



BSS Materiel Limited (Bharat Supply & Support of Military Materials and Equipment) is an Indian defence and advanced technology company engaged in research-driven design, manufacture, assembly, testing, and lifecycle support of next-generation military materiel and dual-use systems. The company caters to the requirements of the Armed Forces, Paramilitary Forces, Law Enforcement Agencies, and select civilian markets.

BSS Materiel Limited, along with its subsidiary, operates in alignment with the Government of India's Make in India, AtmanirbharBharat and BharatInnovates initiatives in the defence and aerospace sector.

Founded by a team of progressive thinkers, the company is driven by innovation and a clear intent to move beyond legacy technologies and traditional management structures, embracing modern, agile, and transparent governance to meet evolving defence and security challenges

BSS Materiel functions as a Design House, Original Equipment Manufacturer (OEM), and Original Design Manufacturer (ODM), providing end-to-end capabilities from concept formulation, research-driven system engineering and prototyping to indigenized manufacturing, system integration, testing, deployment, and lifecycle support. The company focuses on developing and introducing cutting-edge, evolving, and next-generation designs and technologies aligned with Indian defence procurement frameworks and indigenization policies.

The company holds a Defence Industrial Licence, granted by the Government of India under the Industries (Development & Regulation) Act, 1951, a licence granted by the Department for Promotion of Industry and Internal Trade (DPIIT), authorizing the manufacture of Electro-Optics systems and Unmanned Aerial Vehicles (UAVs).

BSS Materiel is supported by its subsidiary, BSS Advance Technologies Private Limited, (Bharat Supply & Support of Advance Technologies) which acts as the group's advanced research, design, product engineering, and next-generation technology development arm.

Capabilities & Expertise

Design House | ODM | OEM

- † End-to-end concept-to-production design and engineering
- † Research-driven indigenous product development and co-development
- † Technology aggregation and integration facilitation across multi-domain systems
- † Solution architecture, system-of-systems design, and automation-driven integration

Research, Analytics, Innovation & Development (RAID)

- † Research, analytics, innovation, and development across defence technologies
- † AI, Machine Learning, Computer Vision, Embedded AI and decision-support systems
- † Electronics, power electronics, ruggedized and mission-critical systems
- † Electro-Optics, advanced sensors, and surveillance technologies
- † Virtual simulation, rapid prototyping, CNC machining, and 3D printing.

Defence Manufacturing & Industrial Capabilities

- † Small Arms, Light Weapons (SALW) and Ammunition—featuring modern, precision-engineered designs that advance beyond legacy platforms to deliver enhanced reliability, accuracy, lethality, modularity, and interchangeability, supported by CAD/CAM-driven design and CNC/VMC-based manufacturing; also encompassing ultra-long-range precision sniper systems optimized for extreme-distance engagement with advanced ballistics, stable platforms, precision optics, and improved fire-control for high first-shot effectiveness.
- † Unmanned Aerial Systems (UAVs)—BSS Materiel Limited focuses on the research, design, development, and integration of UAVs for defence, security, logistics, surveillance, and disaster-response missions, with platforms supporting remote and autonomous operations in complex environments; the portfolio includes FPV, ISR, tethered, tactical one-way strike loitering munitions, Fibre Optic Guided (FOG-D) systems for secure control, and ICE-operated UAVs for extended endurance. Capabilities are strengthened through BSS Alliance collaborations, enabling advanced design, avionics integration, secure encrypted communications, and mission-specific payload development for enhanced performance and adaptability.



- † Electro-Optics (EO) devices and surveillance payloads, designed and manufactured to military-grade standards for ISR, situational awareness, and platform-integrated applications, supported by collaborative development frameworks, exchange of technical expertise, and joint integration efforts to enable indigenous development, assembly, testing, and lifecycle support in alignment with Indian defence acquisition categories and Make-in-India objectives.



- † Manufacturing activities are supported by diverse production capabilities aligned with relevant global standards, encompassing structured quality control, component traceability, configuration management, testing and qualification, and qualified outsourcing, enabling scalable, compliant, and reliable defence & aerospace production

System Integration & Solution Deployment

- † System assembly, integration, evaluation, testing, qualification, and deployment across multi-domain defence & aerospace platforms
- † Communication-on-the-Move (COTM) solutions enabling secure, resilient, and real-time voice, video, and data transmission while on the move.
- † AI-driven surveillance, observation, autonomous, and decision-support platforms delivering enhanced situational awareness, intelligent analytics & mission effectiveness.
- † CBRN and explosives detection systems for early warning, threat identification, hazard assessment, and force protection.
- † AI-driven passive optical drone detection, the LookOut™ system, which automatically detects and tracks UAS through their distinctive optical emissions.
- † Integrated Counter-Unmanned Aircraft Systems (C-UAS), incorporating ultra-low latency AI-driven multi-sensor detection, identification, tracking, soft-kill and hard-kill neutralisation technologies to deliver layered force protection against conventional and tactical UAVs, loitering munitions and drone swarms.
- † Secure computing, rugged networking, and mission-critical electronics for defence & aerospace, industrial and homeland security applications.



Strategic Technology Partnerships & Capability Expansion

As part of its continued expansion into next-generation defence and aerospace technologies, **BSS Materiel Limited** has entered into strategic technology partnerships and has been appointed as the **Authorised Representative** for an advanced portfolio of defence and aerospace technologies across **India, the SAARC Region (excluding Pakistan)**, subject to applicable governmental approvals and export control regulations. This expanded portfolio complements the Company's indigenous research, engineering, and systems integration capabilities, enabling the delivery of integrated, mission-ready solutions for defence, aerospace, homeland security, and critical infrastructure protection.

The portfolio comprises advance **Electronic Warfare (EW)-resilient Positioning, Navigation and Timing (PNT) systems, Anti-Jamming and Anti-Spoofing Navigation Systems, Fibre Optic Gyroscope (FOG)-based Inertial Navigation Systems (INS), Controlled Reception Pattern Antennas (CRPA), AI-powered Tactical Data Links, X-Band Synthetic Aperture Radar (SAR), High-Altitude Stratospheric Autonomous Unmanned Systems, and laser-powered additive manufacturing technologies**, significantly strengthening the Company's capabilities in EW-resilient navigation, secure communications, Intelligence, Surveillance and Reconnaissance (ISR), precision engagement, autonomous operations, and advanced defence manufacturing.

Collectively, these technologies enable assured navigation in GNSS-denied environments, resilient tactical communications, persistent ISR, secure battlefield networking, and enhanced survivability across land, air, maritime, and unmanned platforms operating in contested environments.

Complementing this portfolio is the Company's growing expertise in **Artificial Intelligence (AI), Computer Vision, Edge AI, multi-sensor fusion, Electro-Optics, secure communications, resilient PNT, anti-jamming and anti-spoofing technologies, FOG-based INS, SAR, AI-enabled tactical data links, and ultra-low-latency video analytics**, strengthening its ability to design, integrate, and deploy intelligent mission-critical systems for modern defence, aerospace, and security applications.

These strategic partnerships provide access to emerging global defence innovations, enabling technical collaboration, joint solution development, mission-specific customisation, technology localisation, and advanced systems integration. By combining globally proven technologies with indigenous engineering expertise, the Company is well positioned to accelerate capability development and deliver integrated, future-ready defence and security solutions across multiple operational domains.

This capability expansion strengthens the Company's ability to support indigenous development, collaborative programmes, and technology localisation across autonomous land, aerial, and maritime systems, AI-driven unmanned vehicles, advanced ISR, intelligent mission systems, electronic warfare resilience, and next-generation network-centric defence architectures. Together, these strategic partnerships reinforce the Company's long-term vision of advancing indigenous defence technologies through collaborative innovation, technology localisation, and integrated capabilities for future multi-domain operations.

Key Indigenous Developments

Adding Value through Innovations

- † **TRIYAM-3D** - an **AI-driven Autonomous Lethal Weapon System** for Small Arms and Light Weapons, built around the "**Detect | Decide | Destroy**" operational framework. The system integrates advanced 3D perception, AI-enabled target detection, tracking, auto-engagement, multi-sensor fusion, and situational awareness, supporting **human-in-the-loop, human-on-the-loop, and human-out-of-the-loop** modes of operation. The same architecture can also be configured as a **cost-effective AI-driven Air Defence and Counter-Unmanned Aircraft System (C-UAS)**, capable of autonomously detecting, classifying, tracking, and precisely neutralising drones, loitering munitions, and swarm UAVs through rapid-response hard-kill engagement.

Designed with an open, modular architecture, TRIYAM-3D enables rapid integration of diverse sensors, weapon systems, and mission payloads to address evolving operational requirements. Its scalable architecture supports fixed, mobile, and remotely deployed platforms, delivering persistent force protection for tactical, strategic, and critical infrastructure defence.



- † **Vigil Eye** - AI-based Driver Monitoring System (delivered to the Indian Army)
- † **TRIYAM - The Third Eye** - AI-driven image analytics and surveillance platform for real-time situational awareness - Developed for and on the request of Indian Army.
- † **Drone Detection** - Acoustic and AI-based drone threat detection and triangulation system using multi-sensor fusion
- † **Handheld Intrusion Detection System with Remote IED Trigger Mechanism** - Developed for and on the request of Indian Army.
- † **GBAS** - Ground Based Augmentation System for Satellite-based Aviation Navigation and Landing System including UATM - Unmanned Aviation Traffic Management.
- † **Drone 401** a reverse-engineered, multi-role UAV that is Grenade Launcher Compatible weighing 200 grams designed for ISR, FPV situational awareness, and precision payload deployment.
- † **GARUDA-X5 (ICE)** a high-endurance, fixed-wing, multi-role, an internal combustion engine ICE- operated UAV for ISR, one-way mission precision strike loitering munition, and tactical logistics and resupply also in HAA environments, featuring modular design and reliable long-range heavy payload delivery.

- † **DAANAV** – an AI-Driven · Autonomous · All-Terrain · Mission-Ready rugged, tracked, multi-role Unmanned Ground Vehicle (UGV) engineered to operate where human presence is either impossible or carries unacceptable risk—because if a machine can go first, a human shouldn't have to. Designed for military, homeland & border security, disaster response, and critical infrastructure protection, DAANAV combines exceptional mobility, a modular payload architecture, and advanced autonomous capabilities into a single tactical robotic platform.

Whether operating as a Fibre-Optic Guided (FOG) uncrewed vehicle, a secure encrypted RF-controlled platform, or a fully autonomous robotic system, DAANAV is engineered to execute complex missions while keeping personnel out of harm's way. Its rugged tracked mobility system enables superior performance across rocky terrain, sand, snow, mud, forest trails, rubble, urban debris, trenches, steep inclines, and confined spaces. With a payload capacity of up to 200 kg, DAANAV can be rapidly configured for a wide range of mission profiles through its modular payload architecture

Key Operational Capabilities

- Heavy-Duty Tracked Mobility System with Low Centre of Gravity
- High-Endurance Electric Drive & Modular Open Payload Architecture
- Fail-Safe Navigation, Return-to-Base and Emergency Recovery Modes
- Swarm-Enabled Autonomous Operations & Manned-Unmanned Teaming (MUM-T)
- AI-Driven Autonomous Navigation with Waypoint Planning & GNSS-Denied Operations
- Fibre-Optic Guided, Secure Encrypted RF Control & Fully Autonomous Modes of Operation.
- AI-Powered Mission Computer with Multi-Sensor Fusion & Expandable Mission Architecture



Services, Advisory & Collaborative Support

BSS Materiel Limited and its allied entities provide comprehensive services and advisory support across strategic, operational, regulatory and technology domains in the defence and advanced technology ecosystem. Supported by BSS Alliance - www.bss-alliance.com - a collaborative ecosystem uniting experts across defence, aerospace, technology, cybersecurity, and space infrastructure — these services are strengthened by global relationships, strategic partnerships, and technical associations with innovators, developers, scientists, engineers, academia and start-ups in Europe, the USA, Canada, Australia, the Russian Federation, CIS nations, and other global technology hubs.

Core Advisory & Support Services

- † **Defence procurement advisory**, including assistance in preparing responses to RFIs/RFPs, tender submissions, offsets strategy, and structuring joint ventures or SPVs for transfer of technology, indigenized manufacturing and technology collaboration.
- † **Assistance with Defence Procurement Policy (DPP/DAP) compliance**, regulatory engagement and bid compliance, including coordination with relevant Government of India ministries and departments.
- † **Maintenance, Repair & Overhaul (MRO)** and end-to-end lifecycle support services, enabling continued operational readiness and sustainment of defence systems.
- † **Technology transfer, training programs and long-term sustainment support**, including co-development initiatives with esteemed partner organizations, Startups and MSMEs to accelerate capability adoption and capacity building.

Collaborations, Associations & Ecosystem Strength

- † Leverages the **BSS Alliance** network's global affiliations with established defence, aerospace, and critical technology organizations, fostering cross-border collaboration, co-innovation, capability sharing, and capacity building across advanced and emerging domains
- † Engages with international and domestic **innovators, scientists, engineers, academic institutions, and start-ups** to accelerate R&D, product co-development, design validation, and rapid prototyping.
- † Supports **market and ecosystem enablement** across India and internationally, enabling partner access to defence & aerospace value chains and fostering inclusive participation for MSMEs, Startups, and technology providers.
- † Provides **strategic consulting, commercial development, and geopolitical insight** to support technology employment decisions and long-term defence & aerospace and space engagement strategies.

Through this combined advisory and collaboration framework, BSS Materiel Limited strengthens its service delivery and positions itself as a trusted partner for strategic defence engagement, global OEM integration, and technology ecosystem creation.

The Founder Promoters, Directors, and majority shareholders of BSS Materiel Limited, incorporated in 2016, bring deep domain experience and industry knowledge. Their leadership is supported by the group company, BSS Advance Technologies Private Limited, established in 2021 as its subsidiary, and by a network of domain experts including design and integration consultants, security and automation specialists, and finance and legal professionals. The group further anchors its collaborative and innovation-led approach through BSS Alliance, established in 2022 during DefExpo-22, which promotes inclusivity by engaging start-ups, MSMEs, academia, and independent innovators, fostering a strong research-driven development culture, co-innovation, and capacity building across defence, aerospace, space and critical technology domains.

Vision

Innovate for the future by developing world-class defence materiel with the highest standards of quality, manufactured in India for supply and support worldwide.

Mission

To create a world-class defence manufacturing and technology ecosystem through innovation, collaboration, indigenization, and transparency, while partnering with global domain experts for technology transfer, training and capacity building.

Core Values

Nation First – Always First. High standards of professional ethics, transparency, confidentiality, compliance, and corporate social responsibility, with strict adherence to commitments.

Goals

Deliver world-class indigenous defence and aerospace technologies through continuous research-driven innovation, strategic collaboration, and operational excellence.

BSS
MATERIEL
LIMITED

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