



POWERING NEW INDIA

DEFENCE & AEROSPACE MANUFACTURING

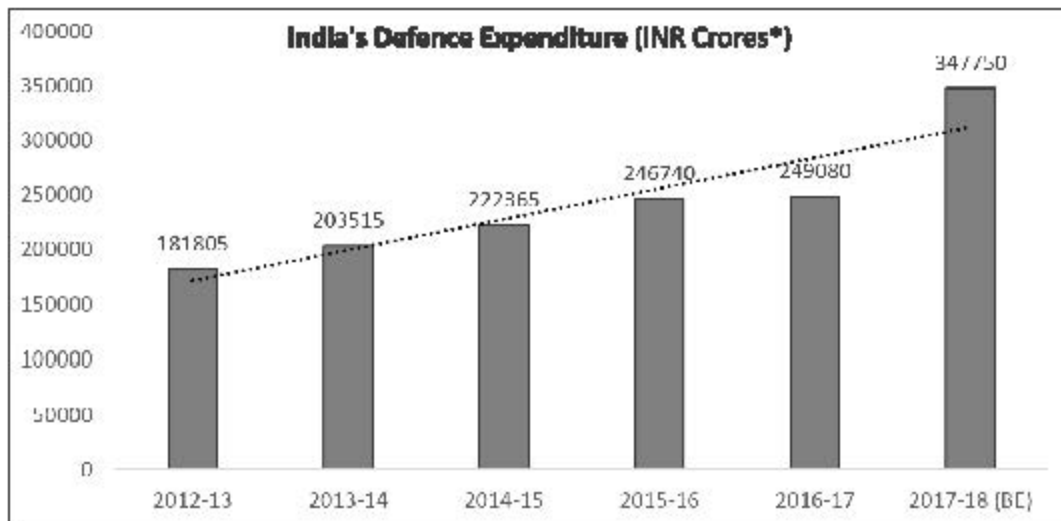




INDIA SCENARIO

Indian economy continues to be a bright spot in the world with an average GDP growth rate of over 7% for the last few years. Manufacturing sector forms the base of this economic growth and India is well positioned to be a manufacturing hub of global recognition. Contributing immensely to the manufacturing output of the country is the Defence & Aerospace.

The global market size of Defence & Aerospace (D&A) sector is estimated to be around INR 64 Lakh Crores (2016) in terms of revenue, and employs over 2 Million people. India, with the 3rd largest armed forces, 4th largest Airforce and 7th largest Naval force in the world, is the world's 6th biggest military spender, making it a significant market for defence & aerospace manufacturing in the world.



Source: MoD, GoI and IDSA (*1USD=INR 65)

India's Defence Budget has been continuously rising, and in Union Budget 2017-18, Govt. of India allocated around INR 3.6 Lac Crores to Ministry of Defence, recording a 5% growth in defence budget between 2016-17 and 2017-18. The 2017-18 defence budget had a capital expenditure share of around 33%. As most requirements for defence related equipment are met by imports in India, huge opportunity exists for import substitution in the sector.

On the basis of current capital purchase requirements, it is expected that the defence offset market in India can rise up to approximately INR 64,145 Crores per annum in just next few years. With Defence sector open to 100% Foreign Direct Investment (FDI) through government route, and 49% FDI through automatic route, the sector has gained global attention.

ADVANTAGE UTTAR PRADESH

Uttar Pradesh is access to country's 4th largest state, and 3rd largest economy. Home to 16.5% of India's population, Uttar Pradesh is amongst the top 5 manufacturing state and has 2nd highest number of MSME units. 13.26% growth in exports (CAGR) recorded in the state in last 5 years (2012-17).

a. Infrastructure Advantage



Location Advantage

- Located on Golden Quadrilateral with excellent road network
- Access to National Capital Region on the west
- Strategic access to market & resource depth of eastern India
- Largest railway network in the country spanning over 8,949 km



Connectivity

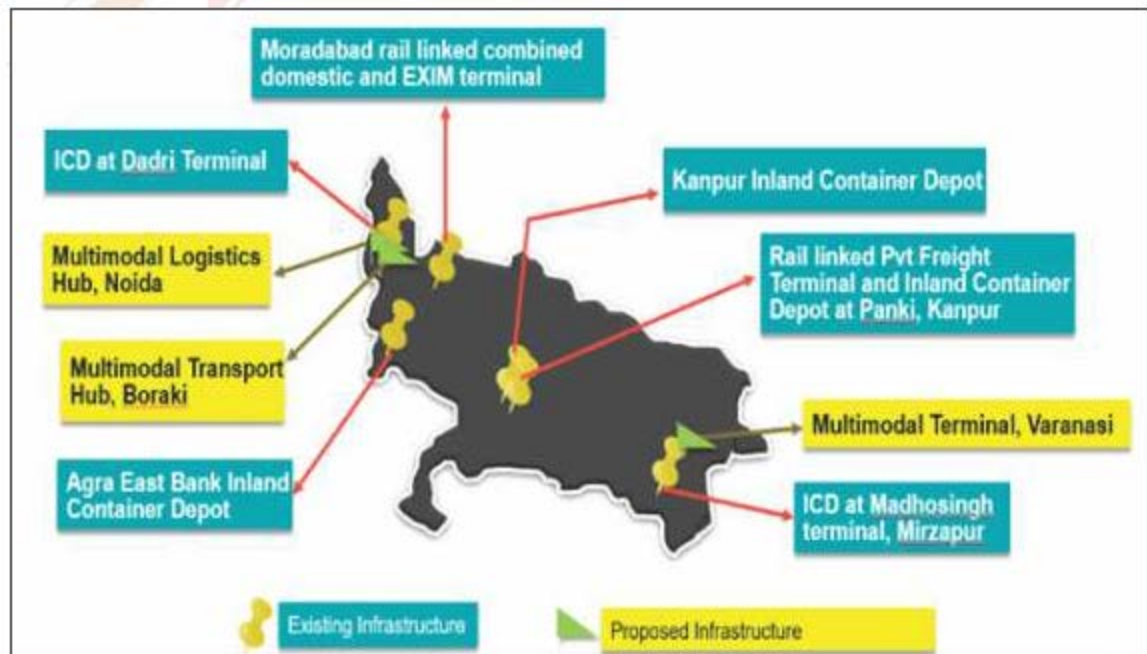
- Major national & international airports connecting the rest of India, Middle East & South East Asian countries.
- Two upcoming international airports at Jewar & Kushinagar
- Proposed NW-1 connecting Allahabad to Haldia port



Industrial Corridors

- 8.5% of DMIC catchment area and 57% of AKIC in UP
- Intersection of WDFC and EDFC at Greater Noida
- Multi-modal logistic hubs, Industrial parks etc. to benefit from reduced travel time to ports

Logistics Infrastructure – Existing & Upcoming



b. A&D Manufacturing Base

Uttar Pradesh has a number of public and private sector units manufacturing a range of products in the A&D sector. Procuring various components and materials from local players, the Public Sector Units (PSUs) forms the base of a strong local market base in the State. Prominent PSUs includes nine Indian Ordnance factories, three Hindustan Aeronautics Limited (HAL) manufacturing units, etc.

Table - 1 : List of Ordnance Factories In Uttar Pradesh	
Ordnance Factory, Muradnagar, Ghazlabad	Plain Carbon and alloy steel castings for tanks, ammunitions, steel forgings
Ordnance Factory, Kanpur	Medium & high calibre guns, shell empties
Small Arms Factory, Kanpur	Small arms.
Field Gun Factory, Kanpur	High calibre ordnance & spare barrels, .32" Revolver
Ordnance Equipment Factory, Kanpur	Leather items, textile items, engineering equipment including mountaineering items
Ordnance Parachute Factory, Kanpur	Parachutes of different types.
Ordnance Clothing Factory, Shahjahanpur	All combat clothing, textile and tent age items
Ordnance Equipment Factory, Hazratpur, Tundla	Tents & other clothing items
Ordnance Factory, Korwa	For production of carbines (At Project Stage).

Source: Press Information Bureau <https://pib.nic.in/newsite/PrintRelease.aspx?relid=118647>

Table-2 : Prominent manufacturing units of HAL In Uttar Pradesh	
HAL Transport Aircraft Division, Kanpur	Core competence in manufacturing, maintenance, modification and upgrading of light transport aircraft and trainer aircraft for both domestic and International markets. The division also carries out maintenance, repair and overhaul of aircraft, its rotables and undertakes servicing of engines and hydraulic systems of UAVs.
HAL Accessories Division Lucknow	Manufacturing of Hydraulics, Engine Fuel, Air -conditioning and Pressurization, Flight Control, Wheel and Brake, Gyro & Barometric Instruments, Electrical Power Generation & Control System, Undercarriages, Oxygen and Electronic System, Fuel Content Gauges etc.
HAL Avionics Division Korwa	Manufacturing & repair facilities for various avionics systems fitted on MIG-27M upgrade, mirage-2000, LCA, jaguar upgrade, AJT-HAWK aircraft.

In addition to these PSUs, there are various other private sector manufacturing units involved in the production of technical textiles, engineering goods, components, etc. in the A&D sector in the State.

c. Large Internal Security Base

Rule of law is the top priority of the State Government, and the State has launched a special drive to control organised crime in the State. The Government has recently introduced UP Control of Organised Crime Bill, 2017 in the Assembly in this context.

UP has a large internal security base. Some key developments and statistics are:

- Uttar Pradesh has a wide base of police force, which is one of the largest in India, with sanctioned strength of 3.28 Lakh Civil Police including District Armed Reserve Police and 36,245 State Armed Police (2016).
- Govt of UP Intends to promote modern Intelligence systems, Safe City Surveillance, Critical Infrastructure, etc.

d. R&D Ecosystem

The State hosts multiple institutions engaged in research & development in the A&D sector. With key Government sector R&D Institutes like Defence Research and Development Organisation (DRDO), HAL, etc. in the state, UP offers an excellent R&D ecosystem for A&D sector. Some of them are:

- The Aerospace Systems & Equipment R&D Centre (ASERDC), Lucknow under HAL, which is engaged in applied research, design & development of all major systems & equipment for aircraft, helicopter and engine using state of the art technology
- Aerospace System and Equipment R&D Centre (ASERDC), Korwa under HAL, which is engaged in development of Flight Data Recorders and other Avionic LRUs, are some of prominent R&D Institutions in the State.
- Forensics Science Laboratories in Uttar Pradesh at Lucknow and Agra with 7-divisions are aiding UP Police with modern technologies and equipment.



OPPORTUNITIES IN UTTAR PRADESH

Offering an excellent infrastructure and ecosystem support, this policy intends to attract investments in the following areas of A&D sector, -

- Defence Park at Kanpur and other districts such as Varanasi, Agra, Gautambuddha Nagar.
- Defence PSUs
- Auto related components and Automobile manufacturing for military.
- Testing facilities - Development testing range for artillery and other military equipment
- Police modernization
- Forensics Centres
- Drones Manufacturing and Testing facilities
- Aerospace Park
- Aircraft/ Helicopter Manufacturing/ Assembling Units



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