



**DOAP**



# **SEMINAR REPORT**

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**(Prepared by Team CENJOWS)**

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## **KALAM & KAVACH 2.0**

### **Introduction**

1. The Centre for Joint Warfare Studies (CENJOWS), under the Headquarters Integrated Defence Staff (HQ IDS), Ministry of Defence, in collaboration with Pentagon Press, LLP and DOAP hosted the second edition of Defense Literature Festival "**Kalam & Kavach 2.0**" at Manekshaw Centre, New Delhi on 15 April 2025 on theme "Securing India's Rise Through Defence Reforms". This edition was dedicated to Defence Technology & Future Warfare with focus on Defence Manufacturing in response to the Prime Minister's clarion call on 'Atmanirbhar Bharat' and Acquisition & Procurement reforms.

2. Hon'ble Raksha Mantri Shri Rajnath Singh has declared year 2025 as the 'Year of Reforms' with the aim of transforming the Armed Forces into a technologically-advanced combat-ready force capable of multi-domain integrated operations. All aspects related to services are being spearheads in a mission mode. The nine broad areas to include:-

- (a) To further bolster Jointness and Integration initiatives and facilitate establishment of the Integrated Theatre Commands.
- (b) To focus on new domains such as Cyber and Space, and emerging technologies like Artificial Intelligence, Machine Learning, Hypersonics and Robotics. Associated tactics, techniques and procedures required to win future wars should also be developed.
- (c) To develop a shared understanding of operational requirements and joint operational capabilities through inter-service cooperation & training.
- (d) To make acquisition procedures simpler and time-sensitive to facilitate swifter and robust capability development.
- (e) To facilitate technology transfer and knowledge sharing between the defence sector and civil industries, promoting public-private partnerships by improving ease of doing business.
- (f) To focus on collaboration across various stakeholders in the defence ecosystem. Breaking silos and effective civil-military coordination should aim to eliminate inefficiencies and optimise resources.
- (g) Position India as a credible exporter of defence products, fostering R&D and partnerships between Indian industries and foreign Original Equipment Manufacturers (OEM) for knowledge sharing & resource integration.
- (h) Ensure the welfare of veterans while leveraging their expertise. Efforts will be made towards optimisation of welfare measures for veterans.

- (i) Instil a sense of pride in Indian culture and ideas, fostering confidence in achieving global standards through indigenous capabilities, while imbibing best practices from modern militaries that suit the nation's conditions.

### **Objectives of the Seminar**

3. India's national security landscape is currently shaped by a variety of dynamic and complex global challenges. The key to managing this complexity is technological advancements and self-reliance in defence manufacturing. The event, in its role as a strategic forum, brought together distinguished experts from the Indian Armed Forces, strategic policymakers, industry leaders and domain specialists to deliberate on the following:-

- (a) Technology & Future Warfare including AI, cyber, quantum, drones, space tech, and semiconductors in military operations.
- (b) Defence Manufacturing & Atmanirbharta for Strengthening indigenous defence production, exports, and public-private partnerships.
- (c) Acquisition & procurement reforms for streamlining processes to enhance efficiency, transparency, and self-reliance.

4. **Executive Summary.** The salient points that emerged from the seminar are summarized as below:-

- (a) **India's Strategic Vision.** The event focused on charting a Strategic Roadmap for its National Security and Capability Development.
- (b) **Year of Defence Reforms.** This has laid the foundation for unprecedented advancements in India's defence preparedness ensuring its security and sovereignty amidst complex global challenges.
- (c) **Transformation in the Armed Forces.** The event covered the progress made on adoption of niche technologies, enhancing Multi-Domain and Cross-Domain Operational Capabilities to include land, air, sea, cyber and space.
- (d) **Defence Technology & Future Warfare.** The event underscored the importance of quick decision making in today's technology driven battle-space, where timelines are shrinking rapidly. The advent and assimilation of new technologies such as Artificial Intelligence, Machine Learning, Stealth Technology, Hypersonics and Robotics will dictate the character and contour of Future Wars.
- (e) **The Future of India Maritime Security.** The event focused on contemporary maritime security paradigms, future challenges and way ahead to further the combat capability.
- (f) **Self-Reliance and Exports in Defence Manufacturing.** Through the "Make in India" initiative and policy reforms, the domestic production has been ramped up and reliance on foreign procurement is reduced. The event

focused on bolstering India's position as an emerging hub for the production of advanced military technologies and equipment.

(g) **Procurement & Acquisition Reforms**. The procurement & acquisition reforms introduced have given traction to the modernisation journey of the Armed Forces. Out of box solutions are needed to handle the current challenges.

### **Inaugural Session**

#### **5. Welcome Address by Mr Rajan Arya, CEO & Founder, Pentagon Press.**

Mr Rajan Arya commenced his welcome address by welcoming the dignitaries, senior officers of the Indian armed forces, senior officials from MoD and other attendees. He characterised the event as a defence-lit fest, where knowledge meets strategy and vision meets action with the help of intellectual discourses for national security and defence. He exalted the visionary leadership of the Hon'ble Prime Minister leading towards a secure and self-reliant Bharat and in 'Amrit- Kal' in its true spirit. He expressed his profound appreciation for the Hon'ble Defence Minister and his visionary leadership in declaring 2025 the 'Year of Defence Reforms'. He highlighted the role of Pentagon Press as being a catalyst in this mission by publishing over 1100 publications ranging from books on national security, to strategy, geopolitics, defence technology, AI, cyberspace, warfare, and more. He spoke of the commitment of his publishing house in raising awareness on national security issues, empowering future leaders, and fostering a culture of strategic thinking with an aim to ignite minds and inspire meaningful action by amalgamating timeless wisdom with modern strategies. He thanked the CDS for his inspiring ideas and guidance for the event as well as the privilege accorded for publishing his second book "**Ready, Relevant and Resurgent: A Blueprint for Transformation of India's Military**". He ended his address by thanking the authors, collaborators, thinkers, CENJOWS and media partners for fuelling the event with their energy and ideas.

6. **Lt Gen Vipul Shinghal, DCIDS (DOT)** addressed the seminar and conveyed the message of CDS. He started by conveying the appreciation of CDS for the efforts put in by Pentagon Press in publishing academic work of the veterans and serving officers of the Indian armed forces. In his message, CDS expressed concern about the global security environment that is undergoing unprecedented turmoil and tumult, forcing militaries across the world to re-evaluate their strategies and combat capabilities. It necessitates for Indian armed forces and other defence agencies to quickly adapt so as to be prepared for multi-domain and multi-spectrum challenges while fast-tracking defence procurements and investing in R&D in niche domains. Some of the important aspects are as under:

(a) The 2025 as the 'Year of Reforms', timely promotes those reforms that are futuristic, insightful, and physically implementable are of essence. The new age sensors, automation powered by data-centric architecture, celebrity-centric warfare bolstered by stealth and hypersonic technologies, and robotics driven by autonomous vehicles are transforming the manner in which future wars will be fought. Indian armed forces are taking the necessary steps to focus on these futuristic domains. Several initiatives are underway to foster

‘Jointness’ and ‘Integration’ by ushering in organizational, structural, conceptual, and cultural changes for force generation and force application.

(b) For the whole enterprise of indigenization to succeed. The glue of national interest binds all the elements. In this endeavour Indian culture, thoughts and ideas must inspire our futuristic reforms. We need indigenous solutions to meet our unique challenges.

(c) For India's dream of self-reliance in the defence sector to come true, the troika of the defence industry, research institutes and the services have to collaborate seamlessly. With focus on ‘Make in India’ for the world, cross-dependencies between the Indian industry and the foreign OEMs have to be created for fostering a symbiotic relationship for sharing of knowledge and transfer of technology with friendly foreign countries. Civil-military fusion has to be an essential element for long-term infrastructure development.

(d) For India to realize the vision of becoming ‘Viksit Bharat’ by 2047, ‘Sashakt and Surakshit Bharat’ with impregnable national security and incontrovertible defence mechanisms have to become its key enablers.

**7. Conversation between Air Chief Marshal VR Chaudhari (Retd) and Mr Shivam Arya.**

While requested to comment on the current geopolitical landscape and the future of modern warfare, ACM Chaudhari said that there are three aspects that have emerged as lessons from the study of ongoing conflicts, as well as current global events. Firstly, deterrence as a strategy may not be as effective as it would have been in the 90s and 2000s. Deterrence through use of superiority of numbers may not be a viable strategy and therefore, newer ways of deterring adversaries have to be continuously evolved. The second aspect is that the centre of gravity, today, is not very well defined. ‘Data’ is going to be the new centre of gravity. Finally, in-depth knowledge of technology by the military leaders including senior military leadership is an inalienable requisite.

8. Speaking on the changing character of warfare, the former CAS attributed it to rapidly changing geopolitical situations, newer technologies, and doctrinal aspects and expressed the urgent need to stay ahead of the curve by anticipating the likely changes that are taking place. On the role of the IAF in the changing character of warfare, he emphasised on the importance of a clear and updated doctrine on which the work is in progress at Air HQ. The IAF has also upgraded and fine-tuned its training program by tailoring and curating it for individuals with the help of AI.

9. On 2025 being the ‘**Year of Reforms**’, he said that reforms are being undertaken at all times albeit not openly publicised, however, with this declaration more of it will be visible in the public domain and may accelerate the pace of reforms. Responding to some of the important reforms that needed to be expedited, he highlighted that more jointness between the armed forces, training on nuances of multi-domain warfare and more robust joint structures need to be focused for reforms. On the topic of defence production within the country, he brought out the need for capacity enhancement on the logarithmic scale and to deliver on time is what is expected from the domestic defence industry. On being asked about the role that the defence forces in countries like the US and China play in defence

production, he said that the Directorate of Aerospace Design in the IAF and similar agencies in the other services are doing yeomen service in the defence production field and serve as catalysts for faster development of military technologies.

10. The inaugural session culminated with the release of the book titled “**Cyber Diplomacy: Navigating the New Digital World Order**” edited by Preethi Amaresh, Pawan Anand, and Vineet Kumar.

### **Detailed Summary of Session 1: Emerging Technology & Future Warfare**

11. **Session 1** focussed on ***Emerging Technology & Future Warfare*** and brought together esteemed military leaders, technologists, and defense strategists to explore the evolving landscape of warfare shaped by cutting-edge technologies. The panel engaged in a deep and dynamic discussion on how developments such as cyber capabilities, semiconductors, drones, artificial intelligence (AI), and quantum computing are redefining national security imperatives.

12. Moderated by Lt Gen PJS Pannu, PVSM, AVSM, VSM (Retd), Former DCIDS, the discussion emphasised the need to integrate emerging technologies swiftly and intelligently into operational doctrines, keeping pace with adversarial innovations—particularly in the context of growing strategic competition in the Indo-Pacific.

13. Other key contributors of this session included, Lt Gen Rakesh Kapoor, AVSM, VSM, DCOAS (IS&C), who emphasised on aligning technological innovation with operational needs to maintain battlefield superiority. He called for a system-driven approach that bridges the gap between R&D and operational utility, ensuring that battlefield needs shape technology development. Advocating for indigenous, adaptable, and user-informed solutions, he highlighted the need to streamline bureaucratic hurdles that delay tech integration. He also stressed aligning the defense production ecosystem with national priorities in AI, robotics, and smart systems

14. **Maj Gen (Dr) Pawan Anand**, AVSM (Retd), addressed the significance of cyber deterrence and securing India’s defense networks against evolving threats. He emphasised on the strategic importance of cyber deterrence alongside nuclear and conventional capabilities. Calling for a layered cybersecurity framework, he also emphasized on hardening digital infrastructure and fostering civil-military collaboration. Lastly, he highlighted the asymmetric nature of cyber warfare, urging proactive red-teaming and continuous threat simulations to secure defense networks.

15. **Col Anurag Awasthi** (Retd) discussed the pivotal role of semiconductors as the backbone of modern military hardware and systems. He warned of India's over-reliance on imported chips, presenting it as a strategic vulnerability. To counter this, he advocated for robust domestic semiconductor manufacturing capabilities tailored to defense needs. He also called for greater collaboration between government and private sector players to build a secure and resilient defense tech supply chain.

16. **Mr Ankit Mehta**, CEO of IdeaForge, highlighted how drones are transforming tactical and strategic operations on the ground. He shared real-world examples of drone deployment in military operations, emphasising their strategic value beyond reconnaissance. He discussed how drones are increasingly vital in high-risk and denied environments, urban warfare, and logistics. Stressing the need for indigenous development, he advocated for AI-enabled, autonomous drone systems and a regulatory framework that supports rapid fielding of advanced UAVs to meet tactical and strategic demands.

17. **Dr (Prof) Nisha Kant Ojha** provided insights into how **AI and quantum computing** are redefining decision-making, threat analysis, and future military strategies. He discussed AI's role in predictive analytics, autonomous systems, and command decision-making. On quantum technologies, he highlighted both disruptive opportunities and emerging threats, particularly to cryptography. He called for early and sustained investment in dual-use R&D and stronger academic-defense-industry partnerships to build sovereign capabilities in these frontier domains.

18. As the **moderator of the session**, **Lt Gen Pannu** synthesized the diverse perspectives into a unified narrative about the future of warfare. He stressed that technology must be central to strategic planning and not treated as an auxiliary element. Advocating for anticipatory and agile planning, he reinforced the session's message: military preparedness must evolve in tandem with technological advancement to ensure strategic superiority.

### **Detailed Summary of Session 2 : Self-Reliance and Defence Exports**

19. The second session commenced with a sharp focus on **Self-Reliance and Defence Exports**, a timely and vital theme as India aspires to become a global defense manufacturing hub. Moderated by **Lt Gen Vinod Khandare, PVSM, AVSM, SM (Retd)**, Principal Advisor, Ministry of Defence, the session brought together a panel of distinguished voices from government, industry, and research institutions, who collectively emphasized the need for a robust, self-sustaining defense manufacturing ecosystem.

20. **Smt Deepti Mohil Chawla**, Additional Secretary, MoD, opened the discussion by underlining the importance of shortening gestation periods in defense technology development. She reaffirmed the Ministry's commitment to the **Make in India** mandate, highlighting that indigenous design, development, and manufacturing are now institutional directives rather than aspirational goals. Addressing the issue of supply chain vulnerabilities due to foreign dependencies, she noted ongoing indigenization efforts. With India aiming to scale defense production from ₹1.3 lakh crore to ₹5 lakh crore, she stressed that self-reliance is now a strategic necessity. Her remarks also emphasized the government's responsiveness to military needs and the transparency of the existing procurement framework.

21. **Dr B.K. Das**, DG ECS, DRDO, took the conversation into the realm of innovation, asserting that India must lead in technological breakthroughs rather than playing catch-up. He advocated for the development of unique, future-ready technologies, specifically calling attention to multi-domain integration and concurrent development strategies. Dr. Das emphasized the necessity of forecasting future



warfare requirements, including technologies like Strategic Precision Munitions (SPM), and urged the ecosystem to clearly identify and support game-changing innovations. He concluded with a call for deeper support to start-ups that are capable of scaling indigenous defense capabilities.

22. **Mr Ashish Kansal**, CEO of SMPP, brought an industry perspective, emphasizing the role of public-private partnerships in enabling India to compete with global defense giants. He highlighted the need for closer collaboration between PSUs, private enterprises, and startups, as well as the involvement of India's diplomatic channels in promoting defense exports. He also pointed out systemic challenges, particularly certification delays, and urged structural reforms. Robust industry feedback loops and progress-monitoring mechanisms, he said, are vital for continuous improvement.

23. **Mr Suyash Singh**, CEO of GalaxEye, provided a start-up lens to the conversation. He advocated for increased integration of space technology within defense conversations and called for the expansion of innovation platforms such as iDEX. Mr Singh stressed the importance of MEA support for export-oriented and dual-use technology start-ups, proposing a more structured engagement process for new entrants in the sector. His intervention underscored the strategic potential of start-ups in advancing India's defense tech landscape.

24. **Lt Gen RS Reen (Retd)**, Former DG, DGQA, emphasized the need to address region-specific challenges, particularly in sensitive zones like Jammu & Kashmir. He cautioned against hasty operational deployments and stressed the importance of autonomous, streamlined manufacturing processes to ensure timely delivery. General Reen also called for closer integration among suppliers, manufacturers, and frontline users. Reaffirming the impact of the iDEX initiative, he highlighted its utility in addressing real-time defense challenges through homegrown solutions.

25. **Lt Gen Khandare** rounded off the session as moderator by citing a recent success story: the deployment of Indian-made technology by the Nangi Tekri battalion during tensions with Pakistan. He reiterated the importance of private sector networking in scaling defense exports and spotlighted firms like L&T as examples of successful public-private collaboration. His closing remarks reinforced the central theme of the session—**collaboration is the cornerstone of India's journey towards strategic autonomy in defense manufacturing**.

26. This session offered both a reality check and a roadmap for India's defense industry. The consensus was clear: India must evolve from a major importer to a major exporter by fostering innovation, ensuring quality, nurturing start-ups, and streamlining institutional frameworks. The dialogue made evident that **self-reliance is not just a goal—it is the foundation of India's future security and economic resilience**.

### **Detailed Summary of Session 3: Procurement and Acquisition Reforms**

27. The third session of the day focused on **Procurement and Acquisition Reforms**, bringing together key voices from the armed forces, private industry, and

emerging tech enterprises. The session opened with a powerful address by **Vice Admiral Krishna Swaminathan, AVSM, VSM**, Vice Chief of the Indian Navy, who articulated a bold and transformative vision for the Indian Navy amid increasing geopolitical instability and rapid technological shifts. He positioned the Navy not merely as a warfighting arm but as a strategic instrument of state policy, capable of responding to national emergencies, enforcing maritime law, and projecting power across the Indo-Pacific. Reiterating the doctrine of *Atmanirbharta* (self-reliance), he highlighted ongoing efforts in indigenisation, coastal security, gender inclusivity, and operational readiness. The Vice Chief also acknowledged persistent challenges such as delays in procurement, the rise of disruptive technologies in the hands of adversaries, and strategic complexity in the Indian Ocean Region, calling for urgent reforms in acquisition timelines and a holistic shift toward capability-focused planning.

28. Building on this, **Air Vice Marshal Golani** provided a candid view of the current defence ecosystem. He highlighted the need of senior leadership to accept the institutional effectiveness and synergise the strategic intent and operational reality. Citing issues related to official narratives and delayed reforms, he called for greater institutional self-awareness and the need for a culture of introspective leadership to drive meaningful change. “Mission Made’ is the way forward.

29. **Air Marshal JS Mann**, DG Weapon Systems, emphasized that India’s procurement strategy must evolve to support prolonged military engagements and withstand strategic shocks. He critiqued the cumbersome Defence Acquisition Procedure (DAP), now stretching to over 680 pages, and recommended greater accountability, enhanced fiscal delegation to service chiefs, and the adoption of civilian technologies for military applications. He advocated for a transition from linear to parallel procurement models and called for a centralized body—akin to the UK’s wartime procurement system—to accelerate acquisition processes.

30. **Lt Gen Rahul R Singh, AVSM, VSM**, DCOAS (CD&S), delved into the long-term nature of capability development. He introduced the *Integrated Capability Development Plan (ICDP)*, designed to synthesize the needs of the Army, Navy, and Air Force over a decade-long horizon. He explained how procurement must align with threat anticipation, not reactive trends, and cited the slow lifecycle of major systems like the ATAGs as proof of the need for advanced planning. He also referenced key planning documents such as the *Equipment Procurement Capability Roadmap (EPCR)* and the *Technological Perspective and Capability Roadmap (TPCR)* that guide industry alignment with future military requirements.

31. **Cmde Anil Jai Singh (Retd)** provided a naval veteran’s perspective, echoing the urgent need for procurement reforms while cautioning against hasty decisions. He emphasized the need to improve the existing DAP structure, calling it difficult for both foreign OEMs and Indian innovators. He urged for the replacement of the lowest-bidder (L1) model with a more nuanced, capability-driven procurement metric and emphasized the importance of strengthening IPR frameworks to reassure foreign partners.

32. From the private sector, **Mr Vikas Khitha**, VP at L&T Defence, spotlighted the disproportionate exclusion of private companies from major defence contracts, with

only 6% of awards going to the private sector despite extensive reliance on the DAP. He attributed this to inflexible procurement frameworks, inadequate scaling of indigenous products, and reduced contract quantities that undermine manufacturing viability. He proposed consolidated industry feedback, expedited reforms, and a departure from the rigidity of General Financial Rules (GFR) in international exports.

33. Closing the session, **Mr Kiran Raju**, CEO of Indrajaal, introduced a forward-looking proposition—"**Capability-as-a-Service**". He explained that for rapidly evolving tech domains like AI, counter-drone systems, and autonomous platforms, traditional capital procurement is obsolete. Instead, leasing and outcome-based models—as practiced in the U.S.—offer better agility, adaptability, and cost-effectiveness. He emphasized the value of tapping non-taxpayer-funded innovation by enabling start-ups and private firms to provide cutting-edge capabilities as services, aligning with *Atmanirbhar Bharat* without overburdening defence budgets.

### **Major Insights from the Kalam and Kavach Seminar**

34. Following are the major insights and takeaways from, the Kalam and Kavach Seminar;

(a) **Strategic Synergy Between Thought and Power.** The central premise of the seminar was the integration of *kalam* (intellectual foresight) and *kavach* (defence capability) as a foundational approach to national security. Historical references to Chanakya and Chandragupta Maurya served as powerful metaphors for the modern need to align vision with strength in securing India's interests.

(b) **Naval Transformation and Maritime Strategy.** The Vice Chief of the Indian Navy articulated a transformative maritime doctrine, positioning the Navy as a strategic first responder and regional stabiliser. He emphasised high operational readiness, increased indigenous content, and gender inclusivity, while warning of complex security dynamics in the Indian Ocean Region due to Chinese naval expansion, regional instability, and technological asymmetry.

(c) **Accelerating Self-Reliance in Defence Manufacturing.** Senior MoD and DRDO officials stressed the need to reduce gestation periods, indigenise critical supply chains, and boost domestic production to meet ambitious targets. Defence manufacturing must become agile, innovation-driven, and export-ready. The role of start-ups and MSMEs, particularly under iDEX, was highlighted as vital to achieving *Atmanirbharta*.

(d) **Public-Private Partnerships for Defence Exports.** Industry leaders called for deeper collaboration between PSUs, private firms, and start-ups. There was consensus on involving diplomatic missions in defence export promotion and the urgent need to streamline certification and feedback processes to make Indian defence products globally competitive.

(e) **Reforming the Procurement Ecosystem.** Multiple speakers outlined urgent need of reforms in the Defence Acquisition Procedure (DAP),

including procedural delays, lack of accountability, and misaligned evaluation metrics. Proposals included:

- (i) Reducing procurement timelines.
  - (ii) Shifting from linear to parallel acquisition processes.
  - (iii) Introducing performance-based procurement models.
  - (iv) Enhancing delegated financial powers for the Services.
- (f) **Future-Ready Capability Development.** Long-term capability planning, as reflected in the Integrated Capability Development Plan (ICDP), was presented as a data-driven alternative to platform-centric or reactive procurement. Tools like ORSA and EPCR help predict and align technological needs with force requirements across all services.
- (g) **Rethinking Procurement Models.** Innovators like Mr Kiran Raju proposed a "Capability-as-a-Service" model to address rapid tech obsolescence. This approach allows for continuous upgrades and lifecycle flexibility, aligning better with fast-paced technological shifts in AI, autonomous systems, and counter-drone technologies.
- (h) **Need for an Inclusive and Adaptive Policy Framework.** Several speakers warned against the over-complexity of procurement policy, which deters foreign OEMs and stifles smaller domestic innovators. A more inclusive, transparent, and balanced DAP—crafted through genuine multi-stakeholder consultation—was recommended as essential for future success.
- (j) **Emphasis on Strategic Self-Awareness.** Air Vice Marshal Golani and other speakers highlighted the need for those working within the system to acknowledge inadequacies and initiate positive reforms. They urged strategic leadership to engage more openly with ground-level realities and foster a culture of introspection, reform, and institutional learning.
- (k) **A Call to Action for National Commitment.** Concluding reflections reminded attendees that participating in national discourse is not just an administrative exercise but a deeper contribution to the country's journey. Strengthening both intellectual and strategic power is essential to realise the vision of a secure, self-reliant India by 2047.

## **Conclusion**

35. **Maj Gen (Dr) Ashok Kumar, VSM, Director General, CENJOWS**, concluded the seminar with poignant reflections on the critical need for reforms to bridge the widening gap between military needs and procurement realities. He emphasized that India's path to becoming a global power rests not only on technological strength but also on intellectual clarity and policy coherence.

36. One of the most compelling takeaways from this seminar has been the powerful synergy of ***kalam* (the pen) and *kavach* (the armour)**—the union of

strategic thought and operational might. History offers a profound lesson here. During the Mauryan era—India’s golden age—the subcontinent expanded to over 5 million square kilometers. This wasn’t achieved by force alone, but by the vision of Chanakya and the leadership of Chandragupta Maurya. Chanakya represented the *kalam*; Chandragupta, the *kavach*. Together, they built a state so resilient that it endured and expanded, even under Emperor Ashoka, long after Chanakya’s physical presence was not there.

37. Today, India’s landmass stands at 3.725 million square kilometers—just 65% of what it once was. But the true measure of a nation lies not just in its size, but in its ability to think boldly, act wisely, and defend with conviction. If we are to achieve the vision of **India@2047**—strengthening our independence, economic prosperity, and national security—then this fusion of intellect and strength must be deepened.

38. From cognitive warfare to future technologies, success will require the alignment of thoughtful strategy with decisive execution. That is the real essence of **Atmanirbharta**—self-reliance not just in arms and equipment, but in ideas and institutions. He then extended his heartfelt thanks to Mr Rajan Arya and Mr Shivam Arya of Pentagon Press for their hard work in putting the day’s programme together, and Lt Gen A.K. Singh for his vision and initiative in starting the Kalam and Kavach series.

39. He also extended his gratitude to all the distinguished speakers and attendees, acknowledging their time and commitment. He thanked all present for choosing to dedicate time to reflection, meaningful dialogue, and the cause of nation-building, which is not a small gesture, but a significant contribution. He urged everyone to carry forward the spirit of the seminar with renewed determination—to sharpen the *kalam*, strengthen the *kavach*, and collectively shape the future of a secure, sovereign, and self-reliant India.

40. The **vote of thanks by Mr Shivam Arya, Director of Pentagon Press**, wrapped up the session, expressing gratitude to all participants for their frank and constructive contributions.