

## JUNE 2025 VOL 45

# FORGED BY A DECADE OF DEFENCE TRANSFORMATION







# CONTENTS

01

Remarks of the Prime Minister  
Shri Narendra Modi at Public  
Rally in Bikaner, Rajasthan

04

Remarks of the  
BJP President  
Shri J.P Nadda

05

Message from the  
BJYM President  
Shri Tejasvi Surya

06

Editorial

## EDITOR-IN-CHIEF

Abhinav Prakash  
National Vice-President, BJYM

## ADVISORY BOARD

Varun Jhaveri  
National In-charge Policy and  
Research, BJYM  
Kapil Parmar  
National Head Social Media & IT, BJYM

## EDITORIAL BOARD

Rahul Bhaskar  
Adarsh Tiwari  
Saurabh Kumar Pandey  
Dr. Mrittunjoy Guha Majumdar  
Kunal Tilak

## MAGAZINE TEAM

Dhananjay Sharma  
Mutum Yoiremba  
Pranit Gupta

## AVAILABLE ON

BJYM website:  
<https://bjym.org/>

BJP E-Library:  
<http://library.bjp.org/jspui/handle/123456789/3082>

## English Articles

- |    |  |    |   |
|----|--|----|---|
| 08 | Operation Sindoor and Beyond: Crafting India's Sovereign, Multi-Domain Defence Ecosystem<br>- <b>Anil K. Antony</b>  | 27 | From Importer to Indigenous Power: India's Defence Revolution<br>- <b>Prasad Peketi</b>                   |
| 11 | India Stared Back: Operation Sindoor and the New Modi Doctrine<br>- <b>Raju Bista</b>  | 30 | From Operation Sindoor to SAGAR: India's Ascendant Defence Ecosystem<br>- <b>Srikar Srivatsa Dahagam</b>  |
| 13 | Dual-Use Power Matrix: Neo-Shield of Sovereignty<br>- <b>Dr. Mrittunjoy Guha Majumdar</b>  | 33 | Aatmanirbhar Defence: Modi's Blueprint for Indigenous Military Transformation<br>- <b>Subham Banerjee</b> |
| 17 | Building Sovereign Capabilities Through Strategic Overhaul<br>- <b>Rajeev Pathak</b>   | 37 | From Importer to Exporter: A Decade of Transformation Under Modi<br>- <b>Vikas Dhar</b>                   |
| 20 | Modi Era of Defence Modernisation and Indigenisation<br>- <b>Samrudhi Pande</b>  | 39 | Iron Dome of Atmanirbhar Bharat: How Indigenous Air Defence Won the 2025 Conflict<br>- <b>Pinkesh</b>     |
| 24 | Exploring the Strategic Autonomy of India's Foreign Policy Through the Defence Indianisation Program under Prime Minister Modi<br>- <b>Ritesh Kumar Rai &amp; Shashi Bhusan Kr Vishwakarma</b> | 41 | From Dependency to Dignity: India's Quiet Defence Revolution<br>- <b>Rohaam Wadhwa</b>                    |

- |    |   |    |  |
|----|---|----|--|
| 43 | Emerging Arsenal for the World: India's Defence Export Leap under Modi<br>- Rangin Halder                       | 58 | Drones, Directed Energy, and Hypersonics: Charting India's Indigenous Defence Revolution<br>- Kamya Manish Gupta |
| 46 | From Doctrine to Dominance: Evolving Military Posture under Modi<br>- Renuka Sharma                             | 61 | Shield of Our Soil, Voices of Valour: From Dependency to Sovereign Defence<br>- Akshita Chaturvedi               |
| 49 | Multi-Domain Metamorphosis: India's Strategic, Digital, and Nuclear Upsurge under Modi<br>- Shivashish Sen      | 63 | Forging Sovereignty: Legacy Reloaded in India's Military Transformation<br>- Abhinav Jat                         |
| 52 | Smart Warfare to Strategic Exports: Modi's Blueprint for a Self-Reliant Defence Ecosystem<br>- Tarun Raj Sharma | 65 | Shields and Servers: India's Self-Reliant Security in the Digital Era<br>- Kanishka Jha                          |
| 55 | From Importer to Innovator: India's Decade-Long Surge in Defence Self-Reliance<br>- Shailender Tiwari           | 68 | Tech-Driven Triumph: India's Leap into Autonomous Defence Capabilities<br>- Ojasv Chauhan                        |

## हिंदी लेख

- |    |   |    |   |
|----|---|----|---|
| 73 | गर्वित भारत, पराजित दुश्मन: ऑपरेशन सिंदूर में स्वदेशी हथियारों की महागाथा<br>- कर्ण प्रताप सिंह | 75 | मोदी युग में आत्मनिर्भर रक्षा क्षेत्र : स्वदेशी सैन्य शक्ति का उदय<br>- डॉ. वृंदा काल्हेर |
|----|---|----|---|





.....

## Remarks of the Prime Minister Shri Narendra Modi at Public Rally in Bikaner, Rajasthan

.....

This brave land of Rajasthan teaches us that nothing is greater than the country and its citizens. On 22nd April, the terrorists had destroyed the sindoor of our sisters' foreheads after asking about their religion. Those bullets were fired in Pahalgam, but those bullets had pierced the hearts of 140 crore countrymen. After this, every citizen of the country united and resolved that the terrorists will be wiped out and they will be given a punishment worse than imagination. Today, with your blessings and the valour of the country's army, we have fulfilled that pledge. Our government had given free hand to the three forces and together, the three forces created such a Chakravyuh that forced Pakistan to kneel down.

In response to the attack on the 22nd, we destroyed 9 biggest hideouts of terrorists in 22 minutes. The world and even the enemies of the country have seen what happens when sindoor (vermilion) turns into gunpowder.

It is a coincidence that after the country carried out air strikes in Balakot 5 years ago, my first public meeting was held on the border in Rajasthan itself. It is the penance of Veerbhoomi that such coincidences happen. Now this time when Operation Sindoor happened, my first public meeting after that is again happening here on the border of Veerbhoomi, Rajasthan, in Bikaner among all of you.

I had said in Churu, I had come after the air strike, then I had said - 'I swear on this soil, I will not let my country perish, I will not let my country bow down'. Today, from the soil of Rajasthan, I want to tell the countrymen with great humility, I tell the countrymen who are carrying out the Tiranga Yatras in every corner of the country - those who had set out to wipe off the sindoor (vermilion), those who had set out to wipe off the sindoor (vermilion), have been reduced to dust. Those who used to shed the blood of India, those who used to shed the blood of India, today they have paid the price for every drop. Those who used to think, those who used to think that India will remain silent, today they are hiding in their homes, those who used to be proud of their weapons, those who used to be proud of their weapons, today they are buried under heaps of rubble.

This is not a game of attack and retaliation, this is not a game of attack and retaliation, this is a new form of justice, this is a new form of justice, this is Operation Sindoor. This is not just anger, this is not just anger, this is the fierce form of powerful India. This is the new form of India. Earlier, the attack was made by entering the house, earlier the attack was made by entering the house, now it is a direct attack on the chest. This is the policy, this is the way of crushing the hood of terrorism, this is India, this is the new India.

Operation Sindoor has set three principles to combat terrorism. First, if there is a terrorist attack on India, a befitting reply will be given. The time will be decided by our forces, the method will also be decided by our forces, and the conditions will also be ours. Second, India is not going to be scared by the empty threats of the atom bomb. And thirdly, we will not see the masters of terror and the government that patronizes terror as separate; we will not see them as separate; we will consider them as one and the same. This game of Pakistan of state and non-state actors will not work anymore. You must have seen that seven different delegations from our country are reaching across the world to expose Pakistan. And these delegations include people from all the political parties of the country, experts of foreign policy, dignitaries, now the real face of Pakistan will be shown to the whole world.

Pakistan can never win a direct war against India. Whenever there is a direct fight, Pakistan has to face defeat again and again. Therefore, Pakistan has made terrorism a weapon to fight against India. This has been going on for the last several decades after independence. Pakistan used to spread terror, kill innocent people, create an atmosphere of fear in India, but Pakistan forgot one thing, now Mother

India's servant Modi is standing here with his head held high. Modi's mind is cool, it remains cool, but Modi's blood is hot, and now it is not blood but hot sindoor (vermilion) that is flowing in Modi's veins. Now India has made it clear that Pakistan will have to pay a heavy price for every terrorist attack. And this price will be paid by Pakistan's army and Pakistan's economy.

When I came here from Delhi, I landed at Bikaner's Nal airport. Pakistan had tried to target this airbase

too. But it could not cause even a bit of damage to this airbase. And just a little distance from here, across the border, there is Pakistan's Rahimyar Khan airbase, no one knows when it will open, it is lying in ICU. The precise attack of the Indian army has destroyed this airbase.

There will be no trade or talks with Pakistan. If there will be any talks, it will be only about Pakistan occupied Kashmir, PoK. And if Pakistan continues to export terrorists, it will have to beg for every penny. Pakistan will not get India's rightful share

of water, playing with the blood of Indians will now cost Pakistan heavily. This is India's resolve, and no power in the world can deter us from this resolve. Both security and prosperity are necessary for building a developed India. This is possible only when every corner of India becomes strong. Today's programme is a great example of India's balanced development, India's rapid development. I once again congratulate all the countrymen from this brave land. Say with me, close both your fists, say with full strength-

Bharat Mata ki Jai!

Source: [www.narendramodi.in](http://www.narendramodi.in)

*There will be no trade or talks with Pakistan. If there will be any talks, it will be only about Pakistan occupied Kashmir, PoK. And if Pakistan continues to export terrorists, it will have to beg for every penny. Pakistan will not get India's rightful share of water, playing with the blood of Indians will now cost Pakistan heavily. This is India's resolve, and no power in the world can deter us from this resolve.*



# Remarks of the BJP President Shri J.P Nadda

पहलगाम पर भारत का पैगाम -  
छेड़ोगे तो छोड़ेंगे नहीं। प्रधानमंत्री  
मोदी जी ने कहा भारत की आत्मा  
पर हमला करने वालो को कड़ी  
सज़ा मिलेगी। भारत आतंकवाद  
को उसकी जड़ से उखाड़ फेकने  
में सक्षम भी है और संकल्प बद्ध  
भी है। मिटा देंगे आतंकवाद का  
नासूर - #OperationSindoor

Source: X





# Message from the BJYM National President **Shri Tejasvi Surya**

Over the last decade, we have witnessed India's Armed Forces grow stronger, leaner, and more self-reliant than ever before. As a young parliamentarian deeply invested in our nation's security, I have had the honour of engaging with our soldiers, engineers and innovators on multiple occasions—and each encounter has reinforced my pride in what we have collectively achieved under the leadership of Prime Minister Shri Narendra Modi.

I still recall the day I stepped into a hangar at Hindustan Aeronautics Limited. Standing near the excellent fighter jet, the LCA Tejas, I witnessed India's remarkable ability to master advanced aeronautics in real-time. That moment underlined what our "Make in India" policy has come to represent: not only the capacity to build world-class platforms, but the will to transform our industrial base. It is this spirit—this refusal to remain passive recipients of foreign technology—that has driven programmes like Akash, Astra and the HTT-40 to fruition.

Beyond aircraft and missiles, however, the real revolution has been doctrinal. Our Armed Forces no longer operate in siloes. Theatre commands, integrated battle groups and joint command structures have brought land, sea, air and now cyber and space domains into a unified operational framework. As we have seen in Operation Sindoor, real-time intelligence feeds are shared among drone operators, artillery units, and headquarters staff. It is proof that our strategic messaging is backed by seamless execution on the ground. This level of integration was unthinkable a decade ago. Equally important has been the role of the youth, whether it be engineers writing code for battlefield management systems, entrepreneurs developing swarming micro-drones, or graduates researching hypersonic materials. Dear friends, you are the ones

who will build on the foundation of Operation Sindoor. Your innovations in artificial intelligence, quantum-secure communications, and space resilience will safeguard India's borders tomorrow. The Government has created start-up incubators, defence corridors and collaborative research schemes; it is now up to you to seize these opportunities and turn ideas into capabilities.

I have consistently called upon youth to step forward, to volunteer for defence training modules, to intern at the DRDO and to familiarise themselves with the intricacies of modern warfare. A strong nation requires more than weapons; it demands an informed citizenry and a society that understands why defence indigenisation matters for our sovereignty, for our economy and the pride of every Indian.

Let us celebrate Operation Sindoor not only as a military milestone but also as a clarion call for future generations. We owe it to our ancestors, to the jawans guarding our frontiers, and to ourselves to carry this torch forward. The next decade beckons with challenges and opportunities: let us meet them with the courage, creativity and conviction that define our great nation.

Vande Mataram!  
**Tejasvi Surya**

MP Lok Sabha,  
Bengaluru South





Over the past decade, India's defence ecosystem has undergone a remarkable transformation, evolving from an import-dependent force into a self-reliant, technologically sophisticated military power. At the heart of this journey lies Operation Sindoor, a defining demonstration of India's indigenisation and doctrinal renewal. In this edition, we celebrate not only the hardware bearing the "Make-in-India" badge but also the intangible gains of strategic autonomy, institutional reform, and national resolve.



When Prime Minister Narendra Modi assumed office in 2014, India's armed forces relied heavily on foreign suppliers for critical platforms, including fighter jets, submarines, and missile systems. Today, with platforms like the Akash surface-to-air missile, Tejas light combat aircraft, and INS Vikrant, the narrative has changed. The "Aatmanirbhar Armour" initiative champions indigenisation to ensure that each shell fired and each sortie flown under Operation Sindoor reflects domestic design, development, and production. This shift has not only plugged capability gaps but also fostered a robust defence-industrial base, generating skilled employment and catalysing strategic partnerships.

Beyond hardware, India's military doctrine has been realigned for the multi-domain battlespace of the 21st century. Theatre commands and Integrated Battle Groups bring land, air, sea, cyber, and space domains into seamless synergy. Operation Sindoor highlighted this approach through coordinated missile strikes, synchronised cyber defences, and real-time intelligence sharing. It is a proof that our forces no longer operate in isolation. The network-centric warfare posture and AI-enabled decision support systems have elevated India's deterrence capability, signalling to potential adversaries that our response will be swift, precise, and fully sovereign.

The defence budget has been used not merely as an expenditure line but as an engine of nation-building. "Infrastructure to Indigenisation" has involved upgrading border roads in the Himalayas, expanding coastal surveillance networks, and modernizing bases to support our indigenous fleet. At the same time, export-oriented reforms have transformed India from an arms importer into a credible supplier, with our drones, artillery, and small arms entering markets across Asia, Africa, and Latin America. Operation Sindoor thus embodies a dual triumph: enhancing our own security while projecting Indian expertise on the

global stage.

As members of BJYM and the tomorrow's leaders of India, we draw inspiration from this decade-long transformation. Operation Sindoor represents more than a military exercise; it is a rallying cry for every citizen especially our generation, to embrace the "Make-in-India" mission in defence and beyond. Whether through STEM careers in aerospace, startups in cybersecurity, or research in advanced materials, the youth are essential to maintaining momentum. We must bring fresh ideas, bold innovation, and steadfast commitment to national service.

Looking beyond 2025, our focus must shift from capability creation to capability generation. Future challenges such as hypersonic threats, space resilience, and quantum-secure communications will require India to leapfrog existing paradigms. Operation Sindoor has provided the foundation; now, as a nation and youth movement, we must craft the next chapter of our strategic

---

*we must craft the next chapter of our strategic narrative. By deepening civil-military collaboration, incentivizing startups, and building an ecosystem where cutting-edge research converts swiftly into operational advantage, we will ensure that India's defence remains forever "Built, Not Borrowed."*

---

narrative. By deepening civil-military collaboration, incentivizing startups, and building an ecosystem where cutting-edge research converts swiftly into operational advantage, we will ensure that India's defence remains forever "Built, Not Borrowed."

In commemorating Operation Sindoor and the decade of defence transformation, BJYM reaffirms our pledge to safeguard the republic, champion indigenous prowess, and carry forward the legacy of strategic sovereignty for generations to come.



# Operation Sindoor and Beyond: Crafting India's Sovereign, Multi-Domain Defence Ecosystem

India's security posture has undergone a quiet yet radical transformation. No longer tethered to outdated frameworks of strategic restraint or chronic import dependence, the nation is steadily building a doctrine-driven defence ecosystem rooted in resilience, responsiveness, and sovereign capability. At the heart of this strategic shift lies the ambitious push for self-reliance, 'Atmanirbhar Bharat', and a modern, anticipatory defence doctrine shaped by evolving geopolitical realities and technological disruption.

**Anil K. Antony**

National Secretary and National Spokesperson of the BJP



The country's decisive response to the recent terror attack in Pahalgam, codenamed Operation Sindoor, underscored the maturation of this new posture. India did not merely retaliate; it responded with a synchronised blend of diplomatic leverage, cyber resilience, and surgical military strikes, all powered predominantly by indigenously developed systems and a coherent doctrine. The operation's success was less about immediate retribution and more about showcasing India's transformation into a confident, self-reliant, and technologically advanced military power.

This confidence has been steadily built over time. While India's armed forces have always demonstrated professionalism and battlefield expertise, there was a clear need to strengthen indigenous capabilities to enhance strategic autonomy and ensure timely access to critical defence hardware. Recognising this, the Modi government initiated a comprehensive transformation of the defence ecosystem, placing 'Atmanirbhar Bharat' at the heart of its strategy to foster domestic innovation, manufacturing, and technological advancement in defence.

The impact of these reforms is now visible across every dimension of national defence. In 2023-24, India's domestic defence production hit a record ₹1.27 lakh crore, a staggering 174% increase over 2014-15. More significantly, nearly 65% of India's defence requirements are now being fulfilled through domestic production, reversing a decades-long trend of import dependence. India has evolved from one of the world's largest arms importers to an emerging defence exporter.

This transformation is powered by a robust, diversified ecosystem including 16 Defence Public Sector Undertakings (DPSUs), over 430 licensed private firms, and over 16,000 MSMEs. Programs like iDEX (Innovations for Defence Excellence), the Technology Development Fund, and the Strategic Partnership model have encouraged innovation, facilitated start-up participation, and enabled collaboration with academia and foreign technology partners. The result is a vibrant ecosystem capable of delivering end-to-end solutions, from small arms and munitions to complex platforms like fighter jets and aircraft carriers.

This ecosystem has already delivered critical platforms: the Tejas Light Combat Aircraft, Arjun Mk1A battle tanks, Dhanush and ATAGS howitzers, Akash and QRSAM air defence systems, and India's first indigenously built aircraft carrier, INS Vikrant. These assets are not mere symbols of national pride; they are operationally deployed and have played a central role in the readiness and execution of Operation Sindoor.

Equally important is India's emphasis on mastering future warfare technologies. The armed forces are rapidly integrating artificial intelligence, electronic warfare, advanced communication systems, and unmanned aerial platforms into their command-and-control architecture. India's own software-defined radios, AI-driven battlefield management systems, and secure communication backbones are enabling faster, smarter, and more agile responses. Programs like STEAG (Signals Technology Evaluation and Adaptation Group) are bridging the gap between civilian innovation and military application.

India's cyber capabilities are another critical pillar of its emerging doctrine. The government's National Cyber Security Strategy, backed by the Joint Doctrine for Cyberspace Operations released in 2024, has institutionalised a tri-service framework for cyber defence. These measures paid dividends during Operation Sindoor, when hostile cyberattacks targeting critical infrastructure were effectively neutralised, demonstrating the country's resilience and preparedness in the cyber domain.

At the core of this transformation is the doctrine of "Adaptive Defence," a concept emphasized by Defence Minister Rajnath Singh during the Delhi Defence Dialogue. This doctrine moves decisively away from legacy paradigms and static threat assessments, instead championing flexibility, speed, and seamless integration across all domains across land, air, sea, cyber, and space. It is grounded in the reality that modern conflicts often reside in the grey zone, where the boundaries between internal and external threats, peace and war, conventional and unconventional attacks, become blurred.

Adaptive Defence positions India not only to address yesterday's wars but to anticipate and



counter tomorrow's evolving threats. Central to this doctrine is the principle of layered deterrence, which combines traditional kinetic military capabilities with cyber resilience, information warfare, economic measures, and legal instruments of state power. This comprehensive and multidimensional approach allowed India to respond with precision, proportionality, and strategic clarity during Operation Sindoor.

India's strategic doctrine also now reflects greater integration across the armed services. The creation of the Department of Military Affairs under the Chief of Defence Staff has accelerated tri-service coordination, logistical synergy, and joint operations. The forthcoming theatre command structure will further deepen this integration, allowing India to mount agile and unified responses across land, sea, air, space, and cyber domains.

India's air defence has also evolved into a layered, multi-platform architecture. Systems like the S-400 Triumf, Akash, MR-SAM, and the indigenous Akashteer Command and Control System provide overlapping protective coverage against aircraft, drones, cruise missiles, and ballistic threats. This grid, enabled by indigenous radar and command infrastructure, intercepted multiple hostile drones and missiles during Operation Sindoor, preventing escalation and saving civilian lives.

India's rising profile as a global arms exporter is a strategic and economic achievement. In FY 2023-24, defence exports reached an all-time high of ₹21,083 crore, over 21 times higher than the figure a decade ago. India now supplies defence equipment to more than 85 countries, projecting economic strength and strategic influence. These exports include not just low-tech items but frontline systems like the BrahMos missile, Akash air defence systems, and PINAKA rocket launchers. Many are co-developed with international partners, yet manufactured mainly in India.

Structural reforms in procurement undergird this export capability. The Defence Acquisition Procedure (DAP) has been restructured to give

primacy to domestic production. Categories like Buy (Indian-IDDMM) and Make-I/Make-II incentivise innovation and ensure Indian companies are central to major acquisitions. The consolidation of the Ordnance Factory Board into seven specialised DPSUs has improved efficiency, accountability, and specialisation across product lines, from ammunition to artillery systems.

The strategic intent and institutional momentum are clearly in place. The foundation for true self-reliance has been laid, not just in production capacity but in doctrinal clarity and operational confidence. In this evolving landscape, India's strength lies not merely in the arsenal it possesses but in the sovereignty of its decision-making and the credibility of its deterrence. Operation Sindoor was a demonstration of this strength. It signalled to adversaries and allies alike that India can defend its interests with resolve, backed by indigenous capability and guided by a coherent strategic doctrine.

India today stands at the cusp of strategic self-assurance, where capability meets clarity of purpose. With a defence ecosystem powered by indigenous innovation, a doctrine rooted in adaptability, and a military apparatus primed for multidimensional challenges, the nation is charting its course as a confident and responsible power. This is an India that seeks peace but is fully prepared to safeguard its sovereignty and strategic interests with precision, resolve, and foresight. In an era of complex threats and shifting power equations, India's integrated, indigenised and forward-looking security architecture offers both a deterrent and a vision for stability, resilience, and leadership in the global order.





# India Stared Back: Operation Sindoor and the New Modi Doctrine

**Raju Bista**

MP Lok Sabha and  
National General  
Secretary, BJYM

There's an often-quoted maxim: "With great power comes great responsibility." I believe that very principle guided India's decision last week to pull back rather than pursue the complete annihilation of Pakistan.

The massacre of innocent tourists in Pahalgam, who were killed because they were Hindus, enraged the entire nation. With bated breath, we all awaited the eventual hammer to fall on Pakistan. The question was not "if" but "when and how much". This fundamental change in our outlook and expectations of a thumping action against terrorism has been enabled by the Prime Minister Shri Narendra Modi-led government's previous actions against terrorism.

## **The old doctrine**

Between 2008 and 2014, India witnessed multiple acts of terrorism, including the now-infamous 26/11 attacks in Mumbai. Prominent being the 2008 Jaipur Blasts that killed 64 people and injured 140; the 2008 Ahmedabad Blasts, where 18 bomb blasts within 70 minutes killed 57 people and injured over 150; the 26/11 Mumbai Attacks, which resulted in 166 deaths and over 300 injuries; and the 2013 Hyderabad Twin Blasts that killed 17 people and injured over 100.

Despite such major attacks, all that the UPA government did was exchange a dossier. We would send dossiers to Pakistan, and they would send them back, claiming "no concrete proof." Time and again, India's efforts at bringing terrorists to book were thwarted by Pakistan, and despite having an inclination of what was actually going on, the rest of the world continued to laugh behind our backs. It failed to take any action against the Pakistan-based terror factories.



## **The Modi Doctrine**

All of this changed in June 2015, when India, under the decisive leadership of PM Modi, fundamentally changed its security doctrine. From “hum LOC cross nahi karenge—we won’t cross the Line of Control” in international borders championed by previous governments, it gave complete freedom to our armed forces to go after terrorists wherever they were located.

The impact could be felt immediately. Indian armed forces, inspired by a decisive Prime Minister and fearless military leadership, went after rogue elements across the borders. First, it was in Myanmar, then multiple times, it was in Pakistan. Terrorist attacks in Chandel Uri, Balakot, Pulwama, and now Pahalgam were responded to by Indian forces by attacking and destroying terrorists in their hideouts.

Despite this, it is apparent now that most of the world, including Pakistan, has failed to truly gauge the steely resolve of our government and the nation in dealing with terrorism and any attempts at destabilising our nation. Their misadventures continued in the form of terrorist incursions into India. Though sporadic, Pakistan sent a steady stream of terrorists who attempted to infiltrate India. They took measured steps to further their doctrine of “death by a hundred cuts” for India, but Pahalgam was a step too far.

## **Operation Sindoor – India stared back**

Instead of rushing in with a retaliation, our government and security forces took their time to identify and locate major terrorist training camps and launch pads, which had been the fulcrum of their terror operations against India. On the night of 7th May, as the rest of the nation slept, “Operation Sindoor” was launched. Our forces rained hell upon the terrorists in places they considered their safe haven.

In a simultaneous attack, nine major terror hubs in Pakistan were attacked – Markaz Subhan Allah Bahawalpur, terrorist Masood Azhar led Jaish-E-Mohammad (JeM) headquarters; Markaz Taiba Muridke Lashkar-e-Tayiba (LeT); Sarjal, Tehra Kalan (JeM); Mehmoona Joya, Sialkot, Hijbul Mujahideen (HM); Markaz Ahle Hadith, Barnala

(LeT); Markaz Abbas, Kotli (JeM); Maskar Raheel Shahid, Kotli (HM); Shawai Nalla Camap, Muzaffarabad (LeT); and Syedna Bilal Camp, Muzaffarabad (JeM). These camps housed terror factories that have been churning out terrorists for over 30 years, all Pakistan-based and Pakistan-sponsored terror organisations.

True to their character, Pakistan, aided by China and Turkey, responded by attacking civilian areas in the border regions of Jammu & Kashmir, Punjab, Rajasthan and Gujarat, and they also dared to attack our military installations and air bases. They used guns, tanks, missiles, drones, and even fired ballistic missiles. India’s Integrated Counter-Unmanned Aerial System (C-UAS) Grid and Air Defence networks swiftly and effectively countered all their attacks.

Our forces responded in kind and destroyed multiple air bases deep inside Pakistan, including Nur Khan Airbase, Rawalpindi; Sargodha; Rahim Yar Khan Airbase; Bholari; Jacobabad; Sukkur Airbase; Rafiqui; Murid Airbase; Chunian; Pasrur; and Sialkot Air Base. These strikes not only demolished Pakistan’s ability to respond, but they also demoralized the entire Pakistani Air Force and Army, leaving them reeling. It is this basic fact that caused Pakistan to call for mercy, with Pakistan’s Director General of Military Operations requesting a ceasefire in a 3:30 PM call to the Indian DGMO on May 14, 2025.

## **India – A global power**

Operation Sindoor has showcased Indian military prowess to the world and shattered Pakistan’s defences and dignity. India’s battle-tested air defence systems have proven their worth, and they can withstand even ballistic missile attacks, underscoring our military superiority on the global stage. This is why the Indian Defence Stocks have started to skyrocket. India has maintained the suspension of the Indus Water Treaty, and the United States also acknowledged India’s revised war doctrine, which declares “any future terror attack will be treated as an act of war”, cementing India’s unyielding stance against terrorism and its emergence as a formidable global power.



# Dual-Use Power Matrix: Neo-Shield of Sovereignty

---

Dr. Mrityunjay  
Guha Majumdar  
Member Editorial  
Board of BJYM  
Magazine

Since 2014, India has embarked on a quiet revolution in defence, where the pulse of innovation in everyday technology beats steadily alongside the march of military progress. Far from the roar of tanks and fighter jets, this transformation is taking shape in laboratories, startups, and sprawling civilian industries — a reimagining of India's military strength forged not just in arsenals but in the fertile ground of civilian technology. At the heart of this evolution lies the elegant concept of “dual-use technologies”: innovations that seamlessly serve both civilian life and the imperatives of national security. This shift marks a strategic departure from the long-standing tradition of isolated defence production, heralding a new era of agility, integration, and self-reliance.





For decades, India's defence manufacturing was anchored by large public sector giants such as Hindustan Aeronautics Limited (HAL) and Bharat Electronics Limited (BEL). These institutions, while foundational, operated within rigid silos, divorced from the dynamism of India's burgeoning civilian technological sectors. This structural disconnect slowed innovation and perpetuated a reliance on foreign technology imports — a constraint that India's leadership has since recognized as untenable in a world racing toward rapid technological change. Defence production reached ₹1.27 lakh crore in FY 2023–24, a 174% increase since 2014–15, driven by policies like the Positive Indigenisation Lists (PILs), which banned imports of 4,666 items

**The Modi government's response was bold and visionary:** dismantle the walls between civilian ingenuity and military necessity. Reforms to the Defence Procurement Procedure opened the gates for indigenous civilian innovations to be retooled for defence applications. The Defence India Startup Challenge — launched in 2018 — became a beacon, inviting fresh talent from the realms of AI, robotics, and materials science to collaborate with the traditionally closed defence establishment. Suddenly, India's defence innovation ecosystem was infused with the speed, creativity, and entrepreneurial spirit of the private sector. The Indian Space Research Organisation (ISRO), the jewel in India's technological crown, epitomises this synergy. Known globally for cost-effective milestones like the Mars Orbiter Mission and Chandrayaan lunar probes, ISRO has emerged as a pivotal partner in India's defence ambitions. The NavIC satellite navigation system, initially designed for civilian purposes, now empowers the Indian military with a sovereign positioning network — a strategic lifeline that reduces dependency on foreign GPS systems and enhances battlefield autonomy. Beyond navigation, ISRO's expanding commercial satellite manufacturing capabilities underpin a robust dual-use space infrastructure critical to modern warfare.

India's telecommunications revolution offers another vivid tableau of civilian-military convergence. The phenomenal growth driven by

Reliance Jio's affordable 4G network created a vast, sophisticated communications backbone now adapted for defence use. Recently, Jio deployed its indigenous full-stack 5G technology at a forward post in Siachen using pre-configured, plug-and-play equipment.

.....

*Pursuing indigenous 5G technology under the "Make in India" banner signals a determined march toward secure, resilient military communications capable of withstanding cyber onslaughts. Collaborations between government research labs and private industry are giving birth to encrypted battlefield networks — a crucial edge in an era where information is a weapon as lethal as any missile.*

.....

The automotive sector, the world's fourth largest, further exemplifies this trend. With their mass production prowess and engineering innovation, civilian manufacturers have been called upon to develop tactical vehicles, armoured carriers, and electric propulsion systems tailored for military demands. The Automotive Research Association of India (ARAI) bridges the gap, certifying and refining these platforms to meet stringent defence standards. Initially crafted for the commercial market, emerging electric propulsion technologies are now powering silent, long-endurance unmanned aerial vehicles — vital tools for reconnaissance and surveillance on India's frontiers.

Policy reforms underpin this multi-sectoral renaissance. Export controls have been eased, licensing streamlined, and frameworks like the Defence Technology and Trade Initiative (DTTI) expanded domestically to promote seamless collaboration between public sector units, private industry, and academia. The Defence Innovation Organisation (DIO), launched in 2020, acts as an incubator and accelerator for startups and research institutions working on cutting-edge dual-use technologies, buoyed by government incentives that reward innovation aligned with national security goals. The fruits of this transformation are visible on multiple fronts. Defence startups deploy AI-enabled drones and robotic systems adapted

from commercial platforms.

Electronics manufacturing hubs in Hyderabad and Bengaluru churn out microelectronics originally designed for consumer markets, which are now embedded in missile guidance and secure communication devices. The Defence Research and Development Organisation (DRDO) partners closely with ISRO and private satellite firms to build indigenous communication terminals deployed along sensitive borders — a testament to the deepening civilian-military technological interweaving. The ISRO-DRDO collaboration has enabled secure military communications and surveillance systems. Private firms like Digantara and Pixxel are building satellites under the Space-Based Surveillance-3 (SBS-3) program, with 31 satellites assigned to private companies—a first for India's military.

Behemoths of industry have often transitioned to strategic technology development. Larsen & Toubro (L&T) originally gained technological prowess through offshore oil and gas platform engineering. These capabilities enabled it to become a major partner in building India's nuclear submarine hulls, including components for the INS Arihant—a stellar example of civilian-industrial experience informing

critical military hardware. Mahindra and Tata, known for civilian vehicles, now manufacture specialised armoured vehicles for the armed forces, such as the Mahindra Mine Protected Vehicle and Tata Kestrel. Many engineering principles and assembly line innovations come directly from their civilian SUV and commercial vehicle programs. Startups like IdeaForge and BotLab Dynamics, which initially developed drones for agricultural monitoring, event photography, and warehouse logistics, now supply tactical UAVs to Indian defence forces. Some of these drones are used in border surveillance and counterinsurgency operations.

India's push for electric vehicles (EVs) in the civilian sector has opened avenues for electric propulsion in silent reconnaissance vehicles and drones. DRDO is now working with EV firms to adapt this tech to reduce acoustic signatures in tactical operations. Many Indian cybersecurity startups, originally meant to protect enterprise data centres, are now being quietly integrated into military projects through partnerships with the National Technical Research Organisation (NTRO) and Defence Cyber Agency (DCA) to ensure end-to-end encryption of battlefield communications. Indian Railways'



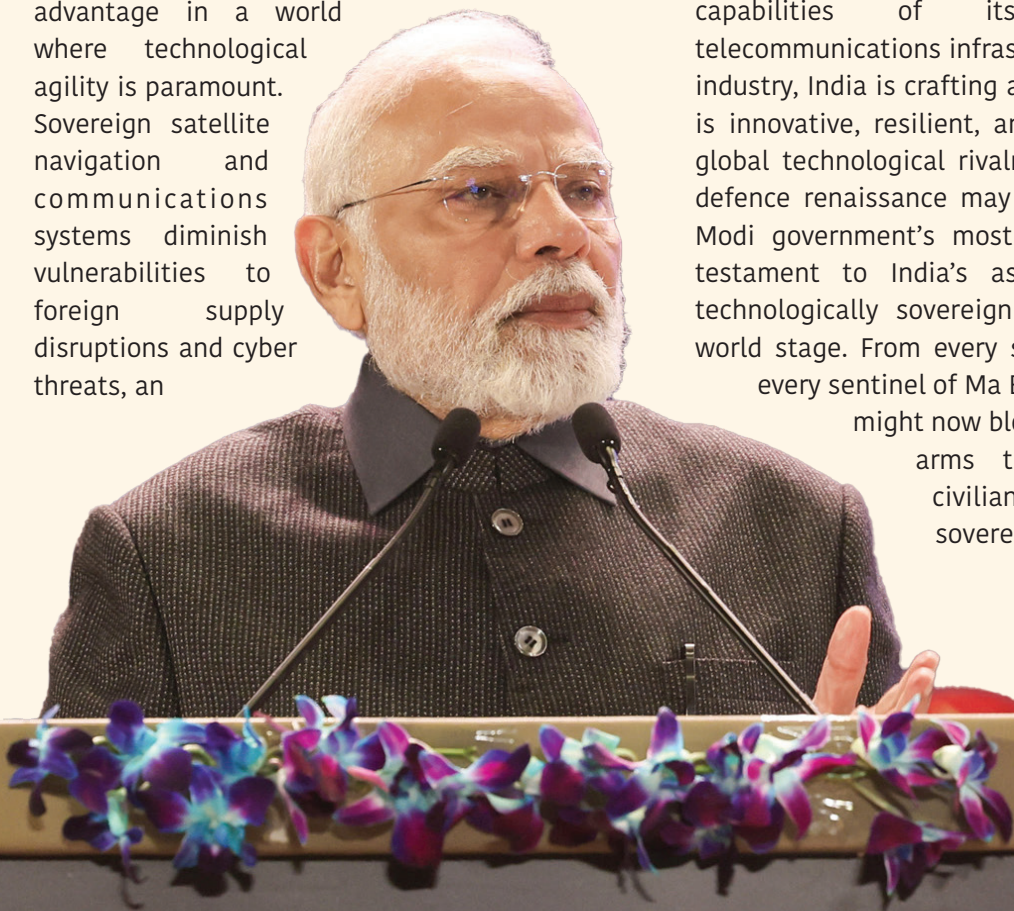


Research Design and Standards Organisation (RDSO) has contributed to shock absorption, braking systems, and track durability tech, which has been adapted into military logistics vehicles, especially for high-altitude terrain mobility. Startups working on precision agriculture and Geographic Information Systems (GIS) for crop monitoring are now supplying terrain analytics and satellite data overlays for military route planning, threat assessment, and border infrastructure management.

Strategically, the benefits of harnessing civilian dual-use technologies are profound. Development cycles shrink, costs fall, and defence capabilities evolve in lockstep with the rapid innovations typical of civilian tech sectors. This approach offers India a significant competitive advantage in a world where technological agility is paramount. Sovereign satellite navigation and communications systems diminish vulnerabilities to foreign supply disruptions and cyber threats, an

increasingly critical factor as geopolitical tensions mount. Yet, the journey is not without challenges. Harmonising the cultures and priorities of civilian enterprises and the military requires sustained dialogue and collaboration. Rigorous standards for security, reliability, and durability must be developed to ensure civilian-origin technologies withstand the unforgiving demands of combat environments. These hurdles, however, are being addressed with determination and strategic foresight. In essence, India's defence modernisation story is far more than the sum of its high-profile indigenous weapons projects or large procurement deals.

It is a subtle, systemic revolution — the quiet alchemy of civilian innovation transmuted into military strength. By weaving together the capabilities of its space program, telecommunications infrastructure, and automotive industry, India is crafting a defence ecosystem that is innovative, resilient, and distinctly its own. As global technological rivalries intensify, this silent defence renaissance may prove to be one of the Modi government's most enduring legacies — a testament to India's ascent as a self-reliant, technologically sovereign military power on the world stage. From every spark of sentience, from every sentinel of Ma Bharati, Bharat's dual-use might now blooms — where innovation arms the nation, and every civilian's Rā racintan steels its sovereign shield!





“Every neighbouring State is an enemy,” wrote Chankakya in Arthashastra about 2300 years ago, in the fourth century B.C. Well, if the country's leaders after Independence had only read the famous treatise of ancient India's greatest strategic mind, there would not have been a humiliating defeat when China attacked in 1962.

Only when PM Modi took a leaf out of the Arthashastra did the entire contour of India's defence strategy change after 2014. Modi realised that national security is multidimensional, encompassing economic development, self-reliance, and strategic policies tailored to the needs of the fast-changing world.

# Building Sovereign Capabilities Through Strategic Overhaul

## Rajeev Pathak

Ph.D. scholar on  
national security with  
a focus on  
Northeastern India  
and Member, State  
Executive Committee,  
BJP, Delhi





The biggest lesson of the Sino-Indian war was the country's inability to strengthen the army. Jawaharlal Nehru's warped idealism of global peace led to the abysmal neglect of national security. That Indian soldiers were dispatched to the snow-clad mountains of the Himalayas in cotton socks became a metaphor for an ill-prepared army.

No wonder, during the last 11 years, the Modi Government has gone for an overarching policy to strengthen the country's armed forces. He was also convinced that no country can meet an external threat without internal peace and cohesion. Hence, he took a number of measures to bring peace to the North-Eastern States. Some of the longstanding insurgencies were put to an end. Thanks to the tireless and astute leadership of the PM Modi, many festering disputes were settled, including Kabianglong, peace between NLFT and ATTF in Tripura, the Bodo Accord and ceasefire agreements with a number of insurgent groups in the North-East.

However, the greatest achievement of the Modi Government was abolishing Article 370, which had given Jammu and Kashmir a special status. In effect, Article 370 was the biggest barrier to the integration of the Kashmiri people with the mainstream of the country. The successful and peaceful elections in the Union Territory of Jammu and Kashmir are proof that the Government's historic decision was right.

As far as strengthening the armed forces is concerned, fundamental changes have been introduced. On the policy front, the biggest change happened in terms of the reorganisation of the armed forces. The creation of the Department of Military Affairs (DMA) in the Ministry of Defence and the appointment of the Chief of Defence Staff (CDS) as the permanent Chiefs of Staff Committee in 2019 became a hallmark of the reforms in the country's armed forces.

The creation of the DMA has helped inject much-needed integration and coordination. It has



also facilitated and strengthened the process of joint planning, operations, and procurement, making the armed forces more efficient and effective.

Over the past decade, soldier kits and facilities have significantly improved. Outdated rifles have been replaced with modern weapons. Troops now use advanced bulletproof jackets, ballistic helmets, and climate-adaptive uniforms. Enhanced night vision devices, drones, and secure communication systems improve battlefield efficiency. High-altitude gear, modular shelters, and better rations support troops in extreme environments. Living conditions and medical facilities, including telemedicine and mental health services, have been improved.

But beyond the reforms in the armed forces, the greatest achievements of the present Government have been in strengthening the armed forces, which had been hobbled by poor infrastructure, lack of modernisation, and dependence on imported arms and ammunition.

There were hardly any roads that could transport forces rapidly to the border on the eastern and northern frontiers facing China. This was the Achilles' heel of the Indian armed forces, and it was disastrously exposed during the 1962 war. Yet no concerted efforts were made to improve the infrastructure on the international border.

To address the deficiencies, the government of India launched a slew of large-scale road, rail, tunnel, and airport schemes. Thanks to the government's proactive planning, Kashmir and Arunachal Pradesh, which had no railway links, are connected with the heartland.

Apart from constructing roads in difficult mountainous terrain, the government's real achievement has been building a number of tunnels that provide all-weather connectivity to the most strategic areas in Ladakh and Arunachal Pradesh.

The crucial Z-Morh Tunnel was inaugurated by the Prime Minister on January 1, 2025. The strategically located tunnel, at an altitude of 8,652 feet, is 6.5 km long and facilitates the all-year-round movement of army and civilian vehicles. Another tunnel being constructed in Ladakh is at Zozila, at a breathtaking

height of 12000 feet above sea level. In the eastern sector, the Sela tunnel, whose foundation was laid by Prime Minister Modi, was inaugurated in 2024. The tunnel connects Tezpur to Tawang, a highly strategic town near the line of actual control.

Another advice of Chanakya in Arthashastra that a State must produce its own war material had been ignored by the Governments after India became free from British rule. Prime Minister Modi, realising the perils of depending on imported arms and ammunition, launched the 'Atmanirbhar Bharat Abhiyan', translated as Self-reliant India Mission, to give a push to the indigenisation of the manufacture of everything from aircraft, warships to all manner of weapons.

India had acquired the dubious distinction of being the largest importer of arms and ammunition. This was not only a drain on the country's resources but could also be subject to restrictions imposed by suppliers. In sync with the policy, the Ministry of Defence in 2020 announced a list of 101 items that were put on the prohibited list of imports. Since then, the list of defence items banned from imports has been growing every year to give a push to locally produced defence material.

In view of the limitations of public-sector companies, the government also took a major step to involve the private sector in the production of all kinds of defence equipment. According to the data available in the public domain, private-sector companies contributed as much as 22 per cent to the total defence production in the financial year 2023-24.

The success of the Modi Government's emphasis on indigenisation of defence production has resulted in India becoming an exporter of all kinds of defence equipment, from the now world-famous Brahmos and Akash missiles to radars, PINAKA rockets, and armoured vehicles.

Thanks to the far-reaching reforms and sustained efforts, India achieved an export of defence to the tune of Rs. 210.83 billion or 2.63 billion in U.S. dollars during the financial year 2023-24. This speaks volume for the country's determination to become self-reliant in the area of defence under the leadership of Prime Minister Narendra Modi.



# Modi Era of Defence Modernisation and Indigenisation

---

**Samrudhi Pande**

Working Professional and  
Public Policy Enthusiast

In the AI age, war has moved beyond borders. Cyberspace, outer space, and information networks are new battlegrounds, shaped by robotics, quantum tech, and autonomous systems. Conflicts now unfold with speed and scale once unimaginable—from cyberattacks and propaganda to drone swarms and precision strikes. This transformation demands more than manpower; it requires technological dominance and multi-domain synergy.

India's 2025 precision strike on terror camps showcased this shift; executed with AI surveillance, cyber tools, and electronic warfare, it neutralised high-value targets without triggering all-out war. Such operations demonstrate how military power now lies in tech-enabled strategy and rapid joint response.



Since 2014, under PM Modi, India has responded to this reality by transforming its defence posture—investing in modernisation, pushing for indigenisation, and positioning itself as a credible global defence power.

### **Modernising the Armed Forces**

Before 2014, India's armed forces faced serious modernization challenges due to budget constraints. The capital budget was mostly tied up in legacy commitments, limiting new acquisitions. Essential procurements like ultra-light howitzers were delayed, and naval projects such as Mine Countermeasure Vessels were scaled down. A 10% cut in non-plan expenditure in 2012 further restricted critical purchases. Defence spending in 2013 was 2.47% of GDP—insufficient against rising regional threats.

In contrast, under Modi's leadership, the government has consistently raised defence allocations—from ₹2.53 lakh crore in 2013-14 to ₹6.22 lakh crore in 2024-25, now 13% of the Union Budget. This has driven major upgrades across services.

The Army has enhanced its firepower with ATAGS howitzers, upgraded T-90 Bhishma tanks, Arjun Mk-II, and the high-altitude Zorawar light tank. Air defence has improved via S-400 Triumf systems, Akash-NG, and mobile platforms like Sudarshan Chakra.

The Indian Air Force is rapidly enhancing its capabilities with Rafale jets, Tejas Mk1A, and MQ-9B drones for extended-range precision. A major milestone is the development of the AMCA, a 5.5-generation stealth fighter being indigenously built by DRDO, HAL, and private partners. Directed-energy weapons like the 30kW Laser DEW are in progress, while selective collaboration on Russia's Su-57 strengthens India's long-term air superiority strategy.

The Navy's capabilities have been significantly enhanced with indigenous platforms such as INS Vikrant, INS Arighat, and INS Vagsheer, complemented by the ongoing construction of Scorpène-class, AIP-equipped, and nuclear-powered submarines. Naval aviation is progressing with the indigenous Naval Tejas fighter and advanced P-8I

maritime patrol aircraft. Strategic initiatives like the Information Management and Analysis Centre (IMAC) enhance network-centric warfare and maritime domain awareness, strengthening India's ability to safeguard vital sea lanes and project power across the Indo-Pacific.

India's drone industry is thriving, supported by the Drone Federation India's 550+ companies and 5,500 pilots. Import bans and production-linked incentives fuel innovation and exports. Leading firms like Tata Advanced Systems and Alpha Design Technologies are establishing India as a global drone hub.

### **Strategic Reforms and Multi-Domain Integration**

One of the defining reforms in Modi's defence strategy was the creation of the Chief of Defence Staff (CDS) and the Department of Military Affairs (DMA) in 2019, boosting integration among the Army, Navy, and Air Force, for joint planning and operations. Theatre Commands are being developed to unify service units under a single command, improving efficiency.

India has also entered new warfare domains with institutions like the Defence Cyber Agency (DCA), Defence Space Agency (DSA), and Defence AI Council. Mission Shakti (2019) demonstrated anti-satellite (ASAT) capabilities, solidifying India's space deterrence.

STEAG (Signals Technology Evaluation and Adaptation Group), created in 2024, is accelerating the integration of frontier technologies such as 5G, AI, and quantum computing. DRDO continues to deliver key assets like the Astra missile, Varunastra torpedo, and Ushus sonar.

### **Indigenisation and Aatmanirbhar Bharat**

Aatmanirbhar Bharat is the cornerstone of Modi's defence strategy, driving a decisive shift toward self-reliance. The government's "positive indigenisation lists" have barred imports of over 500 critical items, while the Defence Acquisition Procedure 2020 mandates at least 75% capital procurement from Indian firms. This push has boosted domestic defence production by 174%, raising indigenous content to 65%, and sharply reducing import dependence. India's indigenous capabilities now include systems like the BrahMos



missile, Akash SAM, Nag ATGM, and Zorawar light tank.

### Private Sector and Investment Surge

Under the leadership of PM Modi, private sector has emerged as a vital contributor, accounting for about 20% of defence production and 60% of exports. Leading companies such as Tata, Larsen & Toubro, Bharat Forge, and Mahindra have stepped up, supported by over 600 licences issued to more than 360 firms.

The Innovations for Defence Excellence (iDEX) initiative, launched in 2018, has promoted a vibrant startup ecosystem focused on advanced technologies like AI, UAVs, and space tech, with ₹449.62 crore allocated for FY 2025-26 to boost innovation. These efforts reflect a growing synergy between public sector execution and private sector innovation, building a future-ready defence industry.

### A 34-Fold Rise in Defence Exports

India's defence exports have increased 34-fold over the past decade. In the fiscal year 2024-25, exports reached ₹23,622 crore, a significant rise from ₹686 crore in 2013-14. Key exports include BrahMos missiles, Dornier aircraft, Akash SAMs, ATAGS howitzers, and Pinaka rockets. The sale of the Barracuda Offshore Patrol Vessel to Mauritius highlights India's expanding shipbuilding capabilities.

### Strengthening the Nuclear Triad

Post 2014, India has advanced its nuclear triad—land-based missiles, submarine-launched missiles, and air-delivered

systems—ensuring credible deterrence and strong second-strike capability. The commissioning of INS Arighat, the second Arihant-class nuclear-powered ballistic missile submarine, in August 2024, completed the operational sea-leg of the triad, enhancing survivability and underwater strategic strength.

On land, the Agni-V missile test with MIRV technology in March 2024 allows multiple independent strikes from a single missile, increasing targeting flexibility. The Navy's Project 75 submarines with Air-Independent Propulsion (AIP) and nuclear-powered attack submarines (SSNs) are in development to protect the ballistic fleet and expand maritime control.

Air-launched nuclear capabilities are being modernised to align with India's doctrine of credible minimum deterrence and no-first use. India's nuclear strategy is further reinforced through strategic partnerships with Quad nations and allies such as the U.S., France, and Israel, strengthening its posture amid a complex security environment.

### From Exercises to Execution: India's Military in Action

Since 2014, India has enhanced operational readiness through strategic military drills and decisive real-world missions, highlighting a shift from restraint to proactive defence.







Joint exercises like Varuna (France), Malabar (US, Japan), Simbex (Singapore), and RIMPAC have deepened interoperability and maritime security. Defence ties expanded with over 20 international agreements and new defence attaché offices in Poland, Algeria, Ethiopia, and Mozambique. India's "major defence partner" status with the US unlocked advanced technologies and strengthened strategic alignment.

This preparedness translated into swift action. The 2016 surgical strikes and 2019 Balakot airstrikes set early examples. Following the recent terror attack in Pahalgam, India launched Operation Sindoor—a precision missile strike on nine terrorist facilities near the LoC, targeting launch pads and supply routes used for infiltration and drone operations. The IAF employed BrahMos missiles and electronic warfare jamming, neutralising terror capabilities in 23 minutes with no Indian casualties.

India also targeted key Pakistani airbases—Noor Khan and Rahimyar Khan—with advanced loitering munitions, destroying high-value radar and missile systems, further weakening Pakistan's operational strength near the LoC. Recovered debris—Chinese PL-15 missiles, Turkish UAVs ("Yiha"), and long-range rockets—exposed Pakistan's reliance on foreign weaponry, while India's indigenous systems ensured dominance.

When Pakistan retaliated with strikes on Indian airfields and logistics hubs on May 9-10, India's multi-layered defences—including S-400s,

Akash-NG, and legacy systems like Pechora and OSA-AK—intercepted hostile drones and missiles, safeguarding critical infrastructure without escalation. These operations and drills reflect India's evolving doctrine—anticipate, deter, and strike with precision—underpinned by indigenous capability and joint-force synergy.

### **The Road Ahead**

India's defence modernisation over the past decade is a product of vision, resolve, and reform, driven by Modi's clear vision for the nation and his unwavering 'nation first' policy. While challenges remain in R&D, funding, and technological leapfrogging, a solid foundation has been laid for long-term capability. The 2030 goals—₹1.75 lakh crore in defence manufacturing turnover and ₹50,000 crore in exports—show India's ambition to defend itself and shape the regional and global security order.

Operation Sindoor exemplifies the success of India's indigenisation push. From air defence systems to drones and counter-UAS platforms, indigenous technology delivered when it mattered most. The fusion of private-sector innovation, public-sector execution, and military vision has enabled India to emerge as a high-tech military power. As future conflicts become increasingly technology-driven, India is ready, backed by its own innovations, a determined state, and the ingenuity of its people.



# Exploring the Strategic Autonomy of India's Foreign Policy Through the Defence Indianisation Program under Prime Minister Modi

---

**Ritesh Kumar Rai**

Assistant Professor, Department of Politics and International Studies,  
Pondicherry University, Puducherry

**Shashi Bhusan Kr Vishwakarma**

Doctoral Student, Department of Politics and International Studies,  
Pondicherry University



Military indigenisation denotes a nation's strategic aim to cultivate and augment its industrial and technological proficiencies for the production of critical military apparatus and systems. This strategy seeks to diminish reliance on foreign suppliers for military equipment, therefore guaranteeing self-sufficiency in fulfilling national security needs.

India's ambitions to become a major global power, strategic autonomy, and national security all depend on the indigenisation of defence production. India's supply chain is vulnerable due to its over-reliance on imported military hardware, particularly during geopolitical conflicts or crises. India can guarantee continuous access to vital weaponry systems, lessen reliance on outside vendors, and bolster its deterrence capabilities against enemies like China and Pakistan by building a self-sufficient defence sector. Additionally, local defence manufacturing develops a strong military-industrial ecosystem, boosts domestic R&D, and encourages technological innovation, which are critical for long-term security and operational preparedness. Instead of adjusting to foreign designs that might not fully suit its operational needs, India can customise its military hardware to meet its unique strategic needs when its defence industry is self-sufficient.

In addition to security, indigenisation strengthens India's autonomy in international affairs. India's capacity to pursue an independent strategic course is constrained by its heavy reliance on arms imports, which frequently carries political costs. By lowering its reliance on outside suppliers, India can make independent decisions free from outside influence in alliances, conflicts, and geopolitical alignments. A robust domestic defence sector also establishes India as a net security supplier in the Indo-Pacific, facilitating defence alliances and arms sales that increase its influence internationally. Economically speaking, indigenisation increases high-tech production, creates jobs, and reduces expensive defence imports, preserving foreign reserves. History demonstrates that the defence-industrial might of true great powers like the US and USSR contributes to their influence. Indigenisation is not merely a choice but a strategic necessity for India to become a major power.

Under the leadership of Prime Minister Modi, the vital sector of India's strategic necessity got an immense boost through various programs, which I will discuss in detail below. As part of the 'Make in India' program, the Modi government has implemented a number of policy measures during the past several years. These efforts and reforms are intended to stimulate the design, development,





and manufacturing of defensive equipment within the nation, which would ultimately result in a reduction in the amount of defence equipment that is imported. These measures include, among other things, giving priority to the acquisition of capital items from domestic suppliers in accordance with the Defence Acquisition Procedure (DAP)-2020. The government also announced the launch of 18 important military platforms for industry-led design and development. Notification of two 'Positive Indigenisation Lists' of total 209 items of Services and two 'Positive Indigenisation List' of 2851 items and 107 Line Replaceable Units (LRUs) respectively, of Defence Public Sector Undertakings (DPSUs), for which there would be an embargo on the import beyond the timelines indicated against them. The simplification of the procedure of obtaining industrial licenses with an extended length of validity; The liberalisation of the Foreign Direct Investment (FDI) policy, which will allow for 74% of FDI to be made through the automatic route; the simplification of the Make Procedure; the launch of the Innovations for Defence Excellence (iDEX) project, which will involve start-ups and Micro, Small, and Medium Enterprises (MSMEs); The Public Procurement (Preference to Make in India) Order 2017 is being put into effect. India's manufacturing sector, particularly MSMEs, would benefit from the launch of an indigenisation platform called SRIJAN.

The Defence Procurement Policy of 2016 was founded on the recommendations of the Dhirendra Singh committee. DPP-2016 has established a new category for capital procurement to foster indigenous design and development of defence equipment, namely 'Buy (Indian-IDD)' Indigenously conceived, developed, and produced. In categorising a case, this category is assigned the utmost priority by the Buyer. Since the enactment of DPP-2016, a total of 79 capital contracts valued at ₹1,28,077.41 Cr have been executed, of which 46 contracts total ₹44,219.55 crore are allocated to Indian suppliers, whereas 33 contracts amounting to ₹83,857.86 crore are assigned to foreign vendors.

Reforms in the offset strategy, with an emphasis on encouraging investment and the transfer of technology for the production of defence products, via the assignment of larger multipliers, and the

establishment of two defence industrial corridors, one in Uttar Pradesh and one in Tamil Nadu. Additionally, the Ministry of Defence has developed an SRIJAN webpage to encourage the industry to become more indigenous. There are now 19509 defence articles that were imported in the past that have been posted onto the portal for indigenisation on this date. To this point, the Indian industry has demonstrated an interest in the indigenisation of 4006 different parts of the military sector.

The expenditure on defence procurement from foreign sources has decreased from 46% to 36% as a result of the efforts taken by the government during the previous three years, which is to say from 2018-19 to 2020-21. This has resulted in a reduction in the weight of imports. As an additional point of interest, the Value of Production of Public and Private Sector Defence Companies has grown from Rs. 79,071 Cr to Rs. 84,643 Cr during the past two years, specifically 2019-20 and 2020-21.

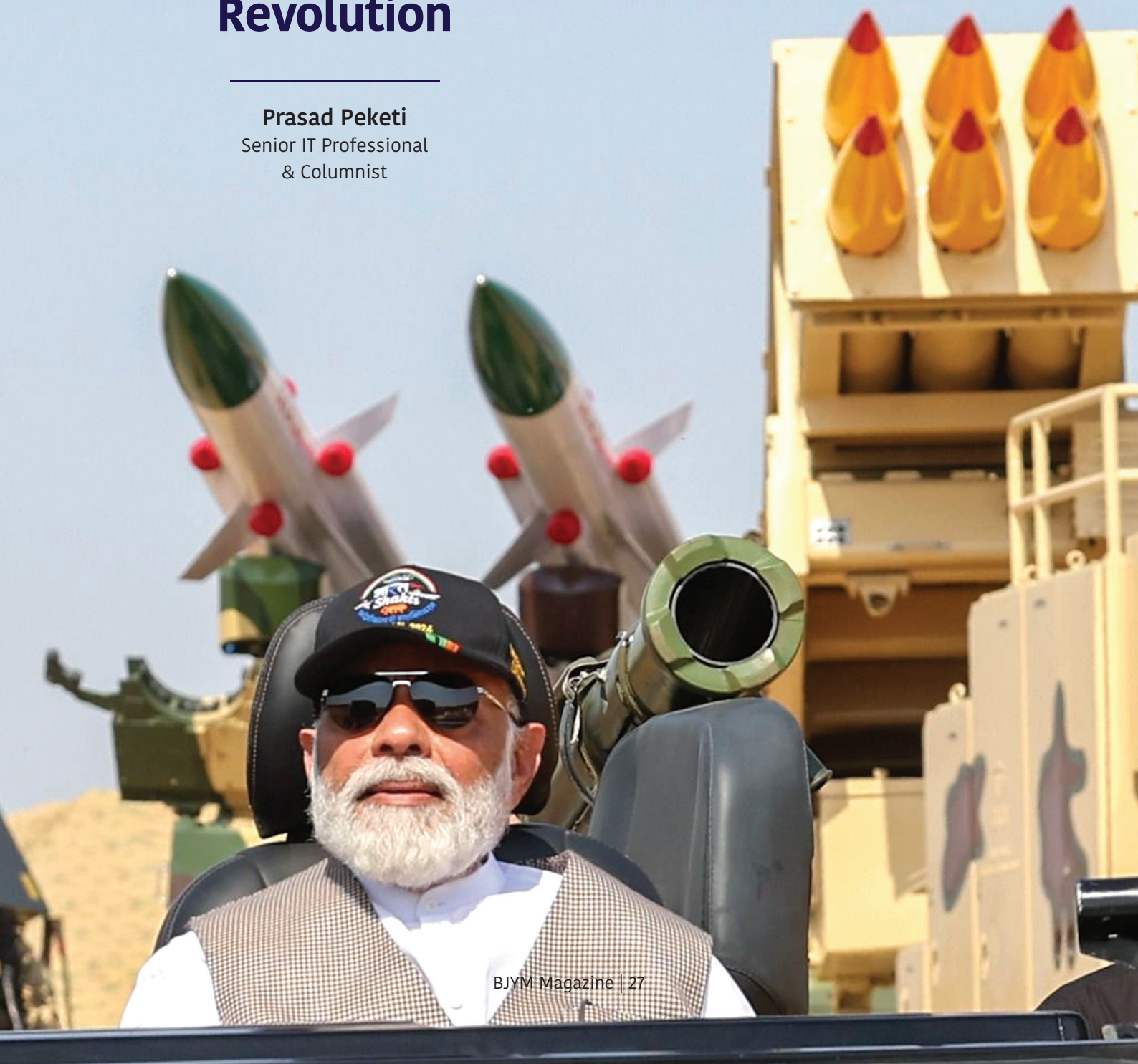
The Modi government's emphasis on the indigenisation of the defence sector played a crucial role in the strategic autonomy of India's foreign policy. Today, India stands out with its perspective on the various international issues, which can partially be attributed to the ongoing indigenisation of programs of defence. As the external minister, M. Jaishankar, remarks, Europe's problem is not India's problem or the world's problem. India is currently following the multi-alignment policy, where India is strategically free to pursue its interests with any particular nation that it deems beneficial. Earlier, India, due to its defence import dependence on other nations, was bound to make its external decisions with their influence. Still, with a gradual decrease in such imports and self-reliance, the external pressure tends to reduce on India's foreign decision-making. The leadership of Modi has revolutionised the whole defence sector, and we can expect more strengthening of this sector in the coming years as these programs of defence indigenisation start to offer results. The farsightedness in the government is immensely appreciable as the great nation of India marches forward for its glory in global politics.

# From Importer to Indigenous Power: India's Defence Revolution

**Prasad Peketi**

Senior IT Professional  
& Columnist

Over the past 11 years, under Prime Minister Narendra Modi's leadership, India has transformed its defence landscape through an ambitious push toward self-reliance. What started as the Aatmanirbhar Bharat initiative has evolved into a remarkable success story, with Indigenous development touching every aspect of India's military might—from tanks and missiles to aircraft carriers and nuclear submarines.





## Key policy Decisions and their Impact

- **Positive Indigenisation Lists (PILs):** PILs list items that Indian Defence Public Sector Undertakings (DPSUs) are mandated to procure only from domestic manufacturers, promoting self-reliance in defence production. These lists aim to reduce reliance on imported goods and bolster India's defence capabilities. The Ministry of Defence (MoD) has issued five PILs, covering 509 products and 2,851 components/subassemblies to be mandatorily procured from domestic sources. The fifth PIL (2024) includes 346 items with an import substitution value of ₹1,048 crore (US\$126.57 million).
- **Defence Acquisition Procedure (DAP) 2020:** DAP 2020, formerly known as the Defence Procurement Procedure (DPP), aims to streamline the acquisition of military equipment and technology for the Indian Armed Forces. It focuses on ensuring the timely acquisition of equipment while promoting self-reliance, transparency, and fair competition in the defence sector. It mandates 50% indigenous content in procurement contracts and introduced the "(Buy Global-Manufacture in India)" category to encourage foreign OEMs to establish manufacturing in India.
- **Defence Production and Export Promotion Policy (DPEPP):** This policy targets ₹1.75 lakh crore (US\$25 billion) in defence manufacturing by 2025, with ₹35,000 crore in exports. It focuses on aerospace, defence components, R&D, and exports.
- **SRIJAN Portal:** Launched to promote indigenization, it lists over 34,000 items for public view, with 10,000 items indigenised by January 2024.
- **Budget Allocation:** The defence budget increased from ₹2.53 lakh crore in 2013-14 to ₹6.21 lakh crore in 2024-25, with ₹19.64 billion allocated for procurement and ₹2.79 billion for R&D in 2023-24. This has catalysed domestic production.
- **Agnipath Scheme 2022:** Selected candidates would be enrolled as Agniveers for four years.

- The scheme provides an avenue to the youth in age category of 17-21 years, desirous of serving the country to get recruited in Armed forces for short term.

The Indian Navy, once heavily dependent on foreign ships, has transformed itself from a Buyer's Navy to a Builder's Navy with over 60 warships constructed in Indian Shipyards. It now builds 97.5% of its fleet at home. In 2024, an impressive 39 out of 40 new naval vessels were Made in India, including the pride of the nation - INS Vikrant, our first homegrown aircraft carrier. The Navy has set an ambitious target of being fully Aatmanirbhar by 2047.

The Army has embraced indigenous equipment like the Arjun tank and Dhanush artillery gun, while the Air Force flies domestically produced Tejas fighters, with 123 ordered and 83 already defending our skies. DRDO's Agni-V missile is fully indigenous with a 5,000+ km range. Arihant-class submarines, carrying K-15 and K-4 missiles, bolster second-strike capability. By 2025, three submarines were commissioned, with more in progress, securing India's nuclear triad domestically.

Behind these achievements lies a complete overhaul of India's defence ecosystem. Two Defence Industrial Corridors were established as part of the Make in India initiative. The Defence Industrial Corridor of UP has six nodal points at Agra, Aligarh, Chitrakoot, Jhansi, Kanpur, and Lucknow. Another Defence Corridor in Tamil Nadu with Chennai, Coimbatore, Hosur, Salem and Tiruchirappalli as five nodal points, these corridors have generated over 250,000 jobs and attracted ₹20,000 crores in investments. Traditional defence giants like HAL and BEL now work alongside private sector players like Tata and L&T, with thousands of SMEs joining the supply chain.

### Shakti Pradarshan at Operation Sindoor

The results are visible on the ground. During Operation Sindoor in May 2025, indigenous radar and missile systems successfully defended our borders. Special mention must be made for Brahmos though initially was supposed to be developed as collaboration of India and Russia, after initial development because various international

pressure, Indian defence organisation took it upon themselves to improvise it further so that it can become a supersonic missile (a missile that can travel at speed three times to the speed of sound). Akash surface-to-air missile performed extraordinarily in ensuring our land is safeguarded against enemies' missile and drone attacks. Chief Akash Missile System scientist Sri Prahlad Rama Rao mentioned he had tears of joy seeing the Akash missile perform beyond expectations. He credited former President and father of the Indian Missile Program, Dr. APJ Abdul Kalam, for laying the templates for the Indian Missile Program.

Another Organisation that remains the unsung hero is ISRO. Akashteer Defence System is a 100% Indigenous system built using AI technology. ISRO developed Navik GPS and even chips built by indigenous companies. In simple terms, Akash Missile works like a gun, Akash-Tier defence system works like a brain. ISRO Chairman V Narayanan has quoted that a dedicated constellation of satellites worked continuously to ensure the country's safety during this volatile period. It is worthwhile to note that during the 1999 Kargil war, we were dependent on other countries to get the GPS coordinates of terrorists who were hiding in the mountains. In Operation Sindoor, we developed our capabilities that enabled our defence forces to strike deeper into Pakistan-sponsored terrorist hubs

The Border Roads Organisation has built over 6,000 km of strategic roads, including engineering marvels like the Atal and Sela tunnels, using Indian-made equipment from PSUs like BEML

It's also important to know that 3,000 Agniveers—young soldiers trained under PM Modi's Agnipath scheme—participated in Operation Sindoor, held the line, and repelled Pakistan's largest missile-drone assault.

### India as a Arms Exporter

Perhaps most remarkably, India has emerged as a significant arms exporter, selling everything from BrahMos missiles to Pinaka rocket systems across 100 countries. Defence exports jumped 78% to reach

₹6,915 crores in just the first quarter of FY 2024-25. After real-time execution at Operation Sindoor and exceeding all expectations, there is a surge in demand for Indian arms

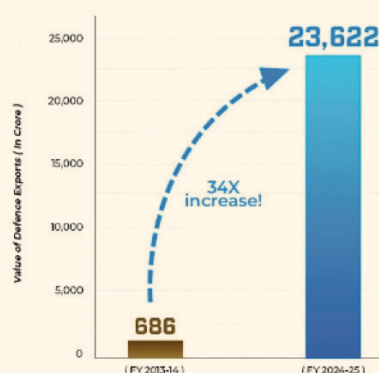
Challenges remain, of course. We're still developing jet engines domestically, and some projects face delays. But the trajectory is clear—India is shedding its tag as

the world's largest arms importer and building a robust, self-reliant defence industry that's becoming the envy of the world. India needs to be vigilant that in achieving the export targets, arms shouldn't land in the wrong hands that can reengineer our arms and use them against us.

This transformation isn't just about military strength but national pride, technological capability, and economic growth. As we continue this journey, every new indigenous weapon system and export order reinforces India's position as an emerging global power, capable of defending itself while contributing to international security.

### Record High India's Defence Exports Growth in 2024-25

- ◆ Revenue surged from ₹686 cr in FY 2013-14 to an all-time high of ₹23,622 cr in FY 2024-25
- ◆ Represents a **34 times increase** over the past decade





# From Operation Sindoor to SAGAR: India's Ascendant Defence Ecosystem

**Srikar Srivatsa Dahagam**

Pursuing MA International  
Economics at IHEID, Geneva and  
the author of the book,  
Economic Profile - Sirmaur

Indian defence sector was in the spotlight in the month of May, not only in India but across the world as well, because of the recently successfully concluded Operation Sindoor, where India struck 9 terror camps in the May 7, which delivered justice to the 26 families who were killed by Pakistani backed terrorist group, TRF on April 22 in the meadows of Pahalgam, which took the lives of innocent tourists. Pakistan cowardly retaliated by attacking Indian bases, all of which were interpreted by the indigenously developed Akashteer air defence systems and the Russian S-400 missile systems. The result of all this was that India had a decisive victory, where the Indian Air Force eliminated multiple Pakistani air bases, including the Noor Khan airbase in Rawalpindi, which was a huge military victory for India. While the armed forces' bravery is unmatched, one of the many reasons for this thumping victory is the sustained defence sector reforms that have occurred since 2014 under the decisive and sincere leadership of PM Narendra Modi.



“

*India has consistently been ranked amongst the top 5 military spenders since 2020, which is a huge deal for a 4.1 trillion dollar economy. In the last 10 years, India's defence industry has recorded a 34-fold increase in defence exports, which shows the capability of Atmanirbhar Bharat to come into the defence sector.*

”

As per the SIPRI World Military Spending Index, India has consistently been ranked amongst the top 5 military spenders since 2020, which is a huge deal for a 4.1 trillion dollar economy. In the last 10 years, India's defence industry has recorded a 34-fold increase in defence exports, which shows the capability of Atmanirbhar Bharat to come into the defence sector. The share prices and market shares for defence PSUs like BHEL, BEL, Mazgaon Dockyard, and Cochin Shipyard are some of the most significant evidence of the successful defence reforms implemented under the Modi era in India.

The rise of private sector firms like, PARAS, RIL, RTN India in this sector over the past few years with increasing market caps, opening up of 2 defence corridors in UP and Tamil Nadu, have firmly placed, India in a position from where it can launch into the new era of manufacturing advanced defence goods. Other initiatives launched by the GoI to incentivise domestic defence production have been - Defence IDEX scheme, which has been instrumental in bringing new age military technology closer to people, the latest outlay for the startups in Budget 2025 was as high as Rs. 450 crore.

The Government of India, over the past few years, has also allowed 100% FDI in 2023, in the defence sector, which has allowed it to have easy access to funds and whenever such sectors of national importance get access to funds, it incentivises competition, which leads to the overall rise in production. The entire country witnessed how the Modi government completed the deals of S-400, Rafale, despite geopolitical and domestic political challenges, which boosted the capabilities of the Indian Air Force massively.

The Indian Army has also seen massive modernisation, with new AK-47, AK-56 rifles manufacturing factories opening across the country, Dragunov sniper rifles coming into the system amongst others. The

modernization reforms by the Modi government have been implemented quite secularly in all types of combat by the government, be it on air, sea or on land, of which the biggest and the most underrated beneficiary is the Indian Navy. The Indian Navy is one of those legendary institutions in the country whose role in India's growth is not taught enough; however, this changed monumentally in the 2022 R-Day parade, when a tableau depicting the last war of Indian independence, also known as the Royal Indian Mutiny, was presented to the country. This one step has ensured that independent scholars are willing to research this topic of Indian history today.

In the Union budget of 2025-26, the capital outlay for the Indian Navy has been set at almost Rs. 63,000 crores, which is 35% of the total capital expenditure for the defence forces. The role of Indian Navy is crucial in realising Indian aspirations of becoming a Vishwaguru, as the Indian Navy is the wing of the armed forces which requires a lot of technological and technical prowess in it, even the USA is a dominant power in the world in the 21st century, is due to its strong naval services. The significant increase in capital outlay for the Indian Navy has also led to the commissioning of the INS- Arighaat, the second nuclear-powered ballistic missile submarine in the country. In December 2024, India also commissioned 2 new stealth warships named INS Surat and INS Nilgiri.

The Indian Navy over past 10 years has also seen a massive number of bilateral naval exercises, which empower the capabilities in multiple ways, exercises such as AUSINDEX(2015), Tiger Triumph(2019), IBSAMAR(2024) etc. are also playing a crucial role in India's SAGAR mission, which aims to portray India as the net maritime security provider in the Indian Ocean Region, which has become the hotbed of geopolitical activity over the past 10 years. The Indian Coast Guard





has also seen significant upgrades over the past few years. In terms of budget allocation, ICG has seen an allocation of almost 10,000 crore, which is helping the ICG in acquiring Advanced Light Helicopters, FPVs, Interceptor boats, which will strengthen India's maritime security in the longer run.

The other reforms, like the formation of the CDS position in the armed forces, the formation of integrated theatre commands, the Agniveer scheme for improving civil defence mechanisms in India, the One Rank One Pension scheme, and the formation of the MP-IDSA(defence and geopolitics) research centre, increased. Record budget allocations to DRDO, renaming of 21 islands in Andaman and Nicobar over the Paramvir Chakra awardees, allowing women to be permanently commissioned in the Indian armed forces, integration of space startups in the defence sector, are the major reasons why India has

the most powerful army in the world today. These reforms are not only helping the armed forces fulfil their short-term needs but also helping to stabilise the country's defence systems for the longer run.

To conclude, India has seen massive improvements in this sector. The sustained MILS doctrine (Modernisation-Liberalisation-Synchronisation-Indigenisation) of the Indian defence sector over the past 10 years is now changing the global perception of the Indian Armed Forces. From producing new weapons in India to celebrating Diwali with our brave jawans in different border regions of the country consecutively for the past 11 years, PM Modi is scripting and laying the foundation stone for an unprecedented growth in Indian defensive capabilities of all types.



# Aatmanirbhar Defence: Modi's Blueprint for Indigenous Military Transformation

---

Subham Banerjee

Policy and Research Team, BJYM Jharkhand





## Strengthening India's Defence: The Modi Government's Push for Indigenisation and Modernisation

Since 2014, under the visionary leadership of Prime Minister Shri Narendra Modi, India's defence sector has undergone a transformative journey, pivoting from decades of reliance on imports to fostering self-reliance through indigenisation. This strategic shift, encapsulated in the Atmanirbhar Bharat (Self-Reliant India) initiative, championed by PM Modi, has modernised the armed forces and positioned India as an emerging global player in defence manufacturing and innovation. From bolstering nuclear deterrence to empowering domestic industries, the Modi government has redefined national security as a blend of technological prowess, strategic autonomy, and economic ambition, reflecting PM Modi's mantra of "Nation First."

### Army Modernisation: Infantry to Artillery

Under Prime Minister Modi's leadership, the Indian Army, the world's second-largest standing force, has witnessed a quantum leap in operational readiness. Legacy systems have been replaced with cutting-edge indigenous platforms, such as the TATA Kestrel armoured vehicles and the Arjun Mk-1A main battle tanks, which boast 90% indigenous content—a testament to PM Modi's push for domestic capability-building. The induction of the Dhanush artillery gun, India's first locally developed 155mm howitzer, and the Akash surface-to-air missile system, both accelerated under PM Modi's tenure, have enhanced firepower and air defence. Long burdened by outdated gear, Infantry soldiers now operate advanced SIG-716 rifles and BMP-2 Sarath upgrades, complemented by lightweight, homegrown bulletproof jackets and helmets. Projects like the Future Ready Combat Vehicle (FRCV) and Battlefield Management System (BMS), prioritised by PM Modi, underscore the Army's tech-driven future, ensuring synergy between man and machine in tomorrow's wars.

### Naval Expansion: Securing the Indo-Pacific

Prime Minister Modi's emphasis on maritime security has

propelled the Indian Navy's transformation into a blue-water force, reflecting India's growing ambitions as a net security provider in the Indo-Pacific. The commissioning of INS Vikrant, India's first indigenously built aircraft carrier, marked a historic milestone under PM Modi's watch, with 76% of its components sourced domestically. The Project 17A stealth frigates and Kalvari-class submarines, built under strategic partnerships with Indian shipyards, highlight the Navy's focus on stealth and survivability, a vision articulated by PM Modi during the 2015 Defence Expo. Initiatives like the Deep Submergence Rescue Vessel (DSRV) and autonomous underwater drones have bolstered underwater combat capabilities. At the same time, the Marine Commandos (MARCOS) have gained advanced gear for hybrid warfare, aligning with PM Modi's call for "Security and Growth for All in the Region" (SAGAR).

---

*Prime Minister Narendra Modi's defence strategy transcends mere modernisation—it's a renaissance of India's strategic autonomy. By marrying indigenisation with innovation, the armed forces are now equipped to tackle 21st-century threats while fuelling economic growth.*

---

### Air Force Advancements: From Runways to Skies

The Indian Air Force (IAF) has transitioned from a largely Soviet-era fleet to a diversified arsenal under PM Modi's decisive leadership. The induction of 83 Tejas Mk-1A fighters, developed by HAL, and the landmark acquisition of Rafale jets, finalised through PM Modi's diplomatic outreach, have boosted air superiority. At the same time, the S-400 Triumph missile systems provide a formidable shield against aerial threats. Indigenous projects like the Advanced

Medium Combat Aircraft (AMCA), TEDBF (Twin Engine Deck-Based Fighter), and Prachand light combat helicopters, nurtured by PM Modi's focus on R&D, promise to replace ageing fleets with Made-in-India solutions. The IAF's modernisation extends to infrastructure upgraded runways, hardened shelters, and the Integrated Air Command and Control System (IACCS), ensuring readiness for multi-front challenges, as emphasised by PM Modi during the 2020 Galwan crisis.

### Nuclear Deterrence: A Shield of Sovereignty

Under PM Modi's stewardship, India's nuclear triad—land, air, and sea has gained unprecedented credibility. The induction of Agni-V, a 5,000-km range intercontinental ballistic missile with MIRV (Multiple Independently Targetable Re-entry Vehicle) technology,



sends a clear message of strategic deterrence, a policy PM Modi has consistently backed. The nuclear submarine INS Arihant, operationalized in 2018, completes the sea-based leg of the triad, with its successor, INS Arighat, set to enhance second-strike capabilities. These advancements, coupled with India's No First Use (NFU) policy, reinforce its position as a responsible nuclear power, a balance PM Modi has championed to safeguard sovereignty while promoting global stability.

#### **Defence Reforms: Policy to Practice**

Bureaucratic red tape and delayed procurements once plagued India's defence sector. The Modi government's reforms, such as the Defence Acquisition Procedure 2020 (DAP-2020)—launched by PM Modi to prioritise indigenous design and manufacturing—reserve 68% of the capital procurement budget for the domestic industry. Creating the Chief of Defence Staff (CDS) role and the Department of Military Affairs (DMA), a brainchild of PM Modi, has streamlined decision-making, fostering jointness among the Army, Navy, and Air Force. Additionally, the Defence Industrial Corridors in Uttar

Pradesh and Tamil Nadu, inaugurated by PM Modi, coupled with FDI limits raised to 74%, have attracted investments exceeding ₹20,000 crore, creating hubs for R&D and production.

#### **Technology & Innovation: The New Frontier**

Recognising that future wars will be won in labs rather than trenches, PM Modi has prioritised emerging technologies. The Defence Space Agency and Armed Forces Special Operations Division (AFSOD), established under his leadership, are preparing for space and asymmetric warfare. AI-driven projects like Project NETRA (for drone surveillance) and cognitive electronic warfare systems are underway. The iDEX (Innovations for Defence Excellence) initiative, personally promoted by PM Modi, has galvanized startups—over 400 have developed solutions ranging from anti-drone tech to wearable sensors for soldiers. The recent establishment of a Defence Cyber Agency, endorsed by PM Modi, further secures critical infrastructure against digital threats.



## **Domestic Manufacturing: The Make in India Revolution**

Under PM Modi's Make in India campaign, defence production crossed ₹1 lakh crore for the first time in 2022–23, with private players like Tata, L&T, and Mahindra emerging as key contributors. The Positive Indigenisation Lists—a bold move by PM Modi to ban imports of 4,666 items, including missiles, radars, and alloys—have spurred domestic innovation. From BrahMos Aerospace's cruise missiles to BEL's radars, Indian firms now compete globally, embodying PM Modi's vision of "Make in India, Make for the World." The ordnance factories' corporatisation into Seven New Defence PSUs has infused efficiency. At the same time, the SP Model (Strategic Partnership), advocated by PM Modi, ensures the transfer of technology in critical sectors like submarines and fighter jets.

### **Arms Exports: From Buyer to Builder**

Under PM Modi's leadership, India's defence exports skyrocketed from ₹1,521 crore in 2016–17 to ₹21,083 crore in 2023–24, reflecting its rise as an exporter. The BrahMos supersonic missile, purchased by the Philippines, and the export of Tejas components to Malaysia underscore this shift, a direct outcome of PM Modi's diplomatic outreach and policy reforms. Indian-made artillery guns, drones, and patrol vessels now serve over 85 countries, with the government targeting ₹35,000 crore in exports by 2025. Initiatives like Lines of Credit to friendly nations and the expansion of the Defence Attaché network, driven by PM Modi's global engagements, have opened new markets, blending diplomacy with defence commerce.

### **Indigenous Success in Operation Sindoor: Catalyst for Exports and Diplomacy**

The efficacy of India's indigenous defence equipment was recently showcased in Operation Sindoor, a high-stakes military exercise where homegrown systems played a pivotal role in achieving operational objectives. The Akash-NG missile system, designed to neutralize advanced aerial threats, demonstrated pinpoint accuracy, while the Dhanush artillery gun delivered devastating firepower with unmatched reliability. The Tejas Mk-1A fighter jets, deployed for precision strikes, underscored their combat readiness, and the Prachand light combat helicopters proved their versatility in high-altitude manoeuvres. This seamless performance of

Made-in-India platforms validated their battlefield prowess and sent a powerful message to the global defence market: India's indigenous solutions are battle-tested, cost-effective, and ready for export.

The ripple effect was immediate. Nations seeking to modernise their militaries while balancing budgets have turned to India as a trusted supplier. The Philippines' \$375 million deal for BrahMos supersonic cruise missiles, Armenia's procurement of PINAKA multi-barrel rocket launchers, and Egypt's interest in TEJAS fighters exemplify this trend. Bangladesh and Nepal have imported advanced radars and patrol vessels closer to home, strengthening regional security networks. Each export deal is more than a commercial transaction; it's a strategic handshake. By supplying defence equipment, India deepens interoperability, conducts joint training programs, and secures long-term partnerships. Lines of Credit (LoCs) extended to countries like Sri Lanka and Vietnam to purchase Indian gear and further intertwine defence cooperation with diplomatic goodwill, positioning New Delhi as a reliable security partner.

This synergy between indigenisation, exports, and foreign policy has created a virtuous cycle. Success in operations like Sindoor boosts global confidence in Indian systems, driving demand. Rising exports, in turn, fund R&D for next-gen technologies, while defence diplomacy amplifies India's geopolitical influence. As the world witnesses India's transformation from a defence importer to an exporter of credibility, the nation is not just arming partners, it's building a coalition of trust, one indigenous system at a time.

### **A Secure and Self-Reliant Future**

Prime Minister Narendra Modi's defence strategy transcends mere modernisation—it's a renaissance of India's strategic autonomy. By marrying indigenisation with innovation, the armed forces are now equipped to tackle 21st-century threats while fuelling economic growth. The journey from being the world's largest arms importer to a defence exporter mirrors India's broader ascent under PM Modi—a nation building its security not through dependence but determination. As he often asserts, "Aatmanirbhar Bharat is not just a policy; it is a mindset," and nowhere is this ethos more visible than in India's defence transformation.

# From Importer to Exporter: A Decade of Transformation Under Modi

---

**Vikas Dhar**  
CTO & Co-Founder,  
LivWell Asia

When Narendra Modi swept into power in 2014, he carried with him a promise of change. But few could have predicted just how deeply that change would ripple through India's defence establishment. Today, as the country stands on the threshold of a new era, it's worth pausing to ask: How did India's armed forces become so much stronger, more self-reliant, and, dare we say, more confident over the past decade?

## From Reluctant Importer to Proud Manufacturer

Not so long ago, our military hardware told a story of dependence. Russian fighter jets, Israeli missiles, American helicopters-India's defence shopping list was long and expensive. The phrase "Make in India" was more a hope than a reality. But something shifted after 2014. The Modi government, with its trademark flair for big, bold slogans, put "Atmanirbhar Bharat" (Self-Reliant India) at the heart of its defence policy. And for once, the slogan wasn't just a catchphrase. It became a mission.





Defence production numbers tell their own tale. In 2014-15, India's defence manufacturing output was about ₹46,000 crore. Fast forward to 2023-24, and that number has nearly tripled to over ₹1.27 lakh crore. What's more, India's defence exports, once barely a blip-now stand at over ₹23,000 crore, with Indian equipment finding its way to more than 100 countries. Even the boots worn by Russian soldiers are now "Made in India." Who would have thought?

### Rewriting the Rulebook

Of course, building a self-reliant defence sector isn't just about factories and assembly lines. It's about how decisions are made. India's defence procurement was a byword for decades for red tape and indecision. The Modi government tackled this head-on. The appointment of India's first Chief of Defence Staff (CDS) in 2019 was a watershed moment. For the first time, the Army, Navy, and Air Force had to work together in spirit and practice. Procurement rules were rewritten, with the Defence Acquisition Procedure (DAP) 2020 putting Indian products front and centre. The old Ordnance Factory Board was split up and corporatized, making way for a new era of efficiency and accountability.

### The Army, Navy, and Air Force: A Closer Look

Walk into an Indian Army artillery regiment today and see the difference. The Dhanush howitzer and the ATAGS gun, designed and built in India, are now the pride of our gunners. The Arjun tank, once dismissed as a white elephant, has come into its own. And the Pinaka rocket system, named after Lord Shiva's bow, now gives the Army a formidable punch.

But it's not just about big guns. The Army is embracing technology, drones, AI, and high-mobility vehicles are all part of the new normal.

.....  
*If there's one symbol of India's naval ambitions, it's the INS Vikrant. Commissioned in 2022, this aircraft carrier is 100% homegrown—a floating city that signals India's arrival as a true maritime power. Add to that a growing fleet of indigenous destroyers, frigates, and Scorpene-class submarines, and you have a Navy ready for the 21st century.*

For years, the Indian Air Force's fighter squadrons depended on imported jets. After years of scepticism, the homegrown Tejas is finally earning its stripes. Indigenous helicopters like the Dhruv and Prachand, and Indian-made drones are making the IAF more flexible and future-ready. The Akash missile system, developed by DRDO, now forms the backbone of India's air defence.

### Nuclear and Strategic Muscle

India's nuclear arsenal has quietly grown stronger and more sophisticated. The country now boasts a credible nuclear triad of land, air, and sea-based deterrents. The INS Arihant, India's first ballistic missile submarine, is a game-changer. Meanwhile, work on hypersonic missiles like BrahMos-II places India in an elite global club.

### The Startup Surge

One of the most exciting changes is happening not in government factories, but in startups and private workshops. Through initiatives like iDEX, the government gives wings to over a thousand startups working on everything from AI and robotics to quantum tech and cyber warfare. The old image of defence as a closed, government-only sector is fading fast.

Perhaps the most surprising twist in this story is India's rise as an arms exporter. Ten years ago, the idea would have raised eyebrows. Today, Indian radars, artillery, and even bulletproof jackets are in demand from Southeast Asia to Africa. The government's push for faster approvals and more innovative marketing is paying off. India is no longer just a buyer at the global arms bazaar; it's a seller.

### A New Confidence

Of course, it's not all smooth sailing. Technology gaps persist, and delays in indigenous projects still happen. The road to genuine self-reliance is long and winding. But the momentum is unmistakable.

What's most striking, perhaps, is the new sense of confidence in India's armed forces. There's pride in using homegrown equipment. There's excitement about new technology. And there's a sense that India's military is finally breaking free from the shackles of the past.

As the country looks ahead to its centenary of independence, one thing is clear: the transformation of India's armed forces over the past decade is not just about weapons and warships. It's about a nation finding its feet, believing in its abilities, and daring to dream bigger than ever before.



# Iron Dome of Atmanirbhar Bharat: How Indigenous Air Defence Won the 2025 Conflict

**Pinkesh**

Research Analyst working  
in a US-based MNC

On the morning of April 22, 2025, the tranquillity of Pahalgam was shattered by a brutal terrorist attack targeting Indian tourists. This was not just another strike; it was a calculated move by Pakistan to provoke, destabilise, and test India's resolve. But what followed was not panic or paralysis. What followed was Operation Sindoor, a show of India's strength, strategy, and most importantly, the success of Made-in-India defence technologies. For the first time in modern South Asian history, indigenous air defence systems formed an impenetrable dome, shielding our skies and preserving our sanctity, most notably the Golden Temple in Amritsar, from the fury of enemy drones and missiles. This was not just a military victory. It was the triumph of Atmanirbhar Bharat.

## Golden Temple Targeted, But Not Touched

On May 8, as Pakistani drones and missiles rained down on Punjab, the Swarn Mandir, a sacred symbol of Indian faith and heritage, became their prime target. But thanks to the indigenous Akash Missile System and the upgraded L-70 air defence guns, not a single Pakistani projectile even scratched the holy shrine. It was a technological miracle born from Indian soil, funded by a visionary government, and executed by a battle-ready Indian Army. Major General Karthik C. Sheshadri of the 15th Infantry Division stated, "We knew they had no military targets, only sacred ones. So, we fortified with modern Indian air defence." The BJP-led government's strategic foresight in investing heavily in domestic air defence capabilities turned the tide that day.





## Akash and Akashteer: The Iron Dome of India

The crown jewels of this success story are undoubtedly the Akash surface-to-air missile system and the Akashteer automated air defence control network, both indigenous and battle-proven.

- **Akash Missile System:** Developed by the DRDO, this medium-range missile system with a 25 km interception range destroyed over 600 hostile drones in real-time combat. It was the spearhead that intercepted suicide drones, including Turkey's Songar and Chinese-made CH-3 variants, launched in masse by Pakistan to overwhelm Indian radar.
- **Akashteer Control System:** This was the nerve centre of the operation Sindoor, fusing radar, detection, control, and firing into a seamless digital response. It provided a unified air picture, prevented friendly fire, and enabled lightning-quick responses. With its integration into the Army, Navy, and Air Force networks, Akashteer gave India something Pakistan sorely lacked, coordination.

With these systems, India created an iron dome over Punjab, Jammu, and Rajasthan, intercepting everything from low-flying kamikaze drones to long-range missile attacks, all without relying on foreign support.

## The Upgraded L-70: Old Gun, New Muscle

Another unsung hero was the indigenously upgraded L-70 air defence gun. This vintage anti-aircraft weapon, reengineered with modern fire control systems, played a frontline role in shooting down loitering suicide drones before they could strike ground targets. In one dramatic instance, an L-70 crew took down a fast-moving drone heading for a civilian colony just 3 km from Amritsar, a last-minute save that prevented what could've been a massacre.

## Pakistan's Imported Systems Fail Miserably

While India's self-developed systems stood tall, Pakistan's imported Chinese HQ-9 and HQ-16 defence systems, often boasted as 'cutting-edge', completely collapsed. During Indian strikes targeting terror camps and military bases between May 7 and 10, Pakistan's radars failed to detect or intercept even a single incoming missile.

In comparison, India's networked system functioned with textbook precision. The Integrated Air Command and Control System (IACCS) enabled real-time decision-making across forces, a testament to the Modi government's strategic investment in C4ISR (Command,

Control, Communication, Computers, Intelligence, Surveillance, Reconnaissance).

## Pakistan's Devastation: A Result of Indigenous Superiority

The numbers speak volumes:

- 9 terror camps in PoK and Pakistan proper destroyed
- 4 major airbases, including Chaklala and Nur Khan, were damaged
- Pakistan's radar stations and logistics depots obliterated
- Over 600 drones shot down, many before they crossed the LoC
- Around 50 Pakistan-based terrorists killed, 31 civilian deaths, and unconfirmed aircraft losses, including Mirage and F-16 jets

India's operation not only punished the perpetrators but also exposed Pakistan's overdependence on foreign weapons that failed them when it mattered most.

## Vision of Atmanirbharta Proven Right

This wasn't just a military operation. It was the real-world validation of the BJP's vision for an Atmanirbhar Bharat — a self-reliant India. Years of bold decisions, including record investments into indigenous R&D, streamlined defence procurement, "Make in India" policy enforcement, and DRDO modernisation, culminated in a moment when India could stand alone, yet unshaken. Critics once questioned the need to develop our missile systems when imports were readily available. But when the crisis knocked, the Indian-made Akash, Akashteer, and L-70 systems answered the door, not foreign platforms.

## India's rise in defence

The 2025 war may be remembered for many things: the Pahalgam attack, Operation Sindoor, or the precision strikes across enemy territory. But above all, it will be remembered as the war in which India defended its sky with domestic technology. Not a single holy site touched, not a single major civilian hub compromised, thanks to homegrown defence technology. Under the BJP-led Modi government, India didn't just retaliate; India redefined warfare. With courage in our jawans and confidence in our systems, we stared down a storm and emerged unscathed, unbeaten, and unbowed. In this new era, India does not beg for protection. India builds its own shield — and it works.

I remember standing at the Republic Day parade as a kid, eyes wide open, trying to catch a glimpse of every tank, missile, and fighter jet that rolled past the Kartavya Path. It was thrilling, the sound, the spectacle, the sheer scale of it all. But there was one thing I didn't understand back then. Almost everything we clapped for was made somewhere else: Russia, France, Israel, America. The names varied, but the story didn't. The uniforms were ours. The soldiers were ours. But the machines weren't. We were a proud nation, yes. But a dependent one.

Today, a quiet revolution is changing that. It hasn't generated breaking news headlines or been trending on social media. But if you listen carefully and pay attention, you'll see that India's armed forces are undergoing one of the most significant transformations in modern history. This is not just a story of missiles and manufacturing. It's a story of dignity and glory.

Just a decade ago, we were one of the world's largest defence importers, and we didn't even talk about it. We spent billions of dollars every year, relying heavily on foreign suppliers for our defence needs. We constantly negotiated, waited, and adjusted. And every time tensions flared up, there was always that one question: Will the spare parts come in time? Will support be available? In 2014, the policy changed. Not overnight, not with a bang. But Prime Minister Shri Narendra Modi quietly began rewiring the entire system, pushing for something that had long been seen as "too ambitious" in defence circles: Make in India in defence. For decades, that was just a dream. But dreams become reality when there's political will behind them. The will showed the way, and the way yielded results. And gradually, we transitioned from 'Buyers to Builders'.

Today, India is the largest arms exporter in South Asia and ranks among the top 25 global exporters. Our defence exports have jumped from ₹1,500 crore in 2014 to over ₹23,000 crore in 2023, an almost fifteen-fold rise. When the Indian Navy sails with its first indigenously built aircraft carrier, the INS Vikrant, it's not just a strategic asset. It's a statement. Built entirely in India with over 75% local content, it stands tall as proof of what we're now capable of.

When Indian skies are guarded by Akash air defence systems, or Tejas fighter jets fly proud combat missions, it's not just about readiness. It's about self-respect. And when the Astra air-to-air missile, Pinaka rocket systems,

# From Dependency to Dignity: India's Quiet Defence Revolution

Rohaan Wadhwa  
Entrepreneur and  
Columnist





BrahMos cruise missiles, and Agni-V long-range deterrents are 'Made in India', the message is loud and clear: We're no longer dependent. These aren't isolated wins. They're part of a deliberate, strategic movement towards sovereignty.

One of the most exciting aspects of this transformation has been the rise of Indian startups. For decades, defence production was a closed club. The private sector, especially young entrepreneurs, was kept at arm's length. However, all that changed in 2018 with the launch of iDEX (Innovation for Defence Excellence). Since then, over 350 startups have been roped in to develop cutting-edge defence tech, from autonomous drones and surveillance systems to AI-powered battlefield solutions. More than ₹450 crore in grants have been disbursed to back this innovation surge. iDEX has created a direct, institutional link between startups and the armed forces, allowing ideas to become real solutions for real missions.

Even legacy institutions have evolved. The system that once dragged its feet is now moving faster than ever. DRDO is more agile. Testing timelines have shortened. Procurement cycles have improved. Indian defence corridors in Tamil Nadu and Uttar Pradesh have attracted investments worth ₹30,000 crore and created over 50,000 skilled jobs, turning these regions into hubs of innovation and manufacturing.

**“** *Our missile arsenal is now largely indigenous. Our nuclear triad is operational. We're building submarines at home. Long-range capability, satellite surveillance, and cyber defence all see massive Indian involvement. The recent success of 'Operation Sindoor' was a living example of this shift.*

The Defence Production Policy 2020 was another watershed moment. It set clear goals: boost indigenous production to ₹1,75,000 crore and triple defence exports by 2025. The private sector's share, once under 1%, is now approaching 30%. Today, over 75% of Navy procurements are indigenous. And perhaps most importantly, our soldiers are getting better gear, made at home. For the man or woman at the border, it's less about where the equipment came from and more about whether it works, and whether the country truly stands behind them.

Even our strategic deterrents have matured. Our missile arsenal is now largely indigenous. Our nuclear triad is operational. We're building submarines at home. Long-range capability, satellite surveillance, and cyber defence all see massive Indian involvement. The recent success of 'Operation Sindoor' was a living example of this shift. When our forces executed rapid deployment, coordinated air support, and carried out precision strikes, the Indian-made drones, missiles, comms gear, and surveillance platforms didn't just show up; they delivered. For the first time in decades, India didn't have to look over its shoulder. We were not just ready, we were self-reliant in that readiness.

And perhaps the most surprising and satisfying change has been the boom in our defence exports. Let's be honest: Did anyone think, even ten years ago, that countries would line up to buy Indian weapons? But today, over 80 countries do. Indian radars, patrol boats, artillery systems, and ammunition are being exported across Asia, Africa, and beyond. The BrahMos missile, a joint venture with Russia but with substantial Indian tech and manufacturing, has found buyers in nations like the Philippines.

We were once among the world's biggest importers. Today, we're one of the fastest-growing exporters. That's not just good business; it's also strategic respect. Of course, the journey has only started. We still import critical technologies. There are gaps in manufacturing, in research & development, in project delivery. No serious country can ever be fully satisfied with its defence preparedness.

But the point is this: we're no longer frozen in that helpless dependency we had gotten used to. The shift is real. Measurable. And for once, it feels irreversible. You don't have to be from a military family or work in the defence sector to care about this. Because in the end, national security is the foundation of every other freedom: the freedom to dream, to build, to live without fear.

And for the first time in our modern memory, we're not just guarding that freedom with courage. We're doing it with confidence in our capabilities. A silent revolution is underway, not with slogans but with substance. And it deserves to be seen, acknowledged, and celebrated. Not just in government files or parade grounds, but in every Indian heart.

# Emerging Arsenal for the World: India's Defence Export Leap under Modi

**Rangin Halder**

Student at West Bengal  
National University of  
Juridical Sciences (NUJS)

In 2014, when Prime Minister Shri Narendra Modi assumed office, India was one of the world's largest arms importers. It was a matter of national concern that a country with over 1.3 billion people, a robust military tradition, and proven technological capability remained heavily dependent on foreign nations for its defence needs. Fast forward to 2025 — under PM Modi's visionary leadership, India is no longer just a buyer in the global arms bazaar. It is confidently stepping onto the world stage as a growing exporter of defence equipment, reflecting the strength of "New India" and its unwavering commitment to Atmanirbhar Bharat (self-reliant India).







The transformation didn't happen by chance. It is the direct result of PM Modi's firm political will, policy clarity, and strategic foresight. Unlike previous governments that neglected defence manufacturing and exports, the Modi government has made it a national priority. In a decade, India's defence exports have risen from a modest ₹1,940 crore in 2014 to over ₹16,000 crore in 2023—a nearly eightfold increase. This surge is not merely economic but a statement of India's rising military-industrial confidence under a decisive leader who understands geopolitics and ground realities.

PM Modi's emphasis on self-reliance and his call to "Make in India, Make for the World" struck a powerful chord with the defence sector. The government introduced the Defence Production and Export Promotion Policy (DPEPP) 2020, which didn't just set ambitious targets like ₹35,000 crore in annual defence exports by 2025—it mobilised the entire ecosystem to achieve them. Bureaucratic hurdles were dismantled. Licensing

processes were simplified. Export regulations were liberalised. Online portals were created for faster clearances. All of this was possible only because of the Prime Minister's unrelenting push from the top.

Unlike earlier times when Defence Public Sector Undertakings (DPSUs) functioned in silos, under PM Modi they were re-energised to take India's defence offerings global. Hindustan Aeronautics Limited (HAL) began exporting helicopters to Mauritius and the Maldives. Bharat Electronics Limited (BEL) sent radars and communication systems to Southeast Asia and Africa. Bharat Dynamics Limited (BDL) gained confidence in pitching missiles to friendly nations. But the game-changer came when India secured the BrahMos missile export deal with the Philippines—a historic first. No previous government could have pulled off such a strategic, high-value export.

Modi's defence diplomacy has been equally impactful. His personal rapport with world leaders has opened

doors for Indian defence exports. Unlike earlier governments that remained hesitant in using defence ties as foreign policy tools, the Modi administration has been bold and pragmatic. Countries in Southeast Asia, Africa, Latin America, and even Central Asia are now looking to India for not just military training and cooperation but also reliable, affordable defence equipment. This trust wasn't built overnight; it is the result of strong leadership, nationalistic conviction, and a clear foreign policy doctrine rooted in strategic autonomy.

The private sector, long sidelined by the Congress-era defence policies, was brought centre-stage by PM Modi. From Tata and Mahindra to L&T and Kalyani Group, Indian private players were encouraged to dream big. The Modi government raised FDI limits in defence from 49% to 74%, unlocking huge investment potential and making India an attractive partner for foreign original equipment manufacturers. Defence start-ups have also flourished under schemes like iDEX (Innovations for Defence Excellence), championed by the Prime Minister as a way to fuse youth innovation with national defence goals.

But PM Modi didn't stop at hardware. His government realised that training, software, cybersecurity, and artificial intelligence are the future of warfare, and export opportunities lie there too. Indian armed forces are now training personnel from friendly countries. Indian-made battlefield management systems and cybersecurity platforms are being exported. Our simulation software and surveillance tools are now competing globally. This expansion of exportable capabilities is a direct consequence of the digital-first, future-ready vision that PM Modi has infused into India's strategic thinking.

The establishment of two Defence Industrial Corridors—one in Tamil Nadu and another in Uttar Pradesh—further reflects Modi's holistic approach. These are not just clusters of factories; they are ecosystems where innovation, production, logistics, and export

readiness converge. The corridors are already attracting investment and scaling up manufacturing for global customers. Only a government with long-term national interest in mind could have planned such transformative infrastructure with clarity and urgency.

Unlike the lethargic and inward-looking defence strategies of the past, PM Modi has redefined what it means to be a global power. Defence exports under his watch are not just about business—they are about strategic deterrence, diplomatic leverage, and national pride. India today exports to more than 85 countries and is well on its way to becoming a reliable supplier of defence solutions to the developing world. This is a clear break from the dependency and indecision that marked previous regimes.

The opposition may criticise, but the numbers speak louder than rhetoric. India is now counted among the top 25 arms exporters in the world, as per SIPRI data. Our ambition to break into the top 10 by 2030 seems more realistic than ever, thanks to the bold decisions taken by PM Modi and his team. From gifting patrol boats to island nations to signing multi-million-dollar deals with Southeast Asia, India's tricolour is flying high in the global arms market—a scene unimaginable before 2014.

In conclusion, Prime Minister Narendra Modi has not just boosted India's defence exports—he has

rewritten the playbook. He has turned a timid, import-dependent nation into a rising defence exporter with global ambitions. Under his dynamic leadership, the world now sees India not as a customer but as a competent and confident partner in ensuring peace and security. The journey from "arms importer" to "arsenal of the Global South" is a story of bold vision, decisive governance, and national pride. And this story has only just begun.

.....  
*PM Modi's emphasis on self-reliance and his call to "Make in India, Make for the World" struck a powerful chord with the defence sector. The government introduced the Defence Production and Export Promotion Policy (DPEPP) 2020, which didn't just set ambitious targets like ₹35,000 crore in annual defence exports by 2025—it mobilised the entire ecosystem to achieve them.*  
.....



# From Doctrine to Dominance: Evolving Military Posture under Modi

**Renuka Sharma**

PhD. Scholar, Faculty of Management  
Studies, Banasthali Vidhyapith







India's efforts to strengthen its military have advanced faster than ever under Prime Minister Shri Narendra Modi. The strategy for defence in the nation has moved from waiting for threats to taking action first, and this change involves more than just military power, including reforms, technological progress and smart diplomacy. During Modi's tenure, India has moved from simple defence upgrades to a solid plan that protects its interests in a changing world. We are entering a new time when India seeks to influence the regional balance of power, not just protect its borders.

For years, India prioritised dialogue and strategic restraint in the face of repeated provocations. Yet, adversaries often misread this approach as a weakness. That perception changed under Prime Minister Modi. The surgical strikes of 2016 and the Balakot airstrikes in 2019 marked a decisive shift in India's security doctrine, sending a clear message: any attack on India will invite a calibrated, firm response. From now on, India must articulate a coherent and uncompromising security posture that makes it unequivocally clear that the nation's sovereignty and safety are non-negotiable.

Using an offensive defence approach, the doctrine was solidified by including actions aimed at stopping threats before they increase. There was a significant change in the doctrine when Operation Sindoor began in 2025. After the attack in Pahalgam left several civilians dead, India decided to respond swiftly, surgically and by

making a symbolic statement. In just a few days, the Indian forces and special teams destroyed important terrorist spots in Pakistan-occupied territory, including three training camps and a radar base. The operation was all the more notable because it kept other people safe and had very little effect on them, thanks to the Indians' strict discipline and professional habits.

Operation Sindoor proved how mature India's new defence policy was. It pointed out that the country's intelligence has strengthened, teams are more united, and local technology is being used. It made it clear that the government would take clear action but would avoid anything that might cause further tension or a show of force. Modi is leading changes in the way India's military operates with a blend of strength and care.

At the same time, India is advancing steadily towards self-reliance through the Atmanirbhar Bharat initiative. Defence—a sector that was once heavily dependent on imports—has undergone a transformative shift. Indigenous production now lies at the core of India's security architecture. With milestones like the commissioning of INS Vikrant, the country's first domestically built aircraft carrier, and the production of Tejas fighter jets and Prachand attack helicopters, India is fast joining the league of nations capable of designing and manufacturing sophisticated military platforms.

With the introduction of DAP 2020, the process of buying equipment has become simpler, more transparent and



places greater focus on indigenous products. The government has created positive indigenization lists that stop importing several hundred items and require them to be purchased locally. They have strongly increased what India can do at home and attracted more private involvement. Defence industrial corridors in Uttar Pradesh and Tamil Nadu make it easier for innovation, manufacturing and exports to succeed.

Nowadays, military operations need advanced infrastructure, cyber support, and space technology. Because of this, the Modi government has established the Defence Space Agency (DSA), Defence Cyber Agency (DCA), and Armed Forces Special Operations Division (AFSOD). These show that India is well-prepared for fifth-generation warfare, where dangers might be physical or digital, different from opponents, and covering more than one domain.

At the same time, the armed forces are undergoing a major transformation. The establishment of the Chief of Defence Staff (CDS) and the Department of Military Affairs (DMA) has brought order to how military policy is planned and carried out. Now, Integrated Theatre Commands are helping to ensure that the Army, Navy, and Air Force can coordinate effectively in joint operations. As a result of this reorganisation, the Indian military is both more successful in war and more productive during peace.

Over the last decade, the country's border infrastructure has dramatically improved. For the first time, roads, tunnels, bridges and forward airstrips are being built at an unprecedented rate. Building the Atal Tunnel and the strategic Darbuk-Shyok-DBO road in eastern Ladakh has made it possible for troops and supplies to move safely all year round to forward areas. Such infrastructure projects are not only impressive engineering works; they are vital parts of national defence. They make it possible for India to move fast, respond immediately, and keep up deterrence in the highest and most difficult locations.

Strength in the military depends greatly on human capital. In 2022, the Agnipath plan was introduced to restructure recruitment, so that the services could get a fresh batch of younger, skilled and agile members. Even though people initially had mixed opinions, the scheme

follows global trends by choosing leaner and more efficient forces over larger numbers. The aim is to design a flexible structure that can respond to fast changes on the battlefield. Meanwhile, focusing on better training, better housing, and more welfare benefits keeps the military motivated and ready for their tasks.

Part of the Modi government's defence strategy is building international partnerships. India is now participating in more joint exercises, signing important agreements with major allies, and joining the Quad and the Indian Ocean Rim Association (IORA). These partnerships help nations collaborate and also balance against leadership in their region. Defence exports from India reached a record ₹21,000 crore in 2023-24, representing a more than 20-fold increase over the last eight years. This shows that the world is becoming more confident in Indian defence products.

The way operations are carried out today reflects the full scale of India's military changes under Modi. Now, the defence establishment shares intelligence instantly and organises its activities more smoothly among different agencies. The mission showed how the Indian military excelled by using homegrown drones, satellite monitoring and encrypted messages to carry out cross-border missions quietly and without affecting the public.

All these steps are transparent and supervised by civilians, which signifies a mature democracy. The government's efforts to reach out to veterans, remember martyrs, and change defence pension laws demonstrate that it values and respects its military. As India moves ahead, the defence strategy chosen by Prime Minister Modi is well-planned, long-term and aimed at the future. It ensures that being prepared goes together with caution, ability with trust and new ideas with honesty. Amid ongoing global instability and the resurgence of major power rivalries, India's military is now equipped not just for defence, but also for decisive dominance when the situation demands, always anchored in the principles of peace and the preservation of national sovereignty.

.....  
*Operation Sindoor proved how mature India's new defence policy was. It pointed out that the country's intelligence has strengthened, teams are more united, and local technology is being used. It made it clear that the government would take clear action but would avoid anything that might cause further tension or a show of force.*  
.....

# Multi-Domain Metamorphosis: India's Strategic, Digital, and Nuclear Upsurge under Modi

**Shivashish Sen**

Working professional in  
the field of Marketing and  
based out of New Delhi

Since assuming office in 2014, the government led by Prime Minister Narendra Modi has initiated a new phase of defence readiness and national security for India. Driven by the vision of Atmanirbhar Bharat (self-reliant India), the administration has not only bolstered the operational capabilities of the Army, Navy, and Air Force but has also revolutionised the defence landscape by emphasising indigenisation, innovation, and strategic independence. This article examines the crucial measures implemented by the Modi government over the past decade to modernise India's military forces, reform defence institutions, encourage domestic manufacturing, and enhance India's standing as a defence exporter. These measures have helped us teach a lesson to Pakistan under Operation Sindoor.





## Modernising the Armed Forces

### Indian Army: Enhanced Capability and Mobility

The Indian Army has experienced a significant drive towards modernisation, focusing on mobility, surveillance, and firepower. This includes the acquisition of contemporary rifles, night vision devices, and bulletproof equipment, as well as the induction of advanced artillery such as the M777 howitzers and K9 Vajra-T self-propelled guns, preparing the army for contemporary warfare.

Additionally, the government has prioritized the development of border infrastructure. The establishment of all-weather roads, bridges, and sophisticated logistical hubs—particularly along the Line of Actual Control (LAC) and the Line of Control (LoC)—has improved India's ability to rapidly deploy troops in sensitive areas like Ladakh and Arunachal Pradesh to combat China.

### Indian Navy: Expanding Maritime Might

Acknowledging the strategic significance of the Indo-Pacific, the Navy has undergone substantial enhancement. Indigenous vessels such as INS Vikrant—the nation's inaugural indigenously constructed aircraft carrier—represent India's aspiration to emerge as a leading maritime force. Furthermore, introducing advanced stealth frigates and submarines (including INS Kalvari as part of Project-75) and enhanced maritime surveillance capabilities through P-8I aircraft have strengthened naval supremacy.

India's naval strategy under Modi has transitioned from a focus on "coastal defence" to a focus on "blue-water capability"—projecting power into distant oceans to safeguard trade routes and address regional threats.

### Indian Air Force: Achieving Supremacy in the Skies

The combat capabilities of the Indian Air Force (IAF) have undergone a transformation with the introduction of Rafale jets from France, recognised as some of the fastest and most adaptable fighter aircraft. Furthermore, the

modernisation of the Sukhoi and MiG fleets, the procurement of Chinook and Apache helicopters, and the initiative for the indigenous development of the Light Combat Aircraft (LCA) Tejas exemplify a well-rounded approach that combines foreign acquisitions with domestic advancements.

The creation of integrated air command and control systems and enhanced aerial surveillance provides the IAF with a significant technological advantage in contemporary warfare.

### Indigenisation: Building a Self-Reliant Defence Ecosystem

One of the most significant initiatives undertaken by the Modi Sarkar has been its vigorous promotion of indigenisation in defence production, guiding India from being one of the largest arms importers globally to achieving self-sufficiency. The prominent "Make in India" initiative has redirected the defence manufacturing landscape, creating two dedicated defence corridors in Uttar Pradesh and Tamil Nadu. These corridors have played a crucial role in attracting private investments and nurturing a strong industrial ecosystem surrounding domestic defence production. At the same time, the Defence Research and Development Organisation (DRDO) has expedited the advancement of indigenous technologies, including the Akash, Agni, and BrahMos missile systems, along with sophisticated electronic warfare systems and unmanned aerial vehicles (UAVs).

Acknowledging the significance of collaboration, the Modi government has opened the sector to private enterprises and start-ups, promoting innovation and capacity enhancement. Firms such as Larsen & Toubro, Tata Advanced Systems, Bharat Forge, and emerging start-ups like IdeaForge are now integral to bolstering India's defence capabilities. In a further effort to reinforce self-reliance, the Ministry of Defence has released several "positive indigenisation lists" that ban the import of over 500 items, thus necessitating their production domestically. These lists encompass essential systems

.....  
*Acknowledging the significance of collaboration, the Modi government has opened the sector to private enterprises and start-ups, promoting innovation and capacity enhancement. Firms such as Larsen & Toubro, Tata Advanced Systems, Bharat Forge, and emerging start-ups like IdeaForge are now integral to bolstering India's defence capabilities.*  
.....

such as artillery guns, missile systems, UAVs, and communication equipment, signifying a pivotal transition towards a self-sufficient and future-oriented defence ecosystem.

### **Reforms in Defence Policy and Procurement**

Reforming the bureaucratic machinery was essential to ensure that India's defence needs are addressed promptly and effectively. The Modi administration implemented several significant measures. One notable reform was the establishment of the Department of Military Affairs (DMA) in 2019, accompanied by the appointment of India's first Chief of Defence Staff (CDS). This initiative fosters better coordination among the three armed forces and enhances joint operations, procurement, and planning.

The introduction of the Defence Acquisition Procedure (DAP) 2020 further optimised acquisition processes, prioritised Indian suppliers, encouraged research and development, and stimulated innovation through the iDEX (Innovations for Defence Excellence) initiative. Furthermore, the government's shift towards Strategic Partnerships and FDI Liberalisation permitted 74% foreign direct investment (FDI) through the automatic route in defence manufacturing. This facilitated the creation of joint ventures with international original equipment manufacturers (OEMs), enabling the transfer of advanced technology while promoting skill development and improving domestic production capabilities.

### **India as a Defence Exporter**

A significant success story is India's rise as an arms exporter. Defence exports have increased nearly six times since 2014—from ₹1,521 crore in 2016–17 to over ₹16,000 crore in 2023–24. Indian defence products such as the BrahMos missile, Pinaka rocket system, radars, and offshore patrol vessels are being sold to nations including the Philippines, Vietnam, Mauritius, Armenia, and various African countries.

The government's diplomatic initiatives through defence exhibitions, bilateral defence agreements, and international partnerships have established India as a dependable defence ally in the Global South.

### **Boosting Strategic and Nuclear Capabilities**

Under the Modi administration, India has consistently upheld credible minimum deterrence and second-strike

capabilities. The successful testing of long-range nuclear-capable ballistic missiles such as Agni-V and the operationalisation of the INS Arihant—India's first domestically constructed nuclear submarine—strengthens India's strategic deterrence.

India has also enhanced its satellite-based military capabilities, including the launch of RISAT and GSAT series satellites. In 2019, it successfully executed Mission Shakti, showcasing anti-satellite (ASAT) missile capability, thereby joining an elite group of nations.

### **Digital and Technological Advancements**

The Modi administration has made substantial advancements in digitising the armed forces:

- **AI and Cybersecurity:** The establishment of the Defence AI Council and the Defence Cyber Agency aims to address emerging threats in the cyber and digital realms.

- **Digital Battlefield Technologies:** Incorporating AI, blockchain, quantum computing, and autonomous systems has improved battlefield awareness and command and control mechanisms.
- **Space and Drone Warfare:** Indigenous UAVs such as Rustom and combat drones are being developed and utilised for surveillance and precision strikes.

The past decade under the Modi administration has signified a fundamental change in India's strategy regarding national defence and security. This transformation is anchored in the principles of Atmanirbharta, strategic foresight, and extensive reforms. With a vision focused on the future, the government persistently invests in domestic capabilities, strategic infrastructure, and regional collaborations, ensuring that the Indian armed forces remain among the most capable, modern, and esteemed military forces globally.



# Smart Warfare to Strategic Exports: Modi's Blueprint for a Self-Reliant Defence Ecosystem

**Tarun Raj Sharma**

Social Worker, Youth  
Activist, and Public Speaker

Since 2014, India's defence sector has witnessed unprecedented growth and transformation under the astute leadership of Prime Minister Narendra Modi and the BJP government. Embracing the vision of Aatmanirbhar Bharat, the government has championed reforms that have strengthened India's defence manufacturing base, enhanced technological capabilities, and boosted strategic autonomy.

This proactive approach has shifted India from a major arms importer to an emerging exporter of sophisticated defence equipment. Operation Sindoor's success, where indigenous defence systems effectively thwarted a complex drone and missile attack, highlights the impact of these reforms on India's operational readiness.





### Operation Sindoor: A Defining Moment in Modern Indian Warfare

A heinous terror attack on Indian soil, where 25 innocent Indians and 1 Nepali Citizen were massacred, sparked outrage and global condemnation. Intelligence traced the operation back to Pakistan-backed terror outfits, triggering an immediate and coordinated Indian military response.

In response to the Pahalgam Pilgrim Massacre, India executed Operation Sindoor—a swift, precise, and high-impact retaliatory campaign. The Indian Air Force launched coordinated air and ground strikes going up to inside 100km and targeted 9 Terror Camps in mere 25 minutes, killing over 70- 100 terrorists

#### Pakistan's Drone Swarm Retaliation

In retaliation, Pakistani proxies launched a massive drone swarm attack, targeting Indian civilians, infrastructure, and religious sites—most notably, an attempted missile strike on the Golden Temple in Amritsar, which was swiftly intercepted and neutralised by India's air defence systems, averting a major tragedy.

#### India's Multi-Tiered Defence Response

**Crippling Pakistan's Air and Military Infrastructure -** Another strike was conducted on 11 key Pakistani Air Bases and high-value military installations. By targeting these strategic locations, India disrupted Pakistan's

ability to sustain and launch attacks along the border. Killed over 64 Pakistani soldiers, and over 90 were injured ( 164+ Casualties ). This operation significantly weakened Pakistan's capacity to respond effectively

The S-400 system provides India with robust, long-range defence against multiple aerial threats simultaneously. It gained prominence during Operation Sindoor, where its success reassured the nation and strengthened airspace security. As a critical component of India's defence network, the S-400 enhances strategic deterrence and operational readiness. But several indigenous systems also played a crucial role in defending India like:

- Indigenous Akashteer system : AI AI-powered air defence system referred as India's own Iron dome, successfully neutralised Pakistani and Turkish Kamikaze dozens
- QRSAM (Quick Reaction SAM) & VLSRSAM: Deployed for rapid deployment zones and naval installations.
- L-70 Guns, Pechora & OSA-AK Systems: Legacy systems upgraded with AI fire-control systems played a crucial role in layered defence.

These Advanced AKASH Missile systems , L70 Air Defence Guns protected the Golden Temple in Amritsar and several cities of punjab to prevent any damage India's Integrated Air Command and Control System (IACCS) used AI and cloud-based fusion technology to detect, track, and neutralise targets in real time demonstrated



their combat readiness by successfully intercepting Pakistan's PL-15 missile and Turkish-origin drones, highlighting the effectiveness of indigenous defence systems and advanced warfighting technology.

### **Technology & Innovation in National Security**

Post-2014, India's defence doctrine has evolved from relying solely on conventional strength to embracing tech-enabled smart deterrence. A major milestone in this transformation is the implementation of the Integrated Air Command and Control System (IACCS), which incorporates cloud computing and artificial intelligence (AI) to enable 360° surveillance, precise target acquisition, and real-time threat response. It operates seamlessly across all five theatre commands, ensuring enhanced coordination and faster decision-making.

India has also made significant strides in emerging technologies. AI-enabled surveillance systems and smart radars have become standard features in the Army and the Indian Air Force operations. In parallel, anti-drone technologies developed through DRDO and the defence-tech start-up ecosystem can effectively neutralise complex swarm drone threats, reflecting a new era of indigenous innovation in national security.

Rise of Domestic Defence Manufacturing & Arms Exports  
Defence exports from India reached a record high of Rs 23,622 crore (approximately US\$ 2.76 billion) in the financial year 2024-25 aiming for Rs 50,000 crore by 2029. This marks a notable growth of Rs 2,539 crore or 12.04% compared to the previous year's exports of Rs 21,083 crore in FY 2023-24, reflecting India's rising stature as a key player in the global defence market.

During the financial year 2024-25, India exported a wide variety of defence products, including ammunition, arms, systems, sub-systems, and components, to nearly 80 countries. Major export items featured advanced weaponry like the BrahMos missile, artillery guns, Dornier-228 aircraft, radars, Akash air defence missiles, Pinaka rocket systems, and armoured vehicles. The United States, France, and Armenia stood out as top importers, reflecting India's growing reputation as a reliable defence supplier on the global stage.

### **Private Sector Engagement**

- Firms like Tata Advanced Systems, L&T Defence, and Bharat Forge are leading the production of UAVs, artillery, missile launchers, and naval platforms

- The government allowed FDI up to 75% through the automatic route for companies seeking a new Defence license, while up to 100% is allowed under the government approval route
- India has seen a 34 times growth in the export of products in the last 10 years as compared to FY 2013-14
- Over 500 Startups & MSMEs are now part of India's defence supply chain

### **Strategic Reforms**

- Defence Acquisition Procedure (DAP 2020): based on the concept of womb to tomb, which prioritised domestic procurement, introduced several ideas such as the need to incorporate AI, use of indigenous software in defence equipment
- Positive Indigenisation Lists: Over 500 items banned from import to boost local manufacturing.
- FDI Reforms: Raised to 74% via the automatic route to attract tech and capital.

### **Defence Corridors**

- Uttar Pradesh and Tamil Nadu Defence Corridors to boost domestic production of defence, expected to attract investment of 10,000 crore, projected to generate over 2.5 lakh jobs

### **Start-up Revolution: iDEX Initiative**

- Launched to foster Innovation and technology in defence
- Over 300 start-ups funded under Innovations for Defence Excellence (iDEX).
- Projects include anti-drone guns, autonomous boats, smart helmets, and laser-based targeting systems

India's defence transformation since 2014 reflects a bold shift from dependence to dominance, powered by indigenous innovation, policy reforms, and strategic leadership. India now exports defence equipment to over 100 countries, with the USA, France, and Armenia emerging as the top buyers in 2023-24. The government aims to achieve ₹50,000 crore in defence exports by 2029, reinforcing India's role as a global defence manufacturing hub while boosting economic growth. Operation Sindhur was not just a military action but a symbol of India's political, social & strategic will power. With this, India has redefined its military posture on the global stage.



# From Importer to Innovator: India's Decade-Long Surge in Defence Self-Reliance

---

**Shailender Tiwari**

Pursuing MBA in Human Resources at Punjab College of Technical Education, Punjab  
Technical University and a founding member of Bharat Youth Federation (BYF)

---

India's defence sector is undergoing a transformative journey, shifting from a mode of dependency to one characterised by innovation and self-sufficiency. 'Atmanirbhar Bharat' and 'Make in India' initiatives have propelled India's domestic defence-industrial ecosystem, enabling the country to emerge as a prospective player in the global military production and exports arena.

## **The Evolution: From Import Dependence to Indigenous Power**

India was historically one of the biggest military equipment importers in the world, relying on Russia, the US, France, and Israel for crucial technologies. This dependence posed strategic challenges, forcing

policymakers to pay more attention to developing indigenous capabilities. The launch of 'Make in India' in 2014 and subsequently the 'Atmanirbhar Bharat' framework in 2020 set the stage for policies aimed at local invention, innovation, and increased industry participation in exports.

## **Key Achievements Since 2014**

### **Surge in Defence Production**

India's defence production surged to ₹1.27 lakh crore in FY 2023-24, registering a 174% growth since 2014-15. The defence budget also more than doubled from ₹2.53 lakh crore in 2013-14 to ₹6.81 lakh crore in 2025-26, demonstrating a relentless commitment to military modernization.



## Soaring Defence Exports

Defence exports have increased by almost 30 fold over the last decade and reached ₹21,083 crore in FY 2023-24, servicing over 100 countries. The government also issued a statement setting an ambitious goal of ₹50,000 crore in exports by the year 2029-30.

## Indigenisation Milestones

Over 14 thousand items have been indigenised under the SRIJAN initiative with 3000 items now being added to the Positive Indigenisation Lists which guarantees domestic production. Platforms like Tejas Light Combat Aircraft, Akash missile system, and LCH Prachand along with advanced artillery and naval systems are now operational.

## Expanding Defence Industrial Base

There has also been an increased engagement from the private sector with over 16,000 MSMEs and 430 licensed manufacturers actively participating in defence production. The investment of more than ₹8,658 crore in Defence Industrial Corridors in Uttar Pradesh and Tamil Nadu also incited commensurate innovation and job creation.

## Defence Procurement Policy & Indigenisation Lists

Domestic design, development, and manufacturing of

indigenous products was encouraged with the introduction of the Procurement Policy 2016 and subsequent reforms. A new category “Buy (Indian-IDDM)” was created for products Indian Designed, Developed, and Manufactured. Positive Indigenisation Lists bound the imports of hundreds of items, making their domestic production compulsory.

Innovation Ecosystem: iDEX, SPRINT, and MAKE Projects  
The iDEX and SPRINT initiatives provide grants and funding to startups, MSMEs, and academic institutions to develop next-generation defence technologies. The MAKE initiative supports prototyping and manufacturing, with 145 projects ongoing as of March 2025. The Defence Testing Infrastructure Scheme and DPEPP 2020 further streamline R&D and export promotion.

## Enhanced Engagement of Private Sector and MSMEs

Private firms and start-ups have increased greatly with the change in defence sector licensing, procurement, and ease of doing business policies. Partnerships with the public sector alongside FDI have accelerated the transfer of technology and defence-related joint ventures, further strengthening the country's defense ecosystem.

Platform/Initiative	Description & Impact
Tejas Light Combat Aircraft	First indigenous fighter jet, operational with Indian Air Force
Akash Missile System	Surface-to-air missile system, operational and indigenously developed
Light Combat Helicopter (LCH) Prachand	Supports IAF and Army. Over 65% indigenous content. Created over 8,500 jobs.
RudraM-II Missile	Indigenous air-to-surface missile, enhances strike capabilities
Defence Industrial Corridors	Advanced manufacturing, R&D, and development hubs in Tamil Nadu and Uttar Pradesh
SRIJAN Portal	Streamlines indigenisation processes for industries and industrial participation

### **Challenges on the Road to Aatmanirbharta:**

Even self-reliance seems within reach, India continues to grapple with gaps which need to be bridged in the following areas:

#### **Indian Self-Sufficiency Concerns**

**Deficit of Overseas Manufacturing Facilities:** The primary systems for India's defence are still manufactured abroad. Indo-American relations have not yet reached that level of trust where essential technologies can flow freely. We need to further enhance our relationships with other nations alongside trust, which includes spending a lot on research.

#### **Lack of Indigenous Sponsorship Scarcity**

Greater support towards sponsoring and financing the invention of new defensive mechanisms is of grave importance.

#### **Convoluting National Procedures**

These procedures tend to impair progress and increase project expenditure. Increased public access to streamlined and cost-effective national procedures would yield immense benefits without compromising state secrets.

#### **International Trade Africa**

India's competitiveness as a premier exporter of artillery in bulk needs to undergo structural reforms and stronger marketing by introducing competitive appraisal for price per unit, and excellent service quality for service quality

in comparison to unit price and overall after-sales service.

### **Strategic Initiatives and Future Prospects:**

A multi-pronged strategy has powered India's defence transformation focused on self-reliance and innovation. Increased investment in defence R&D, especially in institutions like DRDO, has accelerated domestic technology development. The Atmanirbhar Bharat initiative has strengthened the Make in India campaign, significantly reducing import dependence and creating new opportunities for local industries. At the same time, the government has opened up the sector to greater Foreign Direct Investment (FDI), encouraging partnerships, joint ventures, and technology transfers that have infused advanced capabilities into the domestic ecosystem. Strategic alliances in major defence projects have nurtured homegrown expertise and moved India closer to genuine defence autonomy. By fostering indigenous manufacturing, India is poised to become a net exporter of defence technology, enhancing its global standing.

India's journey towards self-reliance in defence production showcases the innovative policies, relentless innovation, and strong national will. India has transformed from a nation that relied on imports to a world leader in manufacturing. This shift not only ensured India's security but also propelled the economy, created numerous employment opportunities, and advanced technologically.







# Drones, Directed Energy, and Hypersonics: Charting India's Indigenous Defence

**Kamya Manish Gupta**

Pursuing B.Tech in Electronics  
and Computer Science at  
Mumbai University, and is  
trained in Bharatnatyam

The Indian subcontinent has held defence as paramount for prolonged centuries, where defence has meant not only artillery machineries but valiant warriors and ethics as well. Defence and indigenisation have been an indispensable and essential armour of the Indian civilisation. Through the annals of history, the research, study, efforts and human resources in facilitating defence technology have been nothing but conspicuous. The unfathomable warfare technology of ancient India, or the indigenously made explosive by Shri Ullaskar Dutta as a defence weaponry against British oppression, or the present-day beast of the defence wild, Akashteer, an integrated air command and control system requiring almost no human intervention, India continues its ascent in augmentation of its native defence ecosystem.



Over the past decade, Indian defence capabilities have soared into the sky with greater precision and impact. The recent happenings along our borders, which witnessed a huge exchange of ammunition as a sequel to the deadly attack on humanity, drew the world's attention to India's defence preparedness. This circumstance unearthed our true position in the realm of defence technology.

It has underlined how India's 65% indigenous defence-based production has helped us sail through the turbulent times. Doubling down on defence, this year's defence budget touched the historic \$ 77 billion mark to encompass research and development, AI integration, technology, innovation and more in the field of defence. It is notable that India produced arms worth 14 billion dollars last year. India is recognisably also one of the only 4 countries in the world to have Anti-Satellite weaponry.

Over the past years, we have significantly increased our Domestic defence manufacturing, propelling India towards becoming a Global defence power. One such remarkable milestone is the indigenously made "Raksha Kavach," introduced at Aero India 2025, Bengaluru, by DRDO. This advanced Air Defence Shield possesses multilevel protection, safeguarding our military infrastructure, soldiers, and land. This is a state-of-the-art security system designed to confront security threats. The layered system provides protection even from Ballistic blasts and electronic shielding.

As we focus on the holistic development of defence technology, this system has also integrated

nanotechnology, making it lightweight and durable. A systematic airborne warning and control system, air-to-air missiles, drone detection, and interception are inseparable features of this anchor shield of India, which also aligns with the vision of Atmanirbhar Bharat.

The Hypersonic Weapon Technology—Scramjet Engine test at Hyderabad in April, which lasted for 1000s, has not left the vogue as it gave India a weapon that works at five times the speed of sound, can penetrate through Air defense systems, and has an impact range of 17000 Kms in all directions, enough to devour some of our surrounding volatile landmasses.

Reaching the edge of technology in all directions, India has successfully delivered the home-grown laser weapon specifically with pinpoint accuracy—the Mk-II(A), which has 30 kW power-directed energy and, astonishingly, does not even require a cool-off period. It has brought up a new reality at the defence front wherein a beam of light can destroy a swarm of drones, and hence, it is rightly being called India's "Star Wars"-like capability.

The involvement of private players, startups, and businesses in the defence market has been an inevitable demand for security scenarios that have rolled out rapidly in the past years, especially with the advancing technology, which brings its own jeopardy. The inclusion of private Indian companies and their tie-ups are essential for specialised research, creation, and surging manufacturing of these products. India has launched a new dawn, a beginning for this environment, with 1000 defence startups in India pressing for compounded



self-reliance.

Fascinatingly, the Skystriker Drone which caught the glance of the nation after being used in Operation Sindoor was made in India by Alpha Design Technologies (A Private Limited in India) in collaboration with ELBIT which has the potential of high precision attack (up to 1 meters), extremely small in size and having very less Radar Cross section covered in Radar observant material. It is a loitering munition that can loiter over a place for 1- 3 hours, having a range of 80-100 80-100Kms and has battery-operated lights that do not produce noise, making them even less detectable.

Besides this, groups like Optiemus Unmanned Systems have built Marak VT100- a high altitude, tough terrain drone with electro-optical IR imaging Cameras, the Vajra QC55- a Multirotor, advanced aerial surveillance with Real time imaging and AI analytics, Canister launched loitering ammunition and FPV drones based on Optical Fibre which is immune to electronic warfare jamming. Companies like Shyam VNL have come up with counter-drone systems, RF and Radar detection and small handheld jammer devices. In collaboration with DRDO, Tata Advanced Systems has also developed India's first Amphibious Infantry Combat Vehicle, called Wheeled Armoured Platform, a recognisable private venture.

While we are rising up as the eagles of the sky, our Naval Defence Technologies are making us the whales of the oceans. Naval operations have integrated AI in Combat Management Systems to process abundant data from radar and sonar, creating real-time scenario alertness and quicker response to threats. It has also adopted the natively made Neerakshi-Autonomous Underwater Vehicle developed by Garden Reach Shipbuilders & Engineers (GRSE- Indian Company) to conduct underwater surveys and mine detection, which dilutes the risk of human interference.

Self-dependent defence abilities have stirred up defence exports, which hit Rs 21,083 Crore in FY 2023-24. Some defence exports include Bulletproof Jackets, Dornier

Aircraft, Chetak helicopters, and lightweight torpedoes. Russia and Armenia have been cited as major importers of Indian defence products. Russia has also imported Made-in-Bihar boots for the Army through Competence Exports, a private limited company in India. This facility has also boosted employment for several small-scale workers.

As a generation that has witnessed massive and rapid technological flourishment, we need to build on our legacy and remain prepared with combat equipment and structured defensive measures because the type of future defence technology is not precisely determined and can keep transitioning.

This involves our readiness to safeguard against chemical warfare, the need for radiation-resistant technology, radiation safety training, information warfare strategies, cyber battle prevention, and awareness amongst the common masses. Undeniably, engine manufacturing needs to be indigenised as soon as possible to efficiently and in a timely manner produce our jets domestically. Additionally, we must impel the development of Automated Combat Vehicles on all three frontiers.

Multiple initiatives on both the grassroots and central levels have brought India to its present position. From the Atal tinkering labs at local levels to SPRINT (Supporting Pole—Vaulting in R&D through Innovations for Defence Excellence), these have played pivotal roles in nourishing innovation and the involvement of a skilled youth workforce in defence technologies.

India has yet again greenlit an unprecedented forward trend in self-reliant defence growth, and it shall not stop. We certainly owe this to the tirelessly dedicated research community and the brave Indian Armed Forces, who have exhibited the impeccable quality to swiftly and accurately incorporate novel technological resources in defence and warfare to protect thenation.

.....  
*we have significantly increased our Domestic defence manufacturing, propelling India towards becoming a Global defence power. One such remarkable milestone is the indigenously made "Raksha Kavach," introduced at Aero India 2025, Bengaluru, by DRDO. This advanced Air Defence Shield possesses multilevel protection, safeguarding our military infrastructure, soldiers, and land.*  
.....

*They tried to sell us shields,  
but we chose to forge our own—  
not just to fight  
but to define who we were.  
This is not just defence,  
it's defiance.  
A quiet roar that says:  
We won't rent our strength.*

.....

# Shield of Our Soil, Voices of Valour: From Dependency to Sovereign Defence

**Akshita Chaturvedi**

Class 12 graduate and Participant  
Viksit Bharat Young Leaders  
Dialogue

And that's exactly what we've been witnessing since 2014, a nation shedding its dependency and building its own shield, brick by brick, missile by missile, dream by dream. In a world where borders are not just lines on a map but live wires of pride and peril, Bharat chose to not just protect, but empower. With its head held high and heart rooted in its soil, India embarked on a journey towards Atmanirbharta, not just as an idea, but as a national calling. But wait. Ask yourself, why does this even matter? The weapons that defend us should never come with foreign instruction manuals. A sovereign soul needs a sovereign sword.

## **Before the Breakthrough: The Waiting Years**

Before 2014, India's defence sector bore the weight of waiting—waiting for approvals, waiting for imports, waiting for reliability. From rifles to radar systems, a major portion of our defence equipment came with a passport. Production delays were frequent, and upgrades, often at the mercy of external vendors, were anything but timely.

India was the world's largest arms importer, spending billions, yet struggling with inconsistent supplies and outdated tech. Despite having some of the brightest minds, we were dependent on foreign soil to guard our own. That wasn't just a gap in security, it was a crack in confidence.

## **The Great Defence Reset**

Since 2014, India's defence narrative has taken a 180-degree turn. Gone are the days when we waited for foreign shores to respond to our security needs. Today, we innovate, manufacture, export, and lead.





In 2014, India's defence exports stood at a mere ₹686 crore. Fast-forward to 2024-25, and we're looking at a whopping ₹23,622 crore. That's not just a number; it's the sound of shackles breaking. Today, India exports to over 100 nations. We're not just protecting our borders; we're helping the world guard theirs. Our innovations are becoming global conversations.

And let's be honest, there's something poetic about the same land that gave zero to the world now giving advanced defence systems too. From dependency to dynamism, the nation has built a new identity of strength, strategy, and self-sufficiency.

### **The Soul of Swaraj is Swadeshi**

**Gandhi's words echo louder than ever:**

*"True independence begins when we depend on ourselves."*

And in today's geopolitical theatre, that means standing tall with homegrown tech, home-forged steel, and home-brewed brilliance. Be it Dhanush artillery, Tejas fighter jets, or Arjun tanks, the pride isn't just in their power, but in their pin code.

Every nut, every bolt, every code speaks one truth: This is ours. Let's face it. The future isn't in files, it's in fire. Fire in the belly of our youth, engineers, writers, innovators, thinkers. It's not just a mere article, it's a trumpet inviting every young Indian to be part of this revolution. To write. To dream. To question.

So ask: Why wait for others to defend us when we have the brilliance to build our own arsenal?

### **The Quiet Depths: INS Kalvari**

Take the example of the INS Kalvari, commissioned in 2017, a true marvel in silence and strength. Named after a deadly deep-sea predator, this submarine wasn't imported from a European dockyard. It was built in Mumbai by Indian hands under a strategic partnership with France, proving that even the depths of the sea could echo with Indian ingenuity. With stealth, precision, and endurance, Kalvari operates like a ghost beneath the waves. But what makes it poetic is not just its performance, it's its provenance. For a country once dependent on outdated Soviet submarines, building one on its own soil is nothing short of revolutionary. INS Kalvari was more than a launch. It was a message from the seabed to the sky: India can. India will.

### **The Helina Test: Silence that Roared**

Now, consider the Helina missile test, conducted quietly

in the mountainous terrains of Ladakh in 2022. Not many newspapers screamed about it. But it screamed sovereignty in silence. This indigenously developed anti-tank guided missile, launched from a helicopter, hit its target with pin-point accuracy, at 4,200 meters above sea level, in sub-zero temperatures, under harsh wind conditions. It wasn't just a test, it was testimony. That India no longer waits for defence deals, we deliver defence dreams. No borrowed chip. No foreign tech. Just Indian minds. Indian metal. Indian muscle.

### **In the End, It's Not Just About Firepower**

Defence is not just about bullets and bombs. It's about belief. Belief in our engineers. In our economy. In our evolution. Let this not be just a phase, but a philosophy. Let every village child know that the uniform he may wear tomorrow is backed not by fear, but by the force of a billion people who believe in Bharat.

### **More Than Metal, It's a Movement**

Because when India makes for itself, India stands for the world. Let's write this story, not with borrowed ink, but with our own hands' blood, sweat and pride. As this story unfolds, let every Indian know that this is just the beginning. Atmanirbharta is not a destination; it is a dharma. It is not limited to factories and furnaces; it breathes in the dreams of a coder in Bengaluru, a welder in Coimbatore, a scientist in Hyderabad, a cadet in Pune. It's in every heartbeat that dares to believe: I can build, I can serve, I can protect.

The wars of the future won't just be fought on borders. They'll be fought in minds. In markets. In the race for innovation and resilience. And we are gearing up, not to compete, but to lead. Let our youth know that patriotism is no longer confined to parades or slogans. Today, it can be coded into software, welded into armour, or even whispered into policy. Today, every startup that disrupts dependency, every machine that replaces a foreign part, every invention that pushes a limit, that too is a salute to the tricolour.

We are not asking the world for space at the table. We are building the table, and inviting the world to see what India creates when it creates for itself. So forge ahead, Bharat. With steel in your hands, fire in your eyes, and sovereignty in your soul. Because this time, the shield is ours. And the story is ours to write. Not borrowed, but born of Bharat.

# Forging Sovereignty: Legacy Reloaded in India's Military Transformation

**Abhinav Jat**

Class 12 graduate and  
social activist

Gone are the days when India waited with folded hands, scanning the skies for foreign aid. Gone are the days when retaliation took months, and decisions moved slower than tides. Today, the new India rises—a nation that can strike back within days, sharp and certain. What once depended on global mercy now rests firmly in our own grip. It was 2014—not just the beginning of a new government, but the ignition of a movement. A quiet revolution began, not through speeches, but through steel, sweat, and strategy. India stopped walking with borrowed crutches and began running on its own legs.

## From Assembly Lines to Arsenal: The Rise of Self-Made Defence

There was a time when India's defence industry merely assembled parts sent from overseas—screwdriver technology, they called it. But today, India doesn't just fit the screws; it designs the blueprints, builds the engines, and paints the nameplates.



Take the Tejas Light Combat Aircraft—once an ambitious sketch on paper, now a powerful jet soaring the Indian skies, proudly crafted in Bengaluru. It is not American, not Russian, but Indian.

It doesn't end there. Missiles like the BrahMos, drones manufactured in Tamil Nadu, and radar systems designed in Uttar Pradesh—every corner of the nation

contributes to our security narrative. Earlier, nearly 75% of our military hardware was imported. Today, 3 out of every 4 defence contracts are awarded to Indian firms. This is not just a policy shift; it's a transformation in mindset. From factories to startups, from research labs to battlefield innovations, the nation is building its own fortress.



## **Exporting Power, Not Just People**

India has long been a source of talent—CEOs, engineers, and coders shaping global industries. But now, we export tanks, surveillance systems, and smart weaponry. A patrol vessel built in Goa patrols Vietnamese waters, protecting their sovereignty. Missiles tested on Indian soil have found new homes in friendly nations across Africa and Southeast Asia.

Our defence exports, once barely a whisper, have grown 15 times in the last decade, knocking on doors in over 100 countries, spanning continents. From a silent player, India has become a confident global partner. Our weapons no longer guard us—they represent us.

## **Surgical Precision: Striking Back, Swift and Sure**

In the last decade, India's response code has been rewritten. Be it the 2016 Surgical Strikes on terror launchpads in Pakistan-administered Kashmir, the 2019 Balakot Airstrikes targeting terrorist camps, Operation Ganga for cross-border intelligence, Operation Snow Leopard securing the Siachen Glacier, the covert Operation Kaveri in Myanmar, or the highly classified Operation Sindoor, India no longer hesitates. The message is clear: hurt us, and we respond—not with words, but with action.

This response is powered by homegrown firepower—drones developed by our engineers, communication systems crafted by our coders, and the boots marched by our brave soldiers. This isn't escalation; it's assertion—a statement: India will not be provoked, but it will not be passive either.

## **Defence Corridors: Building Fortresses, Not Just Factories**

Step into the Uttar Pradesh and Tamil Nadu Defence Corridors—epicentres of India's new defence ecosystem. Or walk through Aligarh or Coimbatore today, and you'll find defence startups, manufacturing giants, and innovation hubs humming with energy.

These aren't just industrial zones—they are veins pumping life into India's strategic self-reliance. They connect more than 200 MSMEs, generate thousands of jobs, and attract billions of investments. In less than a decade, they've turned cannon dreams into wheels, transforming ambitions into reality.

## **From Policy to People: A Culture of Innovation**

Defence isn't

just a ministry anymore, it's a movement. Initiatives like iDEX (Innovations for Defence Excellence) and SRIJAN have unlocked the power of students, startups, and scientists. Imagine a 22-year-old in Hyderabad designing an AI-based drone surveillance system. Or a retired army veteran in Pune building adaptive armour technology for tanks.

This is the new face of India's defence—a face of creators, thinkers, and builders. Where once we had 5-6 defence giants dominating the scene, today hundreds of MSMEs are turning ideas into armour and indomitable strength.

## **Not Noise, But Nationhood**

India's rise in defence isn't loud, but it's undeniable. It's built not just on budgets, but on belief, not only on strategy, but on self-respect. Not merely through firepower, but through foresight. Not by mimicking others, but by mastering its own path.

This is the new India—quiet in confidence, firm in resolve, and fearless in action. From blueprints to battle-readiness, from dependence to dominance, the journey has been long, but purposeful. Operation Sindoor is not the beginning; it is the result. The foundation was laid over a decade of reforms, resilience, and relentless pursuit of self-reliance. The message is clear: **India will build, India will defend, and when provoked, India will strike.**

From being the world's largest importer of defence equipment, India is now climbing the ranks as a trusted exporter. From relying on global deals, we now craft our own deals—on our terms. Since 2014, India's legacy has not just reloaded—it has reshaped, reclaimed, and roared. The era has changed—not because the world gave us permission, but because India gave itself the command.

**The legacy didn't just reload. It rewrote its rule.**

**JAI HIND**

# Shields and Servers: India's Self-Reliant Security in the Digital Era

---

**Kanishka Jha**

Pursuing a Master's in  
Economics

Traditionally, national security meant defending our physical borders. But in today's digitised era, the idea of national security has changed completely. It now extends to unseen and intangible threats – from cyberattacks to narrative manipulation, GPS tracking, and unmanned drones that strike without warning. In the Indian context, this redefinition is even more significant. As India emerges as a manufacturing powerhouse with a winning demographic dividend, threats are not just external but are also seeping in silently, attempting to sabotage our growth story. So, the question now is: Are we just preparing for wars that don't happen on battlefields?

From Red Echo to Operation Chakra-II, these real case studies show that we are in the middle of a shift from boots to bytes. But the good news is, India is not passive. Since 2014, India has made strong and forward-looking efforts to develop a defence system powered by technology, with a clear focus on indigenisation and self-reliance.





### India's Defence Progress Since 2014: The Foundation

Since 2014, India has significantly ramped up its defence capabilities. The establishment of the Defence Cyber Agency, increased budget allocations for RCD, the launch of iDEX (Innovation for Defence Excellence), the Strategic Partnership Model, and DRDO's strengthened collaborations with Indian startups have accelerated innovation. From being an importer of defence systems, India is moving towards becoming an exporter. The rise of private players and indigenous startups in defence manufacturing reflects the government's serious commitment towards Aatmanirbharta. In cybersecurity, too, India is increasingly investing in homegrown solutions to reduce dependency on foreign technologies.

#### Case Study 1: Red Echo Cyberattack – The Wake-up Call

In 2020, Mumbai faced an unexpected power outage that brought trains, hospitals, and the entire city to a standstill. What was first dismissed as a routine technical glitch was later traced by cybersecurity experts to Red Echo — a group reportedly backed by the Chinese state. This was more than a glitch – it was a wake-up call. This attack revealed that India's critical infrastructure could be disrupted without crossing any border. But what followed showed India's readiness to respond. The government began formulating the National Cyber

Security Strategy and placed renewed emphasis on developing indigenous cybersecurity frameworks.

It was after this case that India saw the importance of building internal resilience. The government actively promoted the development of local cybersecurity tools, encouraged public-private collaboration, and invested in cyber-RCD. This was a clear sign that India was serious about defending itself, not by importing solutions, but by building them from the ground up.

#### Case Study 2: Operation Chakra-II – The Silent Siege

In 2023, the CBI launched Operation Chakra-II, a nationwide operation to crack down on cybercrime networks across India. These scams impersonated representatives from companies like Microsoft and Amazon, deceived users with fake job offers, and extracted financial and personal information. What made this different was the scale and depth—over 130 shell companies, dozens of servers, and call centres were uncovered. Foreign nationals were among the victims.

But instead of looking helpless, India led a coordinated response involving international agencies like the FBI and Interpol. The government's swift and well-coordinated response not only dismantled the network but also proved that India had the internal systems and capability to take on global cyber threats. This was another clear step towards self-reliance.



## Response to These Cases: Building on Strength

Both of these cases pushed India to strengthen its cyber posture. But more importantly, they showed that India doesn't just react to attacks – it evolves from them. We started promoting indigenisation in cybersecurity, encouraged startups through iDEX and DRDO, and began building partnerships between academia and industry. These responses reflect a system that learns, adapts, and strengthens.

### Case Study 3: Pahalgam Attack – The War on Minds

The recent Pahalgam attack, where 26 civilians, including Hindu pilgrims and a Muslim pony operator, were killed, was not just a terrorist act – it was psychological warfare. The aftermath saw communal narratives being amplified online, attempting to divide the country along religious lines. This shows how national security today is not just about protecting physical space but also about safeguarding societal harmony.

The simple takeaway is that we need cognitive resilience. We need systems in place that can counter disinformation, calm the public, and provide verified facts swiftly. India must focus not only on security forces but also on securing the minds of its citizens.

## Solutions: Innovation in Action

### 1. Cognitive Resilience and Narrative Control

Today, cyber defence needs to extend beyond just firewalls, encompassing proactive communication strategies and systems that foster public trust. India should invest in decentralised fact-checking frameworks and AI-based tools to counter disinformation in real time. When disinformation is a weapon, truth must be the armour.

### 2. Human Capital as the Frontline of Cyber Defence

India's greatest strength lies in its people. With a large young population, we have the minds to power our cyber defence. The government must invest in human capital formation in cybersecurity by incorporating it in school and college curriculums, training public sector employees, and creating awareness among citizens.

### 3. Decentralising Awareness Through NSS Volunteers

We don't always need expensive campaigns to spread awareness. NSS and NCC volunteers in colleges can be powerful communicators. These digital natives understand the platforms where misinformation spreads. Empowering them to lead grassroots awareness campaigns can create a decentralised cyber shield.

### 4. Indigenous Cybersecurity Ecosystem

The Red Echo incident made it clear that relying on foreign cybersecurity tools can be risky. Since then, India has taken a self-reliant approach by supporting indigenous RCD and startups. Initiatives like iDEX, DRDO-industry collaboration, and Indian cybersecurity firms developing homegrown tools show that self-reliance is no longer a vision – it's becoming a reality.

## Way Forward

India must now move from reaction to anticipation. The goal is not just to prevent the next attack but to be prepared for the next frontier. We must think about data protection, digital trust, psychological defence, and resilient infrastructure. This requires a collective approach from the government, private sector, and people.

Since 2014, India has steadily transformed its defence landscape. Today, security isn't just about soldiers and weapons but software, minds, and narratives. As we move ahead, our strength will lie not only in how we defend our borders, but in how

we protect our unity, our trust, and our digital sovereignty.

The strongest firewalls are not just digital—they are built in the minds of informed citizens, and India is ready.

.....  
*The government actively promoted the development of local cybersecurity tools, encouraged public-private collaboration, and invested in cyber-RCD. This was a clear sign that India was serious about defending itself, not by importing solutions, but by building them from the ground up.*  
.....



*"We dream of an India  
that is self-sufficient in  
producing defence  
equipment using the  
latest technology"*

---

Prime Minister  
Narendra Modi (2014)

## Tech-Driven Triumph: India's Leap into Autonomous Defence Capabilities

**Ojasv Chauhan**

Pursuing Engineering at  
Punjab Engineering College,  
Chandigarh

India's national security landscape has undergone a transformative shift since 2014, driven by a strategic emphasis on technology and innovation. Under initiatives like Make in India and Aatmanirbhar Bharat, the country has prioritised indigenisation and high-tech solutions to bolster its defense capabilities. This article explores how India's investments in defence budgets, indigenous manufacturing, innovation ecosystems, advanced weaponry, unmanned systems, artificial intelligence (AI), cybersecurity, and space-based capabilities have reshaped its security framework. It also briefly highlights the role of technology in Operation Sindoor, where space-based assets were leveraged effectively. Drawing on official data and analyses, this discussion underscores India's journey toward self-reliance and its emergence as a global defence technology player.

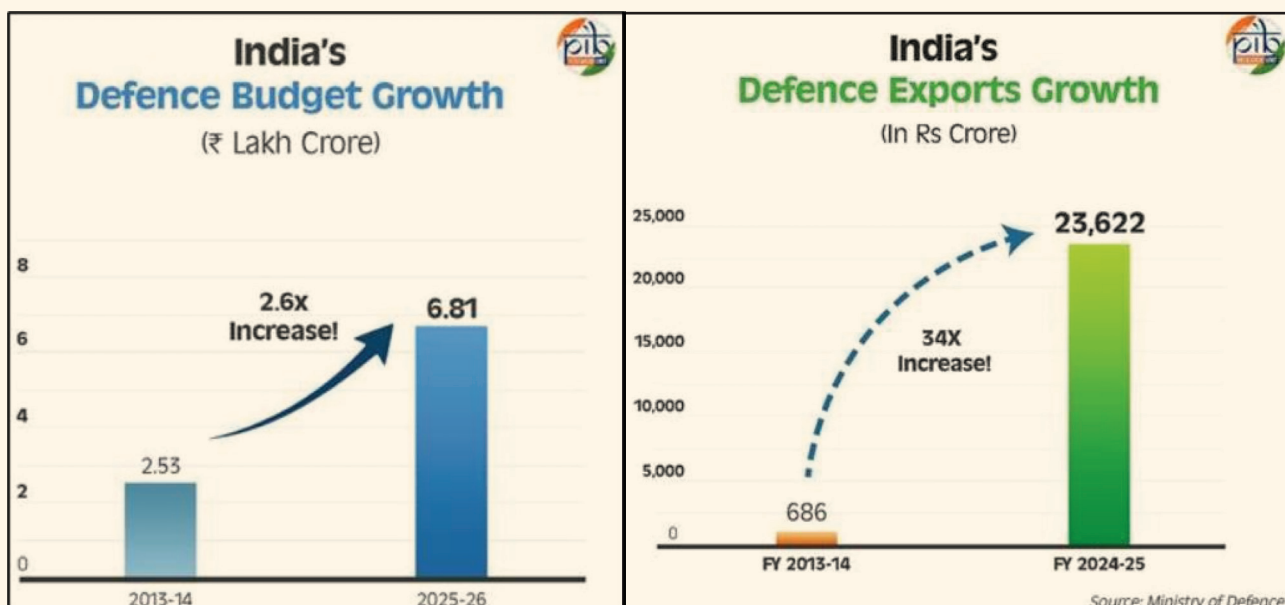
### Defence Budget and Indigenous Manufacturing

A robust financial foundation has been critical to India's defence modernisation. The defence budget has more than doubled from ₹2.53 lakh crore in FY 2013-14 to an estimated ₹6.81 lakh crore in FY 2025-26, providing substantial resources for research, development, and production. This funding surge has catalysed a boom in domestic arms manufacturing, with indigenous defence production reaching ₹1.27 lakh crore in FY 2023-24—a 174% increase from FY 2014-15. India's shift from import dependence to self-reliance is evident in its growing defence exports, which soared 34-fold from ₹686 crore in 2014 to ₹23,622 crore by FY 2024-25. Private industry has

played a pivotal role, supplying hardware to over 100 countries, including advanced systems like the BrahMos supersonic cruise missile, delivered to the Philippines in 2024 under a \$375 million contract—India's largest single defence export deal. The government's ambitious target of ₹50,000 crore in exports by 2029 reflects confidence in the expanding defence industrial base.

### Innovation Ecosystem and Start-Ups

India's innovation ecosystem, linking the military, academia, and industry, has been a cornerstone of its defense transformation. The Defence Research and Development Organisation (DRDO) has opened its laboratories and patented technologies to private firms, while "Young Scientists" labs drive cutting-edge research. The Defence Acquisition Procedure (DAP) 2020 reserves projects for Indian companies, earmarking contracts up to ₹100 crore for start-ups and MSMEs. The Defence Innovation Organisation (DIO) and its Innovations for Defence Excellence (iDEX) program are at the forefront, which fosters competition among start-ups to solve military technology challenges. Winning teams receive grants of up to ₹1.5 crore (or ₹10 crore under iDEX Prime) to develop prototypes. The DIO's ₹499 crore Innovation Fund (2021-26) supports approximately 300 projects, and the 2023 iDEX Innovators Hub, backed by ₹200 crore in private investment, aims to scale promising start-ups. Over 300 start-ups now contribute to defense and aerospace innovation, earning praise from Defence Minister Rajnath Singh as a "decisive step" toward self-reliance.





Public-private partnerships (PPPs) further amplify this ecosystem. Major firms like Tata and L&T co-develop critical assets, such as helicopters, munitions, and naval ships, while foreign co-production agreements facilitate technology transfers. The INS Vikrant aircraft carrier, commissioned in 2022 with over 70% indigenous content, exemplifies this collaborative approach, integrating India's industrial capabilities into the defence R&D pipeline.

### Indigenous Missile and Weapon Systems

India's missile and weapon programs highlight its technological prowess. In 2024, DRDO conducted 14 missile tests, including the Agni-V with Multiple Independently Targetable Re-entry Vehicle (MIRV) capability and a long-range hypersonic missile, placing India among an elite group of nations. Other successes include the K-4 submarine-launched ballistic missile, the Nirbhay cruise missile (1,000 km range), and the Phase-II ballistic missile defence interceptor. The arsenal also features the BrahMos missile, Akash surface-to-air missiles, and solid-propellant Agni and Prithvi systems. Beyond missiles, India has deployed the Arjun Mk II tank, Tejas Light Combat Aircraft, and naval assets like

corvettes, frigates, and Varunastra torpedoes. Upgrades such as the Tejas' AESA radar and electronic warfare systems underscore growing domestic expertise. The BrahMos export to the Philippines illustrates India's global competitiveness in weapon designs.

### Unmanned Aerial and Drone Systems

Unmanned systems are now integral to India's security strategy, with the government aiming to make India a "drone hub by 2030." The Army, Air Force, and Navy deploy indigenous UAVs for surveillance, reconnaissance, and strikes. A 2021 ban on drone imports, coupled with a ₹120 crore Production-Linked Incentive (PLI) scheme, has spurred local production. Indigenous loitering munitions have proven effective in neutralizing hostile targets, while firms like Alpha Design Technologies and IdeaForge develop drones with advanced capabilities, including swarm tactics and autonomous navigation. Start-ups supported by iDEX are innovating in these areas, and counter-drone systems using radar and jammer technology from DRDO and BEL enhance defensive capabilities. This ecosystem positions India for full-spectrum UAV dominance.



## Artificial Intelligence and Cybersecurity

AI is transforming India's military operations. The Army employs AI for logistics, predictive maintenance, and simulations, while the Navy uses machine learning for maritime threat detection. The Air Force integrates AI into mission planning and autonomous systems, supported by a Centre of Excellence for AI under the UDAAN initiative. In 2022, the Ministry of Defence showcased 75 AI-enabled products, including autonomous vehicles and cybersecurity tools. Public sector units like BEL have developed voice-recognition and fatigue-monitoring systems. The Ministry allocates \$12.6 million annually for AI projects, fostering collaboration with academia and global partners.

Cybersecurity has also advanced, with the 2019 establishment of the tri-service Defence Cyber Agency and the 2024 Joint Doctrine for Cyberspace Operations recognising cyber as a warfare domain. National frameworks protect critical infrastructure, including CERT-In, the National Cyber Security Coordinator, and the Cyber Swachhta Kendra. These efforts address India's complex cyber threats, though observers note that cyber warfare capabilities still lag behind peers.

## Space-Based Defence Capabilities

India's space-based capabilities have grown significantly, with the 2019 Defence Space Agency and a planned Integrated Space Command marking space as a strategic domain. The 2019 Mission Shakti anti-satellite test demonstrated India's ability to destroy orbital targets. Reconnaissance satellites like Cartosat and RISAT, alongside communication satellites like the GSAT series, provide critical surveillance and secure data links. In 2024, the EOS-09 and RISAT-1B satellites enhanced all-weather monitoring. With 9-11 dedicated military satellites, India's forces benefit from improved situational awareness, as seen in Operation Sindoor. During this exercise, Cartosat and RISAT data, combined with commercial imagery, enabled precise targeting, showcasing the pivotal role of space assets in modern warfare.

## Challenges and Opportunities

Despite progress, challenges persist. India's defense R&D budget, at 6% of defense outlay, is modest compared to global powers, limiting long-term innovation. Reliance on imported components like jet engines and electronics hinders full indigenization. Procurement delays and bureaucratic complexities slow project timelines, while emerging domains like cyber and AI require sustained investment. However, India's vast talent pool, vibrant start-up culture, and incentives like PLI schemes and higher FDI limits (74%-100%) attract global investment. Strategic partnerships with countries like France and the US facilitate technology transfers, and India's IT and space expertise offer cross-sectoral advantages.

.....  
*India's innovation ecosystem, linking the military, academia, and industry, has been a cornerstone of its defense transformation. The Defence Research and Development Organisation (DRDO) has opened its laboratories and patented technologies to private firms, while "Young Scientists" labs drive cutting-edge research. The Defence Acquisition Procedure (DAP) 2020 reserves projects for Indian companies, earmarking contracts up to ₹100 crore for start-ups and MSMEs.*  
.....

India's integration of technology and innovation into its national security framework has positioned it as a rising defence power. From indigenous missiles and drones to AI, cybersecurity, and space capabilities, the country is building a self-reliant and globally competitive defence ecosystem. Operation Sindoor exemplifies how space-based technologies enhance operational precision. While challenges like funding and procurement persist, India's talent, policy reforms, and global partnerships provide a strong foundation for future growth. By sustaining these efforts, India is

poised to meet its defence needs and emerge as a significant technology partner on the global stage.





..... हिंदी लेख .....





# गर्वित भारत, पराजित दुश्मन: ऑपरेशन सिंदूर में स्वदेशी हथियारों की महागाथा

कर्ण प्रताप सिंह  
कार्यकारिणी सदस्य  
भारतीय जनता युवा मोर्चा, हरियाणा

**ब्रह्मोस, आकाश मिसाइल सिस्टम से लेकर आकाशतीर व अन्य स्वदेशी हथियारों के पीछे प्रधानमंत्री मोदी की 10 साल की कड़ी तपस्या**

साल 2014 में भाजपा की पूर्ण बहुमत की सरकार बनने के बाद प्रधानमंत्री श्री नरेंद्र मोदी जी ने देश को हर क्षेत्र में आत्मनिर्भर बनाने व आयात कम करने का संकल्प लिया जिसमें हथियारों का आयात महत्वपूर्ण क्षेत्र था। हमारा देश दुनिया में सबसे बड़ा हथियारों का आयातक देश होने के नाते हमारा विदेशी मुद्रा का एक बड़ा हिस्सा हथियारों पर खर्च होता था, स्वदेशी हथियारों का निर्माण नाममात्र था और जो था वो भी बहुत धीमी रफ्तार से चल रहा था। पिछली सरकारों में हथियारों का आयात सबसे बड़ा घोटालों का केंद्र था जो आज़ादी के बाद से नेहरू जी के समय जीप घोटाले से शुरू होकर, राजीव गाँधी के समय बोफोर्स और न जाने कितने ही घोटालों का स्रोत था परन्तु मोदी जी ने इन हालातों को बदलने का संकल्प लिया और स्वदेशी हथियारों का बीड़ा उठाया। एकदम से विदेशी हथियारों पर निर्भरता कम करके देश की सुरक्षा को खतरे में नहीं डाला जा सकता था तो इस काम को चरणबद्ध तरीके से किया गया, हर साल कुछ हथियारों की सूची निकाली जाने लगी कि अब ये हथियार हम विदेश से आयात न करके स्वदेशी को ही अपनाएंगे। भारतीय हथियार अनुसंधान व निर्माण केंद्रों में आ रही मुश्किलों को दूर किया गया और उनको बजट से लेकर हर तरीके से सशक्त बनाने पर काम शुरू हुआ, स्वदेशी हथियारों के क्षेत्र में क्रांति लाते हुए साल 2018 में रक्षा मंत्रालय ने नियमों में बदलाव कर दिया, जिससे निजी कंपनियों को विदेशी कंपनियों से तकनीक हस्तांतरण के लिए हथियारों के निर्माण में शामिल होने की अनुमति मिल गई। हमारे प्रमुख संस्थान जैसे डीआरडीओ, बीईएल, एचएएल व इसरो को फंडिंग से लेकर हर तरीके से सशक्त किया गया। बस फिर क्या था प्रधानमंत्री मोदी जी ने अपने रक्षा वैज्ञानिकों और संस्थानों पर विश्वास जताया और इस तपस्या ने नतीजे देने शुरू किए और हमारे देश में सरकारी हथियार निर्माता संस्थानों से लेकर निजी हथियार निर्माता भी कमाल करने में जुट गए। धीरे-धीरे विदेशों से आयात न किए जाने वाले हथियारों की सूची बढ़ती गयी और उसकी जगह स्वदेशी ने ले ली, आज लगभग 500 से अधिक रक्षा उपकरणों के आयात को प्रतिबंधित करके 'नकारात्मक सूची' की श्रेणी में रखते हुए 'आत्मनिर्भर भारत' सूची में डाला गया है, इस सूची में शामिल उपकरणों को विदेश से आयात न करके स्वदेशी अपनाने का प्रावधान है। प्रधानमंत्री मोदी जी के इन क्रांतिकारी कदमों से भारत जो कि दुनिया का सबसे बड़ा रक्षा उपकरणों का आयातक देश था आज एक निर्यातक देश बन गया है और हम इस क्षेत्र में तेजी से आगे बढ़ रहे हैं। साल 2023-24 में हमारा हथियारों का निर्यात 21,083 करोड़ रुपए था जो कि उससे पिछले वर्ष की तुलना में 325 प्रतिशत अधिक था, वर्ष 2024-25 में हथियारों का निर्यात 35,000 करोड़ रुपए तक पहुँचाने का लक्ष्य है जो कि 2014-15 में मात्र 686 करोड़ रुपए था। आज हमारा देश अर्मेनिया, इटली, मालदीव, रूस, श्रीलंका, संयुक्त अरब अमीरात (यूएई), फिलीपींस, सऊदी अरब, पोलैंड, मिक्स, इज़राइल, स्पेन, चिली और अन्य सहित 85 से अधिक देशों को हथियारों की आपूर्ति करता है। देश में लगभग 100 कंपनियां रक्षा उत्पादों का निर्यात कर रही हैं।



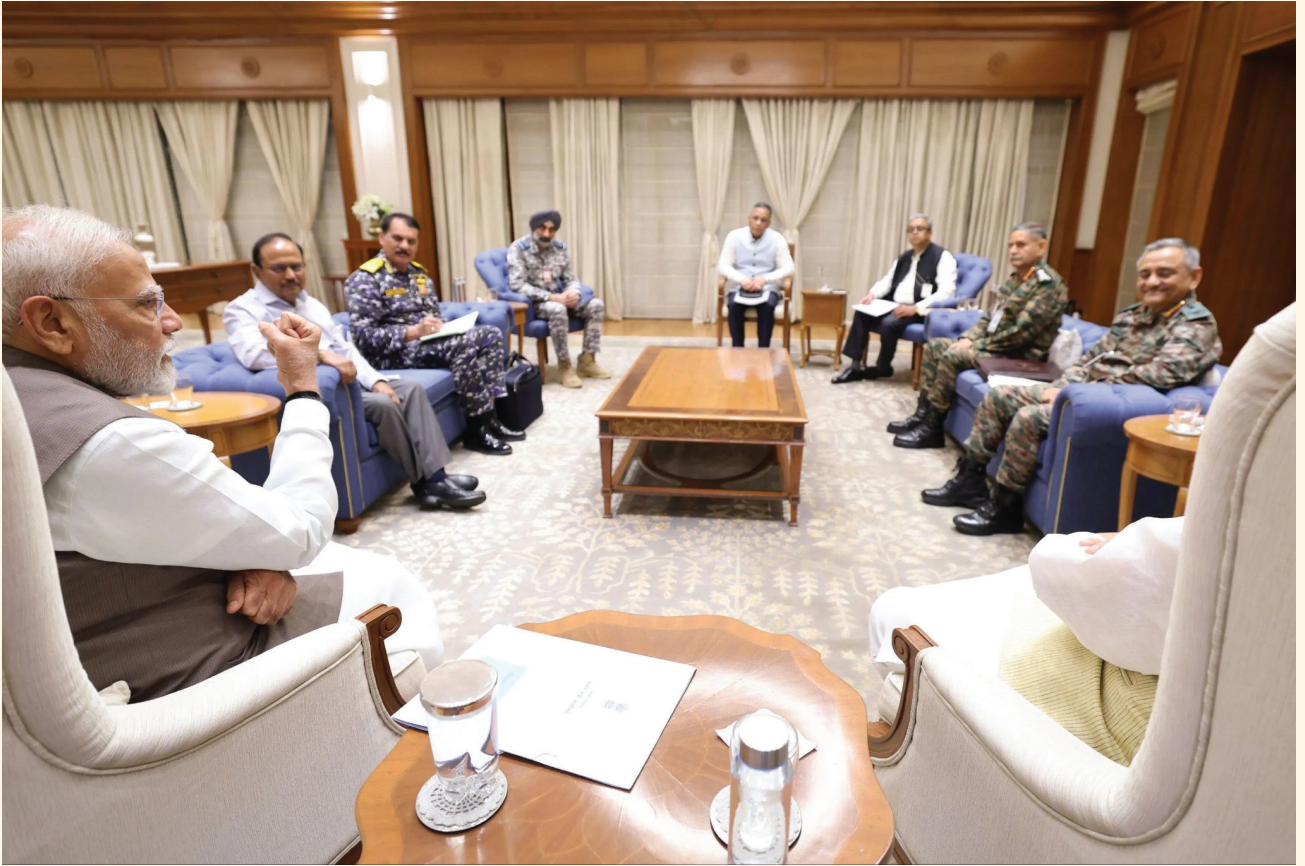


रक्षा क्षेत्र में हमारी उड़ान बढ़ती ही जा रही थी कि अचानक 22 अप्रैल को कश्मीर घाटी में पाकिस्तान समर्थित आतंकवादियों ने हमारे निहत्थे पर्यटकों पर धर्म पूछकर हमला कर दिया और 26 निर्दोष नागरिकों की जान ले ली। प्रधानमंत्री श्री नरेंद्र मोदी जी ने घटना पर दुःख जताते हुए आतंकवादियों व उनको संरक्षण देने वालों को कड़ी सजा देने की बात कही। पाकिस्तान जोकि पूरे विश्व में आतंकवाद की फैक्ट्री के रूप में जाना जाता है के आतंकी ठिकानों और ट्रेनिंग सेंटर्स पर हमला करके आतंकवाद पर करारा प्रहार करने की तैयारी शुरू हुई और 6-7 मई की मध्य रात्रि को हमारी सेनाओं द्वारा ऑपरेशन सिंदूर के तहत पाकिस्तान के आतंकी ठिकानों पर करारा प्रहार करके उनको नष्ट किया गया और साथ में 100 के लगभग आतंकवादी भी मारे गए जिनमें से कुछ अंतर्राष्ट्रीय सूची में शामिल आतंकी थे। पाकिस्तान जोकि पूरी तरह से सेना के नियंत्रण में है उसने हमारे देश पर हमला करने की कोशिश की जिसको हमारे स्वदेशी हथियारों ने बुरी तरह असफल किया। हमारी सेनाओं ने पाकिस्तान पर अपने स्वदेशी हथियारों व स्वदेशी तकनीक के बल पर करारा प्रहार किया जिससे पाकिस्तान कराह उठा और वो भारत के आगे संघर्ष विराम को गिड़गिड़ाया। हमारी वायुसेना ने पाकिस्तान के सभी महत्वपूर्ण एयरबेस समेत उनके रणनीतिक सैनिक ठिकानों पर स्ट्राइक करके उन्हें तबाह कर दिया, बोखलाए पाकिस्तान द्वारा ड्रोन से लेकर मिसाइल द्वारा किए गए सभी हमलों को हमारी रक्षा तकनीक ने विफल कर दिया। आजकल तकनीक के ज़माने में जहाँ हर किसी की जेब में स्मार्टफोन है, हमारे देश के सीमा के पास रहने वाले नागरिकों को दुश्मन के ड्रोन और मिसाइल हवा में तबाह होते हुए अपनी आँखों से देख और अपने कैमरा में कैद करते हुए ऐसा महसूस हो रहा था मानो वो कोई फ़िक्शन फिल्म लाइव अपनी आँखों के सामने सत्य होते हुए देख रहे हों, करोड़ों देशवासियों का सीना स्वदेशी की ताकत देखकर गर्व से भर गया। पाकिस्तान द्वारा किए गए हमलों को विफल करने में हमारी रक्षा प्रणाली का परिणाम 100 फीसदी रहा जिसको देखकर विश्वभर के रक्षा विशेषज्ञ आश्चर्यचकित रह गए। हमारे

स्वदेशी रक्षा उपकरणों व स्वदेशी हथियारों ने पूरी दुनिया के रक्षा उपकरण उद्योग में हलचल मचा दी और दुनिया ने रक्षा टेक्नोलॉजी में नए भारत का उदय देखा। हमारी सेनाओं द्वारा दुश्मन पर जिस बारीकी और कुशलता से स्वदेशी हथियारों द्वारा जो अचूक वार किए गए उन्होंने दुनियाभर के रक्षा विशेषज्ञों का ध्यान आकर्षित किया व रक्षा तकनीक से जुड़े संस्थानों ने भारतीय रक्षा उपकरणों की खासियतों के बारे में बोलना लिखना शुरू किया। हमारी रक्षा प्रणाली ने पाकिस्तान, टर्की, चीन समेत तमाम देशों के फाइटर जेट, ड्रोन व मिसाइल मार गिराए जिससे उन कंपनियों की साख पर बड़ा लगा और मार्केट में उन कंपनियों के शेयर गिरने लगे जबकि हमारी स्वदेशी रक्षा उपकरण निर्माता कंपनियों के शेयर इस दौरान तेजी से बढ़ रहे हैं।

दुनिया ने बढ़ते हुए भारत की नई तस्वीर देखी व पूरी दुनिया हमारे रक्षा उपकरणों की तारीफ कर रही है। बहुत सारे देश हमारी मिसाइल खरीदने के लिए कतार बांधकर खड़े हैं और रक्षा विशेषज्ञों के मुताबिक जितनी डिमांड आ रही है उस हिसाब से केवल ब्रह्मोस मिसाइल की आपूर्ति को ही 2 साल तक लग सकते हैं। अपनी सुरक्षा को लेकर चिंतित तमाम देशों को भारत उम्मीद की एक नई किरण की तरह नज़र आ रहा है कि वो हमारे 100 फीसदी परिणाम वाले उत्तम हथियारों से अपने देश की सुरक्षा कर सकेंगे। 2014 से पहले अगर कोई ये बात करता तो निश्चित ही दुनिया उसपर हंसती कि जो देश अपने खुद के लिए हथियार नहीं बनाता वो दूसरे देशों को क्या निर्यात करेगा परन्तु प्रधानमंत्री श्री नरेंद्र मोदी जी की 10 साल की कड़ी तपस्या ने यह कर दिखाया है। निर्दोष नागरिकों के मारे जाने की घटना हम सभी के लिए अत्यंत पीड़ादायी है परन्तु उसके बाद की कार्यवाही में हुई दुश्मन की ठुकाई देश के लिए गर्व के साथ-साथ व्यापार लेकर आई है।

जय हिंद-जय हिंद की सेना



## मोदी युग में आत्मनिर्भर रक्षा क्षेत्र स्वदेशी सैन्य शक्ति का उदय

**डॉ. वृंदा काल्हेर**

प्रदेश प्रमुख-पॉलिसी एंड रिसर्च,  
भाजपा युवा मोर्चा, हरियाणा

समस्त विश्व की आधुनिकता ने जो अब तक का सफर तय किया है, उसका प्रत्येक रास्ता विश्व के सबसे प्राचीन राष्ट्र, सभ्यता और संस्कृति, यानि भारत से होकर ही गया है। एक समय था जब भारत विश्व की सबसे बड़ी अर्थव्यवस्था था। 18वीं शताब्दी तक भारत का सकल घरेलू उत्पाद विश्व अर्थव्यवस्था का लगभग 25% था। इसी सम्पन्नता के कारण भारत को सोने की चिड़िया कहा जाता था। इसी सम्पन्नता के कारण ही आक्रमणकारियों ने भारत पर असंख्य आक्रमण किए। इन आक्रमणों का हमारे शौर्य और तलवारों की धार ने सदैव प्रतिउत्तर दिया है। अगर हम पिछले 2000 वर्षों के इतिहास पर नज़र डालें तो पाते हैं कि बेशक हमने किसी अन्य देश पर आक्रमण नहीं किया, आक्रमणकारियों को प्रतिउत्तर ही दिया, लेकिन जब भी हमने अति अहिंसावादी दिखने या होने के चलते सैन्य क्षमता से समझौता किया तो उसका नुकसान झेला। अंग्रेजों से स्वतंत्रता मिलने के बाद इसका सबसे ताजा उदाहरण सन् 1962 का भारत-चीन युद्ध था। इससे सबक लेते हुए भारत ने रक्षा क्षेत्र में एक लंबा सफर तय किया है और प्रभावी सैन्य शक्ति के रूप में उभरा है। साथ ही आज भारत विश्व की चौथी बड़ी अर्थव्यवस्था भी है। जैसे-जैसे भारत सफलता के मार्ग पर अग्रसर हो रहा है, भारत के शत्रुओं द्वारा षड्यंत्र भी बढ़ रहे हैं। इन्हीं षड्यंत्रों का परिणाम उरी, पुलवामा और पिछले माह हुआ पहलगाम आतंकी हमला है। जिसमें वहां गए हुए सैलानियों को पाकिस्तान पोषित आतंकवादियों ने उनका धर्म पूछकर हत्याएं कर दीं। हिंदू महिलाओं के सामने उनके पतियों की दर्दनाक हत्या से पूरा देश कराह उठा। जवाबी कार्रवाई में, भारत ने पाकिस्तान और





पाकिस्तान के कब्जे वाले कश्मीर में आतंकियों के बुनियादी ढांचे को निशाना बनाते हुए " ऑपरेशन सिंदूर " शुरू किया। ऑपरेशन सिंदूर के माध्यम से भारतीय सेना ने पाकिस्तान के साथ-साथ पूरे विश्व को अपने शौर्य, सामर्थ्य और सूझबूझ का परिचय दिया। समस्त विश्व ने पाकिस्तान में ऑपरेशन सिंदूर से हुए विध्वंस को देखा है। भारत ने दिखाया है कि पिछले कुछ ही समय में रक्षा क्षेत्र में भारत ने वो मुकाम पाया है कि विश्व का कोई भी देश भारत को आंख दिखाने की हिम्मत नहीं कर सकता। प्रधानमंत्री नरेंद्र मोदी के नेतृत्व में केंद्र सरकार ने 2014 से अब तक भारत की रक्षा क्षमताओं को मजबूत करने की दिशा में कई ऐतिहासिक कदम उठाए हैं। देश को आत्मनिर्भर बनाने के लक्ष्य के साथ, केंद्र सरकार ने रक्षा उत्पादन, सैन्य आधुनिकीकरण, परमाणु प्रतिरोधक क्षमता और वैश्विक रक्षा निर्यात में उल्लेखनीय प्रगति की है। भारतीय सेना, नौसेना और वायुसेना तीनों अंगों में बड़े सुधार किए गए हैं, जिससे देश की सुरक्षा व्यवस्था पहले से कहीं अधिक सुदृढ़ हुई है।

### आत्मनिर्भर भारत और स्वदेशी रक्षा उत्पादन

- 'आत्मनिर्भर भारत अभियान' के तहत रक्षा क्षेत्र को सबसे अधिक प्राथमिकता दी गई है। मोदी सरकार ने रक्षा उपकरणों के आयात को सीमित कर स्वदेशी उत्पादन को प्रोत्साहित किया है।
- अब तक 500 से अधिक रक्षा उपकरणों को 'पॉजिटिव इंडिजेनाइजेशन लिस्ट' (सकारात्मक स्वदेशीकरण सूची) में शामिल किया जा चुका है, जिनका आयात प्रतिबंधित कर दिया गया है। इस प्रयास ने राष्ट्रीय सुरक्षा और आर्थिक विकास दोनों में महत्वपूर्ण योगदान दिया है।
- डिफेंस एक्विजिशन प्रोसीजर (DAP) 2020 के तहत 'बाय इंडियन-IDDM' को सर्वोच्च प्राथमिकता दी गई है।
- निजी क्षेत्र, स्टार्टअप्स और MSMEs को रक्षा अनुसंधान एवं विकास में भागीदारी का अवसर दिया गया है, जिसके लिए iDEX (Innovations for Defence Excellence) प्लेटफॉर्म लॉन्च किया गया। फरवरी 2025 तक, 549 समस्या विवरण जारी किए गए, जिनमें 619 स्टार्टअप रक्षा अनुसंधान एवं विकास संस्थानों के साथ सहयोग कर रहे हैं।
- वित्त वर्ष 2023-24 में, भारत का स्वदेशी रक्षा उत्पादन 1.27 लाख करोड़ रुपये तक पहुंच गया, जो 2022-23 से 16.7% अधिक है।
- इसके अलावा, अब 65% रक्षा उपकरण भारत में ही निर्मित होते हैं, जो मेक इन इंडिया पहल की प्रभावशीलता को दर्शाता है।
- इसके अलावा, भारतीय सेना द्वारा टी-90 भीष्म टैंक का ओवरहाल, अपने मौजूदा बेड़े के जीवन चक्र को बढ़ाने के लिए राष्ट्र की प्रतिबद्धता को उजागर करता है।
- भारत ने स्वदेशी रक्षा उत्पादन को बढ़ावा देने और विदेशी निवेश आकर्षित करने के लिए उत्तर प्रदेश और तमिलनाडु में दो रक्षा औद्योगिक गलियारे स्थापित किए हैं। ये गलियारे उद्योगों को महत्वपूर्ण बुनियादी ढांचा और प्रोत्साहन प्रदान करते हैं, जिससे रक्षा विनिर्माण के लिए अनुकूल वातावरण तैयार होता है।
- इन कॉरिडोर में पहले ही 8,658 करोड़ रुपये से अधिक का निवेश किया जा चुका है। कॉरिडोर का लक्ष्य 53,439 करोड़ रुपये का संभावित निवेश आकर्षित करना है, जो इन्हें भारत के रक्षा औद्योगिक विस्तार के लिए महत्वपूर्ण बनाता है।
- तेलंगाना में जेएसडब्ल्यू डिफेंस के ड्रोन निर्माण जैसे हालिया निवेश उत्साहजनक हैं।

## रक्षा निर्यात में ऐतिहासिक वृद्धि

- भारत के रक्षा निर्यात क्षेत्र में अभूतपूर्व वृद्धि हुई है, जिससे देश वैश्विक हथियार बाजार में एक प्रमुख खिलाड़ी के रूप में स्थापित हो गया है:
- ब्रह्मोस मिसाइल, रडार सिस्टम, तेजस लड़ाकू विमान, और गश्ती नौकाएं अब विदेशी बाजारों में लोकप्रिय हो रही हैं। फरवरी 2025 में इंडोनेशिया को 3,800 करोड़ रुपये मूल्य का ब्रह्मोस मिसाइल निर्यात सौदा मिसाइल प्रणालियों में भारत की तकनीकी दक्षता को दर्शाता है।
- लाइसेंसिंग प्रक्रिया सरल की गई है और निजी उद्योगों को वित्तीय प्रोत्साहन दिए गए हैं।
- भारत अब 100 से अधिक देशों को रक्षा उपकरण निर्यात करता है, जिनमें अमेरिका, फ्रांस और आर्मेनिया प्रमुख खरीदार हैं।
- वित्त वर्ष 2023-24 में भारत का रक्षा निर्यात 21,083 करोड़ रुपये तक पहुंच गया, जो पिछले दशक की तुलना में निर्यात में 30 गुना वृद्धि दर्शाता है।
- सरकार ने 2029 तक रक्षा निर्यात को 50,000 करोड़ रुपये तक पहुंचाने का लक्ष्य रखा है, जिससे उसका आर्थिक और सामरिक प्रभाव मजबूत होगा।
- वैश्विक रक्षा निर्यातक के रूप में भारत की बढ़ती भूमिका को अमेरिका, फ्रांस और रूस जैसे देशों के साथ सामरिक साझेदारी का समर्थन प्राप्त है।

## भारतीय थल सेना का आधुनिकीकरण

भारतीय थल सेना को आधुनिक हथियारों, टेक्नोलॉजी और युद्ध रणनीतियों से सुसज्जित किया गया है:

- धनुष तोप, ATAGS तोप प्रणाली जैसे स्वदेशी तोपों का उत्पादन और तैनाती की जा रही है।
- ऊंचाई वाले युद्ध क्षेत्रों के लिए नाइट विजन सिस्टम, स्वार्म ड्रोन, और लाइटनिंग म्यूनिशन जैसी आधुनिक तकनीकें अपनाई गई हैं।
- 2020 की गलवान घाटी झड़प के बाद, सेना को आपातकालीन खरीद की विशेष शक्तियाँ दी गईं, जिससे समय पर रणनीतिक हथियार खरीदे जा सके।

## भारतीय नौसेना की शक्ति में विस्तार

हिंद महासागर क्षेत्र में भारत की बढ़ती भूमिका के अनुरूप नौसेना का तेजी से आधुनिकीकरण किया गया है:

- भारत का पहला स्वदेशी एयरक्राफ्ट कैरियर INS विक्रान्त 2022 में नौसेना में शामिल हुआ। यह जहाज, जिसमें 76% स्वदेशी सामग्री है, जटिल नौसैनिक प्लेटफार्मों को डिजाइन और निर्माण करने की भारत की क्षमता को प्रदर्शित करता है।
- प्रोजेक्ट 75 के तहत कलवरी क्लास की पनडुब्बियों का निर्माण स्वदेशी शिपयार्डों में हुआ है।
- INS अरिहंत के रूप में देश की पहली न्यूक्लियर बैलिस्टिक मिसाइल पनडुब्बी (SSBN) पूरी तरह स्वदेशी है, जो सेकंड-स्ट्राइक कैपेबिलिटी प्रदान करती है।

## भारतीय वायुसेना का आधुनिकीकरण

मोदी सरकार के तहत वायुसेना ने कई अत्याधुनिक हथियार प्रणालियाँ प्राप्त की हैं, जिसकी धाक पिछले दिनों में विश्व महसूस कर चुका है:

- भारत उच्च तकनीक अधिग्रहण के साथ अपने सशस्त्र बलों के आधुनिकीकरण पर ध्यान केंद्रित कर रहा है, जिसमें हल्के लड़ाकू हेलीकॉप्टर (एलसीएच) और उन्नत टोड आर्टिलरी गन सिस्टम (एटीएजीएस) की खरीद शामिल है। मार्च 2025 में 156 एलसीएच प्रचंड हेलीकॉप्टरों के लिए 62,700 करोड़ रुपये के अनुबंध पर हस्ताक्षर किए गए, जिससे भारत की हवाई क्षमताएं मजबूत होंगी।
- राफेल लड़ाकू विमान, स्वदेशी तेजस विमान, और अग्रिम मिसाइल प्रणाली वायुसेना को नई शक्ति प्रदान कर रहे हैं।
- भारत में C-295 ट्रांसपोर्ट एयरक्राफ्ट का उत्पादन टाटा-एयरबस साझेदारी के अंतर्गत शुरू हुआ है।
- S-400 एयर डिफेंस सिस्टम, अश्विनी रडार, और आधुनिक ड्रोनो से वायु सुरक्षा में मजबूती आई है। S-400, आकाश और एंटी ड्रोन तकनीक के परिणामस्वरूप भारत एक अभेद्य किला बन चुका है।
- भारतीय वायु सेना ने उच्च परिशुद्धता वाले हथियारों को भी एकीकृत किया है, जैसे कि स्कैल्प कूज मिसाइल, हैमर प्रिसिजन-गाइडेड बम और लोइटरिंग म्यूनिशन, जिनका उपयोग ऑपरेशन सिंदूर में सटीक हमलों के लिए किया गया था, जिससे उच्च सटीकता और न्यूनतम संपाश्विक क्षति सुनिश्चित हुई।

## नई तकनीक और साइबर सुरक्षा

2020 में मुंबई में भारत के पावर ग्रिड पर हुआ साइबर हमला हुआ था। जिससे भविष्य के युद्धों को ध्यान में रखते हुए सरकार ने उभरती तकनीकों में निवेश बढ़ाया है:

- AI, साइबर वॉरफेयर, स्पेस डिफेंस, क्वांटम कंप्यूटिंग जैसे क्षेत्रों में DRDO और निजी कंपनियों के बीच सहयोग बढ़ाया गया है।
- डिफेंस साइबर एजेंसी और डिफेंस स्पेस एजेंसी की स्थापना से देश की डिजिटल सीमाएं भी सुरक्षित की जा रही हैं।

कहते हैं कि युद्ध हथियारों से नहीं दृढ़ इच्छाशक्ति व शौर्य से जीते जाते हैं। सन् 2014 में केन्द्र में मोदी सरकार आने के बाद भारत का रक्षा क्षेत्र का परिदृश्य ही बदल चुका है। गत 10 वर्षों में भारत का रक्षा बजट तीन गुणा बढ़ चुका है। यही कारण है कि भारत अब गोली का जवाब, चिट्ठी से नहीं बल्कि गोले से देता है। नए भारत ने यह स्पष्ट कर दिया है कि वह अपनी सुरक्षा और संप्रभुता से कोई समझौता नहीं करेगा, उसी का परिणाम है कि आतंकवाद का फन कुचलने का एक बड़ा अभियान भारत ने चला रखा है। इसके अलावा रक्षा आयातक से, उभरते हुए रक्षा निर्माता और निर्यातक के रूप में भारत का बदलाव राष्ट्रीय सुरक्षा और विदेश नीति में रणनीतिक संतुलन को दर्शाता है। मोदी सरकार के नेतृत्व में भारत की सशस्त्र सेनाएं न केवल संख्या में बल्कि गुणवत्ता, आधुनिकता और आत्मनिर्भरता में भी सशक्त बनी हैं। जहां एक ओर सेनाओं को अत्याधुनिक हथियार और तकनीक से लैस किया गया है, वहीं दूसरी ओर भारत की वैश्विक रणनीतिक स्थिति भी मजबूत हुई है। आत्मनिर्भर भारत के इस रक्षा संस्करण ने देश को एक शक्तिशाली और आत्मविश्वासी राष्ट्र के रूप में स्थापित किया है।









# BHARATIYA JANATA YUVA MORCHA

