

# Private sector participation in india's defence production



**ASSIGN  
BUSTER**

Security of the state is of paramount importance since time immemorial, and a certain amount of military expenditure becomes a fundamental necessity irrespective of a point whether a nation is rich or poor. A nation's strength revolved around maintaining steady un-hindered economic progress with the presence of mighty armies possessing proper stock of ordnance and armour to uphold the solidarity and sovereignty of that particular country.

Accordingly, all over the world the rulers (including in India) had always dealt military and military associated equipments, policies, and personnel clandestinely and with great care.

Scrutiny of the history reveals that, production of ordnance and armour was never pressed into the hands of private personnel. Even in India, the production/stocking of military equipment always had the element of secrecy and had always remained as a state-led organisation. Kautilya's Arthashastra emphasises, " The Chief of Ordnance shall establish factories staffed with craftsmen for the manufacture of machines for attacking in battles(Verse 2. 18. 1). All equipments brought out into the armoury shall be stamped with the King's seal and would be properly stocked(Verse 2. 18. 4)." The Moghuls had canon factories under the control of Emperor called as ' TOP-KHAANAS' with ' KHANSMAN' or ' Lord Steward' as an In-charge. Historian Robert Home recorded that, even Tipu Sultan took a keen interest in the production of firearms totally under the control of the state, and established at Seringapatam 11 armouries for making and finishing small arms; 4 large arsenals and 3 buildings housing machines for boring guns".

Post Independence-Neutral Attitude. In tune with the age old concept and belief of ' Defence Industry to be controlled only by State', the Planning <https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

Memorandum (PM) of 1945 and the Industrial Policy Resolution (IPR) of 1948 and 1956 placed the munitions, aircraft and ship building industries in the public sector under the control of the Central Government. There was a wide spread feeling that it was 'improper' for the Ministry of Defence (MoD) to go in for collaboration with the private sector. Parliament did not permit any move in this direction. Secondly, in the area of defence production, profit making by private individuals in times of war and peace was considered undesirable. Post independence, Nehru commissioned PMS Blackett, a British physicist to prepare a report outlining the measures necessary for India to become near self sufficient in defence production. Though self reliance and self sufficiency were on the Blackett's report, there was a lukewarm attitude towards military requirements due to the political philosophies of Indian National Congress and Nehru's strong postulated neutrality in the form of Non -Align Movement (NAM).

Chinese Aggression. The real impetus for the military was only received in the aftermath of the 1962 Chinese aggression. The ordnance factories, which until then were being gainfully employed to produce coffee percolators and film projectors, were revitalised. At the same time, the geopolitical developments all over the world have critically affected developing countries like India. The need to maintain qualitatively better armed forces, and consequently equipment and infrastructure, has become the need of the hour. It was also evident that the nation will have to be progressively being more reliant on its own capabilities and build a credible defence industrial base to cater the needs of armed forces. Despite the 'will' to contribute, the private sector at that juncture could not contribute much due to lack of

expertise, infrastructure and opposition from Govt policies and was confined to play a subordinate role.

The Yawning Gap. In the absence of worthwhile players in the private sector, massive investments by the government to raise infrastructure for defence R&D in the sixties and seventies was a wise decision. However, due to the changing military environment, the needs of armed forces towards sophisticated ordnance and equipment were ever growing and could never be fulfilled by the inadequate indigenous production rendered by the public sector despite heavy investments. Therefore to fill the yawning gap of projected requirements of armed forces and available limited resources there come up an inevitable need for import of the necessary ordnance and equipments by spending Crores worth of foreign exchange.

Foreign Exchange Spending. India's spending on arms imports since 1999 Kargil conflict have risen to \$ 25 billion and is likely to further rise beyond \$ 30 billion by 2012. India's import of defence articles as on today consists about 70% of the procurement in value terms from foreign sources because the Indian public sector cannot deliver in terms of quality or speed on either research or production of military stores. It would be astonishing to note that, India is currently the world's biggest importer of arms worth 3% of GDP or \$ 30 billion. This does not augur well for a country that seeks self reliance and aspires to be a global power.

Change in Policies. Rising to the occasion, the govt has started to woo the private sector by announcing various policy changes, liberalisations for the active participation in the defence production, and thereby to reduce

dependency on the other nations. These include 100% participation of the private sector in defence production with FDI to the extent of 26 % subject to licensing from the Dept of Industry Policy and Promotion (DIPP), funding research and development, as well as appropriate provisions in Defence Procurement Procedures (DPP) of 2005, 2006 and 2008 along with some amendments to DPP-2008 that came effective from 01 Nov 2009.

## **AIM**

Aim of this paper is to analyse the role of private sector participation in the defence production in the light of growing needs of sophisticated ordnance and equipment by the armed forces vis-à-vis the incapability of public sector to meet the challenges.

## **PUBLIC SECTOR AND PRESENT STATUS**

### **Indian Ordnance Factories Organisation**

Formation. In order to meet the increased, simultaneous requirement of armaments and military equipment in the European and Eastern theatres of war and consequent British inability to ship the requisite quantities of arms and ammunition, a number of defence oriented industries were set up in India by the British. The rifle factory at Ishapore (oldest established in 1801), ammunition factory at Kirkee, shells and gun carriage factory at Jabalpur and saddler factory at Shajahanpur are a few in instance. Presently, there are 39 Ordnance Factories geographically distributed all over the country at 24 different locations and are running under the Department of Defence Production under Ministry of Defence.

Role of Ordnance Factories. The organisation is primarily engaged in manufacture of Arms, Ammunitions, Equipment, Armoured Vehicles & Personnel Carriers, Transport Vehicles, Clothing and General Stores items. After meeting the primary requirement of the Armed Forces, spare capacities are utilised for supply to non-defence sector and exports. The gross production of Ordnance factories during the year 2005-06 was Rs 8811. 59 Crores. Total sales including issues to armed forces and other agencies and civil trade in the same year was Rs 6891. 68 Crores. This constitutes approximately 40 percent of domestic supplies to the armed forces. Whereas, the contribution of OFB to IN in the year 2009-10 was a meagre one and half percent. The projected target was 11, 000 Crores and delivered was only 6, 000 Crores.

Innate Challenges. The traditional challenges to the management of Ordnance Factories have been explained in the following sub paragraphs. However, the point to note is that the Ordnance Factories perceptibly have not done well except in the case of the last of these challenges, i. e. they have not been taking any net budgetary support from the government since 1999-2000:-

- (a) Significant reduction in the over head cost through reduction of excessive staff while at the same time retaining quality man power.
- (b) Speed up production to meet the expectations of the prime customers.
- (c) Faster absorption of imported new technologies either from abroad under license production or from the DRDO.

(d) Reduced budgetary support from the Govt.

Utter Fiasco. It is obvious that owing to the continuous monopoly they have enjoyed over a period of years as 'state pampered organisations' they could not sustain in the race with foreign counter parts in producing sophisticated goods warranted by armed forces or at least in showcasing such capabilities. With the continuous dependency on DRDO, and total neglect of in-house R & D facilities they miserably failed to deliver the desired goods in time. The Ordnance Factories are plagued with slackness due to lack of competition, multiple internal human resource problems. A brief note on DRDO is worth mentioning in this back drop to appreciate the close link between these two mutually failed organisations.

## **DRDO Organisation**

Formation of DRDO Organisation. The Defence Research and Development Organisation (DRDO) was formed in 1958 and since then, DRDO has risen from a few laboratories to a large organisation with fifty one well-established laboratories spread throughout the country. The DRDO is engaged in pursuit of state of the art technologies so as to achieve progressive self-reliance in defence weapons and equipment". Every year about 200 plus scientists join the DRDO. The workforce of the DRDO is over 25, 000 personnel with 6750 scientists in its Defence Research Development Service (DRDS) cadre.

## **Achievements of DRDO**

Integrated Guided Missile Development Programme. The most significant breakthrough in the field of high technology that DRDO can boast off is the Integrated Guided Missile Development Programme(IGMDP). Government of

India approved the IGMDP in 1983-84 with the aim of producing a wide range of guided missiles. Supersonic anti-ship cruise missile BRAHMOS is yet another (although it is a joint venture with Russia) success story. Besides these, achievements in other fields they claim are Main Battle Tank Arjun , Advanced Light Helicopter, Pilot less target aircraft, radar systems like the INDRA I and II, special steels, packed foods, snow clothing, vehicles, bridge layers, naval sonar's and EW consoles to name a few.

## **Failure of DRDO**

Gp Capt A G Bewoor anguishes in his article as, “ whenever the armed forces want a weapon system, the DRDO invariably says they can make it, and they have an unassailable record of never delivering. Ultimately, we import that same equipment at ten times the cost. Stories of such perfidy are too many to enumerate. Every indigenisation project of DRDO/OFB is much behind the schedule with success stories limited to few technology demonstrators. The classic examples of our R & D failures are the Arjun tank, INSAS rifles, Saras, Kaveri, Akaash, Nag , Indra Radar and so many .”

Absence of Perspective Plan. The lackadaisical attitude of Ordnance Factories left indelible blemishes on the public sector technological front despite being the largest employer of man power, and pushed it towards incompetence and organisational failure. In the absence of any road map of their future perspective, they even cannot provide any assurance that they can meet the projected needs of armed forces and thus fail to generate any further faith of the user. Another noteworthy feature is while the defence public sector under takings outsource to the extent of 30 percent, this figure is about 80 percent in the case of ordnance factories. Thus, it was evident that, the <https://assignbuster.com/private-sector-participation-in-indias-defence-production/>



ordnance factories in turn are dependent on private sector and the role of private sector cannot be under estimated though for the time being they are restricted to a secondary role.

## **DPSUs AND PRESENT STATUS**

The country's defence industrial capacity was concentrated in another class of enterprise, the Defence Public Sector Undertakings (DPSUs) besides Ordnance Factories. The DPSUs are organised under the Department of Defence production within the Ministry of Defence. With increased production of armaments during the 1960-70s the number of DPSUs had grown to nine by the 1980s. This was reduced to eight in 1986 by the transfer of Praga Machine Tools limited to the Ministry of Industry. The DPSUs involves themselves in the manufacture of modern sophisticated weapon systems, in advanced electronics, and in the production of exotic metal alloys for aerospace projects. The eight DPSUs are M/s Hindustan Aeronautics Limited, M/s Bharat Electronics Limited , M/s Bharat Earth Movers Limited, M/s Mazagon Dock Limited, M/s Goa Shipyard Limited, M/s Garden Reach Shipbuilders and Engineers Limited , M/s Bharat Dynamics Limited and M/s Mishra Dhatu Nigam Limited.

DPSU Summary. The DPSUs have been developing a wide variety of weapon systems and equipment under licence production. This large industrial effort should, in theory, provide the means to produce maintain and repair significant portions of the India's military equipment, providing leverage against dependency on foreign supply and the means to ensure sustained military operations. However, as brought out by Baidya Bikasha Basu, " there has been a little or no attempt in this direction. OFs/DPSUs and the private <https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

sector should involve themselves in experimentation and developing defence equipment in totality of defence requirements. In this venture, where collaboration and cooperation lead to innovation or failures, the OFs / DPSUs should be prepared to accept both.”

Emerging challenges offer opportunities to look at change. The defence industry by virtue of its technological edge and security applications is a crucial strategic industry. National governments in the west have long recognised this linkage and continue to evolve policies that both support the industry and retain its competitiveness. In contrast, the Indian government, while treating all defence PSUs as security related, has done precious little to prepare these vital industries to meet global challenges. India therefore, frequently falls prey to the games that developed nations play. Realising the damage , Govt has woken up and started reforms by promulgating various liberalisations and policies to encourage the private sector thereby to curtail the dependency on foreign resources.

## **GOVT POLICIES**

### **Defence Offset Policy**

Defence Procurement Procedure 2005. Inclusions of provisions related to off sets in DPP 2005 was only a modest beginning. Except for specifying the contract threshold of Rs 300 Crore and prescribing an offset limit of 30 percent of the contract, there was not too much of elaboration on the modalities and other conditinalities for discharging the offset obligations. The procedure was vague with regards to inclusion of private sector industry for discharging offset obligations. Although symbolically a good beginning was

made through the inclusion of an offset policy in the DPP 2005, it remained as a non-starter primarily owing to lack of clarity.

Defence Procurement Procedure 2006. In 2006 the scope of the policy was clearly defined and the areas for discharging the offset obligations were clearly enunciated. The defence offsets were mandatory for all capital acquisitions under the category of 'buy' (outright purchase), 'buy and make' (purchase from a foreign vendor followed by licensed production), where ever the cost of acquisition in the RFP exceeds Rs 300 Crore (about \$ 70 million). The minimum requirement of offsets at 30 percent under the 'buy' category and a minimum of 30 percent of foreign exchange component under the 'buy' and 'make' category was prescribed. In terms of areas for discharge of offset obligations, the policy was specific namely:-

- (a) Direct purchase of, or executing export orders for defence products and components manufactured by, or services ordered by the Indian Defence Industries.
- (b) FDI in Indian Defence Industries, and
- (c) FDI in Indian Organisations engaged in defence.

Defence Offset Facilitation Agency (DOFA). The most important feature of the 2006 policy was in terms of creation of an organisational structure for implementation of Offsets viz, Defence Offset Facilitation Agency (DOFA).

Defence Procurement Procedure 2008. The Defence Offset Policy 2008 came into effect on Sep 01, 2008. Based on the inputs from all quarters the

provisions related to banking of offset credits were incorporated, the <https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

licensing requirement from MoD for the manufacture of defence products was done away with. Instead, adherence to the procedure stipulated for the defence industrial licensing requirement as mandated by the Dept of Industry Policy and Promotion ( DIPP) , procedure of Min of Industry is now required to be complied with. However, the revised procedure of 2008 remains silent on the issue of multipliers. Besides this, a new clause has been included (as an aftermath of 26/11 incident) that, the provisions will not be made applicable to the procurements made under the Fast Track Procedure (FTP) in all probabilities to obviate the delays involved in entering into execution of offset contracts.

### **Draw Backs of Defence Offset Policy**

**Lack of Universally Accepted Definitions.** In its current form the offset procedure is limited to direct offsets. However, the direct offset procedures are not exactly in sync with the internationally practised definition of direct offsets. Therefore, adoption of universally accepted or acknowledged definitions for clarity of thought among all the stake holders is the need of the hour.

**Banking Offset Credits.** Provisions on banking of offset credits facilitate the vendor to commence business operations in the buyer country without waiting for the award of a procurement contract. However, due to rigidity of the provisions in the policy, if a vendor is able to create more offsets than his obligations under a particular contract, the supplier's credit can be banked and would remain valid only for a period of two years after conclusion of the contract, and due to this the efforts put in by the vendor goes in vain and acts a disincentive.

<https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

Offset multipliers. There is no mention of Offset Multipliers in 2008. Although DPP 2006 states that, the availability of giving additional weights to offset having multiplier effects in terms of exports generated or building indigenous capability in strategic technology products, or other issues may be considered after reviewing the experience of implementing the above policy. It would therefore be appropriate to accord a higher multiplier factor for a developing country like India, pursuing the core objective of defence industrial base through defence offsets.

## **PRIVATE SECTOR PARTICIPATION – PRESENT STATUS**

The extent of private sector involvement vis-à-vis the defence outlay has been comparatively limited this far. On the other hand, the private sector often looks at short-term investment and returns, which inhibit strategic investments. The inability to export is another constraint; since the quantities required may often be restricted, there have to be concerted efforts to promote exports, within the bounds of national security. The contribution of the private sector to the Indian defence industry has always been significant albeit in a piecemeal basis. The major defence related initiatives and achievements of the private sector companies are enumerated in the following sub -paragraphs:-

(a) Tata Group. The Tata group is supplying full systems for DRDO-developed Pinaka multi-barrel rocket launcher, building a launch vehicle for Akash missile system and a major participant in an electronic warfare programme. Tata Motors has developed an indigenous light specialist vehicle (LSV) that is currently being tested by the Indian Army. Tata's emergence as a major

<https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

force bodes well for the Indian defence industry, which is otherwise characterised by monopolistic enterprises and high import-dependency. Its presence in the industry will also enhance India's ' self-reliance' in defence production .

(b) Larsen & Toubro (L&T). Licences have been given to L&T, one of India's largest engineering and construction companies, to build warships, submarines, weapon platforms (offshore, floating and submerged), high speed boats, radar, sonar, electronic warfare equipment, armoured and combat vehicles including associated systems and sub-systems such as turrets and bridge-layers. The Boeing Company has signed a memorandum of understanding (MoU) with Larsen & Toubro Limited (L&T) for joint exploration of business opportunities in the Indian defence sector.

(c) Mahindra & Mahindra (M&M). Mahindra & Mahindra has set up the Mahindra Defence Systems. The Mahindra " Striker," a light weight combat vehicle, is considered ideal for armed reconnaissance and mounted patrols. Mahindra Defence Systems recently unveiled their Light Specialist Vehicle " Axe", the all-terrain vehicle, which can accommodate six/nine soldiers. They are venturing in to developing various under water delivery systems .

(d) Ashok Leyland. Truck-maker Ashok Leyland started out with supplies of " Hippo," the popular heavy trucks for a general service role way back in the seventies. Since then, the company has produced field artillery tractors, high mobility vehicles, light recovery vehicles and water carriers.

(e) Kirloskar Oil Engines Ltd. It specialises in ship engines and has been participating in many programmes with the Indian Navy.

<https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

(f) Godrej Aerospace. Godrej Aerospace, a company under Godrej & Boyce provides a critical application for the Agni missiles. It has also contributed to the production of hardware and sub-systems for India's cryogenic engine programme. The company is also actively involved in habitability solutions for naval warships.

## **Indigenisation**

Towards Self Reliance. As the Defence Secretary stated, " The Indian Defence Industry in the private sector is now gradually assuming the role of system integrator and manufacturer of complete defence equipment and systems. Indigenisation in defence production is now one of the major thrust areas of the Government. Consequently, our efforts are now directed towards reduction of defence imports and promoting indigenisation in defence production sector with the active support of the Indian Defence Industry, both in the public as well as in the private sector . The issue of indigenisation is a double edged weapon. On the one hand there can be little debate that this is indeed the way ahead; but the factor of cost disadvantages in indigenous production and the rate of absorption of modern technology are indeed despairing factors. This policy needs to be dovetailed with a larger training component in the induction package and as far as possible a Transfer of Technology (TOT) option.

Transfer of Technology (ToT). The ToT as part of offsets has been deliberately let off of the purview of the offset policy. As a distinguished Scientist of DRDO puts in " Critical defence technologies are either denied or controlled through various control regimes. These are never offered and therefore can never be obtained through the RFP route even if the country is <https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

prepared to pay. Therefore, often it is not possible to get the technology through contracts and leveraging our purchase power though offset policy proves to be only sure way for acquisition of denied technology”.

Steps Galore. Various steps have been taken in this direction. The recent introduction of “ buy and Make (Indian)” category in the defence acquisition process has been designed to enhance participation by the Indian industry, meeting requirements for state of the art defence systems and platforms by getting into tie ups with technology providers through mechanism of technology transfers in joint ventures. In capital acquisition cases categorised as “ Buy and Make (Indian)”, the RFP will be issued to those Indian industries that have requisite financial and technical capabilities to enter into Joint Ventures, as also absorb technology and undertake indigenous manufacture. The procedure to be followed in this regard will be akin to the existing “ Make” procedure with a difference that the production and development by the Indian industry will be through Transfer of Technology and not through Research and Development.

Indigenisation Plan. The Navy had prepared a 15-year indigenisation plan that was well received by the industry. A Science and Technology roadmap has been drawn up for the Navy that identifies the ‘ end-product’ capabilities that needs to be built over the next 20 years. This roadmap gives a clear picture of technologies and products that are foreseen for induction and will further help define what can be taken up by civil industry.

Possible Key Areas for Participation of Private Sector. Areas where the private sector can participate and where indigenisation is feasible are

<https://assignbuster.com/private-sector-participation-in-indias-defence-production/>



indicated in Appendix ' A'. Mr Gurpal Singh, Deputy Director General, CII, stated that, CII wish to accelerate the reform process in the defence sector. He said that the effective implementation of the defence offset policy can facilitate the absorption and indigenisation of foreign aeronautic technologies that accrue to the country by way of offset deals. It would be appropriate here to discuss the role played by the Confederation of Indian Industries in realising this feat by the private sector.

## **Confederation of Indian Industry (CII)**

Role of CII. The Confederation of Indian industries (CII) has played a significant role in trying to build up a partnership between the Industry and Defence. The CII have been the pioneers in organising interactive sessions between the defence forces and the industries and conducting several events like the NIP (Navy Industry Partnership meet), DEFCOM(Defence Communication Seminar), Defence IT Conventions and The Defexpo India (Asia's largest land and Naval Systems) exhibitions.

It had formed the Defence Division in 1993 to catalyse change in the Defence sector by pursuing the Government to liberalise Defence Production and by initiating the process of partnering with the Defence establishments in organising interactive meetings with the end users, i. e. the Armed Forces. The objective of this division is to “ Establish a strong partnership between Defence Services and Industry and enlarge the role and scope of Indian industry in defence production for mutual benefit and enhance the National Security”.

Activities of the CII. Activities of the CII National Committee on Defence are divided under the following major heads:

- (a) Defence Industrial Policy and Procurement Procedures
- (b) Trade Promotion
- (c) International Linkages for Joint Ventures, Technology Tie-Ups and
- (d) Export
- (e) Advocacy / Consulting / Training Services

## **ROAD MAP**

### **Can the Indian Industry Deliver?**

“ Indian private industry should move from fringes to mainstream,” observes Air Chief Marshall, PV Naik, Chief of Air Staff while speaking at the brochure release ceremony of the 5th International Conference on Energising Indian Aerospace: Achievements and Future Strategies, organised by the CII. He further said that Indian Air Force has been recommending private sector’s participation in defence industrial base and indigenisation. However, the progress has been a restrained one. Private sector entrepreneurship and innovation can help augmentation of R&D base and creation of system integration capabilities. In fact, the country will enjoy two advantages by permitting greater civilian industrial sector’s participation in defence production. First, on account of its complimentary character with state units, defence production will become more efficient and second the contribution of R & D more tangible.

Gearing Up for Challenges. The Indian Industry today is ready to assume such greater responsibility in making the country self-sufficient in defence production. As stated by the Defence Secretary " India is a growing market and emerging as a strong economy. With the projected growth of the Indian economy, its defence needs are also correspondingly growing. India, therefore, offers excellent opportunities, both for domestic as well as foreign companies, to forge new alliances and partnerships in the form of joint venture, co-production and co-development arrangements in the Defence sector."

Identification of Specific Thrust Areas. To move ahead, there is a clear need for dedicated groups comprising representatives from the Services, Department of Defence Production, DRDO and the Private Sector to address ' specific thrust areas' identified by each of the Services. These groups would be better able to define requirements, identify the model and extent of participation of the private sector, and work out the methodology for meshing in with current acquisition procedures and processes. " Publishing the ' Technology Perspective and Capability Roadmap,' covering a period of 15 years, to share the future needs of our armed forces as brought out by the Defence Minister could be a right move."

Kelkar Committee - Raksha Udyog Ratna's. The Vijay kelkar Comittee recommended to nominate a dozen Indian private sector companies as Rakhsa Udyog Ratna (RUR)s with a status equivalent to that of the defence PSUs when it comes to bidding for major defence contracts. The RUR Policy is an encouraging step in the right direction. Once the government identifies those Indian companies to be treated as RURs, the private sector would get a <https://assignbuster.com/private-sector-participation-in-indias-defence-production/>

further push towards establishing itself as a viable alternate to defence units in the sphere. RURs will not only bring parity with State industries in terms of treatment, getting R & D support, forging partnership with others but with their expertise and resources they can take India towards 'self-reliance'.

## **RECOMMENDATIONS**

To ensure that the country maintains a credible defence capability, there is an urgent need for the government to step in and reform the existing administrative set-up and also to put in place a defence spending apparatus to ensure optimum utilisation of funds and long term perspective planning for both procurement and production. Very often the ills of defence procurement and production point towards red tapeism and the MoD.

The IN Maritime Strategy clearly states, " We must sustain our futuristic initiatives and harness the available capability, infrastructure and resources, including intellectual capital, to the fullest extent to develop a vibrant and proactive Defence Industry. A strong and healthy partnership between the public and private sectors alone will enable India to sustain a powerful defence industrial base for the future, setting us firmly on the path of self-reliance. Efforts to create synergy between private and public-owned industry, would be based upon the exploitation of ' core competence' of each sector." Keeping in view these dogmas recommendations are made in the subsequent paragraphs for the effective participation of private sector in the defence industry.

Need for Collaborative Approach. In the words of Def Secretary, " We are also looking for collaborations in the field of Defence R&D and tie-ups in

critical technology areas in order to meet the requirements of the Armed Forces through indigenous sources to the extent possible.”

Joint Ventures. The exponentially expanding India’s defence industry base needs joint ventures to sustain the phase and to carve a niche, and to claim a spot in the global arena of armament/defence production.

Conducting Awareness Campaigns. More Seminars, Work Shops, Def Expos be conducted on a regular basis for more interaction between the user ( armed forces) and the producer ( private industry)to bring significant awareness amongst each other and for better appreciation of each other’s needs.

Amendments to Defence Offset Policy. Necessary amendments regarding the introduction of multipliers and endorsing accountabili