INTRODUCTION

The Indian armed forces are one of the most powerful forces in the world comprising three divisions: Indian Army, Indian Navy and Indian Air Force. The Government of India is responsible for safeguarding the defence of India and its borders. The Global Firepower (GFP) annual defence review assigns ranks to different countries on 50 different factors including manpower, airpower, land forces, naval forces, natural resources, logistics, financials and geography. India emerged as the fourth best country in terms of its power index with a score of 0.0979 (0.0000 being perfect) towards the start of 2022.
India has an active military manpower of 1.45 lakhs armed personnel. As of January 2022, the country was equipped with 2,182 aircraft including fixed-wing and rotorcraft platforms. The country also had approximately 4,614 tanks and 12,000 armoured vehicles. However, India has emerged as one of the largest arms importers in the world, accounting for 11% of the total global arms sales globally. Alternatively, India has realised it needs to reduce dependence on defence imports and give more weightage to exports. India was the only country among the top countries of the world which has significantly diminished its reliance on imports in the past few years. The country witnessed a 21% decline in imports during 2017-21 versus 2012-16. This was due to a growing emphasis on indigenous design and manufacturing of defence equipment by private sector and various state-owned companies.

The defence ministry claims that the country’s arms exports have seen a 6x rise since 2014, amounting to Rs. 11,607 crore (US$ 1.5 billion) during FY 2021-22. This astronomical rise was ascribed to various reforms proposed by the government to scale up defence exports and improve the ease of doing business. The government is ambitious to reach an export target of Rs. 36,500 crore (US$ 4.8 billion) by 2025. It inked a crucial export deal worth US$ 375 million (Rs. 2,770 crore) with the Philippines for exporting the Brahmos supersonic cruise missile. This deal is likely to open doors to India’s defence exports to various Asian countries such as Indonesia and Vietnam. India is also in talks with some Middle Eastern countries such as the UAE and Saudi Arabia for exporting the Brahmos missile and Akash air defence missiles.
In 2020, India was the third largest military spending country globally. The country accounted for almost 3.7% of money spent on military in the world. During 2020-21, almost 56% of the defence budget was allocated to the Indian army, 23% to air force, 15% to navy and 6% to others. Furthermore, Finance Minister Miss Nirmala Sitharaman in her 2022-23 budget speech spoke about the government’s plan on earmarking 68% of the capital procurement budget for the domestic industry. Defence Minister Mr Rajnath Singh affirmed the government’s stance on setting aside 25% of the defence R&D budget for private entities and various defence start-ups. Vocal for local will push the domestic defence industry and give rise to various innovative start-ups and weapons, which will help in strengthening India’s defence system.

RISE IN DEFENCE EXPORTS

For addressing the country’s requirements for modernised technology, the government is making constant efforts to equip the armed forces with the latest machines and devices. Due to its geographic nature, India faces various challenges from the land, air and sea. The country’s robust defence reforms will promote greater cohesion and development of the armed forces through technology, innovation and transformation. A major reform that the Ministry of Defence has undertaken is export promotion. Defence exports of India has expanded to more than 75 countries in the world. According to Mr Rajnath Singh, India has the potential to supply various types of missile systems, helicopters, multi-purpose light transport aircraft, warships, artillery gun systems, patrol vessels, radars, tanks, armed vehicles, digital warfare systems, etc., to the world. Demand is likely to be driven by smaller nations due to the changing geopolitical reality. These nations are worried about their safety and security and would look towards India as a strategic partner for low-cost and high-quality defence equipment. For instance, countries such as Vietnam have shown keen interest in procuring fast attack aircraft, advanced light helicopters and Akash surface-to-air missiles. State-run defence companies including Hindustan Aeronautics Limited (HAL) and Bharat Electronics Limited (BEL) have queued up for various export platforms. Furthermore, HAL has promoted its Tejas Light Combat Aircraft (LCA) to many Southeast and West Asian countries.
The Government of India has taken many steps towards indigenisation of the defence sector. Defence indigenisation has been the call of the hour as the country is one of the largest importers of defence equipment. The SRIJAN portal launched by the Ministry of Defence is one way to encourage defence indigenisation. As of March 2022, 19,509 defence items, which were earlier imported by India, are now live on the portal for indigenisation. Such actions have led to a decrease in the government’s expenditure on defence procurement from foreign countries to 36% over 2020-21 from 46% over 2019-20. This has reduced the import burden and increased the value of production from public and private companies. Indigenous development, modern design, innovation and manufacturing within the country, and self-reliance will increase the export position of the country, thereby minimising dependence on imports in the long term.

**ADVANTAGES OF DEFENCE EXPORTS**

India is set to expand its firm footprint in foreign defence markets, the Brahmos deal being an example of a successful export transaction. Many countries in Asia and Africa could emerge as the potential buyers of the missile. Key benefits offered by defence exports include the following:

**Benefits to Private Sector**

The private sector has evolved to occupy a crucial role in India’s defence exports journey. More than 85% of export authorisations were granted to the private sector during 2019-20. As of 2020, almost 500 Industrial Licenses (ILs) were
issued to nearly 300 private sector companies. Despite the high gestation period, the sector has the potential to offer tremendous domestic and export-related opportunities to the private sector. Furthermore, the embargo imposed by the government on import of various products will enhance domestic production, thus opening various foreign export avenues for private players.

**Increasing Strategic Independence**

Strategic independence can be developed once the country becomes self-reliant in identifying various disciplines which can boost domestic production. The enhancement of India's defence and aerospace industry in crucial for its strategic independence and to become a global, economic and military powerhouse. A report developed by the Society of Indian Defence Manufacturers (SIDM) defines strategic independence as an addition of defence exports and domestic absorption of indigenous products divided by defence imports. Considering the given equation, strategic independence can be enhanced by decreasing defence imports and simultaneously growing defence exports in the global market.

**Reducing Import Dependency**

India is one of the largest importers of defence equipment in the world. A few years back, the defence industry was highly dominated by public sector companies, and private sector participation was not sufficient to build a state-of-the-art defence regime and modernise the defence infrastructure of one of the strongest nations in the world. Due to its geographical structure, India needs to continuously upgrade its defence infrastructure. Currently, many defence start-ups and think tanks have emerged and India is focusing on developing its internal capabilities, which are backed by various government reforms. Exports have now grown sixfold since 2014 and the government is continuously backing this sector.

**PROMINENT PLAYERS IN THE INDUSTRY**

India's defence sector has witnessed steep growth in the past few years. Public and private defence companies have witnessed extensive government support. These companies are able to design, develop and deliver modern defence equipment based on the latest indigenously developed technologies. The hardware and software defence infrastructure developed by these companies provide safety, security and strength to the armed forces of India. The country’s defence sector has the capability of delivering world-class weapon systems which can play a major role in the national security framework. Indian defence companies aim to design and manufacture equipment which have the capacity to meet the highest standards of quality, affordability and durability.

According to the Department of Defence Production, over 50 private companies have contributed to defence exports. The major export destinations for these companies include Sri Lanka, Russia, Nepal, Mauritius, Israel, Egypt, the UAE, Bhutan, Ethiopia, Saudi Arabia, the Philippines, Maldives, Poland, Italy, France, Spain and Chile. Some of the prominent defence exporting companies are as follows:
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<th>Company</th>
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<tr>
<td>Hindustan Aeronautics Limited (HAL)</td>
<td>is an Indian aerospace and defence company primarily engaged in designing and developing fighter aircraft, training aircraft, transport aircraft, civil and military helicopters. The company also manufactures special test equipment, aircraft engines, ground handing equipment, avionics and accessories, etc. Over FY 2020-21, the company’s export sales was approximately Rs. 23,980 lakh (US$ 31.4 million). The company’s major exports include Tejas LCA, Lead in Fighter Trainer (LIFT) and Do-228 aircraft.</td>
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<td>BEML Limited</td>
<td>is an Indian company which generates revenue from the Defence and Aerospace, Mining and Construction, and Rail and Metro segments. The Defence and Aerospace segment designs and manufactures defence ground support equipment, aircraft towing tractors, heavy and medium recovery vehicles, bridge systems, among others. The company is exploring opportunities for delivering bridging systems, medium bullet proof vehicles, artificial intelligence-based medical and health systems, and engineering plant equipment to friendly neighbouring companies.</td>
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<td>Bharat Electronics Limited (BEL)</td>
<td>designs, develops and supplies electronic equipment and systems for the defence sector of India. The company has a wide range of defence products including communication products, land-based radars, naval systems, digital warfare systems, optics, avionics, armoured vehicles, weapon systems, masts and shelters, batteries and simulators, among others. Over 2020-21, the company recorded an export sale of US$ 51.93 million. A few countries to which Bharat Electronics exported include the US, France, Israel, Germany, Switzerland, Sweden, China, the Republic of Armenia, Maldives, Indonesia, Sri Lanka, Turkey, Bhutan and other SEZs.</td>
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<td>Bharat Dynamics Limited (BDL)</td>
<td>manufactures and designs underwater defence guided weapon systems. The company manufactures anti-tank guided missiles, advanced lightweight torpedo, counter-measure dispensing systems and infrared inference indicators. Today, BDL is one of the leading suppliers and manufacturers of modern missile systems to the armed forces of India and friendly foreign countries.</td>
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<tr>
<td>Mazagon Dock Shipbuilders Limited</td>
<td>builds and repairs ships, submarines, engineering products and vessels for domestic as well as international clients. It has grown to become a multi-unit and multi-product company, which uses modern techniques and sophisticated</td>
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products. Since 1960, the company has built 799 vessels which include 26 warships, from modern destroyers to missile boats and six submarines. The company has been actively delivering passenger ships, cargo ships, multipurpose support vessels, etc., to India and the world.

The TATA group is one of the prominent private sector defence and aerospace player which is leading the Make in India revolution in the industry. TATA has emerged to become a global, single-source supplier for multiple fixed and rotary wing programmes. The group aims to focus on strategic partnerships with global original equipment manufacturers for helicopters, fighter jets, transport aircraft, land systems and weapon systems which are Made in India.

Mahindra Defence Systems Limited is a private sector manufacturer of innovative armoured solutions for the paramilitary forces and armed forces of India. The company offers a wide variety of defence solutions such as surveillance solutions and defence equipment for the army, navy and air force.

Bharat Forge Limited develops and sells forged and machined equipment such as aluminium castings for the industrial and auto sector. The company has been active in the defence sector for more than 10 years and has developed a wide range of products with exceptional capabilities. Artillery and protected vehicles have been its mainstay. These products cater to the domestic and international markets. The company also offers many other products including vehicles, small arms, close-in weapon systems, advanced towed artillery guns, unmanned aerial vehicles and torpedo homing heads. The company received its first major order worth US$ 100 million for making units of Barak-8 missile kits in FY20. It aims to develop a robust focus on being a prominent defence producer and supplier in domestic as well as international markets. The company's strategy is to Make in India for the world.

Ashok Leyland Defence Systems Limited manufactures automobiles. It is one of the leading suppliers of vehicles to the air force, navy, paramilitary forces and others. Markets served by the company include many countries of Asia as well as Africa. Ashok Leyland supplied 928 units of fully built up units including 962 kits and bullet proof vehicles over FY 2020-21. Furthermore, the company is expanding its footprint in light vehicles, modern applications on a super stallion platform and export market specific products.
Solar Industries India Limited manufactures, supplies and exports various industrial explosives and initiating systems. The company provides high melting explosives, compounded products, high-energy materials, pyros, propulsion systems, rocket assembly and ignitors to the defence sector. The company had an order book of Rs. 680 crore (US$ 89.2 million) in the defence sector and it expects significant growth in this segment due to ease in government reforms.

GOVERNMENT INITIATIVES

The Government of India has been putting emphasis on making India a global defence manufacturing hub. This can be possible if the country seeks to modernise its defence equipment and create a strong channel for self-reliance. The Budget 2022-23 served as a blueprint for developing a vibrant network for promoting R&D and design and manufacturing capabilities of the country’s defence sector. The Defence Ministry of India released an affirmative indigenisation list of over 200 defence platforms and equipment towards the start of 2022. Furthermore, contracts worth Rs. 54,000 crore (US$ 7.1 billion) have been inked for domestic procurement. In the past few years, seven new defence undertakings that were incorporated are rapidly tapping new markets and expanding their businesses. For encouraging the industry and start-ups, the government is constantly supporting development in this sector through several initiatives such as:

- The government has granted at least five projects under Make-I during 2022-23 for enhancing industry-backed R&D efforts.
- It has created a monitoring mechanism under DG-Acquisition, which will consist of representatives from all three defence services to monitor the budget reserved, especially for start-ups and private companies, so that it is completely utilised.
- The government plans to reform the QA process to ensure it is non-intrusive, prevention based and completely independent from inspector-raj.
- iDEX-Prime aims to support projects that may require support beyond Rs. 1.5 crore (US$ 0.2 million) up to Rs. 10 crore (US$ 1.3 million) to encourage growing start-ups in the defence sector.
- The government announced that 25% of the defence R&D budget has been reserved for modern technologies and to achieve self-reliance.
- For boosting defence exports, the government has been focusing on regular webinars with Friendly Foreign Countries (FFCs) with active involvement from the Indian defence industry.
- A dedicated cell has been formed in the Department of Defence Production (DDP) for co-ordinating and following up on export-linked actions, including inquiries from various countries, sharing leads with private and public sector companies and simplifying exports.
A scheme for promoting defence exports has been notified for providing opportunities to prospective exporters and for giving access to the testing infrastructure of the Defence Ministry in order to obtain initial validation of the product and its succeeding field trials. Furthermore, the certification can be used by the prospective exporter as a marketing tool in global markets.

The Government of India has further notified the Open General Export License (OGEL) for easing the licence process, which will permit the industry to export specific items to specific destinations, reckoned in the OGEL.

The government has laid down a new provision for re-exporting parts and components for undertaking rework or repair for an element under warranty obligation, which will be inserted in the Standard Operating Procedures (SOP) as a sub-classification of repeat orders.

Validity for authorisation of exports for component export has been increased from two years to the completion date of the component, whichever is later.

Power to explore various export opportunities has been given to the Defence Research and Development Organization (DRDO) and Defence Public Sector Undertakings (DPSUs).

The government has done away with the consultation requirement with stakeholders for exporting items for the purpose of exhibition.

After advance consultation with the Ministry of External Affairs (MEA), legitimate export of parts and components of body armours and small arms for civil use is now permitted.

Permission for repeat orders of the same product to the same entity will be issued immediately, while repeat orders of the same product to a different entity needs to go through a consultation process only with the MEA.

The government has developed an end-to-end digital portal for getting and processing the export authorisation permission. All the applications submitted to the portal are digitally signed, and the portal allows digital authorisation at a rapid pace.

The policy initiatives which the government has taken will improve self-reliance in defence manufacturing. The initiatives will encourage the companies to design and develop indigenous and innovative defence equipment in the country, enhance exports and decrease imports.
MAKE IN INDIA MOVEMENT

The Make in India movement in the defence sector will be a key towards impactful exports. Currently, India's defence requirements are largely met through imports. Private sector participation in defence will encourage overseas manufacturers of original equipment to engage in strategic partnerships with various Indian companies. This strategic partnership will improve their exposure to the untapped defence sector of India and create several opportunities for the Indian companies by bolstering production and modernising equipment. Accommodative government policies will help in promoting self-reliance, indigenisation and technology modernisation. The policies introduced by the Government of India will also help in achieving economies of scale and boost the export capabilities of the country. India has wide-ranging modernisation plans which are likely to increase its focus on security as a defence sourcing hub. A success story of India's ability to emerge as a modern defence partner is its ability to develop and sell the Brahmos missile.

The Brahmos supersonic cruise missile is a medium-range supersonic cruise missile, which is based on the principle of Ramjet and capable enough to be triggered from the sea, land and air platforms. Recently, India bagged a sale order from the Philippines worth US$ 374.96 million for delivering a shore-based anti-ship variant of the missile. This is the first export order which India has received for the Brahmos missile. The contract included supply of three missile batteries, training operators and maintainers, and providing a relevant Integrated Logistics Support (ILS) package. This deal has widened India's scope of exports to FFCs that have shown interest in acquiring the missile.

The Make in India initiatives will prioritise procurement of defence items from domestic entities under the Defence Acquisition Procedure (DAP) 2020. The following are some of the defence equipment easing under the Make in India scheme:

- Simplifying the industrial licensing process with longer authentication period
- Liberalising the Foreign Direct Investment (FDI) policy with 74% FDI under the automatic route
- Launching the Innovations for Defence Excellence (iDEX), which will involve participation of start-ups and Micro, Small and Medium Enterprises (MSMEs)
- Implementing the Public Procurement order 2017
- Launching an indigenisation portal called SRIJAN to provide indigenisation by Indian entities including MSMEs
- Launching two industrial defence corridors, one each in the states of Uttar Pradesh and Tamil Nadu
- Enforcing import embargos on 209 items of services and 2,851 DPSU items
In the last few years, the Make in India movement has been successful in producing several equipment which are widely being used by the armed forces of India. Furthermore, the homebuilt Main Battle Tank (MBT) Arjun Mk-1A manufactured and designed by the DRDO is equipped to meet the current and future requirement of the armed forces. Arjun Mk-1A is fused with 71 upgrades, which provides its superior fire power, improved mobility and excellent defence features that have the capability to meet the stimulating necessities of the battlefield.

From 2018 to 2021, the Government of India has rendered Acceptance of Necessity (AoN) to around 150 proposals worth around Rs. 2,47,515 crore (US$ 32.4 billion) under different categories of capital procurement, which is likely to promote local manufacturing as per DAP-2020. Additionally, from 2018 to January 2022, of the 191 total capital acquisitions, around 121 were inked with Indian vendors for procuring defence equipment for the armed forces. India has a huge defence and aerospace market, and the country has the potential to unleash its defence capabilities in the world. For making India a solid defence manufacturing hub, it is very important to develop a contemporary homegrown defence industry. As India enters its 75th year of independence, the country is constantly focusing on execution and completion of old projects as well as integration of new projects. Transparency, trust, technology-led approach, optimum quality and reliability would be the new identity of India due to the Make in India movement. Make in India in the defence sector will also open doors to employment and provide several opportunities to develop the right skills.

THE ROAD AHEAD

The defence sector will play a vital role in making India a US$ 5 trillion economy. An increase in private sector participation will be pivotal for achieving this target. The government’s role as a facilitator will ease the processes and enhance the sector; however, the industry has to work in sync with the government to achieve the vision of the new and robust India. As a facilitator, the government has taken several steps to make the sector investor-friendly and further build an atmosphere which favours capitalism. In the past few years, the Government of India’s accommodative position has constantly favoured new ideas and encouraged the entrepreneurship spirit in India. Furthermore, the ambitious defence industrial corridors have gained significant visibility in India. In Uttar Pradesh, the government has stepped up work on its respective defence corridor across six nodes: Agra, Aligarh, Lucknow, Kanpur, Chitrakoot and Jhansi. The corridor project is worth about Rs. 20,000 crore (US$ 2.6 billion). It is sanctioned by the central government and is likely to strengthen the local manufacturing of defence goods in all the six nodes. The Uttar Pradesh defence corridor is poised to develop alongside the Golden Quadrilateral project. The government of Uttar Pradesh has expanded its Memorandum of Understanding with some of the top educational institutes of the country, such as IIT-Kanpur and IIT-BHU. The extension has been made for the next three years, and these institutes will be serving as knowledge partners for boosting investments in these projects. The project is put on fast track and the foundation of the mighty Brahmos Aerospace Unit for developing next-generation missiles was laid in the state in 2021 by the Defence Minister of India. In the first phase of the development plan,
the strategy will be to provide infrastructure and logistics support to the nodes including power and water supply, roads and boundary walls. The development strategy of the project will also evaluate the effect of future planned manufacturing units of explosives, weapons, alloy, metals, fire safety goods, sensors and radars on the environment. The impact created on the environment would be closely monitored by the stakeholders that are actively involved in the development of the project, while articulating and executing the development plan. Another defence corridor project in the state of Tamil Nadu has kickstarted, and the government has made various arrangements through the Memorandum of Understanding for a potential investment of around Rs. 11,103 crore (US$ 1.5 billion) by 39 industries. The defence industry is likely to see a large transition in the coming years as the government aims to permit more such lucrative projects, which envisions the vocal for local movement, strengthens the Make in India strategy, reduces dependency on imports, creates an element of surprise for its nemesis, promotes local manufacturing, enhances the self-reliance strategy and makes India a global hub for defence exports.