



Modernising India's Defence

This editorial is based on "[India's defence policy must gear up for a 3.5-front security challenge](#)" which was published in Livemint on 06/05/2025. The article brings into picture the urgent need for India to revamp its defense strategy following a deadly terror attack, stressing modernization, indigenization, and enhanced R&D.

For Prelims: [Operation Sindoor](#), [Defence Acquisition Procedure \(DAP\)-2020](#), [BrahMos missiles](#), [IDEX scheme](#), [Defense Industrial Corridors](#), [Defense Space Agency](#), [Positive Indigenization Lists](#), [INS Vikrant](#), [Aatmanirbhar Bharat](#), [Chief of Defence Staff](#), [SCALP Cruise Missiles](#), [HAMMER Precision-Guided Bombs](#), [Loitering Munitions](#)

For Mains: Key Major Developments in India's Defence Sector, Key Challenges Confronting India's Defence Sector.

India is currently engaged in a **severe military standoff with Pakistan**, ignited by a terrorist attack in **Pahalgam** Kashmir that resulted in 26 civilian casualties. In retaliation, India launched "[Operation Sindoor](#)," targeting alleged militant infrastructure across Pakistan and Pakistan-occupied Kashmir. This situation underscores the necessity for India to **reevaluate its defense strategy, emphasizing modernization, indigenization**, and reforms to address emerging threats effectively. Enhancing defense spending, particularly in research and development, and fostering private sector participation are crucial steps toward strengthening **national security**.

What are the Key Major Developments in India's Defence Sector?

- **Indigenous Defence Production Surge:** India has made significant progress in achieving [self-reliance in defence manufacturing](#), **reducing dependence on imports, exemplified by [Positive Indigenisation Lists](#)**.
 - This effort has contributed substantially to both national security and economic growth.
 - In **FY 2023-24**, India's indigenous defence production reached **₹1.27 lakh crore, up by 16.7% from 2022-23**.
 - Moreover, **65% of defence equipment is now produced within India**, showcasing the effectiveness of the [Make in India](#) initiative.
- **Defence Exports Expansion:** India's defence export sector has experienced unprecedented growth, **positioning the country as a key player in the global arms market**.
 - India now exports to over **100 countries**, with major buyers including the **USA, France, and Armenia**.
 - In FY 2023-24, India's defence exports reached ₹21,083 crore, **marking a 30-fold increase in exports over the last decade**.
 - The government targets **₹50,000 crore in defence exports by 2029**, strengthening its economic and strategic influence.
- **Technological Advancements in Defence R&D:** The focus on technological innovation

through [IDEX \(Innovations for Defence Excellence\)](#) and the **Technology Development Fund (TDF)** has spurred India's technological self-reliance.

- These programs enable startups and MSMEs to engage in defence research, fostering rapid indigenisation.
- As of February 2025, **549 problem statements were issued, with 619 startups collaborating with defence R&D institutions.**
- **Defence Industrial Corridors (DICs) Development:** India has established two [Defence Industrial Corridors](#) in **Uttar Pradesh and Tamil Nadu** to boost indigenous defence production and attract foreign investments.
 - These corridors provide significant infrastructure and incentives to industries, creating a conducive environment for defence manufacturing.
 - Over ₹8,658 crore has already been invested in these corridors. These corridors aim to attract a potential investment of ₹53,439 crore, **making them critical to India's defence industrial expansion.**
- **Modernisation of Armed Forces with Latest Procurement:** India has been focusing on modernising its armed forces with high-tech acquisitions, including the procurement of [Light Combat Helicopters \(LCH\)](#) and **Advanced Towed Artillery Gun System (ATAGS)**.
 - In March 2025, contracts worth ₹62,700 crore were signed for **156 LCH Prachand helicopters**, strengthening India's aerial capabilities.
 - The Indian Air Force (IAF) has also integrated high-precision weapons, such as [SCALP Cruise Missiles](#), [HAMMER Precision-Guided Bombs](#), and [Loitering Munitions](#), which were notably used in **Operation Sindoor** for precision strikes, ensuring high accuracy and minimal collateral damage.
- **Strategic Defence Partnerships and Global Diplomacy:** India's growing role as a global defence exporter is supported by strategic partnerships with nations like the USA, France, and Russia.
 - The [BrahMos missile export deal](#) to Indonesia, valued at ₹3,800 crore, showcases India's technological prowess in missile systems.
 - Additionally, **India's participation in multilateral defence exercises with countries like Japan, the Philippines, and Malaysia** further cements its position as a dependable partner in global security.
- **Indigenisation of Critical Defence Platforms:** India is significantly reducing its reliance on foreign military platforms through the indigenisation of critical systems.
 - One key development is the [INS Vikrant](#), India's first indigenous aircraft carrier, commissioned in 2022. The ship, which has **76% indigenous content**, demonstrates India's ability to design and manufacture complex naval platforms.
 - Furthermore, the **T-90 Bhishma tank overhaul** by the Indian Army highlights the nation's commitment to enhancing the life cycle of its existing fleet.
- **Defence Testing Infrastructure:** India is rapidly enhancing its testing infrastructure for defence equipment to ensure the reliability and efficacy of indigenous systems.
 - The **Defence Testing Infrastructure Scheme (DTIS)** aims to set up state-of-the-art testing and certification facilities across India.
 - As of February 2025, **7 testing facilities have been approved**, focusing on areas like unmanned aerial systems and electronic warfare.
 - This infrastructure **boost will enable India to conduct advanced trials and meet international standards**, supporting the country's self-reliance goals.

What are the Key Challenges Confronting India's Defence Sector?

- **Technological Gaps and Dependence on Imports:** Despite significant strides in indigenisation, India's defence sector still faces challenges in developing **high-tech systems indigenously**.
 - This dependence impedes India's goal of full self-reliance in defence. As of 2023, **36% of India's defence procurement budget is still allocated to foreign imports**, highlighting the gap in technological capabilities.
- **Bureaucratic Delays in Defence Procurement:** India's defence procurement process is often criticized for its slow pace due to bureaucratic inefficiencies, causing significant delays in the modernization of the armed forces.
 - Long timelines between the **approval of contracts and the delivery of equipment hinder operational readiness** and strategic planning.

- It has plagued India's defence acquisitions, with past deals like [Rafale fighters](#) and **Scorpene submarines** facing extended timelines.
- **Insufficient Defence Budget Allocation for Modernisation:** While the defence budget has seen an increase, the allocation remains insufficient to meet the evolving needs of modern warfare and the growth of the defence industry.
 - The provision for defence R&D remains meagre, with the **DRDO receiving only 3.94% of the total defence budget.**
 - In 2025-26, the Ministry of Defence allocated ₹6.81 lakh crore, but only ₹1.8 lakh crore is for modernisation of the military, highlighting the gap between modernization needs and available funds.
 - The growing financial demands for upgrading ageing systems, like the **T-90 Bhishma tank overhaul**, further strain limited resources.
- **Private Sector Participation and Public-Private Collaboration:** While private sector involvement in defence manufacturing has grown, **challenges persist in fostering robust collaboration between public and private entities.**
 - The defence ecosystem remains fragmented, with **public sector units (DPSUs) traditionally dominating**, while private sector players face hurdles in accessing key defence projects.
 - Recent investments like **JSW Defence's drone manufacturing** in Telangana are encouraging, but only **21%** of total production comes from the private sector, which remains limited.
- **Limited Export Market Penetration and Competitiveness:** Despite significant growth in defence exports, India faces challenges in penetrating key international markets due to competition from established players like the **USA, Russia, and China.**
 - India's defence exports, while growing, still lag behind global leaders, both in volume and technology.
 - The **BrahMos missile export deal** to Indonesia in February 2025 is a notable achievement, but India's overall defence exports stand at ₹21,083 crore, far behind major exporters like the US and Russia.
 - The slow pace of securing major international contracts for systems like the **Tejas fighter** illustrates India's struggle to compete globally.
- **Vulnerability in Cyber and Electronic Warfare:** As warfare evolves, the need for cybersecurity and electronic warfare (EW) capabilities has grown.
 - **India's current cybersecurity frameworks and electronic warfare systems** are underdeveloped compared to adversaries like China.
 - India's **Cybersecurity Strategy**, still in its infancy, lags behind in building a cohesive defence architecture to protect critical systems from cyber-attacks.
 - One prominent example is the **2020 cyberattack on India's power grid in Mumbai**, attributed to a Chinese-backed group.
- **Hampered Internal Security and Insurgency Threats:** India continues to face internal security challenges, including **insurgencies and cross-border terrorism**, particularly in regions like **Jammu & Kashmir and the Northeast.**
 - The **recent Pahalgam terror attack**, along with ongoing insurgency issues in the Northeast (like [Kuki-Meiti conflict in Manipur](#)), underscores India's internal security challenges.
 - These security issues drain resources that **could otherwise be dedicated to modernizing the military for conventional warfare.**
- **Lack of Integrated Defence Strategy:** India's defence planning suffers from a lack of integration across its three armed forces, which operate in silos.
 - Despite the creation of the [Chief of Defence Staff \(CDS\)](#) position, challenges **remain in harmonizing the strategies, resources, and capabilities of the Army, Navy, and Air Force.**
 - A notable example of these integration challenges is the **delayed implementation of the Integrated Theatre Commands**, a key reform aimed at enhancing jointness among the services.

What Measures can India Adopt to Further Strengthen its Defence Sector?

- **Enhanced Focus on Defence Technology Innovation:** India must prioritize investing in emerging technologies like **artificial intelligence, quantum computing, and autonomous systems for modernizing its military capabilities.**
 - By establishing **dedicated research hubs and fostering collaborations with leading global tech companies**, India can accelerate indigenous development in critical defence technologies.
 - This would reduce dependency on foreign suppliers and enhance India's competitive edge in areas like cyber warfare, precision-guided munitions, and next-generation radar systems.
- **Strategic Defence Ecosystem Collaboration:** A seamless integration between **Defence Public Sector Undertakings (DPSUs)**, private sector companies, and academia is crucial for driving innovation and boosting production efficiency.
 - Establishing more collaborative platforms, like public-private innovation labs, can expedite the development of new defence products.
 - Moreover, incentivizing **defence start-ups** through easy access to procurement contracts and seed funding would help tap into grassroots innovations.
- **Comprehensive Defence Skill Development Program:** Developing a highly skilled workforce is key to sustaining growth in indigenous defence production.
 - India should establish specialized defence training institutes and incentivize collaborations with global defence corporations for skills development.
 - A dedicated **Defence Talent Academy**, in partnership with top-tier educational institutions, could create a pipeline of **skilled engineers, technicians, and cyber specialists tailored to defence needs.**
 - Such initiatives would address the gap in advanced skill sets and enhance R&D capabilities.
- **Efficient Defence Procurement Reforms:** India needs to streamline its procurement process to reduce delays and inefficiencies that hinder the timely modernization of the armed forces.
 - This can be achieved by implementing **faster, more transparent approval mechanisms**, such as digitizing the entire procurement cycle.
 - Additionally, revising the **Defence Acquisition Procedure (DAP)** to prioritize **"Buy Indian" over "Buy Global"** could ensure that the domestic defence industry gets the first right of refusal on large contracts, speeding up delivery timelines and ensuring better quality control.
- **Strengthening Defence Export Channels and Diplomacy:** India should enhance its defence export strategy by **identifying new markets, strengthening diplomatic ties, and facilitating easy access to international defence tenders.**
 - Building strategic partnerships with nations in **Africa, Southeast Asia, and Latin America** could open up new avenues for India's defence products.
 - India could also leverage multilateral defence forums to position itself as a reliable exporter of advanced military technologies, further boosting its geopolitical influence.
- **Establishment of Defence Innovation Zones:** India should create dedicated **Defence Innovation Zones (DIZs)**, focusing on high-tech military innovations.
 - These zones would act as concentrated hubs for the development of next-generation systems such as drones, cyber defence solutions, and satellite technologies.
 - They would encourage both **start-ups and established companies** to work on joint solutions, foster cross-sector innovation, and offer tax incentives and funding for R&D projects.
- **Enhanced Cybersecurity and Digital Defence Framework:** To address the rising cyber threats, India should establish a **National Defence Cyber Command (NDCC)** dedicated to defending military networks and critical infrastructure.
 - This command should focus on building **resilient cybersecurity measures**, integrating **AI-based defence strategies**, and fostering partnerships with global cybersecurity firms to stay ahead of evolving threats.
 - India should also incorporate **cyber warfare simulations** into military training programs to prepare personnel for real-time cyber-attacks.
- **Strengthening the Defence-Industrial Collaboration with International Partners:** India should deepen its collaboration with foreign defence companies to accelerate the **co-development of defence systems**, particularly in aerospace, shipbuilding, and advanced missile technologies.

- Joint ventures with **international OEMs (Original Equipment Manufacturers)** would bring in critical technological expertise while also providing India with **cutting-edge technologies** under **Technology Transfer** agreements.

Conclusion

India's evolving defence posture reflects both significant achievements and pressing challenges. The **urgency of external threats like terrorism and internal gaps** in coordination and technology demand bold reforms. **Accelerated indigenisation, streamlined procurement, and integrated strategic planning** are now imperative. A future-ready military must be anchored in innovation, self-reliance, and global partnerships.

Drishti Mains Question:

"India's shift from a defence importer to an emerging defence manufacturer reflects a strategic recalibration in national security and foreign policy. Examine this transformation in light of recent policy initiatives and challenges."

UPSC Civil Services Examination, Previous Years Questions (PYQs)

Prelims

Q. Operations undertaken by the Army towards upliftment of the local population in remote areas to include addressing of their basic needs is called: (2024)

- (a) Operation Sankalp
- (b) Operation Maitri
- (c) Operation Sadbhavana
- (d) Operation Madad

Ans: C

Mains

Q. "Increasing cross-border terrorist attacks in India and growing interference in the internal affairs of several member-states by Pakistan are not conducive for the future of SAARC (South Asian Association for Regional Cooperation)." Explain with suitable examples. (2016)

Q. The terms 'Hot Pursuit' and 'Surgical Strikes' are often used in connection with armed action against terrorist attacks. Discuss the strategic impact of such actions. (2016)