



CENTRE FOR
JOINT WARFARE
STUDIES

EV/05/24

SEMINAR REPORT ON DEFENCE PARTNERSHIP DAYS

ORGANISED BY CENJOWS & IMR INDIA
28-29 NOV 2024





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(Prepared by Team CENJOWS)

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1. **Executive Summary.**

(a) **The Centre for Joint Warfare Studies (CENJOWS)** in partnership with Indian Military Review (IMR) organised the seminar on '**Defence Partnership Days**', on 28th & 29th Nov 24, at **Manekshaw Centre**, New Delhi. The seminar was designed towards bridging the gap between government & business stakeholders. The event featured over 1,200 planned strategic engagements, through various meetings at **Business-To-Government (B2G)** and **Business-To-Business (B2B)** levels respectively.

(b) The discussions primarily focused on key topics like '**Indegenisation, Import Substitution Initiatives**', '**Development of Futuristic Technologies**' under '**Aatmanirbhar Bharat**' initiative of **Government of India** and how the '**Indian Defence Industry Ecosystem**' can play a pivotal role towards its realisation.

(c) **Gen Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM, Chief of Defence Staff**, inaugurated the seminar along with **Secretary Defence Production, Shri Sanjeev Kumar**. Distinguished speakers including senior serving officers from the tri-services and representatives from various industries gave their respective talks.

(d) The **seminar provided the industry an insight into the plans and requirements of the three services**, so that the private industry can provide the required solutions. The seminar also gave a platform to the industry to showcase their existing capabilities and products through dedicated exhibition stalls.

(e) During the seminar, the **industry representatives interacted with key nodal/project officers** dealing with **Procurements, Indigenisation, Make-1, Make-2, Import Substitution, Problem Statements, GSQRs, RFIs, RFPs and Design & Development** to offer solutions to further strengthen the capabilities of the armed forces and also to expand the boundaries of Indian Defence Production ecosystem.



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2. Objective of the Seminar.

The prime objective of the seminar was to: -

- (a) **Promote Indigenisation**. Enhance domestic manufacturing capabilities and reduce reliance on imports.
- (b) **Bridge Collaboration Gaps**. Create synergy between government authorities and private sector stakeholders.
- (c) **Foster Innovation**. Encourage the adoption of emerging technologies like Artificial Intelligence (AI), Quantum Computing, Advance Robotics and others.
- (d) **Strengthen Defence Ecosystem**. Support MSMEs and Start-ups in contributing to India's Defence Industry.
- (e) **Policy Advocacy**. Address barriers like delayed approvals, R&D issues, funding gaps etc.

3. Overview of Participants.

- (a) **Government Stakeholders.**
 - (i) Ministry of Defence Officials.
 - (ii) Armed Forces Officials.
 - (iii) Paramilitary Forces Officials.
 - (iv) DRDO Officials.
 - (v) DGQA Officials, etc.
- (b) **Industry Participants.**
 - (i) Prime Contractors.
 - (ii) OEMs.
 - (iii) MSMEs.
 - (iv) Start-ups specialised in defence technologies.
 - (v) Service providers in Logistics, Technology Integration & Manufacturing, etc.



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(c) **Special Invitees.**

- (i) Think Tanks.
- (ii) Academia.
- (iii) Defence Experts.

(d) 100 plus officials from Ministry of Defence (MoD), Armed Forces & Paramilitary Forces, dealing with technology and procurement participated in the event. 200 companies including Prime Contractors, Industry leaders, OEMs, Manufacturers, Suppliers, Service Providers, MSMEs, Start-ups etc, were the key deliberators in the seminar.

4. Key Themes and Discussions.

(a) **Indigenisation and Import Substitution.**

- (i) Strategies to enhance domestic manufacturing and reduce dependency on imports.
- (ii) Role of government initiatives like 'SRIJAN Portal' and Positive Indigenisation Lists (PILs).

(b) **Innovation and Emerging Technology.**

- (i) Adoption of AI, quantum computing and unmanned systems for tactical advantage.
- (ii) Integration of futuristic technologies with existing systems.

(c) **Collaborative Research and Trials.**

- (i) Public-Private partnerships to meet evolving operational requirements.
- (ii) Importance of streamlined processes for testing new technologies.



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(d) **Strengthening MSMEs and Start-Ups.**

- (i) Supporting small-scale industries through incentives schemes and simplified policies.
- (ii) Expanding the vendor base for defence procurements.

5. Detailed Session Summaries (Day – 1).

(a) **Inaugural Session.**

- (i) **Welcome Address.** Maj Gen (Dr) Ashok Kumar, VSM (Retd), Director General CENJOWS delivered the **Welcome Address**. He welcomed the dignitaries for the seminar. The Gen highlighted the significance of the '**Defence Partnership Days**' seminar, as a vital step towards nation-building. He mentioned that the event was, focused on **B2G engagements** initiated by CENJOWS and IMR, which was initially originated as a proposal by the **CDS** in February 2024.

Addressing the volatility of India's immediate neighbourhood, the DG stressed upon the urgent need to enhance interoperability with friendly foreign nations and achieve comprehensive self-reliance in military capabilities. Emphasising a '**Mission Mode**' approach, he underscored the importance of prioritising the end product over the process while ensuring integrity and financial probity in execution.

The Gen viewed the event as a catalyst for embedding indigenous technologies into India's operational fabric, aligning with the vision of making India a self-reliant global leader and realising the goal of a '**Developed and Empowered India by 2047**'. The DG CENJOWS also expressed his gratitude to the speakers and industry leaders for contributing their time and expertise, reflecting on the progress made in building technologies from the ground up and identifying areas requiring further focus.



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(ii) **Inaugural Address.** Gen Anil Chauhan, PVSM, UYSM, AVSM, SM, VSM, Chief of Defence Staff delivered his inaugural address and highlighted the following: -

(aa) He emphasised the importance of embracing an open-minded approach while adopting the principles of the **'4Is' — Innovative, Inventive, Indigenous, and Imaginative** — as essential prerequisites for positioning India as a global leader in defence and R&D production. Highlighting India's role as a **'Beacon of Global Optimism'**, he underscored the significance of initiatives like **'Defence Partnership Days'** as a unifying platform that brings together diverse stakeholders, driven by the shared objective of **'Advancing National Interests'**.

(ab) CDS mentioned **'Creative Destruction'**, to generate new ideas through a collaborative unlearning and adopting a tactics led modernisation approach where the executive branch would lead the process of product development, platforms and system which would in turn support the operations under a core team bringing together technologies from India and abroad together, to develop a new system for warfighting.

(ac) He stressed the need for stakeholders to unite and embrace indigenous ideas to strengthen defence manufacturing whilst the need for modifying existing inventory, including Unmanned systems, improving networking while effectively exploiting existing systems and development of futuristic systems. He also addressed the funding gap, larger risk in R&D than defence manufacturing, and the delayed approvals with further delayed returns to be considered as areas for improvement.

(ad) Under the **cusp of 3rd evolution of military affairs**, the Gen highlighted the importance of meetings like these where the user of equipment (military) and the likely producer (industry) can come together to



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understand the gaps and work towards tactical trials. The **CDS compared** technology to the cosmic cycle of ***Brahma, Vishnu, and Mahesh***, where **creation, sustenance, and destruction lead to transformation**. This mostly highlights that innovation thrives when systems are built, preserved, dismantled, and renewed. Customised plans for our terrain, environment and specific requirements will lead us forward to fostering a stronger, resurgent and '***Atmanirbhar Bharat***'.

(ae) He also mentioned that such like conclaves are a step towards discussing ideas while working under the rubric of ***Atmanirbharta***. He stressed, a good policy is not only a lubricant but a catalyst which would work better if there exists a trust between the tri-services and OEMs (Original Equipment Manufacturer). He insisted on investing in the future, especially in ideas, as the potential of emerging technologies like quantum computing, artificial intelligence, and quantum technologies are yet to be tapped by even the advanced militaries.

(af) He suggested the development of a defence bank which offers direct loans to users with simplified terms, other than **iDEX (Innovation of Defence Excellence)** and **Technology Development Fund (TDF)**. A defence policy to be distributed amongst the industries giving them direction of requirement of technologies by the armed forces. **The incorporation of tactical trials** to track progress of evolving technologies to better integrate our plans of warfighting and our aim to achieve gold standards for our defence ecosystem.

(iii) **Keynote Address.** **Shri Sanjeev Kumar, IAS, Secretary Dept of Defence Production, Ministry of Defence** gave the keynote address and the following points were addressed: -



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- (aa) He underlined the importance of maintaining a balance in preparedness as the world around us evolves, powering the nation with self-reliance.
- (ab) He advised attracting more stakeholders from the industry as they need to be equipped with adequate information regarding the needs of the defence forces as their stands only one buyer.
- (ac) The onus of catapulting our success also depends on the speed of decision making which is a responsibility of the government also, assuring the industry of repeat order as we build an ecosystem for 'collaborative research'.
- (iv) After the 'Key Note Address', a KPMG Knowledge Paper, '**Doing Business in Defence**' was released during the Inaugural Session.
- (v) **Vote of Thanks.** Maj Gen Ravi Arora, SM (Retd), Chief Editor, Indian Military Review (IMR) gave the Vote of Thanks. At the end of Inaugural Session, he thanked the CDS for giving approval and support to the idea of the event and thanked the 'Chief of Integrated Defence Staff to Chairman Chiefs of Staff Committee, Staff (CISC), DCIDS (PP & FD), Indigenisation Directorates of the services who lent their full support. The event has been packed with over 100 officers from Army, Navy, Airforce, Coast Guard, DRDO, Paramilitary Forces, etc. For the first time 17 officials from MoD attended highlighting the direct interaction of stakeholders. Approximately 1200 meetings were planned for the one and a half day event with 300+ active representatives from the industry and a 100 more who were accompanying them. He also thanked KPMG for their knowledge paper '**Doing Business in Defence**' bringing in new players and start-ups towards nation building. He encouraged constructive feedback for building an ecosystem towards more initiatives like this event.



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(b) Session No – 2 (Government Representatives).

(i) **Make Procedure.** Mr Ajay Dubey, Director (Missile Systems) Make Policy, Dept of Defence Production, MoD spoke on the topic: **‘Make Procedure’:-**

(aa) He spoke that the **‘Make Procedure’** under the Indian defence procurement framework, aims at fostering indigenous manufacturing and reducing dependency on imports.

(ab) He further explained the main objectives of the Make Procedure: -

- **To Promote Make in India.** Encourages indigenous design, development, and manufacturing of defence systems.
- **To Encourage Industry Participation.** Focuses on involving Indian industry in developing defence products.
- **To Generate Options For Import Substitution.** Aims to reduce reliance on imported defence equipment.

(ac) The salient key points of considerations for **‘Make-I’** category were discussed: -

- **Scope.** For the design and development of major platforms, equipment, and systems.
- **Funding.** Up to 70% of prototype development cost funded by the government, capped at ₹250 crores per Development Agency (DA).
- **Indigenous Content (IC).** Minimum 50%.



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- **Major Projects.** Indian Light Tank, Medium Speed Diesel Marine Engine, Future Combat Vehicle (FRCV-AFV).
- **'Make I' (category)** procedure is specially curated for design and development of major platforms, equipment systems like Indian Light Tank, FRCV-AFV etc, which are funded by the government.

(ad) The salient key points of considerations for **'Make-II'** category were discussed: -

- **Scope.** Focuses on equipment, systems, and sub-systems.
- **Funding.** No government funding, but assurance of orders to successful DAs.
- **Indigenous Content (IC).** Minimum 50%.
- **Major Projects.** BMP-2/2K upgrade, Shore-Based Guided Rocket (SB-GR), Aerial Fuse for Bomb.
- **'Make II'** for design and development of equipment system/sub-systems, no government funding but assurance of business, like Aerial Fuze for bombs, BMP-2/2K upgradation.

(ae) The salient key points of considerations for **'Make-III'** category were discussed: -

- **Scope.** Manufacturing in India with no indigenous design or development requirements.



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- **Key Features.** Items already in inventory can be indigenized through Transfer of Technology (ToT).

 - **Indigenous Content (IC).** Minimum 60%.

 - **Major Projects.** Aero-engine for Mi-17V5.

 - **'Make III'** for indigenous design and development not mandatory like Aero-engine for Mi-17V5 Helicopter while offering relaxation to MSMEs and startups.
- (af) The key salient points of his talk have been summarised as under: -
- The Make Procedure aims to enhance defence self-reliance through structured processes tailored for varying levels of industry capability.

 - Make I, II, III procedure focuses on indigenous manufacturing thereby aligning itself with India's Atmanirbhar Bharat initiative.

 - Categories like Make-I and Make-II encourage innovation, while Make-III allows leveraging existing capabilities.

 - Timely execution and capacity building for MSMEs and startups are crucial to meet policy goals.
- (ii) **Indigenisation of Components & Spares.** **Shri. Bholanath Sonkar, Director (Indigenisation),** Dept of Defence Production, MoD spoke on a very important topic ie. **Indigenisation of components and spares.**



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(aa) During his presentation Shri Bholanath Sonkar elicited that the main objective of indigenisation is to reduce dependency on imports, boost domestic production of defence components, and lower costs. There is a need to achieve self-reliance in the defence sector, tackle supply chain disruptions, reduce import bills, and foster Public-Private Partnerships (PPPs).

(ab) He also stated that all DPSUs has been encouraged to give preference to indigenous components of sub-assembly, and to this effect **DDP** has launched '**SRIJAN Portal**'. He mentioned that the **SRIJAN Portal** is a centralised online platform to identify and share indigenisation opportunities.

(ac) He also brought out that **Positive Indigenisation Lists (PILs)** **have** been published and all items listed by the Ministry of Defence in the same will no longer be imported after a specified timeline.

(ad) India's indigenisation efforts are a strategic move to enhance defence capabilities, reduce import reliance, and promote indigenous industries.

(ae) The key salient points of his talk has been summarised as under:

-

- DPSUs (Defence PSUs) to prioritise indigenous sub-assemblies and components. DPSUs have been asked to nominate a Chief Indigenisation Officer who shall be an Interface between DPSUs/Service HQs and industry to promote Make in India.



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- The **SRIJAN Portal** facilitates real-time monitoring of indigenisation, vendor collaboration, and transparency, with active participation from **MSMEs** and regular seminars for capacity building.
- Major platforms include **T-72 Tanks, Helicopters, Aircraft, Ships, and Submarines**, with indigenised components like **fuel tanks, radars, and fire-fighting systems**, are driving Aatmanirbhar Bharat in defence.
- Items mentioned in the **Positive Indigenisation Lists (PILs)**, issued by DPP, MoD will no longer be imported after a specified timeline.
- Prioritisation is been given towards indigenisation of LRUs (Line Replaceable Units), subsystems, and spares.
- All of the above initiatives have been aligned with the Prime Minister's vision of self-reliance and aims to build a robust defence ecosystem, leveraging domestic innovation and manufacturing.
- The focus on policies, portals, and partnerships underscores a strong commitment to building a self-reliant defence ecosystem.

(c) Session No – 2 (Industry Representatives).

- (i) **Presentation by Apollo Computers/IBM.** Maj Himani Bhatt, Govt Sales Leader, IBM spoke on integration of **AI and data analytics** into defence systems. She emphasised on importance of AI & data analysis for enhancing **decision-making, operational efficiency, and mission readiness.**



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During the presentation the speaker showcased IBM's strategic framework, real-world AI use cases like tactical edge decision-making, and the growing role of generative AI in defence applications. They are focusing on providing edge computers into combat areas with solutions and Red Hat computing to empower decision making process by personnels and reduce delay in simulation process.

The company has partnered with the UK government and has participated in 'Exercise, Spring Storm' where in they provided spring sites using AI for getting tactical edge over the enemy. They have a dedicated sector under IBM Garage for consultation services whose mission is to improve effectiveness and improve decision making for defence forces. Their initiative watsonx.ai is an integrated AI platform for end-to-end AI application development including their watsonx.ai governance to direct, manage and monitor AI providing a comprehensive toolkit to manage risk, enhance transparency, and prepare for compliance with future AI-related regulations.

(ii) **Presentation by Entremonde Polycoaters.** Dr KMS Reddy, from **Entremonde Polycoaters** spoke on the topic: **'Titbits on Signature Management'**. He talks about his company's specialisation in multifunctional camouflage products which are currently used by the defence personnels.

The speaker talked about their advance products like signature management across electromagnetic spectrum which is used for multi-terrain 2D camouflages in form of nets having radar scattering property for less detection, and for night thermal detection.

The company has also developed Velcro removable stickers and paints for armed forces' vehicles which helps with immediate action to lay low on the radar in plain sight. They have initiated works on artificial trees and even decoy



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system like for tanks with radar and thermal properties to divert the adversaries' attention.

They are also working on ghillie suits to suppress radar and thermal detection, nets with patchwork for camouflage. Their recent project with DRDO targets adaptive camouflage system for active heating and passive cooling.

(iii) Presentation by Sealed Energy Systems. Mr Avinash Gupta, Technical Director, Sealed Energy Systems spoke on the topic: 'Indigenous Battery Technologies for Defence'.

During his presentation he highlighted the influx of imports and India's demands from Japan and South Korea in terms of VRLA batteries and how it is costing heavily to the nation. He emphasised on the need for reducing cost of smaller parts like batteries as India is very capable of producing its own.

The speaker conveyed that their company has successfully provided special customised batteries in smaller batches to the defence forces for a while now, including indicator battery in submarines in the Indian Navy, hydrogen batteries, specialised batteries for night vision equipment, loitering ammunition, fuel powered bank, lithium powered batteries for defence usage- all under the NATO standards at a cost-effective way for the nation, thereby contributing towards Aatmanirbhar Bharat initiative of Government of India.

(d) Session No – 3 (Government Representatives).

(i) MoD Incentive Schemes. Brig Sandeep Acharya, DQA (V&EE), Directorate General Quality Assurance, MoD gave an in-depth overview of the incentive schemes by the Ministry of Defence.



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He dwelled upon the DGQA reforms, DTIS scheme, Defence Export Promotion Scheme, Raksha Mantri's Awards, etc. He mentioned that these initiatives are designed to reduce the reliance on foreign imports and promote self-reliance in defence manufacturing in India.

He emphasised the need for establishing more testing facilities in the country. The Defence Testing Infrastructure Scheme envisages the setting up of Greenfield testing facilities for defence and aerospace-related production.

The speaker explained how the DGQA certifications play a crucial role in enabling companies to export their defence products. Even if the companies do not get domestic orders, the ministry supports technology export through DGQA certifications.

He covered various initiatives of MoD, Government Of India to support MSMEs. He mentioned that the Raksha Mantri's Awards recognise achievements of small, medium and large-scale enterprises and start-ups, thereby offering awards that help the companies enhance their profiles and boost their visibility.

(e) **Session No – 3 (Industrial Representatives).**

(i) **Presentation by Proscend Communications.** Mr Sunil Agrawal, Managing Director, Proscend Communications gave a presentation on the topic: 'Industrial Automation & Next Gen Network Edge Revolution'. The speaker presented the wide range of services offered by his company, Proscend Communications, is into the Industrial Ethernet and Internet of Things (IoT) solutions.

He detailed the different products, such as the IoT management system to streamline network management, industrial cellular routers designed with



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advanced industrial features and software for flexible deployment, network switches, and ethernet extenders.

(ii) **Presentation by LDRA.** Mr Shinto Joseph, Director Operations, LDRA gave a presentation on the topic: **An Atmanirbhar Vision for Building Defence Systems with Quality, Safety and Security**'.

The speaker introduced his company, LDRA, which provides tools and continues to develop and drive the market for software tools that automate code analysis and software testing for safety, mission, security, and business-critical markets.

He highlighted the concept of 'standards-driven development' and opined that one of the biggest challenges faced by the Indian defence industry today is the lack of standardisation, especially with the involvement of the private sector. The Ministry of Defence (MoD) is addressing this by developing standards under BIS to ensure compatibility, upgrades, and competitiveness.

The other point stressed by the speaker was the importance of strengthening the local innovation ecosystem. India's defence industry needs a robust local innovation ecosystem encompassing academia, start-ups, MSMEs, and OEMs. Skills development at all levels- academia, policymaking, regulation, and certification is crucial to fostering domestic innovation and export competitiveness.

He also mentioned that, since 2014, LDRA's Certification Ecosystem Development Programme has engaged various stakeholders, including academia, start-ups, and regulators, to build frameworks for safety and security. This initiative connects local expertise with global platforms to advance India's defence capabilities.



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(iii) **Presentation by Paras Defence Technologies.** Mr Amit Mahajan, Paras Defence Technologies gave a presentation on the topic: 'EO-IR Smart Vision Solutions-Bringing Operational Clarity to the Indian Armed Forces'. Mr Mahajan detailed the various products and solutions offered by his company Contro-Paras.

The speaker mentioned that Paras defence technologies offer solutions for defence and space applications focusing primarily on two verticals - optics and optronics systems and defence engineering. They also specialise in RF and microwave development as well as anti-drone systems. He emphasised that the company's focus is on turning visual information into operational value with the exceptional engineering value that the company brings to the table through their EO/IR products, which are manufactured in India and are being offered to Indian forces, meeting all the norms of Make in India Initiative.

The company's operational domains include remote-control weapons systems, tactical UAVs, air-borne systems for helicopters, coastal surveillance, counter UAS systems, and maritime applications.

He also added that the key strengths of the company are the use of edge AI, extra-long range observation, precision surveillance, auto-detection capabilities, and enhanced operational efficiency.

(iv) **Presentation by Hughes Precision Manufacturing.** Mr Sanjay Soni, Managing Director, Hughes Precision Manufacturing gave a presentation on the topic: 'Development of Ammunition'. Mr Sanjay introduced his company, Hughes Precision Manufacturing, which is India's first manufacturer and exporter of small arms ammunition in the private sector initiated under the Make in India programme.



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The speaker explained the variety of ammunition offered by the company, including military calibers used by the armed forces, civilian calibers, shotshells and special purpose ammunition for use by special forces, anti-terrorist units etc.

Hughes' ammunition supports a broad spectrum of uses, from standard defence applications for armed forces to special operations and civilian shooting needs. Their products are engineered to deliver precision, reliability, and performance across diverse scenarios.

(v) **Presentation by Aska.** Mr Mir Jalal, Brand Communications Manager, Aska gave a presentation on the topic: '**Niche Technologies in the Rescue & Disaster Space for Defence Sector**'. Mr Mir Jalal highlighted the close association of his company, Aska, with the Indian defence forces providing fire safety rescue technologies to manage disasters.

He explained how Aska has been helping in providing rescue technologies to Indian defence sectors during fire incidents.

He also emphasised the advantages of their fire extinguishers that are portable, lightweight, maintenance and corrosion-free, durable, and made from composite materials, offering operational efficiency.

(vi) **Presentation by Parasoft.** Mr Naresh Sudhakar, Manager Professional Services, Parasoft gave a presentation on the topic: '**Streamlined Software Quality: Mastering End-to-End Testing**'. Mr Naresh Sudhakar discussed how to master end-to-end software testing to ensure reliability and efficiency of systems. He also introduced his company Parasoft and their product portfolios.



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Citing examples like the 2024 CrowdStrike outage, 2021 Tesla touch-screen failures, the 2020 SolarWinds attack etc., he explained how improper software testing can cause catastrophic global failures.

He also explained the range of software testing services offered by the company including static code analysis, unit testing, structural code coverage, functional safety compliance, etc. to ensure robust software performance.

6. Detailed Session Summaries (Day 2).

(a) **Inaugural Session.** After a successful Day - 1 of the seminar, the Day - 2 of the seminar further deepened the collaborative approach of the stake holders and the industry through meaningful interactions between both the government representatives and industry partners.

(i) **Welcome Address.** Maj Gen CS Mann, VSM Addl DG, Army Design Bureau delivered the welcome address for the Day - 2 of the seminar. The address highlighted the need for such platforms for MSMEs and Startups as such B2B and B2G meetings are significant in creating synergies for indigenisation and enhancing warfighting capabilities.

The gen officer further added on the need for '**connecting capabilities**' in terms of optimising existing platforms and thereafter developing niche technologies as per the requirements. Reiterating India's diverse and vast terrain challenges, he added how '**forward area orientation**' are now carried out to test and provide startups and MSMEs real time feedback. Calling it an '**iterative process**', Gen Mann concluded with an optimistic outlook on creating indigenous synergies and provided an assurance for '**handholding**' to the industry partners who reach out to the government.

(ii) **Central Talk.** The Central Talk was delivered by Smt Urmila Rawat, DS (DIP-II), Dept of Defence Production, MoD. She gave a comprehensive view



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of how the industries can approach the government with respect to export control licensing. She highlighted the government's role in promoting MSMEs in facilitating defence exports. She further elaborated upon various policies and procedures prevalent regarding export licensing under the MoD. She also dwelled on the following aspects:-

- (aa) The speaker gave a comprehensive view of how the industries can approach the government with respect to export control licensing.
- (ab) She brought out various classifications under the National Export Control List, to include: Special Chemicals, Organisms, Materials, Equipment, and Technologies.
- (ac) She conveyed that since 2018 the application process has been completely made 'online'.
- (ad) The officer highlighted the government's role in promoting MSMEs in facilitating defence exports.

(b) Session No – 2 (Government Representatives).

(i) **Defence Acquisition Procedure 2020.** Brig Marut Shukla, SM, DDG Acquisition Technical (Army), MoD gave a presentation on the topic: 'Defence Acquisition Procedure 2020'. The speaker highlighted the aim of DAP ie. to ensure timely procurement of Defence Equipment to meet operational requirements through optimum utilisation of budgetary resources, observing the highest degree of probity, public accountability, transparency, fair competition and level playing field.

- (aa) The officer suggested way forward with enabling policies like-
 - Procure only through domestic industry, import as an exception, with specific approvals;
 - Develop domestic Defence ecosystem-enhanced avenues and increase vendor base through splitting of order quantities;
 - Multiple Design/ Production partners;



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- Sustenance through domestic vendors;
- Focused on the indigenisation of components/ sub-assemblies;
- Revamp and simplification of Trials & testing procedures following International best practices;
- Squeezing of Timelines for Defence Procurement is also underway.

(ii) **Defence Testing Infrastructure Scheme.** Capt Sanjeev Chadha, Directorate of Quality Assurance (Warship Projects), Directorate General of Quality Assurance (DGQA) gave a presentation on the topic: ‘**Defence Testing Infrastructure Scheme**’. The officer highlighted the key objectives of the scheme that is to promote Indigenous defence production by bridging gaps in defence testing infrastructure in the country.

He also stated that an outlay of Rs 400 Cr has been approved to create state-of-the-art testing facilities in partnership with industry and address challenges associated with defence testing. He said that there is a special focus on participation of MSMEs and Startups in such endeavours also to provide easy access and thus meet the testing needs of the domestic defence industry. He mentioned that the aim is to address the issues related to quality standards and certification requirements for military-grade equipment.

(iii) **Industrial Licensing Policy in Deence Sector & FDI Policy.** Smt Urmila Rawat, DS (DIP-II), Dept of Defence Production, MoD gave a presentation on the topic: ‘**Industrial Licensing Policy in Defence Sector & FDI Policy**’. The officer gave a comprehensive view of all matters pertaining to the grant of license for Defence manufacturing, FDI-related matters in the defence sector, clearances, security issues pertaining to Defence manufacturing and all other allied matters.

(iv) **Standarisation of Defence Items.** Air Cmde Rajneesh Kumar, Director, Directorate of Standardisation, MoD gave a presentation on the



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topic: '**Standardisation of Defence Items**'. The speaker highlighted the importance of standardisation of defence items and he further brought out the benefits of coding. He attributed coding benefits to include enhanced interoperability, optimisation by mining duplication, variety reduction of existing inventory, and effective means of entry control.

With respect to the role and tasks of DoS in Standardisation, the officer underlined that, DoS is recognised as a "Standards Development Organisation" (SDO) by BIS, and they are also providing secretarial support for the sub-committees and to ISWGs/ ISEPC.

He further explained the importance of Standardisation, Formulation of Technical Panels / Working Groups are necessary, preparation of Standardisation Documents and Periodical Review preparation of Annual/ Five-year Roll-on Plans (ROP), Repository of Standard Documents (JSS/JSG/JSRL/JSPR) etc.

(c) Session No – 2 (Industry Representatives).

(i) Presentation By Orbit Communications. Mr Anand Dharmapuri, Director Sales and BD, Orbit Communications Systems gave a presentation on the topic: '**Maritime and Aircatcom Solutions**'. Mr Anand underlined their MILITARY-GRADE systems that meet navies high-end demands. He spoke about ruggedised mechanical and electrical sub-assemblies that withstand MILITARY-STD-461 EMI/EMC and MILITARY-STD-810 environmental conditions. The speaker spoke about optional cyber protection which are available to be integrated within the system thereby making the system robust in field conditions. He also referred to orbit-patented Multi-Band and Multi-Orbit operations meeting future battlefield communication requirements.



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(ii) **Presentation By Gandhi Automation.** Mr Sanjay Lal, General Manager, Gandhi Automation gave a presentation on the topic: 'Hangar Doors for Aircraft and Large Doors for Shipbuilding and Shipyards'. The presentation focused on how these Hangar Doors are revolutionising the storage of big aircrafts/ship maintenance. The speaker emphasised on how Gandhi Automations' aircraft/shipyard hangar doors have incredibly big openings and are made for harsh environments.

There are two types of hangar doors for aircraft and shipyards: fabric hoist-up doors and sliding doors. Both have outstanding adaptability benefits and work well with ships and aeroplanes of various sizes. When designing and installing hangar doors, operational safety and maximum dependability are crucial design considerations. The doors are primarily created to undergo enormous wind loads and resist strong weather conditions.

(iii) **Presentation By ECIL.** Cmde R Santosh (Retd), Executive Director, ECIL gave the presentation on the topic: 'ECIL's Participation in Defence Electronics'. Cmde R Santosh mentioned that the ECIL was set up under the Department of Atomic Energy with a premise for developing indigenous capabilities. The initial accent was on total self-reliance and ECIL was engaged in the Design, Development, Manufacture and Marketing of several products with emphasis on three technology lines viz. Computers, Control Systems and Communications. He further stressed how ECIL has contributed to several defence products and services that is spearheading towards a self-reliant defence ecosystem in the country.

(iv) **Presentation By Garuda Aerospace.** Mr Agnishwar Jayprakash, CEO & Founder Garuda Aerospace provided a peek into how Garuda Aerospace is transforming UAS warfare. The company has become a name within the defence ecosystem for its AI-embedded drone development. Mr Jayprakash further added how Garuda Aerospace has developed 'pocket



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drones' that can be carried easily by the forces for any ISR activities. Mr Jayaprakash elucidated, the company is supplying drones to agencies like NDRF, ISRO, CISF and the Delhi Police. Apart from catering to the defence ecosystem, the company has also focussed on providing solutions to agriculture through advanced drone technology.

(v) **Presentation By Netarwala Group.** Mr **Muzammil Poonawala, Dy General Manager Business Development, Netarwala Group** gave a presentation on the topic: '**Netarwala Group's Metallurgical Excellence: Pioneering Precision Engineering for Defence and Allied Applications**'. Mr Poonawala elucidated how the company's robust manufacturing interests particularly in Metallurgy is transforming defence equipment. The company is involved with several Research and Development (R&D) projects with the Defence Research and Development Organisation (DRDO) such as ACM casting for cooling pods that were developed using only 3D printers. Mr Poonawala also stressed on how the company has full potential to conduct reverse engineering upto the material composition.

(vi) **Presentation By India Rubber Materials Research Institute.** Dr **K Rajkumar, Director, India Rubber Materials Research Institute** gave a presentation on the topic: '**Role of IRMRI in Indigenous Development of Rubber Products for the Defence Sector**'. He highlighted that by conducting research and development activities to design, develop, and validate specialised rubber components required by the military, the IRMRI plays a crucial role in the domestic development of rubber products for the defence sector. By producing advanced rubber materials tailored to specific defence applications, IRMRI also provides technical support and testing facilities to defence R&D establishments, thereby contributing significantly to India's self-reliance in critical defence equipment.



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(d) **Closing Address.** Maj Gen (Dr) Ashok Kumar, VSM (Retd), Director General CENJOWS, in his closing remarks made reference to India's emergence as a major economic force and the necessity for the armed forces to meet the existing challenges. Further, Gen Ashok mentioned that the three services have expressed willingness to closely cooperate and work with the industry for building India's defence capabilities and synergies for future warfighting. Additionally, he expressed gratitude to all of the speakers who generously gave of their time and ideas, to all of the seminar attendees, and to the CENJOWS and IMR teams for organising such a successful event.

7. **Major Insights.**

(a) **Indenisation Milestones.** The successful implementation of the **SRIJAN Portal** marks a significant achievement in promoting indigenisation. The portal has streamlined the process of identifying and sharing opportunities for domestic manufacturing, encouraging MSMEs, start-ups and larger industry players to actively participate in the defence production ecosystem. This milestone highlights India's commitment to reducing reliance on imports and fostering a self-reliant defence industry under the Aatmanirbhar Bharat initiative.

(b) **Policy Challenges.** Despite progress, several challenges do persist, to include procedural delays in approval, funding risks, and the conduct of tactical trials for testing and validating emerging technologies.

(c) **Technology Integration.** Advance technologies like Artificial Intelligence (AI), quantum computing, and emerging innovations in robotics and automation holds transformative potential for military operations, decision-making, and enhancing overall defence capabilities. Accelerating their integration into India's defence systems is crucial to staying competitive on a global scale.

(d) **Collaborative Framework.** Building trust and fostering collaboration between the tri-services, Original Equipment Manufacturers (OEMs), and the



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private sector has emerged as a need of the hour. Enhanced collaboration frameworks, supported by policy incentives and open communication channels, can significantly improve coordination, accelerate innovation, and address the unique requirements of India's defence ecosystem.

8. Recommendations.

(a) **Establish Tactical Trial Units for Emerging Technologies.** Dedicated units should be set up to test and evaluate cutting-edge technologies, including AI-enabled systems, unmanned vehicles, and advanced communication tools. These trials will ensure the viability and operational readiness of innovations before large-scale deployment.

(b) **Defence Bank.** A Defence Bank can be established to provide simplified financing solutions for MSMEs and start-ups. This initiative would address funding gaps, promote innovation and incentivise small-scale manufacturers to contribute to the defence sector.

(c) **Promote Public-Private Partnerships for Collaborative R&D.** Collaboration between government agencies, private industry, and research institutions should be actively promoted. These partnerships can drive innovation, reduce development timelines and enhance the production of indigenous defence technologies.

(d) **Strengthen the Defence Innovation Ecosystem.** Structured policies and incentives should be introduced to build a robust defence innovation ecosystem. This includes fostering academia-industry-think tanks collaboration, supporting start-ups with funding and mentorship, and creating incubation centres for defence technology development under the monitoring by these dedicated units as mentioned at para 7(a) above for speedy identification and implementation of the technology into the services.



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9. Conclusion. The ‘Defence Partnership Days 2024’ seminar provided an invaluable platform for fostering collaboration among key stakeholders, including government authorities, industry partners, and the armed forces. It also highlighted certain critical challenges and technology integration gaps, while also showcasing the immense potential of India’s defence ecosystem.

The insights and recommendations derived from the seminar offer a strategic pathway to achieve the objectives of Aatmanirbhar Bharat. By addressing policy challenges, promoting innovation, and strengthening collaboration frameworks, India can pave the way for Aatmanirbharta. The Indian defence Industrial ecosystem is dynamic and is evolving to meet the future challenges. Such collaborative approach of the government of India with the Indian defence Industry will not only bolster national security but also position India as a global leader in defence capabilities and innovation.