experts, etc.) can be appointed on a case-by-case basis, or by prior selection and placement on a panel based on their expertise. A second opinion from a senior advocate can be taken in complicated or sensitive cases. I know from experience that most contractors have a realistic assessment as to the merits of their claim and, if there is a reasonable offer of settlement, they would be eager to settle a dispute rather than to litigate.

Use of technical experts

If a dispute cannot be settled, and arbitration results, consideration ought to be given to the engagement of technical experts to assist the tribunal in resolving construction disputes.

It is now common for construction arbitrations internationally to see the use of opinion evidence produced by independent experts appointed by the parties. The experts, though appointed by parties, owe a duty to the tribunal to provide neutral, unbiased opinions based on their expertise. In some instances, the tribunal will itself appoint an expert to assist it by asking parties to agree a list of names of experts and choosing from that list. Apart from experts on technical matters – such as quality or compliance with specifications – a certain type of expert that is fairly common in construction arbitrations is the 'delay analysis' expert. In infrastructure projects, timely completion has significant value for the society which the infrastructure serves. Most construction contracts therefore provide for a pre-agreed rate of damages (delay liquidated damages) that the contractor will pay should it delay in completing the work. To avoid imposition of such delay liquidated damages, the contractor must show an entitlement to an 'extension of time'. The computation of what is a fair extension of time is an exercise in judgment, with several possible methods of assessment, and is therefore an area on which expert opinion is valuable.

These three aspects for the resolution of construction disputes, if considered for adoption, will help in achieving cost-efficient and speedy infrastructure development in the New India.

PM Modi's Policy Initiatives Show Silver Lining

Gaurav Choudhary
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Moneycontrol.com &
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Over the last few years, the world has been peering expectantly at the Indian economy. Four years ago Prime Minister Narendra Modi launched "Make in India"—an initiative to turn India into a manufacturing powerhouse, remove bureaucratic red tape and make the country more investor friendly.

The results have begun to show

India is now the second largest mobile phone producer in the world after China, as per information shared by Indian Cellular Association. ICA referred to data available from market research firm IHS, China's National Bureau of Statistics and Vietnam General Statistics Office. According to data shared by ICA, India accounted for 11% of global mobile production in 2017 compared to 3% in 2014.

India replaced Vietnam to become second largest producer of mobile phones in 2017. With the rise in mobile phone production, imports of the devices in the country also reduced to less than half in 2017-18.

The fast track task force (FTTF), a body under Ministry of Electronics and IT, has set target to achieve around 500 million mobile phone production in India by 2019, with value estimated to be around $46 billion.

The FTTF, which has members from industry and government, has set target to create $8 billion component manufacturing as result of growth in mobile phone production and create 1.5 million direct and indirect jobs by 2019.

India has also leapfrogged into the 100th rank in the World Bank's Ease of Doing Business rankings, jumping 30 notches from last year, in an endorsement of the string of policies.

The report also recognizes India as one of the top 10 improvers in this year's assessment, having implemented reforms in 8 out of 10 Doing Business indicators.

India is the only large country last year to have achieved such a significant shift. On the "distance to frontier metric," one of the key indicators in the survey, India's score went from 56.05 in Doing Business 2017 to 60.76 in Doing Business 2018. This means last year India improved its business regulations in absolute terms – indicating that the country is continuing its steady shift towards best practice in business regulation.

The annual report, which ranks countries on business-friendliness, procedural ease, regulatory architecture and absence of bureaucratic red tape.

It has launched a string of signature initiatives such as "Make in India" and brought about significant legislative changes including a modern Insolvency and Bankruptcy Code.

The real challenge, now, lies in getting projects executed at state level. States will have to come around to reform laws, even at the level of local bodies, and proactively facilitate implementation of plans and policies drawn up by the Centre.

The proximate risks of the soiling investor sentiments is one principal factor: policy inconsistency. Investors want hassle-free entry into the Indian economy. India has everything to become the investors' go to destination among competing countries.

A recent report, "India's economic geography in 2025: States,

Clusters and Cities" by McKinsey & Company has said by building a granular view of where growth and market opportunities will emerge, businesses can tailor investment decisions to capture a disproportionate share of the pie, and governments can prioritise development efforts to spur industrialisation and job creation over the next 10 years.

Given India's rapidly changing urban and rural economic landscape, the involvement of states will help policy makers in New Delhi uncover growth opportunities identifying geographic slivers of opportunity - states, metropolitan cities and their hinterlands.

The McKinsey & Company report has identified Haryana as one of India's eight 'High performing' States that are likely to account for 52 percent of the country's incremental GDP growth from 2012 to 2025. This group will comprise Gujarat, Haryana, Himachal Pradesh, Kerala, Maharashtra, Tamil Nadu, Andhra Pradesh (including Telengana) and Uttarakhand.

The government has also rightly demonstrated its intent to walk the talk on urban planning. The plan to build 100 smart cities mirrors the high priority that the Narendra Modi-led government has attached to the role of a city-led economy in the broad framework of India's new development paradigm.

According to the 2011 Census, the number of towns and cities in India has grown more than 50% in the decade between 2001 and 2011. Besides, towns, which are administered by a municipal body, there are also a large number large villages that mimic the characteristics of a town—both in terms of aspirations as well as income growth. Using this broad definition, one can infer that as of 2011, 31.2%---—nearly one out of every three Indians-- live in towns and cities.

There is ample evidence in world history to show that many economies had fallen off the cliff despite showing early promise because of under-prepared urbanisation. History has shown that in every country it takes years for the proportion of urban population to reach 30%, but the jump from 30% to 60% is very, very rapid. Seen through this prism, the `smart cities' project is an idea that was long overdue.

In many ways, Prime Minister Narendra Modi's visit to the Silicon Valley a few years ago and his discussions with the global tech titans is as much an extension of the "Digital India" initiative that he launched in July this year as it is about saluting innovation.

There can be no dispute that in the last 50 years the Internet and computer-enabled technologies have turned out to be the biggest example of creative destruction to have impacted our lives.

It has made communication times faster, turned production and governance processes more efficient and, above all, empowered billions of people by democratising knowledge and information flow through platforms such as Facebook and Twitter.

There is no gainsaying the fact that India remains one of the fastest growing markets for both Internet users as well personal technology. Sometime in the next few months, there will be more than a billion mobile phone subscribers in India.

At current trends, the number of smart-phone users in India should cross 500 million in the next five years. Already about 95% of the Internet traffic in India at present comes through mobile devices. According to the McKinsey Global Institute by 2025, 700 million to 900 million people in India could be online.

The Prime Minister's visit to the Tesla Motors plant to see for first-hand the inventions on renewable energy made and electric cars, is demonstrable evidence that Mr Modi attaches an extremely high premium to innovation. "Disruptive" hyper-efficient innovations will drive business decisions. Companies that focus on lateral or horizontal thinking will stay ahead of competition as revenue models will have to foresee or, at the very least, keep pace with technological developments.

So, while smart-phone penetration and "appification" of personal technology usage through handhelds can help India offset the costs of conventional internet access through desktops and laptops, it is about time for India now to create an eco-system with and appropriate system of rewards and incentives that fosters original thinking.

Making innovators such as Apple and their peers to set shop in India is a good first step as precision engineering, organisational processes and innovation gets embedded in India's mainstream psyche. In the final analysis, policies such as "Make in India," "Smart Cities" and "Digital India" should provide the perfect ecosystem for the country to make the great leap forward.

Block Chain Technology as Ayushman to Government Initiatives

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One of the most important and fundamental advances in this digital era is 'Blockchain Technology'. Even after being around for almost 10 years, the technology has been given due recognition only now. It is an overhyped technology beyond AI and Machine Learning. Many people interchange this word for 'bitcoin'. But these two are different things, blockchain technology is not only about money, but also fundamentally deeper and deals in trust. The blockchain is operated through private and public keys and follows algorithms for tracking transactions paired together. The applications of the block chain technology are beyond crypto currencies as it extends to various industries and the government. This technology can be leveraged by the government initiatives / policies in many areas like increasing the level of transparency and accountability in operations of the government and most importantly securing the critical data from tampering.

During Independence Day speech our honorable Prime Minister introduced the world's

largest health scheme 'Ayushman Bharat'. The healthcare system in India is underpenetrated. The government expenditure is only 1.25 percent of the Gross Domestic Product (GDP). Low expenditure in the health sector is also backed by underperforming public healthcare ecosystem. The initiative of Ayushman Bharat-National Health Protection Mission is mainly for the underprivileged section of Indian population. Nearly 55-60 million Indians are pushed to poverty due to medical costs, a half of the middle class person's household income is allocated to cover medical costs, imagine 55-60 million Indians having the benefit of blockchain technology that will make things easier and effective. NitiAyog, (National Institution for Transforming India) is working with Apollo Hospitals and a major information technology company, Oracle on applying the decentralized blockchain technology in pharmaceutical supply chain management to detect spurious drugs. During the Blockchain Congress, 2018, co-hosted by NitiAyog the organization announced that they were working on applying the technology in health records, land registry, and fertilizer subsidy distribution. In the health industry the block chain would be introduced for advanced traceability of drugs from manufacturer to consumer and prevent citizens from using harmful drugs. In case of land registry, the blockchain would be used in cooperation with the judiciary of the civil court.

Two days after the announcement of Ayushman Bharat, the director of Crisil Research, Rahul Prithiani told in an interview 'We need adequate infrastructure to implement the scheme effectively.' He stated that 55% of the Indian households do not use government facilities because of its poor quality, primarily due

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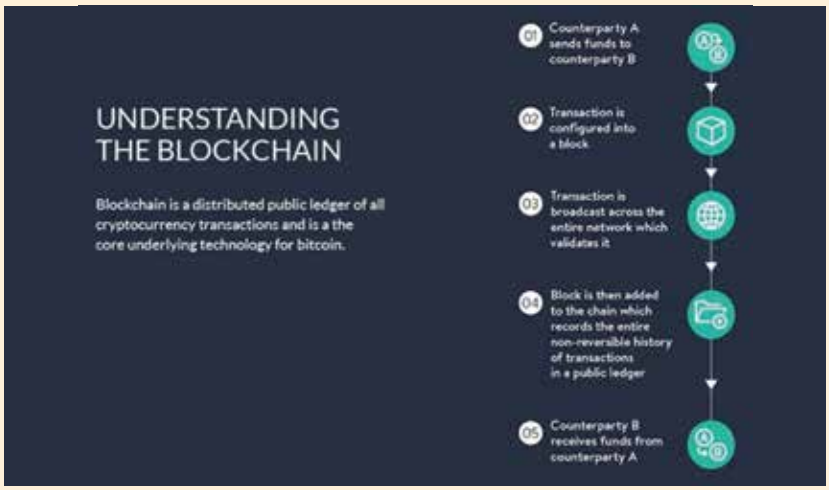
to lack of authenticated data of the citizens. The health scheme, Ayushman Bharat, is provided to the needy based on the census data taken on 2011 which is seven years old, hence, economic status of many families would have changed by now. How to solve this issue? Not only Ayushman Bharat but also other government schemes like Pradhan Mantri Ujjwala Yojana (PMUY) , Pradhan Mantri Awas Yojana (PMAY), Pradhan Mantri Suraksha Bima Yojana (PMSBY) etc., can be efficiently implemented by creating the Blockchain platforms. The Direct Benefit Transfer (DBT) is one of the biggest steps of the Indian Government to eliminate waste of the benefit distribution in the earlier days. But still this system suffers from certain drawbacks.



Consider a situation where a person goes to bank A intending to get a loan and eventually defaults it. The same person goes to bank B to get a loan and later lands up defaulting the loan again. This is because bank B lacks complete information about the person. What if there is centralized database about the man where any bank can access it and gather the information about the person in fraction of seconds and decides either to give a loan or reject the plea. This is like, if you enter one person's identification number (kind of Social Security Number in U.S.) you will get his /her entire history. This is where Blockchain technology plays a crucial role. Even insurance companies of India are looking forward to creating a centralized database and are waiting for the approval of IRDAI. How would it materialize if it is implemented in every sector instead of one specific sector? The growing surge of blockchain has found its place in banking, retail, energy, governance, healthcare, agriculture, education and supply chain management. Infosys set up 'India Trade Connect', a blockchain based trade network in India in partnership with seven lending banks, Axis Bank, ICICI Bank, RBL Banks, IndusInd Banks, Yes Bank, South Indian Bank, and Kotak Mahindra Bank. The blockchain technology will be used to address the trade finance process requirements of banks, the risks in trade, and supply chain financing operations. The Blockchain would make things automated and transparent especially in the processes of making payments, validation of ownership, and certification of documents in banking, IT, and other sectors as well. That one centralized database has to be maintained by our government.

The baby step of Aadhar card had been taken but the government systems operate at lower trust levels by the general public and only a system like blockchain can be trusted. It has been reported recently about the Aadhar account of Telecom Regulatory Authority of India (TRAI) chairman which had been hacked. This Blockchain technology will prevent such malpractices by hackers or others and ensure that data is protected. For example, if any data of a person is entered into the system, it cannot be altered or manipulated and remains as original.

One may question about the security breach in the bitcoins exchange which recently made headlines. If one does some research then it is revealed that the theft had happened at the margins i.e, when the bitcoin leaves the blockchain platform, also known as the 'vault' and moves to exchange and that exchange platform is hacked and not on the blockchain platform. For the past nine years nobody has been able to hack the blockchain platform and the prime reason is decentralized network. Moreover

each and every block is interconnected, if someone wants to hack a particular block then he has to hack millions of interconnected systems simultaneously which is impossible to do in reality. That is why the government has to utilize this technology in securing the data of the people. This will definitely reduce the time taken by the government to implement various policies /schemes. In many cases either the state or the central government will have difficulties in accessing the information, which will be eliminated by this technology. It's time for state and central governments to work together for the welfare of the people in a faster and effective manner.

Countries like the US, UK, Estonia etc. have started testing the efficiency of usage of the blockchain in government schemes. Even the government of Dubai has implemented the blockchain in property registration and it is expected to save around $3 billion a year on document operations and 77 million labor hours as well as reduction of government's printing of documents by 389 million.

Government of India has announced during this current budget session that it will explore the opportunities of blockchain technology. This small step for man is a giant leap for mankind. Its the right step towards embracing the technology in India. The sharing economy time has elapsed and the future lies in the Access Economy. The technology now has changed the way industries and consumers evolve. The future will be ruled by the one who has the data, which will make him /her the king of the economy. In this case, telecom and internet companies will lead and change the future.

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Also, we are having capable talent in the Information Technology field for more than two decades. There are young talented software engineers who have migrated to the US to work as onsite employees and are also contributing their knowledge in the fields of blockchain technology. They have played an important role in Silicon Valley by digitalizing global countries in respect of banking services, pensions services, insurance services, health, and manufacturing sectors. In this process, our economy benefited by an increase of forex reserves. In fact, it is the Indian programmers who made the story of Silicon Valley successful. Now their contributions are very much needed as the Government of India is more concerned about digitalizing the nation in a faster manner. There is a need for a focused approach in building the roadmap of making our country digital, as it will bring down the corruption, black money, and increase the better connectivity, wider reach, to link to subsidies offered by governments. Also, it will help in the performance assessment of various ministries in addressing public problems.

Finally, Blockchain technology will help the country to become Digital by centralizing the data at the same time using distributed ledgers to bring transparency in the governance. This will lead to increase the accountability of the public servants, politicians, teachers, bankers, doctors and hospitals etc. Transparency in the system will remove all unwanted and duplication cost at various departments, and ministries which will lead to improving the economic development. Hence blockchain technology is truly an Ayushmaan to make the country digital, innovative and lead to Make in India.

ARTICLE

PM's Vision of Digital India

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India is a vast country with highest number of young human capital with rich market potential in the world. Around 87% people live in villages and rural areas of the country. The development of rural India and make it technologically and electronically advanced has been the priority and need of hour. The Digital India is the most ambitious and pragmatic vision of our honorable Prime Minister Narendra Modi. Making India a digitally empowered and technically advanced economy has been important task undertaken by Government of India under dynamic leadership of our Prime Minister. This vision has support from other developed nations. To make this vision a reality, the Ministry of Electronics and Information Technology, various other Governmental and non-governmental departments working in the states and institutions in public and private sector and various Central Public Sectors Undertakings functioning in the area of Electronics and Information Technology extended full support. The campaign of making digital India is an attempt to bring advancement on line infrastructure reached to the common man so that India becomes a digitally advanced and empowered country among other developed nations. The paper throws light on various programmes and initiatives Government of India has taken and made it beneficial to its stake holder's basically the young generation residing in rural areas and villages.

Introduction

It has been realized that human capital and market potentiality in India is biggest advantage. With well above half of the population below the age of 25, India's demographic dividend to day is huge. As a nation it is imperative to invest in developing the talent, to enhance the competitive strength of industries and increase the living standards of our population basically those who live in villages and rural areas. As a national priority India has taken up the task of skilling the nation with the developing technologies, the nation with 500 million people by 2022 – a task with no precedent in the world, with no previous model to follow. We need doctors, engineers and social scientists, but what we need in larger number are construction workers , welders, rural insurance agents , shop floor assistants etc. Making vocational education attractive to youth and attracting them in large numbers is an effort being made aggressively by the government. A pilot programme called National University Students Skill Development that aims at students employment oriented skill scheme during their college graduation period, so that students will emerge with dual qualification – an academic degree and job oriented diploma, this will greatly enhance chances for employment. Much of our recent economic growth has generally been jobless youth. The period between 2011-12 to 20015-16 saw high GDP growth but employment growth was merely 0.5 per annum. More than 1/3 graduates are unemployed. Our true potential could be unlocked if we focus on employment intensive industries to ensure job creation. These are verticals like textile and garment, leather and footwear, gems and jewelry and food processing industries which are capable to employ large number of people.

In the aforesaid backdrop and present overall scenario the vision of Prime Minister to accord great amount of emphasis on Skill India and Digital India is praiseworthy. However, the Prime Minister's vision of New India build in the environment of internet age needs a different model. With the use of internet based learning we can make our youngsters productive and to be able to work for longer period. It is

thus important to understand the structure of education degree designed for the industrial era. No doubt, a degree is the academic proof that a student can do quality work for the society and development of nation. An engineering course of today completed through structured accumulation of credits (180 for a degree) with each credit earn by attending 15 hours of theory class or 30 hours of lab work etc. Now in the environment when factories getting automated, this degree that mirrors the industrial age skills is no longer useful for getting any productive work done in the internet age. Changing this entire system overnight would not be easy and at the scale involving 10,000- plus colleges and other educational institutions would just be too slow and difficult. The new generation, these days, is getting smarter at a young age – with early access to information through the internet. We need to introduce an internet based learning system along with fast track degree, where students are permitted by the certificate granting institution to take any exam on line for school, undergraduate, graduate and post-graduate degrees at any time, irrespective of age. Students can enroll for courses on line through Swayam portal of Ministry of Human Resource Development online and learn at their own speed and grow as fast as they can. We can operate "Industry outcome based degree" under the Government approved National Skill Qualifications Framework, where the industry–approved work requirements can be actually demonstrated students as a proof of ability to work, instead of exam-based academic credentials. Students can work in industry through internship or apprenticeships or build their own start-ups to gain industry knowledge and skills, after which they can appear for examinations approved by the National Skill Development Corporation (NSDC).

Revolutionary Movement of Government and steps towards Digital India and remarkable support from other countries

The action for Digital India is going on speedily and progressing by leaps and bounds. Our endeavor has been favored by multiple countries including US, Japan, South Korea, UK, Canada, Australia, Malaysia, Singapore, Uzbekistan and Vietnam. At launching ceremony of Digital India by Prime Minister Narendra Modi in Delhi on 1st July 2015 top CEO from India and abroad committed to invest INR 224.5 lakh crore (US $3.3 trillion) towards this initiative. He said the investment would be utilized towards making smart phones and internet devices at an affordable price in India which would help generate jobs in India as well as reduce the cost of importing them from abroad. Leaders from Silicon Valley, San Jose, California expressed their support for Digital India during PM's visit in September 2015. Facebook CEO, Mark Zuckerberg, changed his profile picture in support of Digital India and started a chain on facebook and promised to work on Wi-Fi Hotspots in rural area of India. Google committed to provide broadband connectivity on 500 railway stations in India. Microsoft agreed to provide broadband connectivity to five hundred thousand villages in India its cloud hub through Indian data centers. Qualcomm announced an investment of US$150 million in Indian start-ups. Oracle plans to invest in 20 states and will work on payments and Smart City initiatives.

Prime Minister Mr Narendra Modi during his speech on Independence Day laid down his vision of a New India of 21st century, as a technologically advanced country. His vision has been that the advanced technology should reach a common rural person. The vision of Prime Minister is that the major part of nation which lives in villages and rural India must get the benefits of the governments endeavor for digitalization and the advancement in the living standard with the access of electronically advanced environment which has been the priority of the nation, in various fields whether it is agriculture, banking, telecommunication, banking and other governmental schemes launched for the welfare and advancement of the life of a common man. It has been the vision that in the era of digital India every student learns at the same pace. It has been designed to create 'workers' as needed to operate factories engineers in various disciplines like mechanical, civil, electrical, electronics, chemical and industrial etc and people to manage these workers or handle sales and money like MBA in HR, Marketing and Finance. This system has worked and will continue to work well for the old India of the industrial era.

Details of Digital Schemes Introduced and to make India Electronically Advanced

In the recent time many schemes have been launched and are in

pipeline. This remarkable vision of Prime Minister has brought electronic revolution in the country. The beneficiaries of these schemes have been the common men residing in the rural India. This indeed is a welcome step. Some of such schemes introduced are as under:

- **Aadhaar:** A major breakthrough for identification of a man and linking him with various day to day activities. It has paved the way for lot of monitory saving and assisted in avoiding frauds.
- Aadhaar Enabled Payment System
- Accessible India Campaign Mobile App
- Agrimarket App
- Beti Bachao Beti Padhao
- Bharat Broadband Network (BBNL)
- Bhim (Bharat Interface for Money)
- BPO Scheme
- Centre for Excellence for Internet of things (COE-IT)
- **CEPT-IN:** Aim to secure Indian Cyber Space. It enables the collection, analysis and dissemination of information on cyber incidents. It forecasts and alerts of cyber security incidents further it is an emergency measure for handling cyber security incidents. It enables coordination of cyber incident response activity. These ensures and issue guidelines, advisories, vulnerability notes and write papers relating to information security practices, procedures, prevention, and response and reporting of cyber incidents.
- Crime and Criminal Tracking Network & Systems (CCTNS)
- Crop Insurance Mobile App
- CSC 2.0 This aims to establish a self sustaining network of 2.5 lakh CSC centers at Gram Panchayats (GP) level under Digital India and deliver various citizen centric services. It is envisaged as transaction based and service delivery – based model, delivering a large bouquet of e-service through a single delivery platform, which would increase the sustainability of CSCs across the country.
- Cyber Swachhta Kendra
- Deen Dayal Upadhyaya Gram Jyoti Yojna
- DigiDhan Abhiyan
- DigiLocker
- Gigisevak–Volunteer Management System (Vms)
- Digital Aiims
- Digital Saksharta Abhiyan (Disha)
- Direct Benefit Transfer(Dbt)
- **E-Granthlaya:** It is a integrated library management software developed by NIC.
- **E-Panchayat:** It is a is an e-Government initiative for the rural sector providing comprehensive software solution attempting automation of Gram Panchayat functions.
- **E-Basta:** It is in line with the Government's Digital India initiative, this project has created a frame work to make the school books accessible in digital form. As e-book to be read and used on tablets and laptops.
- **Ebiz:** e-biz is being implemented by Infosys Technologies Limited under the guidance and aegis of Department of Industrial Policy and Promotion (DIPP). The focus of e-Biz is to improve the business environment in the country by enabling fast and efficient access to Government-to-Business (G2B) service through online portal.
- ECI Evm Tracking
- **E-District:** The e-District mission mode Project (MMP) is envisaged to strengthen the district administration of the state by providing ICT support to the participating department and district administration in terms of providing centralized software application for the selected category of citizen services and training of staff of the department with a view to improve delivery of citizen services being rendered by these departments.
- E-Greetings
- **e-Hospitals**: e-hospital@nic (mail-to:e-hospital@nic) is an open source health information management system (HMIS) which is configurable and easily customizable with multi-tenancy support. It is designed to deploy in cloud infrastructure to manage multiple hospital seamlessly. The generic application addresses all major functional areas of a hospital. A workflow based HL7 compliant and ISO/IEC 9126 certify end-to-end solution Software for hospital management which covers complete treatment cycle of OPD/IPD as well as integrates clinical, administrative and billing / insurance activities.
- **Electronic Development Fund (EDF):** It is with the objective

that EDF is set up as a 'fund of fund' to participate in professionally managed 'daughter fund' which in turn will provide risk capital to companies developing new technologies in the area of electronics ,neon electronics and information technology (IT).

- **E-Msips:** It is an Application System that enables on line submission and security of applications submitted to the Department of electronics and Information Technology (DeitY) under the Modified Special Incentive Package (MSIPS) and Electronics Manufacturing Cluster (EMC) scheme.
- **e-NAM:** Electronic National Agriculture Market (NAM) ia a pan-India electronic trading portal which networks the existing APMC (Agriculture Produce Market Committee) mandis to create a unified national market for agricultural commodities. The NAM portal provides a single window service to all APMC related information and service. This includes commodity arrivals and prices, buy and sale trade offers, among other services.
- **E-Office:** The e-OFFICE product aims to support governance by ushering in more effective and transparent inter and intra-government processes. The vision of e-office is to achieve a simplified, responsive, effective and transparent working of all government offices.
- **E-Pathshala:** It is developed by NCERT, ePathshala for showcasing and disseminating all educational e resources including text books, audio, video, periodicals and a variety of other print and non print materials through website and mobile app. The platform addresses the dual challenge of reaching out a diverse clientele and bridging the digital divide (geographical, socio-cultural and linguistic), offering comparable quality of e-connects. All the concerned stake holders such as students, teachers, educators, and parents can excess e-books through multiple technology platforms.
- **EPFO Web Portal & Mobile App:** Through this web portal EPF members can check their PF balances and an e-passbook which is an online version of their physical passbook. The Mobile app allows the members to activate their UAN account through their mobile phones.
- **ePrison**: The scope of this project is to computerize and integrate all the activities related to prison and prisoner management in the jail. This application suite will provide the vital information about the inmates, lodged in the prisons, in real time environment to the prison officials and other entities, involved in Crime judicial System.
- **e-Procurement Portal (CPP):** The Central Public Procurement Portal of Government of India facilitates all the Central Government Organizations to publish their Tender Enquiries, Corrigendum and Award of Contract details. The primary object of this portal is to provide a single point access to the information on procurements made across various central government organizations.
- **e-Sampark:** This is a mechanism to connect the government directly with the citizens across India by running mailer, outbound dealing and SMS campaign. The platform is used for sharing informational and public service messages. The e- Sampark has been introduced to establish proactive communication by digitization of campaigns.
- **e-Sign:** It is an online electronic signature service which can be integrated with service delivery applications via an open API to facilitate an Aadhaar holder to digitally sign a document . Using authentication of the Aadhaar holder through e-KYC service, online electronic signature service is facilitated.
- Esso-Indian National Center for Ocean Information Services.
- **e-Tall:** It is a web portal for dissemination of e-transactions statistics of National and State Level e-governance projects including Mission Mode Projects. It receives transactions statistics from web based applications periodically on near real time basis. 'e-Tall' presents quick analysis of transactions counts in tabular and graphical form to give quick view of transactions done by various e-Governance projects.
- **e-Trade:** The Department of Commerce is pursuing the project e-Trade, the purpose of which is to facilitate foreign trade in India by way of promoting effective and efficient delivery of services by various regulatory/ facilitating agencies involved in foreign trade so as to enable the trade to avail services from these agencies in online environment.

- **e-Visa:** The Ministry of Tourism supported the initiative regarding the implementation of tourism visa on arrival enabled with electronics Travel Authorization (ETA) renamed as e-Tourism visa.
- **Farmer Portal:** It is envisaged to make available relevant information and services to the farmers with the use of Information and Communication Technology.
- **Fertilizer Monitoring System (FMS):** It monitors movement of various fertilizers at various stages in their value chain. The details of companies dealing with fertilizer, MRP and produce wise rates are available on the portal.
- **Garv Grameen Vidyutikaran Mobile App:** The mobile application provide real time updated data of ongoing electrification process to all users and stake holders and provide information about Governmental Schemes and electrification data.
- **Geographical Information System (GIS):** It is designed to store, retrieve, manage, display and analyze different types of geographical and spatial data which allow user to produce maps and other graphical displays for analysis and presentation.
- **Geological Survey of India (GSI):** The portal has been developed through the online core business Integrated System Project (OCBIC). The object behind the portal is to provide a single window access to the information and services being provided by GSI for the broad geo-scientific community, citizen and other stake holders.
- **Goods and Service Tax Network (GSTN)**
- **Government e-Market Place:** It is a single window solution for online procurement for common use goods and services required by various Government departments/organizations/ Public Sector Undertakings. This is with the view to enhance transparency, efficiency and speed in public procurement.
- Heritage City Development and Augmentation Yojna (**Hriday**)
- **Himmat App:** It is an initiative by Delhi Police specially for women. Himmat is an emergency service, comprised of an android emergency application which can send a distress call or emergency message to police officials and specified contract or group in an emergency situation faced by a woman. The police personnel will get these SOS alerts and location on a portal and as a SMS on their mobile phones as well.
- **ICDS Systems Strengthening and Nutrition Improvement Project (ISSNIP):** It is a World Bank's International Development Association (IDA) assisted project implemented by Ministry of Women Child Development in 162 high malnutrition burden districts in 8 States. The objectives of the project are to assist and to focus on children below 3 years of age and strengthen convergent actions for improved nutrition outcomes.
- **Integrated Health Information System (IHIP):** An Integrated Health Information platform (IHIP) is set up by Ministry of Health and Family Welfare to enable and the creation of standard complaint Electronic Health Records.
- IRCTC Connect
- **Jeevan Pramaan:** It is a biometric enable digital service for pensioners of Central Government, State Government and Other Governmental Organizations.
- **Khoya Paya:** It is a citizen based website to exchange information on missing and found children. It is an initiative of Ministry Women and Child Development.
- **Kisan Suvidha:** Kisan Suvidha is an omnibus mobile app developed to help farmers get relevant information instantly. It provides information for weather, market, prices, seeds, fertilizers, pesticides, agricultural machinery, dealers, agro advisories, plant protection and IPM practices.
- **Knowledge Management System (KMS):** Digital India Program envisions to Transform India into a digitally Empowered Society and Knowledge Economy. To achieve this objective Knowledge Management Portal has been created to establish a culture where knowledge is captured, shared and created.
- **Learning Management System (LMS):** It is a software application for administration, documentation, tracking, reporting and delivery of electronic courses (e-learning) and training programme. This would facilitate the e-Governance Competency Framework (eGCF).
- **Madad App:** Consular Services Management System

(MADAD) has been setup for Indian Citizen to log and track Grievances pertaining to the Consular Service offered by the Indian Embassies abroad.

- **mAsset:** It is a mobile based tool that act as supplement application to capture details such as photos and Geo-coordinates of the Assets into National Asset Directory(NAD). Additionally this application is also used to capture the details of Asset.
- **MCA21:** The Ministry of Corporate Affairs (MCA) has initiated this project to enable easy and secure access to MCA services in an assisted manner to corporate entities, professionals and general public.
- **m-Cessation:** Ministry of Health and Family Welfare in partnership with World Health Organization and the International Telecommunication Union has started utilizing mobile technology for tobacco cessation. WHO-ITU's 'Be Healthy Be Mobile' initiative aims to reach out to tobacco users of all categories who want to quit tobacco use and support them towards successful quitting constant text messaging on mobile phones.
- **Umang:** United Mobile Application for New-Age Governance (UMANG) is one of the key initiative under the Digital India programme to develop a common, unified platform and mobile app to facilitate a single point access to all government services. It is envisaged to act as a master application which will integrate 200 applications which will offer around 1200 services of various government departments of the Centre, State and local bodies. This app will remove the inconveniences being faced by users in managing multiple mobile apps and facilitates a one–stop –solution to avail varied government services.
- **Un-Reserved Ticket Through Mobile Application (UTS APP):** In order to promote paperless economy, Indian Railway has launched its new UTS on mobile application. This official android mobile ticketing app enables booking unreserved paperless journey ticket, issue/renew season ticke and platform ticket.
- **Visvesvaraya PHD Scheme for Electronics and IT:** This provides scheme for working professionals and faculty to peruse PhD in the ESTM7 IT/ ITES sector as part time candidates. It facilitates Industrial – Academia interface.
- Swachh Bharat App
- **Swayam:** Swayam seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy. This covers all the courses taught in class rooms from 9th till post-graduation to be accessed by anyone, anywhere at any time.
- **Meghraj:** Government has embarked upon an ambitious initiative – 'GI Cloud' which has been named as Megh Raj. The focus of this initiative is to accelerate delivery of e-service in the country by optimizing ICT spending of the Government.
- **National Career Service Portal:** A national ICT based portal has been developed, primarily to connect opportunities with the aspiration of the youth. This portal facilitates registration of job seekers, job providers, skill providers, career counselors etc.
- **National Supercomputing Mission (NSM):** National Super computing mission has been envisaged to empower the national academic and R&D institutions, spread across the country by installing a vast supercomputing grid compromising of more than 70 high performance computer facilities.
- **Pradhan Mantri Kaushal Vikas Yojna (PMKVY)**
- **Project Management System (PM IS):** Project Management and Information System has been developed in National governance Division (NeGD) for Mission Mode Project under e-Kranti.
- **Project Monitoring Website for Ecourts:** This initiative was planned to develop deliver, install and implement automated decision making and decision support system in 700 courts in Delhi, Mumbai, Kolkata & Chennai; 29 capital city courts of states and UTs and 13000 district and subordinate courts. The objective of the project was to help judicial administration of the courts in streamlining their day to day activities.
- **Saransh:** A CBSE initiative, Saransh is a tool for comprehensive self review and analysis for CBSE affiliated schools and parents. It enables them to analyse students' performance in order to take remedial classes.
- **Smart Cities:** Government of India launched the smart cities

mission in June 2015. Its objective is to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'smart solutions'.

- **Soil Health Card:** It aims at promoting integrated Nutrient Management (INM) through judicious use of chemical fertilizers including secondary and micro nutrients in conjunction with organic manures and bio fertilizers for improving soil health and its productivity, strengthening of soil and fertilizer testing facilities to provide soil test based on recommendation to farmers for improving soil fertility.
- **Startup India Portal and Mobile App:** Startup India is a flagship initiative of the Government of India, intended to build strong eco-system for nurturing innovation and Startups in the country that will drive sustainable economic growth and generate large scale employment opportunity. The Government through this initiative aims to empower Startups to grow through innovation and design.
- **State Wide Area Network:** The Government has approved the scheme for establishing State Wide Area Networks (SWANS) across the country, in March 2005 to be expended by the department under Grant in Aid of Rs 2005 crore, over a period of 5 years. Under this scheme technical and financial assistance are being provided to the states / UTs to establishing SWAN to connect all States and UTs headquarters up to the block level via District and Sub-Divisional Headquarters, in a vertical hierarchical structure with a minimum bandwidth capacity of 2 Mbps per link .
- **Sugamya:** 'Sugamya Pustakalaya' is an online platform that makes accessible connect available to print-disabled people. The library houses publication across diverse subjects and languages and multiple accessible formats. It has been created by Department of Empowerment of Persons with Disabilities, Ministry of Social Justice and Empowerment in collaboration with member organization of Daisy Forum of India and powered by TCS Access.

Conclusion and way forward

Vision of the Prime Minister was launched on 1st July 2015 and the progressive schemes like Bharat Net, Make in India, Startup India and Standup India, Industrial corridors, Bharatmala, Sagarmala, Dedicated Freight Corridors and UDAN-RCS extended benefits. These schemes connected rural India with high- speed internet network and facilitated digital literacy for the first time in the country. This has been a welcome step for the development of our nation. It was really needed to take India forward and make it contemporary among developed nations. India's Public Sector organizations have been expending remarkable support towards this vision of Prime Minister. Many developmental programmes and projects/ mobile app have already been launched and many are in pipeline, these steps will boost the the morale of our youngsters residing in urban and rural pockets of India and it will go a long way. This will not only provide the advanced facility but make our nation contemporary to developed nations. This will change the mind set of young generation and will create new working culture and better living standard. No doubt it is an innovative vision of our Prime Minister and has been the need of the hour.

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Indigenisation as a Strategy - Freeway to Make in India and Self Reliance

Dr. Sunil Abrol
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India has since independence aimed at self reliance. Political leaders have used this slogan for fostering nationalism and patriotism among the masses. Several Govt. policies and schemes have failed to achieve the desired results. Import of equipments, Technology and spares continues unabated in the garb of better quality and features. Most contracts entered into by PSU's with foreign technology suppliers including those by BEL, HAL, BEML and others in Defence areas have provisions for Technology Transfer leading to indigenization. Unfortunately, in most cases, there has been poor technology absorption and assimilation, leading to continued dependence on OEM's both for maintenance and spares.

Schemes to promote and incentivize procurement from local suppliers has not been a great motivator. Govt. data indicates that less than 10% procurement is done by PSUs against mandated 20%. Procurement from SC/ST suppliers is below 0.2% against mandated 4%. The reason given is non availability of Indian suppliers who meet the technical specifications.

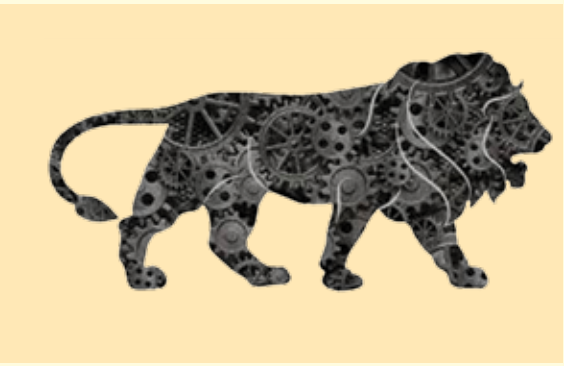
The approach we have taken as a nation in the last 70 years has not taken anywhere close to self reliance. Two interesting examples that stand out are those of CDOT Rural Digital Technology and ISRO Mars Orbitor Mission/ (Mangalyaan).

CDOT was set up in August 1984 with the objective of designing a state of the art digital technology for rural telephone exchanges to be deployed across the country. By August 1987 CDOT had designed a fully indigenous RAX technology, Transferred technology to 30 Indian Manufacturers, Developed over 400 vendors for supply of components and subsystems, empanelled over a dozen centres for card repair and maintenance. This great feat could happen through adoption of an integrated approach to Indigenisation and creating an exo system of fostering technology development by young Indian engineers and scientists and manufacturing support from local vendors. The process of identifying manufactures of equipment, vendors for components, Line Cards and sub systems was initiated while the technology development was in progress.

The success of ISRO Mars Orbitor Mission (Mangalyaan) 2014 has given India the distinction of only country in the world for having got this achievement in least time, effort and cost. The mantra of success for ISRO has been its integrated approach using low cost young Indian talent, outsourcing of design and development and vendor development through MSME suppliers within the country.

For Indian PSUs to strengthen the nation, an integrated strategy towards indigenization and self reliance would be the next step forward. What does it mean?

PSUs need to learn from the experience of CDOT and ISRO and follow a well designed strategy for indigenization and self reliance which is built around following pillars.



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- **Research and Development (R&D):** PSUs need to have a plan like CDOT, where the Union Cabinet created CDOT on Mission mode with a target of developing state of the art technology within 36 months at a cost of 35 crores . Engineers and staff was hired only for the project duration and procurement systems designed for time and cost sensitivity. There has to be time bound technology development plan including outsourcing of subsystem development and integration of inputs of multiple developers. Technology development be supported by prototype development and field trials to get feedback from customer. Encourage IPR orientation through PMS and Recognition.
- **Vendor Development:** The exercise of selection of manufacturers for mass production to meet the projected demand, multiple suppliers for each component or subsystem and suppliers of components, spares and laboratories for repairs and maintenance be selected and developed. Maruti vendor development model is also a worth emulating model though for mass manufacturing of a foreign technology
- **Development of Echo system:** PSUs need to create a holistic eco system to achieve Indigenisation and self reliance. This would include, hiring young and bright talent for R&D, Create a work culture that will foster Creativity and Innovation, Work through collaboration as against solo approach, consider vendors as business partners and not suppliers, long term approach as against product or project based approach. strategy of co creation and co development,
- **Procurement Policy:** Both PSUs and their customers will have to review their procurement policies. A near total ban on imports will be needed to begin with. This will curb the practice of proprietory purchase. Reservation or preference for indigenous products is a way of life across the globe. Indian PSUs and Govt will need to encourage indigenous products even if it means compromising on some acceptable features and quality norms. As against price preference, they need to work on exception lists.

For PSUs to contribute to the National Mission of Make in India and to stand up to the challenge of Indigenisation thrown by the Honourable PM, PSUs will need to put their heads together to re-strategize on the above lines to achieve the National goal and make India proud by creating local competence and capability in Design, Development, Manufacturing, Maintenance, Repair and Upgradation to state of the art local needs. ■

Indian Media and Entertainment Industry is Undergoing a Rapid Digital Transformation

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Owing to a favourabledemographic profile, increased smartphone penetration and increasing internet usage supported by falling data prices, theIndian media and entertainment industry is in the midst of a strong digitalrevolution. The industry is undergoinga rapid digital transformation across the value chain – content distribution as well as consumption.Digitisation has transformed the way consumers access the content.

Content distribution

The erstwhile television distribution segment, comprising the analoglocal cable operators (LCOs) and multi-system operators (MSOs), faced channel carrying capacity constraints and under reporting by the LCOs and consequent revenue leakages for the MSOs and the television broadcasters. The implementation of the digital addressable system (DAS) mandated by the Ministry of Information & Broadcasting (MIB) over four phases seeks to plug these gaps in the distribution value chain, improve subscriber addressability and thus improve content monetisation for the distributors and broadcasters. With digitisation, transparency has increased and MSOs have increased clarity on the number of active subscribers with each LCO. Digitisation has also facilitated greater addressability and better services to end customers, translating into increase in the average revenue per user (ARPU). However, despite the sunset date of March 31, 2017 for achieving complete digitisation of cable television in India, while digitisation is complete in phase I, II and III markets (except Chennai and Tamil Nadu), it is moving at a slow pace in phase IV markets, and there are around 35-40 million subscribers in Phase IV markets yet to be digitised.

Apart from MSOs and LCOs, direct-to-home (DTH) service providers, internet protocol television (IPTV) service providers and terrestrial TV service provider (Doordarshan) are the other key intermediaries between the content providers (broadcasters) and the end consumers (subscribers). While, under digital cable, MSOs decrypt signals supplied by broadcasters via satellite and pass them onto LCOs, who act as local retailers offering last mile connectivity through set-top boxes (STBs); in the DTH space, encrypted signals supplied by broadcasters are directly decrypted by end users.

Digitisation has the advantages of higher bandwidth and thus higher channel carrying capacity in addition to better image quality. Furthermore, subscribers are also benefitting with access to more diverse and higher quality content as broadcasters leverage on higher bandwidth availability to fill gaps in their channel bouquets.

Similarly, on the film distribution front, digitisation of movies has resulted in two major advantages to the film industry - cost arbitrage and time arbitrage. Not only do the filmdistributors save on print cost (as there is no replication of prints required in the digital delivery system) but also gain huge time advantage by simultaneously delivering the films across the country, thereby reducing piracy.

Content consumption

The introduction of over-the-top (OTT) apps hasdefined a new trend of 'cord-cutting' where consumers are shifting to viewing online streaming apps on their smart phones or tablets, as against the traditional cable

and DTH viewing on television sets. The key factor driving this growth is the flexibility to the consumers to consume content of their choice at the time and place of their choice, and falling internet prices. Moreover, the technological advancement from 2G to 3G to 4G has facilitated bettervideo streaming online and at a faster speed. Coupled with availability of low priced delivery mechanisms (smartphones, 4G, broadband), the widespread proliferation of app based content is shifting the viewership from linear TV towards online medium, resulting in increased time spent on digital media. It is estimated that there are around 30 OTT service providers in India at present. With telecom companies having introduced cheap data plans, the number of internet subscribers increased to 493.96 million as on March 2018 from 342.65 million as on March 2016, and the average data usage per subscriber per month increased to 2437 MB for the quarter ended March 2018 from 147.12 MB for the quarter ended March 2016 (Source: Telecom Regulatory Authority of India). With a majority of the internet consumption happening on mobile phones, all large telecom operators have launched affordable data plans and are offering value-added services like entertainment content to gain subscribers. They have also entered into partnerships with content creators to offer premium content. To promote data consumption on their platforms, currently content is available free with the data plans.

As per industry sources, currently, there are around 2 million paid digital subscribers across various apps, of which around 1-1.5 million are digital only consumers. However, this pattern of cord cutting has primarily emerged in urban areas, as internet penetration in India is not yet widespread. Furthermore, globally, OTT cost is low compared to traditional pay TV platforms. High, fixed broadband penetration coupled with low OTT subscription cost has led to adoption of the OTT content globally. India is, however, an exception to this phenomenon where OTT cost is currently more than pay TV, which is posing a major hindrance to OTT proliferation.Nonetheless, as affordability increases due to reduced data prices, digital consumption is expected to expand gradually.Even if the data prices were to inch up gradually, consumers have become habituated to online consumption and the data usage is expected to increase further going forward. Furthermore, the government's focus on 'Digital India' and the upcoming National Telecom Policy 2018 focuses on providing broadband to all by 2022. Over the medium term, OTT consumption shall remain supplemental to traditional content consumption.

Overall, there is a convergence of linear TV, OTT and broadband. Recently, MSOs have started providing internet TV box which also provides high graphics games which use smartphones as gamepad, apart from other wi-fi enabled joysticks. It also uses smart phones as remote controls and enables content sharing between mobile phones and TV. Using wi-fi and bluetooth, they integrate with internet of things(IoT) devices to create smart homes.

Online newspapers have also risen in popularity and is witnessing increased reach due to increased penetration of internet and digital media. Most Indian dallies have a digital presence through their websites and many of them have launched their own apps. The advent of these OTT platforms has also significantly increased the demand for films' digital rights. This has resulted in a sharp increase in the value of the digital rights.

However, digital content monetisationis yet to scale up

Despite the increasing consumption of digital media in India, its monetisationis still significantly under-penetrated.Increased digital media penetration and thus changing consumption trends has resulted in asharp increase in advertising spends on digital and the trajectory is expected to continue. However, most of these OTT platforms currently have high dependence on advertising as their source of revenues and a stable subscription-led model is yet to build up. Given the high investment requirements towards technology and suitable content creation, especially OTT-only content, the long-term sustainability of these service providers is dependent on the shift to the subscription-led model. Similarly, television distributors (MSOs and DTH operators) have incurred significant capital expenditure over the last few years towards seeding of consumer premise equipment at the subscribers' home. Monetisation is yet to happen in a meaningful way for the phase III and IV markets,and a further improvement in ARPU is critical for improving their financial profile.

Ease of Doing in Governance Standards: Companies (Amendment) Act 2017

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Ease of Doing Business

Of late, countries are racing to be in top 10 nations Club in terms of business friendliness to accelerate development. Higher ranking enjoining simple regulations and strong protection of property rights is prerequisite to grow. Although ranking is based on 10 parameters (starting business, construction permits, registering property, enforcing contracts, getting electricity, procuring credit, protecting investors, paying taxes, trading across borders and resolving insolvency), these do not guarantee holistic assessment & reliability, objectivity and relevance of addressing all issues remain a question mark. Despite these limitations, World Banks' Ease of Doing Business Ranking (2006) has gained prominence amongst 190 countries where Singapore topped right from 2007 to 2016 but slipped to New Zealand in 2017.

New India's development agenda too is full of hopes and resolves to emerge as world leader which is strong, vibrant, prosperous, and all encompassing. Its ranking at 130 till last year took a dramatic turn; moved to 100th slot; and top 10 improvers having implemented 8 indicators this year. Vice President, South Asia Region in World Bank Group's "Doing Business 2018" report aptly remarked, "Having embarked on a strong reform agenda to improve business environment, significant jump this year is a result of Indian Government's consistent efforts over past few years". Team India guided by dictum of "Reform, Perform and Transform" through Vision 2022 has potentiality to improve ranking further and spur growth. During last four years, it has implemented maximum reforms and 'Corporate Law' is notably highly advanced securing 4th spot in Global ranking.

Companies (Amendment) Act 2017

In context of Corporate Law, Companies Act 2013 was revisited in 2015 & 2016 on issues arising out of its implementation. On recommendations of Company Law Committee (2015), Companies Amendment Bill 2016 introduced in Lok Sabha (16.3.16) was referred to Standing Committee on Finance (April 2016). The report was presented in December 2016 and policy makers cleared the Bill on 27.7.17. It could not get Rajya Sabha's nod due to frequent adjournments. Finally, it was passed on 9.12.17 and received Presidential assent (3.1.18). The Act enjoins that Central Government by notification shall fix commencement of 93 amended provisions with specific dates separately.

On maxim of 'Minimum Government Maximum Governance', Amendment Act seeks to achieve numerous objectives: facilitating ease of doing business; improving Corporate Governance standards; boosting industrial sector; rationalizing compliances; simplifying procedures; rectifying inconsistencies; reducing overlapping; strengthening penal provisions; harmonizing with other statutes; and addressing stakeholders' concerns. Accordingly, Ease of doing business in Governance standards is explained under two heads: matters concerning Board and Company affairs.

Board of Directors

Eligibility: 2013 Act prohibited a person with even minor pecuniary interest in a Company from becoming Independent Director and was in conflict with SEBI

Regulations prescribing materiality thresholds. Amended provisions have added 'limited pecuniary relationship'. A person can be Independent Director if monetary benefit from Company does not exceed 10% of his income. Pecuniary relationship of relatives of such a Director has been elaborated in terms of shareholding (not exceeding Rs.50 lacs or 2% paid up capital) and financial transactions (2% or more of gross turn over) with the company or its subsidiary/holding/associate company. Besides, a relative who was merely an employee and not holding significant position(Director/KMP) during three preceding years in a Company, its holding, subsidiary or associate company where Independent Director is to be inducted, shall not impair his eligibility. These changes have salutary impact of ensuring independence for the Company and Independent Director.

Ceiling on Directorships: A Director can presently hold not more than 20 positions including alternate Directorships (of which 10 in public companies). To incentivize Directors to join dormant companies which hardly impact their time and energy on account of limited transactions, such directorship entails little influence on overall ceiling.

Disqualifications: Under 2013 Act, a Director having incurred disqualification due to default of filing financial statement/annual return/repayment of deposits/payment of interest automatically vacates office from all companies & ineligible to be reappointed in same company or in another for five years. It created an awkward situation as these companies were left without any Director and new appointments too attracted disqualification. Amended Act, therefore, stipulates that Directors of such company shall have to vacate office in all companies except company in default. Besides, newly appointed Director of defaulting company shall not incur disqualification for six months from date of his appointment for initiating measures to regularize non-compliances and failure to do so, shall invite similar disqualification. Accordingly, defaulting company continues to maintain requisite strength of Directors to make good the default.

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Alternate Director: 2013 Act permitted a Director to be an alternate Director as well if latter was absent from India for three months. Since it led to conflict of interest and inconsistency in computation of quorum for meetings, this provision stands withdrawn.

Resident Director: Criteria of 182 days stay in India for at least one Director has been shifted from calendar year to financial year. For newly incorporated company, this condition applies proportionately at end of financial year. The amendment facilitates senior management non-residents of foreign company to remain on Board of Indian company without any gestation period and reduces dependency of external persons already residents in India.

Casual Vacancy: Private companies have been equated with public companies for filling up casual vacancy of a Director by the Board.

DIN: 2013 Act provided every candidate for Directorship to obtain DIN. The amended provisions empower Government to prescribe any other identification number equivalent to DIN probably to broaden scope of Aadhaar.

Resignation: A Director was required to submit copy of his resignation along with reasons for resignation to ROC. For ease of doing business, he has now option to do so.

Meetings: Directors were initially restricted to discuss specified items of Board agenda through video-conferencing. To liberalize ICT usage, they can deliberate on any matter provided physical quorum of Board is complete. Thus, providing comfort especially to non-resident Directors who used to travel from distant

places to participate and vote on crucial issues.

Key Managerial Personnel: KMP nomenclature has been widened from CEO, M.D., Manager, Company Secretary, Whole Time Directors and CFO to any other whole time officers (one level below Directors) designated by Board. It facilitates Company to develop its human resource policy and extend leading role to such functionaries in decision-making.

Remuneration: To attract and retain competent senior management, amended provisions have rationalized shareholders' powers in deciding managerial remuneration. Companies no more require Government approval for payments exceeding 11% of its net profits despite inadequate profits/losses. But if there is default, remuneration is payable after obtaining consent of financial institutions/secured creditors which are in best position to analyze company's health. Accordingly, a Company has to pass special resolution instead of an ordinary resolution at AGM. This initiative removes discretionary powers of Government; ushers in self regulation; and ensures misuse of excessive remuneration.

Audit Committee: Audit Committee can now be constituted only by 'listed public companies' instead of 'listed companies' to align with SEBI Regulations. It brings relief to debt listed companies which were required to constitute Audit Committee. Besides, its power relating to Related Party Transactions has been amended, e.g., if certain RPTs are not approved, Board shall consider Committee's recommendations and approve them even if these were otherwise not covered under approval requirement.

Nomination & Remuneration Committee: Like Audit Committee, public listed companies alone can constitute NRC. While earlier NRC carried out evaluation of every Director's performance, its scope is limited to specify methodology for evaluating performance of Board/ Committees/Independent Directors by the Board/NRC/an external agency. Hence, its role is confined to review implementation and compliance thereof as Independent Directors are tasked to evaluate performance of non-Independent Directors and Board as a whole separately.

AGMs/ EGMs: Unlisted companies can now convene AGMs/EGMs anywhere in India (instead of registered office) provided every member give his consent in advance in electronic mode or in writing. Such concession saves time and energy both for company and stakeholders in completing formalities of holding meetings and travelling from every nook and corner of countryside. Similarly, wholly owned subsidiaries incorporated outside India can hold EGMs overseas. Thus, thumb rule of holding EGMs only in India no more holds good.

Loans to Directors: Another novel feature pertains to grant of loans to Directors. 2013 Act forbids loans, guarantee or security to any of its Directors or to any other person in whom he is interested. Company is prohibited to give loan even to its subsidiary/associate/joint venture. To encourage easy financing for investee companies, this provision has been revamped. Regulatory framework has two segments: complete ban on giving loans to a Director of a company or its holding company; and loans permitted to companies and body corporate in which such Director is interested subject to fulfillment of two conditions: (a) prior approval of company by special resolution; and (b) loans are primarily for 'principal business activity' and not to be utilized for reinvestment. However, this expression has not been spelled out and is amenable to be flouted. The interest rate is aligned with tenor based rate of Government security as against earlier benchmarking with Bank rate declared by RBI. These changes legitimize genuine business transactions; expand horizons of fund raising

among group companies; provide inherent checks/safeguards; and enhance penalties so that companies dare not utilize securities for selfish ends.

CSR: Amended provisions address mismatches between 2013 Act and Rules framed there under. A company not required to appoint an Independent Director is permitted to constitute CSR Committee with 2 or more Directors. Provisions extend to foreign companies operating in India through branch/project office. CSR applicability is dependent upon net worth/turnover/net profits of immediately 'preceding financial year' than ambiguous term 'during any financial year'. Companies can spend CSR funds on prescribed subjects in areas other than local area of business/ industry. However, company's obligation to carry forward unspent money in subsequent years remains unresolved leading to escape route in making good the deficiency indefinitely.

Auditors: Amendment Act has brought sea change by removing inconsistency in appointment and functions of auditors. Ratification of auditor's appointment at each AGM during his tenure stands removed. It indirectly deprives shareholders right to appoint/ reject such an appointment as refusing to ratify appointment virtually tantamount to removal. On the contrary, 2013 Act stipulated removal of an auditor only by special resolution of shareholders and approval by Government. Secondly, status quo remains in 'relative' definition for auditor's independence. Company Law Committee opined that bringing 'relatives' in determining eligibility conditions would have adverse repercussions. In absence of any specific definition, an estranged relative due to money power can buy shares in a company being audited by the person to whom he is related and deliberately disqualify him. Thirdly, amendment Act envisages that an audit firm cannot render prohibited services directly/indirectly to the company/its holding company/ subsidiary which propose to appoint him. These restrictions however, are not applicable for rendering such services to other companies. Fourthly, for consolidation of financial statements, auditor's jurisdiction extends to access accounts and records of a joint venture/associate company in addition to subsidiary(s). Fifthly, to ensure adequacy of internal financial controls, auditor's responsibility for IFC reporting is now restricted to financial statements and not on business controls. Lastly, Act has tightened its grip (Rs.50,000 minimum fine or remuneration whichever lesser) if an auditor fails to file an application stating reasons for his resignation within 30 days from date of submitting resignation with the company.

New India's development agenda too is full of hopes and resolves to emerge as world leader which is strong, vibrant, prosperous, and all encompassing. Its ranking at 130 till last year took a dramatic turn; moved to 100th slot; and top 10 improvers having implemented 8 indicators this year. Vice President, South Asia Region in World Bank Group's "Doing Business 2018" report aptly remarked, "Having embarked on a strong reform agenda to improve business environment, significant jump this year is a result of Indian Government's consistent efforts over past few years".

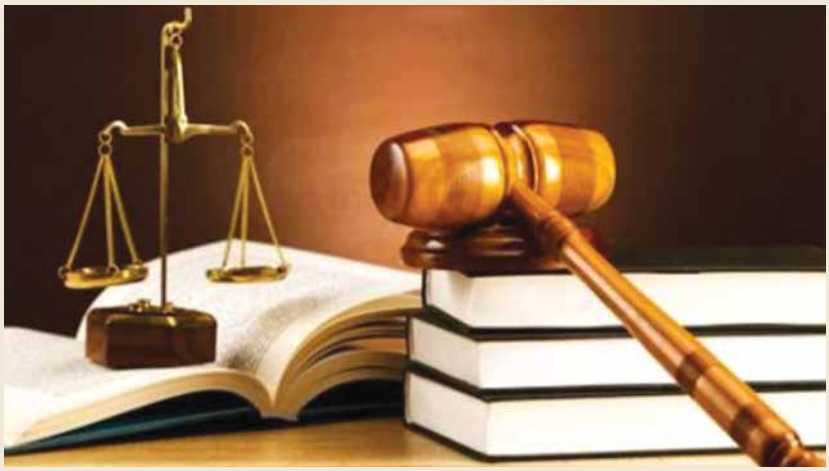
Company Affairs

Aligning Definitions: Contradictory terms have been fine-tuned. The term 'significant influence' is associated with at least 20% voting power (instead of 20% share capital), or control/participation in all business decisions exclusively exercisable by shareholders than preference shareholders. It discourages companies having substantial preference capital to exercise voting power. The status of Subsidiary company therefore is determined on total voting power and equally applies to an associate Company. Simultaneously, definition of 'Joint venture' has been coined: parties have joint control of arrangement and right to net assets. This is vital for resolving insolvency issues of parent company. Finally scope of 'Holding company' includes body corporate including foreign companies. It envisages that relationship of a holding vis-à-vis Subsidiary company is determined solely

on exercise/control of total voting power than total share capital held by former.

Company Incorporation: Amended provisions have streamlined procedures associated with incorporation of a Company. Exhibiting readiness and eagerness for incorporation, Company can get its name reserved with ROC up to 20 days from date of approval (earlier 60 days from date of incorporation). Secondly, documents requiring authentication/contracts made on behalf of company can be signed by an employee duly authorized by Board instead by a KMP or an officer to instill their confidence at all levels. Thirdly, persons proposed to be appointed as first Directors can submit self declaration in lieu of time consuming affidavit that he is not convicted of any offence/ guilt. Lastly, Directors' liability has been distinctly spelled out. Once their number is reduced below mandatory ceiling of 7 and 2 (public and private company respectively) and company continues to conduct its business for more than six months, then every such Director is liable for payment of debts contracted during that period.

Sweet Equity & Shares at Discount: Issuance of sweet equity shares only after one year of incorporation of Company stands disbanded. It enables start-ups in strengthening promoters' contribution; attracting talent; procuring know how; and inculcating sense of ownership. Similarly, non- issuing of shares at discount has been dispensed with. The rationale is that if shares are issued at discount at its fair value to creditors on conversion of their debt, it will ensure reasonable restructuring of distressed companies.



Interim Dividend: 2013 Act was confusing whether interim dividend could only be declared before close of particular financial year and not thereafter. Amended provision clarifies that it can be declared at any time even after closure of financial year till AGM. Besides, dividend is payable out of surplus in P&L account or out of profits for financial year for which dividend is being declared and also out of profits generated in financial year till last quarter before declaration.

Consolidated Financial Statements: Preparation of consolidated financial statements under amended provisions extends from Subsidiary to associate company (including joint ventures) thereby putting additional compliance burden. Both Listed and non-listed companies have to provide a copy of financial statement of its subsidiary(s) on demand. Besides, CEO (whether Director or not) is required to sign financial statements along with CFO & Company Secretary when Company is not having separate MD.

Financial Year: On pattern of Holding/subsidiary Company incorporated outside India, certain classes of companies (associate and joint ventures incorporated outside India) can follow different financial year (other than uniform financial year) for consolidation of its financial statements.

Conclusion

Government should not lose time by notifying an exact date for implementation of left over amended provisions with one stroke of pen. Effective rolling out of GST and Insolvency & Bankruptcy Code; innovations in trade, technology, investment and governance; and regaining momentum for unfinished structural reforms for holistic growth shall not only transform India as champions of change, but narrow gap between expectations, perceptions and ground realities. With these advances, New India through Vision 2022 would doubly confirm imprint of Government's philosophy for inspiring investors' confidence, enhancing ease of doing business, improving corporate environment at par with global practices, and above-all, game changer Amendment Act bearing handsome fruits.

ARTICLE

Ferro Alloy Sector on India's Revenue Map

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Bharat Diamond Bourse

The Ferro Alloy sector has been the lap of Indian story of industrialization and independence. The punch line in the 1970s, 'A nation with no capacity to produce a needle is exporting Machinery', is enough to claim the importance of this sector in the Indian growth story. The Ferro Alloy sector along with the other core sectors in major, have given birth to many of India's Economic. Industrial and HRD policies which were formulated to complement its growth and were crucial towards development of India's infrastructure base, way back in 1940s. The Ferro Alloy sector claims first rank in export of FeSi in the world markets and ranks 4th in the world for export of Ferro Manganese. Though robust in business strength the Ferro Alloy sector has been pushed to the realms of other sectors on the revenue map.

The Ferro Alloy sector contributes about 2% to the Indian GDP and is a part of the core sector which supplies crucial intermediates to the steel industry. The majority of bulk Ferro Alloys are used in production of corrosion resistant steel and the noble types made from alloy of iron and noble metals are used for special purpose steels that are used for making food containers, high pressure applications etc. Its growth is primarily related to the growth of steel industry domestically as well as globally. The global steel demand forecasts a growth of 1.8% resulting in robust demand for various Ferro Alloys too.

Inspite of being part of the Indian core sector the Ferro Alloy sector should gain as much more attention as the five major exporting sectors. These sectors comprising of the food products, basic metals, rubber and petrochemicals, chemicals, and electrical machinery put together account for over 66 % of total revenues in manufacturing. If an analysis be made, using parameters such as labor, plant and machinery, domestic raw material usage, final product as an intermediate raw material to allied sectors, capacity for innovation in terms of cost reduction and climate sustenance and export potential, the Ferro Alloy sector scores large in nearly all respects. It consumes bulk of financial investments on a large scale coupled with volume of operations making it an important part of the core of Indian manufacturing businesses.

Ferro Alloy sector viz a viz 'Promote export mission'

India's has a 'Promote export mission' based on 3 pillars of Make in India, Skill India and Digital India as per newly constituted criteria. It should be noted that the Ferro Alloy sector perfectly serves the bill to satisfy the three pillars of this mission .

Now comes a question as to how far the Ferro Alloy industry sector fits these three pillars of India's Export Promotion Mission?

Make in India

The Ferro Alloy industry involves large manufacturing

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infrastructure assets and has potential to procure domestically made assemblies from allied industrial sectors like furnace, electrode and software. More than 50% raw material is domestically sourced. This involves more than 5 allied sectors providing jobs to more than 20% of India's population in rural and tribal belts of Jharkhand, Orissa, Telangana, Maharashtra, Andhra Pradesh etc. This industry can supply its domestically fabricated product to allied industries such as automobile, public infrastructure, power, ports, housing construction etc. Thus this industry perfectly serves the purpose of Make in India mission.

Skill India

The manufacturing capacities of the Ferro Alloy sector are placed close to tribal and rural areas and involves labor from these areas on a large scale thus satisfying the criteria of financial inclusion. This sector involves over 50 skill sets right from mechanical to software controls of processes creating skilled and unskilled jobs. Smelting processes like Krupp Renn and Outukempu which involve AC and DC SAF require highly skilled labor for exact controls as the processes are carried out at high temperature and pressure conditions . This sector uses power of 4000Kw/t and more, per process and a team of labor having skill set to control high power systems such as these is involved. Moreover introduction of software skills in the blockchain technology will make operations efficient. The Ferro Alloy sector comprises of the SMEs and micro units which are to a large extent hubs of job creation. The micro units engage casual labor which also constitute the unorganized labor. Thus it becomes imperative to look at this sector as major employment creator especially for the factory labor as this sector has voracious need of skilled labor.

Digital India

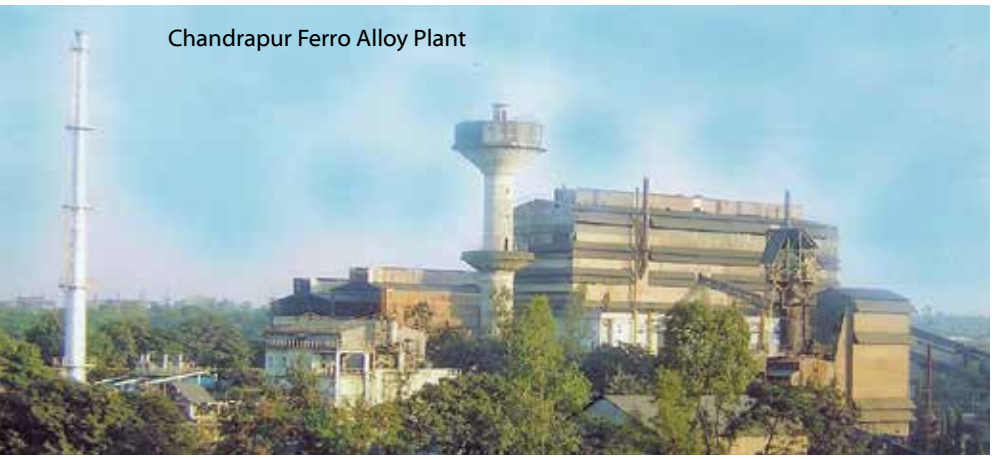
This industry is developing digital connect in its businesses through various member portals and international exchanges.

It is an undeniable fact that the Ferro Alloy industry fits the Export Promotion Mission to a large extent.

Encouraging policies to fuel growth in the Ferro Alloy Industry

Encouraging policies from the government side will no doubt bring prospects in this industrial sector so as to enable it to occupy an important position on the Indian revenue map. Adequate steps are needed to bring about an effective change to make its mark on the Indian Economic Map thus essentially promoting sustainable growth. Certain irrational government policies have been employing a cost of upto 40% thus eradicating about 20% of the international market share of this sector. India's mining policy has hampered indigenous supply of certain raw materials. The 2.5% import duty levied on manganese needs to be eased along with an antidumping duty for the commodity imported from China ensuring reduction in costs. A steady supply of low phos coke as the reductant material used in Ferro Alloy industry needs to be ensured since the same is not available in the domestic markets. Moreover, the

Ferro Alloy industry uses 10-30 mm and is made liable to pay the duty of $25 /ton for the 30-90 mm grade size which is used in steel industry. Again usage of chrome ore for the domestic market needs to be incentivized improving affordable availability of chrome, manganese ore, and iron ore to the domestic Ferro Alloy industry for improved capacity utilization. A correction in this matter will help reduction in input and operating costs decreasing it by 20%. The implied cross subsidy on power is burdening the heavy consumption of power which is presently 2400 MVA , increasing its power costs. Moreover, there are no captive power plants which could feed to the main grid so as to ensure smooth and uninterrupted supply of power to the manufacturing plant. At the same time there is an additional cess of Rs 400/ton so as to boost the renewable energy sector which further deepens the cost basket. Insufficient and erratic power further leads to cut in production and delay in respecting orders. Curbing issues related to raw material input and power with positive government support will proportionate a lower operating ratio leading to increased productivity and profits.



Chandrapur Ferro Alloy Plant

Environmental sustainability in business is of prime importance when the sorrows of climate change are looming large on the world economy. The Government of India needs to develop a rational Sustainability policy and its absence is prominently seen in case of non recovery type owens being allowed with a 5% sop which needs to be abolished as per climate change protocol . Moreover absence of sustainability policy has led to closure of units which do not have guidance to run their businesses according to the sustainability criteria.

The cheap import of finished products of FeMn and FeSi from Malaysia and Indonesia used as raw material in the steel industry are dampening Indian Ferro Alloy business. Infrastructure development in Canada is forecasted to be up on a large scale which is a large importer of Indian Ferro Alloys. Thus, in the ongoing FTA formation with Canada a permanent scope for the Ferro Alloy sector needs to be stamped. The prospects and interests of the Ferro Alloy industry needs to be safeguarded in event of signing of a cross country FTA.

Indian Ferro Alloys industry is presently utilizing 62% of its installed capacity for production of Ferro Alloys. A prudential policy needs to be placed to make domestic supply of Ferro Alloys more competitive than their foreign substitutes. Moreover, the oncoming WTO directives on export subsidies will further dampen the spirit of many export commodities increasing the challenges of Export Promotion Mission.

Inspite of being part of the Indian core sector the Ferro Alloy sector should gain as much more attention as the five major exporting sectors. These sectors comprising of the food products, basic metals, rubber and petrochemicals, chemicals, and electrical machinery put together account for over 66 % of total revenues in manufacturing. If an analysis be made, using parameters such as labor, plant and machinery, domestic raw material usage, final product as an intermediate raw material to allied sectors, capacity for innovation in terms of cost reduction and climate sustenance and export potential, the Ferro Alloy sector scores large in nearly all respects.

New plants under project finance which were put up as expansion facilities apprehending excellent demand forecasts have ended up making losses due to instability in global demand forecasts and price fluctuations. Existing plants too have been affected due to sudden fall in demand and slackening of prices leading to pile up of inventories and reduced utilization of plant capacities. Rise in cost of production results in failure in repayment of loans. All these factors not only impact employment negatively leading to loss of jobs but also result in NPA creation behest the banking and financing industry.

Last but not the least this industry is highly dependent on multimodal logistics and a firm handshake to develop independent corridors will work in its best interests. In presence of rational cost of production and sound price discoveries this industry will become far more competitive to face international market conditions. There is not only sure hope from the Ferro Alloy sector for higher returns on deployed funds by the banking and financing industry but also at the same time vibrancy in employment creation and higher scope for scientific innovation is assured.

Make in India - The Electronics Skill Development Perspective

Saleem Ahmed
Vice President- BD
Electronics Sector Skills Council of India

The "Make in India" programme launched by the honourable Prime Minister of India on 25 September 2014 seeks to establish India as a hub for global Manufacturing and leverage its demographic and intellectual dividend to increase the manufacturing footprint with the objective of job creation and skill enhancement in 25 sectors of the economy, This is expected to transform India into a global design and manufacturing hub.

The government is promoting manufacturing in a big way and has also made doing business easier for foreign entities and this has been seen to be effective as India jumped to 100th place out of 190 countries in the World Bank's 2017 Ease of Doing Business Index, from 130th in 2016.In February 2017, the government appointed the United Nations Development Programme (UNDP) and the National Productivity Council "to sensitise actual users and get their feedback on various reform measures".

As a result, now there is competition among the states of India to improve their current ranking on the ease of doing business index based on the completion percentage scores on 98-point action plan for business reform under make in India initiative. Currently Telangana, Haryana, Odisha, Chhattisgarh and West Bengal (44.35%) are top five states in ease of doing business.

The major focus under the Make in India programme has been on the Electronics System design and manufacturing- ESDM sector where the government has aggressively pitched to promote manufacturing and has made policies and supporting programmes that truly focus on promotion of manufacturing of electronics products and systems.

The electronics market of India is one of the largest in the world and is anticipated to reach USD 400 billion by 2020.India ranks third among global start-up ecosystems and Several government driven initiatives and incentives like – Electronics Development Fund (EDF), Electronics Manufacturing Clusters (EMCs) scheme, Modified Special Incentive Package Scheme (M-SIPS), 100% FDI is allowed through automatic route (49% through automatic route in strategic defence electronics sector) only makes the market more exciting and attractive for foreign investors.

The Indian market size for the ESDM sector is expected to reach USD 400 Billion by 2020 and the Electronics System Design and Manufacturing Sector (ESDM) envisaged to achieve "Net Zero Imports" by 2020 thus saving precious foreign exchange as currently 65% of the demand for electronic products is met by imports which presents an opportunity for import substitution.

The Electronic Manufacturing Services (EMS) industry is expected to be a significant contributor to the entire industry's development leveraging India's large pool of skilled manpower and the third largest pool of scientists and technicians in the world supported by Strong design and R&D capabilities in auto electronics and industrial electronics.

The government is promoting development of electronics manufacturing clusters throughout the country to provide world class infrastructure and facilities with the Electronics India B2B Platform, which helps various technology players to explore potential synergetic partners for technology transfer and joint ventures for

electronics manufacturing. The Major government initiatives like Digital India and Make in India and supportive policies including favourable FDI policies for electronics manufacturing are further expected to boost and lead to the success of Government's Make in India programme.

Other factors leading to a huge market is the huge domestic demand and rising disposable income and huge consumption of electronics products in the Middle East and in emerging markets such as North Africa and Latin America. The USD 15 billion market for Internet of Things (IoT) by 2020 will give thrust to R&D and creation of an innovative ecosystem, in the country.

The following schemes run by the Ministry of Electronics & Information Technology are further expectedboost the sector in the country :

- Creation of a B2B platform to provide opportunity to PSUs and other private sector companies in areas of Electronic System Design and Manufacturing (ESDM).
- Modified Special Incentive Package Scheme (M-SIPS)
- Electronics Manufacturing Clusters Scheme (EMC).
- Electronics Development Fund Policy (EDF).
- Financial assistance for setting up of Electronics and ICT Academies.
- Product Specific Initiatives such as Set Top Boxes, Aakash, low cost tablets etc.

The ESDM sector comprises of Consumer Electronics, Industrial Electronic, Electronic Components, Strategic Electronics, Semiconductor Design and Electronic Manufacturing Services.The electronics market of India is one of the largest in the world and the Investments in Electronic Manufacturing stood at INR 1.57 lakh crores in 2017, registering a growth rate of 27% over the year.

Mobile Phones, one of the dominant sub-sector, witnessed a jump of 60 % in volume terms, as manufacturing of mobile phones reached INR 17.5 crore units by 2016-17. India is home to 105 mobile/ancillary manufacturing units, providing employment to 4 lakh people directly.

The Expected market size for major electronics sub-sectors in India by 2020are :

- Telecom Equipment (USD 34 Billion)
- Laptops, Desktops, Tablets (USD 34 Billion)
- LED (USD 35 Billion)
- Consumer Electronics (USD 29 Billion)
- Set Top Boxes (USD 10 Billion)
- Automotive Electronics (USD 10 Billion)
- Medical Electronics (USD 8.5 Billion)

100% Foreign Direct Investment (FDI) is currently allowed under the automatic route in the ESDM sector and is subject to all applicable regulations and laws.In case of electronics items for defence, FDI up to 49% is allowed under automatic route, whereas anything above 49% is allowed through the government approval.

The National Policy on Electronics- NPE's vision is to create a globally competitive Electronics System Design and Manufacturing (ESDM) industry to meet the country's needs as well as cater the international market. It seeks to develop an ecosystem for a globally competitive ESDM sector in the country by attracting investment in excess of USD 100 Billion and generating employment for 28 Million people at various levels.

Building a strong supply chain of raw materials, parts and electronic components to raise indigenous availability to over 60% by 2020, it seeks to Increase exports in the ESDM sector to USD 80 billion by 2020 through the Constitution of nine (9) Working Groups for prior sub-sectors:

- Mobile Handsets and related parts/ components ecosystem

- LED Products
- Medical Electronics
- Consumer Electronics and Appliances
- Automotive Electronics (including Electric Vehicles)
- Solar Photovoltaic
- Fabless Chip Design
- Electronic Manufacturing Services (EMS) including population of PCB
- Components, Semiconductors, Displays, PCB, LED, Set Top Boxes, IT products, Telecom equipment, Lithium Ion Batteries, Strategic Electronics, Industrial Electronics, Others.

The government is also seeking to provide Preferential Market Access for creating a bigger market in the country and has following schemes to this effect.:

- Capital subsidy up to 20-25% for 10 years on capital expenditure.
- Reimbursement of CVD/ excise for capital equipment in non-SEZ units.
- Available for the entire value chain of electronics products under 44 verticals.
- Incentives available for 5 years from the date of receipt of Initial application.
- Incentive commitment of INR 10,000 crores.

The major schemes for promotion of the ESDM sector in India which are resulting in creating a larger market and boosting manufacturing are :

Modified SIPS

The M-SIPS scheme, developed to boost manufacturing and attract investments in the electronics sector, was modified in August 2015 by extending the scheme for five more years to 2020, and adding 15 new product categories

182 M-SIPS applications worth USD 23.8 billion received between April 2014-December 2017, from Global OEMs/ODMs and component manufacturers in various segments of electronics like IT and telecom, strategic, energy conservation, consumer, automotive, industrial, medical and EMS

MEITY has approved 130 proposals worth USD 3.6 billion between April 2014- December 2017

Electronics Development Fund

A Fund of funds to invest in professionally managed venture funds with an investment focus on Electronics, Nano-electronics and IT.

The objective of the policy is to support Daughter Funds including Early Stage Angel Funds and Venture Funds in the ESDM (Electronic System Design and Manufacturing) Sector.

Electronic manufacturing clusters (EMC)

Provide support for creation of world-class infrastructure

The assistance for the projects in Greenfield Electronics Manufacturing Clusters is restricted to 50% of the project cost subject to a ceiling of USD 7.69 million for every 100 acres of land.

For Brownfield EMC 75% of the cost of infrastructure, subjected to a ceiling of USD 7.69 million is provided as Grant.

20 Greenfield Electronic Manufac-turing Clusters approved.

Export Incentives

Export incentives 2-3% are available under the Merchandise Export from India Scheme (MEIS).This includes products such as AC parts and compressors, refrigerating equipment compressors, fully automatic washing machines, color TV and STB for accessing files.

The government is also encouraging the states to create a conducive environment for supporting and promoting manufacturing, hence, apart from the above incentives, India offers additional incentives for industrial projects, while some states offer separate policies for this sector.

Electronics Policy for the State of Gujarat (2014-19) and Chattisgarh

While other states are doing their bit in contributing to the Make in India programme, a special mention is for Gujarat and Chhattisgarh which have gone far in creating an environment of investments and support for setting up Electronics Manufacturing as below :

Gujarat

Assistance of up to 25% of the project cost to Greenfield EMCs, subject to a ceiling of INR 10 crores.

Special Incentive Package for two anchor units (with investment of more than INR 100 crores) in each of the Greenfield EMCs.

Chhattisgarh

Electronics, IT and ITES units are entitled to an interest subsidy upto 75% of the total interest paid annually up to the period of

8 years with a maximum limit of INR 110 LPA. The subsidy is on a reimbursement basis.

Units established in the state shall be reimbursed 50% of the fixed capital investment, excluding the cost of the land, with maximum limit of Rs.150 lakh.

Support for International Patent Protection in E&IT-II"SIP-EIT-II

To provide support to MSMEs and Start-ups trying to secure intellectual property rights on a global level and establish competitive advantage

Reimbursement is limited to a total of USD 23076.92 per invention or 50% of the total expenses incurred in filing and processing of patent application up to grant whichever is lesser.

The following key points in the Union Budget 2018-2019 are also steps towards promotion of the manufacturing in the country and make the "Make in India a success "

- Ministry of Electronics & Information Technology has been allocated INR 6000 crores under Union Budget 2018-19, an increase of 48% as compared to the allocations made in 2017-18.
- The revenue expenditure allocated under budget 2018-19 is INR 5675 crores, and capital expenditure allocation stands at INR 325 crores.

Following sub-sector are leading the manufacturing revolution in the ESDM sector providing huge opportunity not only for the market but also creating jobs for the youth of the country.

- Semiconductor Wafer Fabrication (FAB).
- Electronic Components.
- Strategic electronics
- Semiconductor Design.
- Electronics Manufacturing Services (EMS).
- Telecom products.
- Industrial/ Consumer electronics.

Over the last two years the country has witnessed a huge influx of FDI in the ESDM sector and the following companies have set up manufacturing in the country and several other have shown interest in setting up of manufacturing facility in the country.

- Qualcomm (USA)
- Samsung (South Korea)
- LG (South Korea)
- GE (USA)
- Jabil (USA)
- Flextronics (USA)
- Bosch (Germany)
- Amphenol (USA)
- Motherson Sumi system (Japan)
- Nidec (Japan)
- MagnetiMarelli (Italy)
- Continental (Germany)
- HMC MM (Japan)
- Delphi (USA)
- MandoHella (South Korea)
- Mitsubishi (Japan)
- Harman (USA)
- Perto (Brazil)
- Giesecke and Deverient (Germany)
- Haier (China)
- Philips (Netherland)
- LiebherrHausgerate (Germany)
- M2i (Taiwan)
- Asti (Japan)
- Panasonic (Japan)
- Huawei (China)

The make in India is being supported and running in tandem with other flagships programme of the Government of India and are indirectly boosting its relevance and scope. The Digital India and Skill India being the major ones impacting the Make in India programme.

Digital India, the flagship project of the Government of India, has made rapid progress in the year 2017. The Ministry of Electronics & Information Technology (MeitY), as a key ministry under the Government of India and the enabler of Digital India programme, has undertaken

numerous revolutionary initiatives in the area of IT/ ITeS and electronic manufacturing that have put India on the global map and went on to become case studies for the reputed Universities across the globe.

The year saw a 27% jump in the investment on electronic manufacturing where the total volume of investment reached 1.57 lakh crore in 2017 vis-à-vis 1.43 lakh crore in 2016; this was only 11,000 crore in 2014. There has been almost 60% rise on the production of mobile phones to reach 17.5 crore units vis-s-vis 11 crore units last year, adding 4 lakh direct and indirect jobs in the sector; this was only 6 crore units in 2014-15. Digital transactions witnessed a growth of over 300% during this year.

In 2017, the Government of India has introduced many pro-people IT initiatives that have transformed the governance system for good. Some of the key initiatives that were pushed forward included India BPO Promotion Scheme, Software Procurement Policy for faster delivery and effective monitoring of services, Tele-Law through CSCs to Mainstream Legal Aid in Rural India, amongst others. The CSCs (Common Services Centers) have been effectively used to reach out to the last miles and bridge the gaps between urban and rural sector, between digital haves and have-nots.

Enlisted below are some of the data points that substantiate the country's march towards a robust digital economy riding on back of Make in India in electronics.:

The Mobile Phone Revolution: Today India is home to 121 Crore Mobile Phone users, compared to 103 crore in 2016.

- **Smartphone Users:** The number of smart-phone users have grown from 30 crore in 2016 to 40 crore in 2017
- **Internet Users:** The number of internet users have grown from 40 crore in 2016 to 50 crore in 2017

Growth in Mobile Phone Manufacturing

Jump of 60% in terms of units made. Manufacturing of mobile phones has reached 17.5 Crore units in 2016-17 from 11 crores in 2015-16.

105 mobile/ ancillary manufacturing units

Created 4 lakh direct and indirect jobs since 2014 of which 2.4 lakh added in 2017

Investment in Electronic Manufacturing:

Investment in Electronic Manufacturing	2016	2017	% Growth
MSIPS: Number of proposals	217	242	11.5%
MSIPS: Investment involved	1.23 lakh crore	1.57 Lakh crore	27%

The Skill India programme is a major enabler and supporting programme helping the realization of the make in India and making it a success.

The Government of India's initiative of Skill India program which is transforming the national landscape with an effective eco-system to skill the youth of the country, is truly commendable and in the right direction to support the demand for skilled manpower by the Indian Industry.

The 'Skill India' Programme is the largest of its kind in the world and seeks to skill 500 million youth of the country to make the country as the Skill capital of the world. The promulgation of the National Skill Qualification Framework-NSQF based on the National Occupation Standard is the right step towards achieving the truly global standard Skilling Framework. The availability of skilled manpower is indispensable for the government of India's flagship programmes like Skill India, Digital India, make in India and start up India to succeed. The government of India has realized the importance of skill development and has put ahead an impressive target of skilling 500 million youth in the country.

As the electronics sector expands, there is going to be a huge demand for trained and skilled manpower. The policy for electronics has put the demand to 28 million jobs by 20202. The demand will be for skilled manpower and employers want specialised skills for a arietta of job roles. The opportunity has to be taped into and a large pool of skilled manpower in electronics has to be created to fill the demand-supply gap created.

The Electronics Sector Skills Council of India (ESSCI) has aligned its skilling capability to the industry requirements and is making an all-out effort in ensuring the industry requirements for skilled manpower with relevant technical capabilities are met and thus giving a boost to the growth of the sector along with creating employment opportunities for the youth of the country. The electronics sector is on a growth trajectory and the Skill India programme is helping it to keep pace of growth and maintain momentum

Electronics Sector Skills Council of India (ESSCI) is working to help the government realize the above and is focused in creating a large pool of manpower required for the manufacturing and services in the electronics sector in the next decade.

ESSCI has been mandated as an apex body for providing skill training based on the National Skill Development Framework, which the Government of India has promulgated as the national standard to supersede all previous skill based programmes. It broadly performs the following functions as mandated by the government of India for a sector skill council.

- Collecting integrated industry intelligence and understanding the job roles in the electronics Industry.
- Assessment of the workforce demand in the electronics sector in the country going forward
- Development of the NOS and QP for each job role identified and having it ratified by the industry and getting it approved by the QRC
- Maintaining the repository of Job roles based Qualification Packs.
- Affiliation of suitable training partners for each job role and ensuring right TP for imparting the skill based training for each Job Role
- Implementation and continuous improvement of high quality training and workforce development as per the identified job roles and ensuring right Training curriculum
- Implementation of a transparent and effective assessment programme to ensure assessment of the trainees with the right Question Bank and certification for the qualified candidates.
- Providing independent skills and training advice to enterprises and Industry, including matching identified training needs with appropriate training solutions; working with enterprises, employment service providers, Registered Training Organizations and government to allocate training places under the government schemes like the PMKVY and ESDM skill development schemes.
- Engaging with State and Union Territory Governments to ensure training in each states and supporting their schemes and ensuring alignment and relevant industry coverage.

The Indian market size for the ESDM sector is expected to reach USD 400 Billion by 2020 and the Electronics System Design and Manufacturing Sector (ESDM) envisaged to achieve "Net Zero Imports" by 2020 thus saving precious foreign exchange as currently 65% of the demand for electronic products is met by imports which presents an opportunity for import substitution. The Electronic Manufacturing Services (EMS) industry is expected to be a significant contributor to the entire industry's development leveraging India's large pool of skilled manpower and the third largest pool of scientists and technicians in the world supported by Strong design and R&D capabilities in auto electronics and industrial electronics.

The Electronics Sector Skills Council of India (ESSCI) is spearheading the Skill Development initiative in the electronics sector in building the structured mechanism through deep industry consultation. Capacity building for Training, Assessment and Certification including Train the Trainer / Train the Assessor aligned to the NSQF. The ESSCO today has over 4013 Training Centers across the country and having 159 Qualification Packs which are National Skill Qualification Committee-NSQC approved.

Thus the government is experiencing a trajectory of growth in the ESDM manufacturing sector which has never been experienced anywhere before. The synergies between the major flagship programmes are redefining the paradigms and resulting in exponential growth thus creating opportunities for business, Jobs for youth and also allied entrepreneurship possibilities for millions to reap the benefits and experience economic growth and prosperity.

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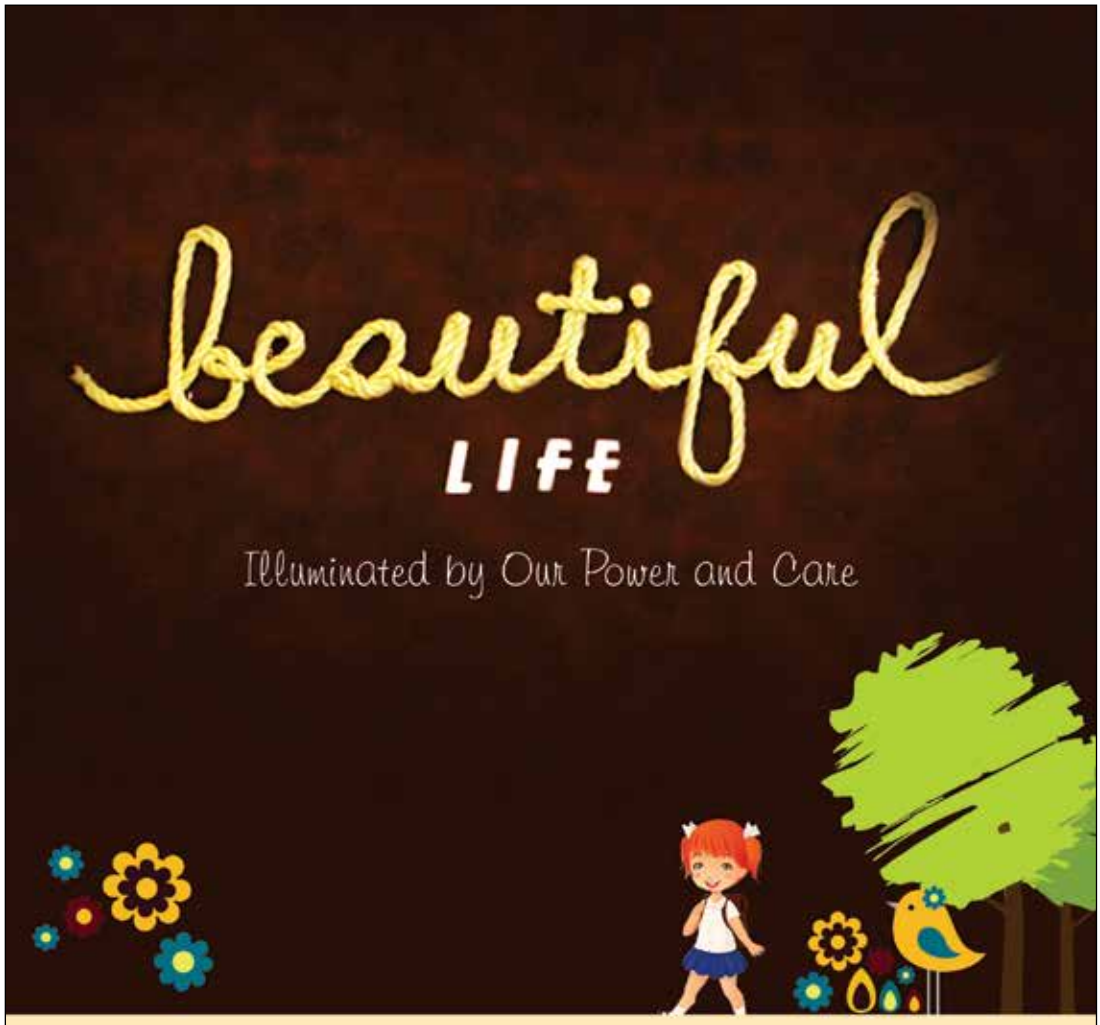
- **DNA Markers for Assessing Seed Purity**
- **DNA Sequence for Root preferred Gene Expression in Plants**
- **Vijetha-A Silkworm Bed Disinfectant**
- **Azotobacter Biofertilizer for Mulberry**
- **Chawki Leaf Chopper**
- **Phosphate Rich Organic manure (PROM)**
- **Ksheer Scanner, Ksheer Tester**

एन आर डी सी
NRDC

NATIONAL RESEARCH DEVELOPMENT CORPORATION

[An Enterprise of DSIR, Ministry of Science and Technology, Government of India]
20-22, Zamroodpur Community Centre, Kailash Colony Extension, New Delhi-110048
Tel: 011-29240401-07, Website: www.nrdcindia.com
For more information, please contact: lnarayan@nrdc.in, cmdnrdc@nrdc.in



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As a constructive partner in the community in which it operates, PFC has been taking concrete action to realize its social responsibility objectives, through financial assistance for the following:

- Support to employment-oriented Training &Skill Development Programmes for SC, ST, OBC, Women and EWS and physically-challenged persons
- Providing clean energy solutions such as solar lanterns, solar street lights, solar PV systems to Government schools, Anganwadi Centres, Primary Healthcare Centres, etc.
- Providing financial support to Home Lighting Systems at backward & remote areas
- Construction of toilets under 'Swachh Bharat Swachh Vidyalaya Abhiyaan' at schools and also at village households located in backward districts which do not have toilet facilities
- Upgradation of facilities at Adult Education Centres
- Support to States hit by natural calamities
- Promotion of education, arts, culture, music &dance, sports, etc. through sponsorship support

Health | Skills Development | Sanitation and Water | पी एफ सी PFC | Education | Community Development | Environment

POWER FINANCE CORPORATION LTD.

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SCOPE
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THE INSTITUTE OF Company Secretaries of India
भारतीय कम्पनी सचिव संस्थान
IN PURSUIT OF PROFESSIONAL EXCELLENCE

Training Programme for Senior Management Personnel on

PRACTICAL ISSUES IN CORPORATE GOVERNANCE ASPECTS UNDER COMPANIES ACT, 2013 AND SEBI (LODR) REGULATIONS, 2015

4th & 5th October 2018 (Thursday & Friday)

PARTICIPATION

Senior Management Personnel, Chief Executive O cers, Chief Financial O cers and Company Secretaries from Public Sector Enterprises will find the program extremely relevant and beneficial in the context of notification of the new law.

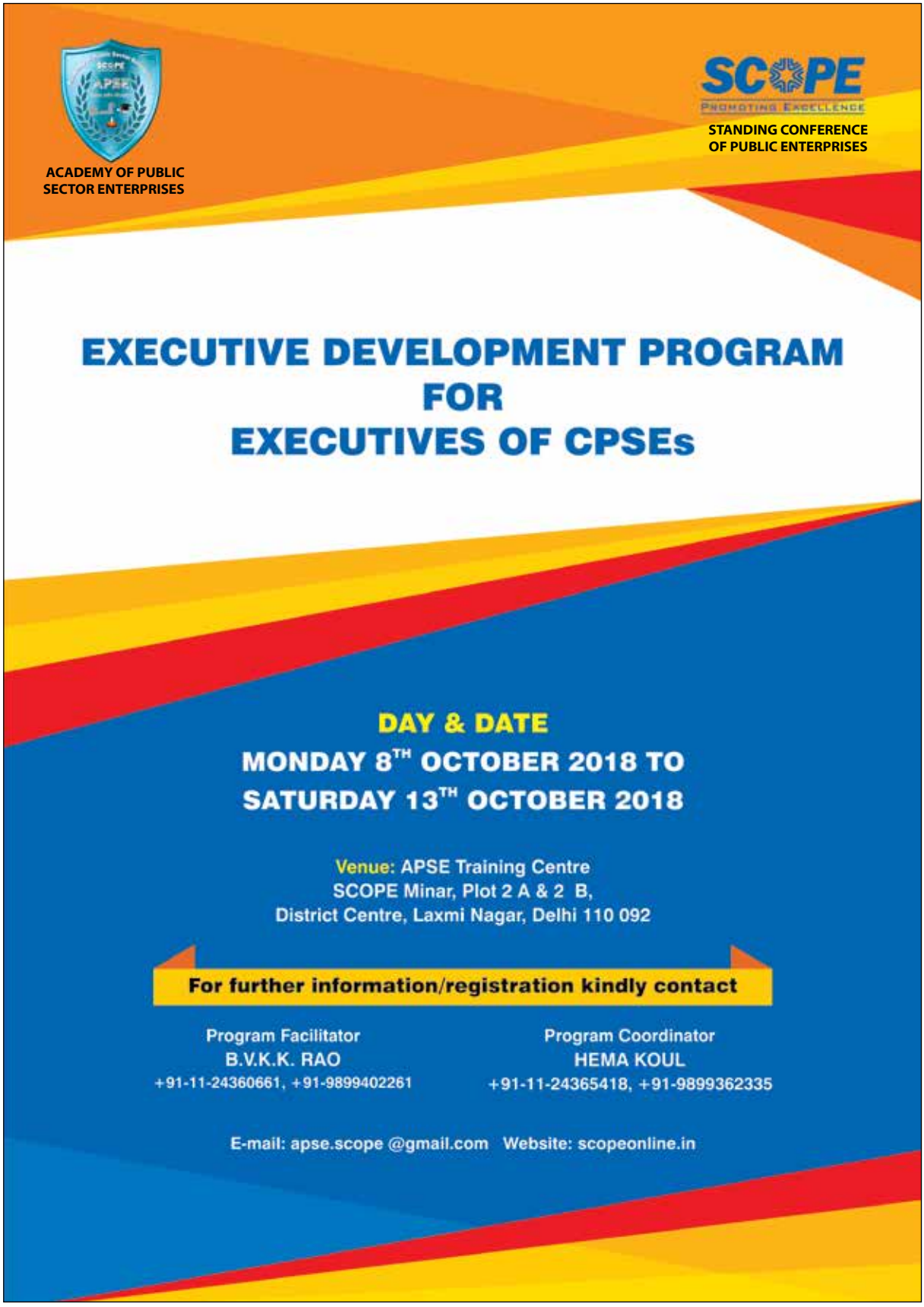
For any further query regarding nomination and registration kindly contact the Program Coordinators

SCOPE	ICSI
Shashi Bala Mathur Mob.: 9958211065 Landline: 24360661 • Fax: 24361371 program.fin@scope-online.in	**Dheeraj Gupta** Tel: +91 11 45341028 Mob.: +91 8700192380 dheeraj.gupta@icsi.edu

Nominations may please be forwarded/ mailed to:

B.V.K.K. Rao
Advisor (Finance) & Program Facilitator

STANDING CONFERENCE OF PUBLIC ENTERPRISES
Core-8, First Floor, SCOPE Complex, 7, Lodi Road, New Delhi
E-mail: program.fin@scope-online.in / advisor.fin@scope-online.in


ACADEMY OF PUBLIC
SECTOR ENTERPRISES
SCOPE
PROMOTING EXCELLENCE
STANDING CONFERENCE
OF PUBLIC ENTERPRISES
EXECUTIVE DEVELOPMENT PROGRAM
FOR
EXECUTIVES OF CPSEs
DAY & DATE
MONDAY 8TH OCTOBER 2018 TO
SATURDAY 13TH OCTOBER 2018
Venue: APSE Training Centre
SCOPE Minar, Plot 2 A & 2 B,
District Centre, Laxmi Nagar, Delhi 110 092
For further information/registration kindly contact
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M3 MSTC Metal Mandi™

Website : www.mstcecommerce.com/m3

- The KEY to an Online Market for Medium and Small Scale Manufacturers and Traders
- The e-commerce portal is the virtual B2B and B2C Market place with special emphasis on Metal Sector
- Better opportunities for MSMEs

A) Features of M3

- **M3** is a transparent and user friendly interface which is envisaged in charge of the face of metal trading scenario in India
- Wide range of Ferrous and Non-Ferrous Metal Products, Ores, Minerals & Ferro Alloys etc are available on **M3**
- **M3** portal also offers BIS certified metal products
- An initiative of Ministry of Steel, Government of India, **M3** is an effort of Central Govt towards convergence of **'DIGITAL INDIA', 'MAKE IN INDIA'** and **'EASE OF DOING BUSINESS'**
- Products of primary producers like RINL, SAIL, ESSAR, JSPL etc. are also available on **M3**
- **New feature: Enquiry Based System; send your enquiry directly to the seller to get the best quote**

B) Advantages to Seller

- Enjoy the wider market exposure and expand your business and customer portfolios
- Enjoy selling on a digital platform and reduce tedious and cumbersome paper work
- Save operation costs towards advertising / branding / promotional publicity
- **'MSTC Metal Mandi'** platform supports **'pull'** type supply management, where a business process starts, when an order comes from a customer and uses **'Just-In-Time'** manufacturing process. Thus it increases the productivity of the organization
- Options for updating the price and product information available on (24X7) basis

C) Advantages to Buyer

- Shopping in an open, competitive and fully transparent digital environment to get the best price
- Get detailed information on product, quantity and price at a simple click of the mouse using both the buying options i.e. **'Fixed Price'** and **'Enquiry Based System'**
- Hassle-free shopping experience saving time and cost
- (24 X 7) support service
- Operate at any time, from anywhere to buy any product or to submit the enquiry
- Option of door delivery

For further clarifications, please contact the following officials:

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