— Connecting Bharat to India —

THAL AKASH JAL

DEFENCE TECHNOLOGIES PVT. LTD. (TAJ)

Strategic Advisory and Defence Consulting

PRODUCT PORTFOLIO BROCHURE | 2026

Fuel Safety - EW and Antennas - Robotics - Unmanned Aerial - Electric Propulsion - Protection - Composites - Naval Systems

Confidential. Specifications are indicative and subject to change.

WHO WE ARE

Thal Akash Jal Defence Technologies

Defence Expertise. Government Insight. Business Excellence.

— Connecting Bharat to India —

ABOUT US

Thal Akash Jal Defence Technologies Private Limited (TAJ) is a strategic consulting, business advisory and capability development organization dedicated to delivering innovative solutions across logistics, supply chain management, procurement, warehousing, technology transfer, institutional engagement and enterprise growth.

Established with the vision of bridging operational excellence with strategic innovation, TAJ serves as a trusted partner to government institutions, public sector enterprises, startups, MSMEs, technology providers and private-sector organizations seeking sustainable growth and operational efficiency. The company is committed to supporting India's vision of **Atmanirbhar Bharat** by strengthening indigenous capabilities, enabling innovation and facilitating industry-government collaboration.

LEADERSHIP AND PROFESSIONAL EXPERTISE

TAJ is led by professionals with a unique blend of military, governmental and corporate experience. The founding leadership combines **over 2 decades of distinguished service in the Armed Forces with over 6 years of corporate leadership**, providing deep expertise in strategic planning, logistics, procurement, stakeholder engagement, operational management and business transformation.

The organization is supported by a network of veteran Armed Forces personnel and former Government officers specialised in logistics, procurement, supply chain management, warehousing, contract administration, project execution, technology adoption and institutional governance. This combination of operational discipline, public-sector understanding and commercial expertise enables practical, result-oriented and sustainable solutions across diverse sectors.

OUR MISSION

To deliver innovative, reliable and strategically aligned advisory solutions by integrating operational excellence, government insight and industry best practices, enabling organizations to enhance efficiency, strengthen capabilities, optimize resources and achieve sustainable growth.

OUR VISION

To be recognized as a premier strategic consultancy and capability-development partner, transforming organizations through innovation, operational excellence, technology integration and trusted advisory services while contributing to India's economic and industrial growth.

WHY TAJ

- Over 100 years of Armed Forces experience and 20+ years in the corporate world across the team of consultants and domain specialists from government backgrounds
- Deep understanding of government procurement and institutional ecosystems
- Expertise across logistics, supply chain, procurement, warehousing and contract management
- Technology Transfer and Make in India facilitation capabilities; strategic liaison and stakeholder engagement
- Specialized support for startups, MSMEs, public sector entities and private industry
- Commitment to transparency, quality, accountability and measurable outcomes

WHAT WE DO

Our Service Portfolio

Strategic Advisory for Startups and MSMEs
Business strategy, registration and compliance, process development, market entry, mentorship

Logistics and Supply Chain Consulting
Diagnostics, network optimization, distribution planning, inventory, logistics transformation

Procurement and Contract Management
Strategic sourcing, vendor development, tendering and bid management, contract drafting and review

GeM Advisory
Registration and onboarding, bid preparation, tender analysis, vendor positioning, contract execution

Warehouse Management and Optimization
Audits, layout and capacity, inventory systems, material handling, WMS implementation

Human Capital and Workforce Analytics
Workforce planning, competency mapping, skill-gap assessment, leadership development

Outsourced Business Management
Operations, procurement, vendor and project management, compliance and growth support for SMEs

Marine and Aqua Tourism Development
Feasibility studies, coastal and inland tourism, maritime safety advisory, PPP facilitation

Technology Transfer and Make in India
ToT facilitation, indigenization, manufacturing partners, joint ventures, commercialization

Strategic Liaison and Institutional Engagement
Stakeholder mapping, industry-government interface, product positioning, market intelligence

Procurement Advocacy, Specifications and Trials
User requirements, specification alignment, demonstrations, user trial coordination

Specification Review for Government Procurement
Technical and commercial review, RFI / EOI / RFP preparation, vendor-neutral specifications, due diligence

CORE VALUES

Integrity | **Excellence** | **Accountability** | **Innovation** | **Collaboration** | **Nation Building**

OUR PRODUCT PORTFOLIO

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01 Fuel Storage and Mobile Fuel Solutions

Drone, fire and explosion resistant fuel containment

PATENTED EXPLOSION SUPPRESSION | MILITARY AND COMMERCIAL

OVERVIEW

A patented explosion-suppression technology for liquid fuel containers, applied across a range that runs from a 20-litre jerry can to 25,000-litre ISO bulk tanks. Military variants are drone, fire and explosion resistant; commercial variants add smart, IoT-enabled mobile fuel stations for fleets. Products are tested and certified by DGQA, with UL, UN, SwRI and Bureau Veritas credentials on selected models.

DGQA
Tested and certified (Kanpur)

UL | UN
Jerry can certified incl. SwRI

20 L - 25 KL
Range from jerry can to ISO bulk tank

Patented
Explosion suppression technology

MILITARY AND FIELD FUEL SOLUTIONS

Drone, fire and explosion resistant



Explosion-resistant jerry can (20 L)

Military-grade fuel can

- Heavy-duty zinc-coated 0.8 mm steel; built-in spout
- UN marking 3A1/Y/170/**/GB/6906; tested by DGQA
- Petrol, diesel, kerosene, methanol, biofuels, aviation fuel



Stackable mobile fuel tank

Lightweight, interconnectable fuel container

- Tubular steel frame, zinc-coated shell, inner HDPE tank
- Palletized, UV and corrosion resistant
- Compatible with QDS / Sudan pump; optional DC 12/24 V pump, meter, nozzle



Mobile fuel station - 5,000 L

Storage, transport and dispensing

- Slosh-resistant; mobile and stationary use
- ALS truck mounting with ISO twist-lock; forklift pockets and lifting lugs
- QDS compatible, direct fuel intake from BPL; optional DC dispensing unit



ISO bulk fuel tank - 25,000 L

ISO-compliant explosion-resistant bulk tank

- Heavy-duty steel with reinforced ISO frame
- Truck-mounted or stationary; twist-lock compatible
- Petrol, diesel, aviation fuel and biofuels



ATF skid - 1 KL

Aviation fuel storage and dispensing

- Wheel mountable, truck mounting capable, weather resistant
- Forklift pockets and lifting lugs for LRV / HRV handling
- Optional DC dispensing unit; direct BPL intake with DC pump



One technology, many form factors

Patented explosion prevention technology

- Same core technology across every container size
- Spec sheet, video demonstration and GeM listing available
- Military and commercial variants

COMMERCIAL MOBILE FUEL SOLUTIONS

Design appraisal by Bureau Veritas | IoT enabled



Explosion-resistant mobile fuel bowser

App-based door-to-door fuel delivery

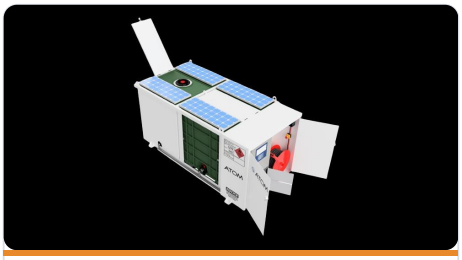
- Dual dispensing bays; slosh resistant; multi-fuel capable
- IoT tracking, reduced evaporation loss
- Certificate of Mechanical Design Appraisal - Bureau Veritas



Fuel skid for light commercial vehicles

Lock n Load on LCV chassis

- No dedicated bowser chassis needed; single-driver operation
- Static and mobile use; solar-powered capable
- Diesel, gasoline and ethanol blends; DC pumps, lower capital cost



Solar fuel ATM

Explosion and slosh resistant

- Lightweight, weather resistant; static or mobile
- IoT tracking and billing; solar powered
- Gasoline, ethanol, Jet A and diesel



Smart fuel station

Above-ground, easily transportable

- Explosion resistant containerised station
- IoT tracking and billing capability
- Gasoline, ethanol, Jet A and diesel; reduced evaporation loss



Smart fuel storage

Above-ground bulk storage

- Explosion resistant, easily transportable
- IoT based tracking and billing
- Gasoline, ethanol, Jet A and diesel



Compact urban delivery skid

Skid on LCV chassis

- Small footprint for urban accessibility
- Skid design keeps an on-ground fuel footprint
- Better mileage and lower delivery cost

OPERATOR ADVANTAGES

Explosion safety | **Reduced evaporation loss** | **Lower capital cost** | **DC pumps** | **Single-driver operation** | **IoT anti-theft and adulteration monitoring** | **Recyclable** | **Future-proof for new-generation fuels**



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02 Electronic Warfare, Antennas and SDR

Wideband antennas, direction finding and software-defined radio

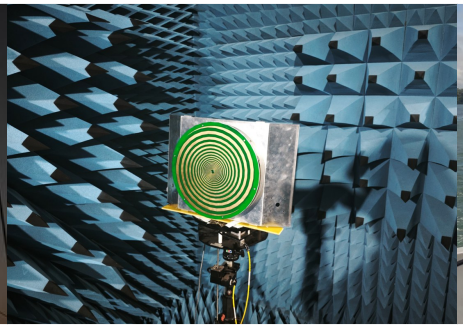
RF DESIGN | SIGNAL PROCESSING | FPGA AND AI-BASED SYSTEMS

OVERVIEW

Indigenously designed RF and electronic-warfare solutions: a catalogue of tactical antennas from **1.8 MHz to 18 GHz**, software-defined radio platforms and waveform-driven systems. Every antenna is validated through electromagnetic simulation and anechoic-chamber testing, built with MIL-grade materials and supported by in-house EMS, calibration and functional-test facilities. The portfolio is already in use across land, naval and airborne platforms.

36+ Antenna models in 11 categories	**18 GHz** Maximum frequency (from 1.8 MHz)
SDR In-house waveforms and radios	**Custom** Designs for OEM and UAV platforms







ANTENNA PORTFOLIO

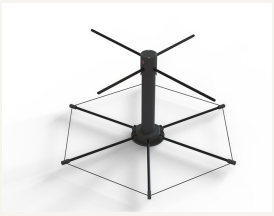
Made in India | Custom designs on request



HF and V/UHF rugged

1.8 MHz - 512 MHz

- Tactical dipole, NVIS, 1.8 m and 3.1 m monopole whips (HF)
- Vehicular dipoles, centre-fed dipoles, monopole, VHF and UHF discones (7 models)



UHF satcom X-Wing

240-320 MHz and 400-470 MHz

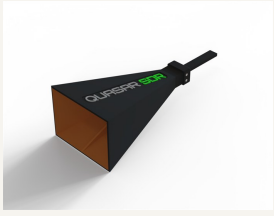
- LHCP and RHCP variants; 4.0 - 6.4 dBi
- Circularly polarised for direction-finding and communication



Bow-tie and bicone

0.5 - 18 GHz omnidirectional

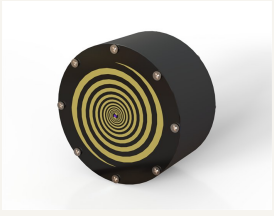
- Printed bow-tie 0.5-2 and 1.8-6 GHz
- Bicone 0.5-2.5, 0.5-6, 1.8-6 and 6-18 GHz



Ridge horn antennas

0.5 - 18 GHz | up to 19 dBi

- 0.5-2.5, 1-6 and 6-18 GHz models
- Linear polarisation, directional, flange or bracket mount



Spiral antennas

0.5 - 18 GHz | RHCP and LHCP

- Cavity-backed aluminium construction
- Direction finding, EW and broadband communication



DF antenna arrays

30 MHz - 18 GHz

- 30-512 MHz, 225-512 MHz, 30-120 MHz and 0.5-18 GHz arrays
- Wideband direction-finding coverage

Antenna bundles: multi-band and wide-band defence kits

Phase arrays: C-band and X-band beamforming

Custom antennas for UAV and OEM platforms

SOFTWARE-DEFINED RADIO SYSTEMS



Portable GNSS system (10 W / 100 W options)

A software-defined, browser-controlled GNSS signal system with in-house waveforms and radio. Supports multi-constellation scenarios, real-time and static configuration, user-uploaded almanac and ephemeris, and optional load-in of other waveform libraries.

- Multi-constellation: GPS, Galileo, GLONASS, BeiDou, NavIC
- Frequency range 500 MHz - 2500 MHz; 48-hour run time
- Power: 10 W or 100 W option; 28 V / 50 V DC (AC optional)
- Browser control over Ethernet or fibre network
- Directional horn, circularly polarised or L-band omni antenna options



CAPABILITIES AND FACILITIES

Expertise

- Signal processing
- Waveform algorithm development
- RF and antenna design
- FPGA and AI-based systems

Facilities

- Design and engineering
- Electronics Manufacturing Services (EMS)
- Functional testing; antenna calibration
- System assembly and software development

Quality

- EM-simulation validated designs
- Anechoic-chamber prototype validation
- MIL-grade materials, ingress protection
- Custom solutions for OEM integrators

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03 Unmanned Ground Systems and Robotics

Rugged robotic platforms for harsh environments

UGV | THROWABLE ROBOTS | INSPECTION | CABLE HANDLING

OVERVIEW

Rugged unmanned ground systems for defence, industrial, disaster-response and railway use. The range covers a patented chassis-less UGV, a heavy-duty autonomous transporter, a throwable spherical observation robot, a railway inspection platform and naval cable-handling systems - with a naval cable-handling platform already in trials.

Naval
Cable-handling UGV in trials

6
Robotic products and systems

Patented
Chassis-less UGV architecture

PRODUCT RANGE

Wheeled | Tracked | Advanced



Chassis-less multi-terrain UGV (4WD / 6WD)

Most versatile and agile UGV / AGV platform

- Revolutionary chassis-less structure; wheeled, tracked or advanced variants
- Wheel-integrated batteries 42 V (4500 mAh per wheel); IP-rated, climbs stairs
- Payloads: surveillance, logistics, manipulator arms, sensors



Heavy-duty autonomous transporter

Workhorse UGV / AGV platform

- 5 tonne capacity deployed; analysis up to 25 tonnes
- All-direction, zero-axis and crab-walk movement; swarm grouping mode
- Supervised autonomy with lidar and camera obstacle avoidance



Railway track inspection robot

Smart inspection and surveillance

- Single-pass multi-modal data capture: gauge, versine, superelevation, rail profile
- Overhead equipment parameters: stagger, height, catenary
- Real-time visibility supports predictive maintenance



Throwable spherical observation robot

Tactical awareness asset

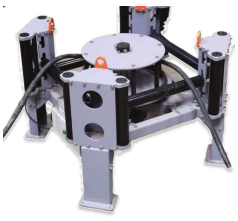
- Cricket-ball-sized, under 1 kg, sealed to IP66
- 360-degree camera with NIR for day / night; encrypted LOS link
- Up to 60 minutes per charge; CI-CT and urban warfare



Mobile naval cable-handling UGV

4-wheeled platform for dockyard cable operations

- Three spools carry up to 600 m of cable; crab walk and 360-degree zero-radius rotation
- Naval user trials under way
- Saves about 200 man-hours per month; MIL-STD-810H compliant



Portable cable-pulling system

Operator-safe cable pulling

- Cuts labour by up to 70% and effort by up to 95%
- Cables up to 50 mm; pulling speed up to 50 m/min; 2 operators (max 3)
- Stand-alone (300 kg) or mounted (150 kg); naval trials completed

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04 Unmanned Aerial Systems and Autonomy

Multirotor, fixed-wing and tethered ISR platforms

MULTIROTOR | FIXED-WING | TETHERED ISR | AI-ENABLED AUTONOMY

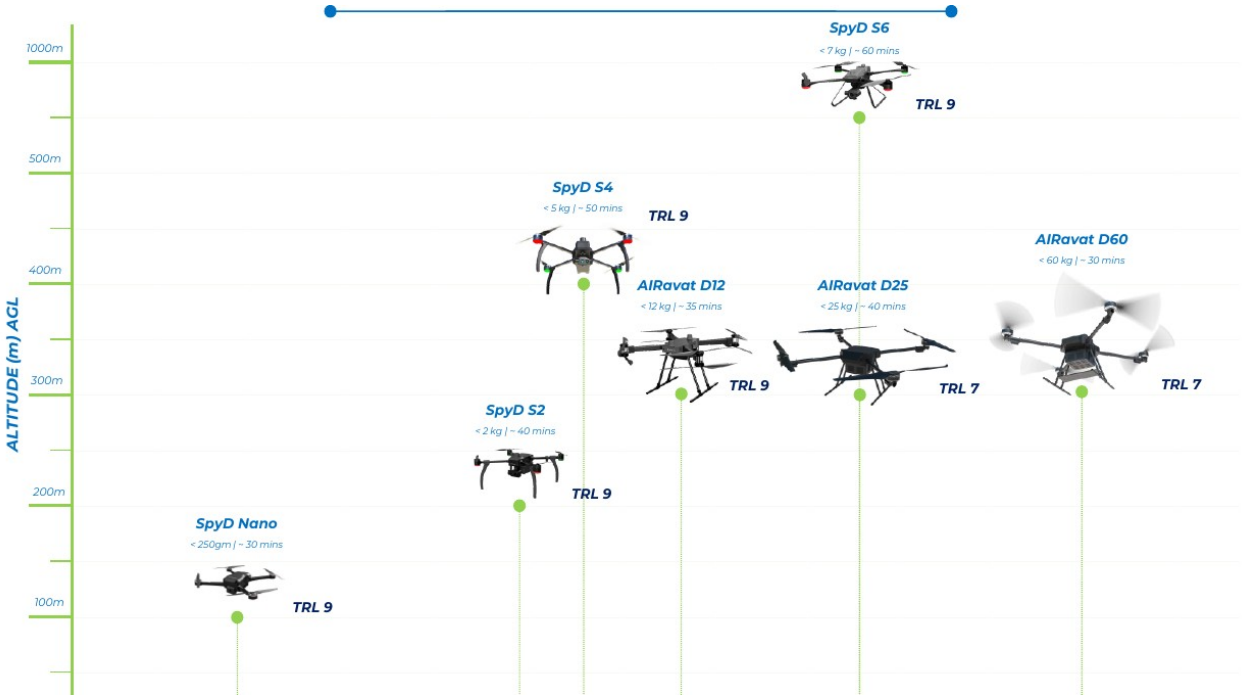
OVERVIEW

Indigenous unmanned and autonomous systems - from nano drones to long-endurance fixed-wing aircraft - with over 80% indigenisation across flight controllers, payloads, gimbals and batteries. Systems have been field-evaluated at air force and army bases, and a survey-grade UAV is empanelled and deployed for national land-mapping. The portfolio also covers mission-critical control systems for ships and submarines.

80%+ Indigenisation	**20+** Autonomous systems developed
Nano - 200 kg Platform classes	**TRL 9** Small multirotor maturity

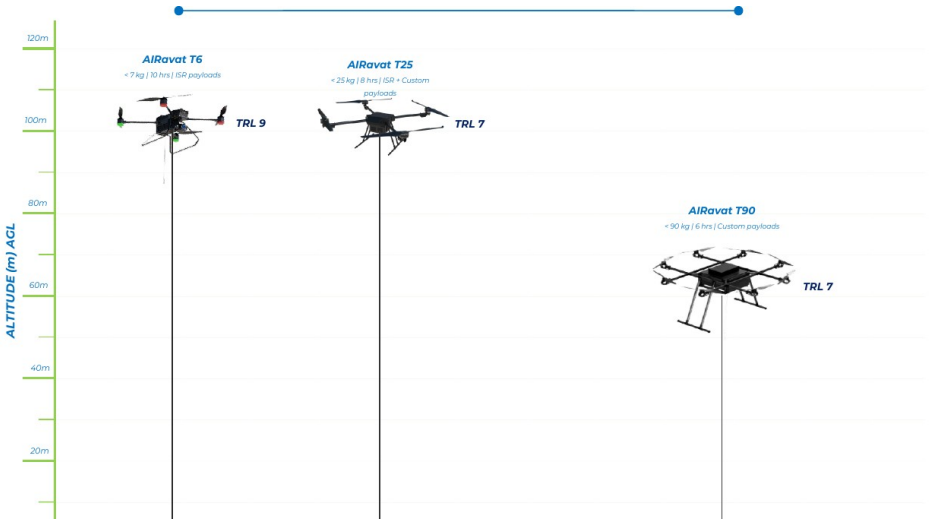
SMALL MULTIROTOR PLATFORMS

Nano to 60 kg class



Nano <250 g ~30 min	<2 kg ~40 min	<5 kg ~50 min	<7 kg ~60 min	Heavy lift 12 / 25 / 60 kg

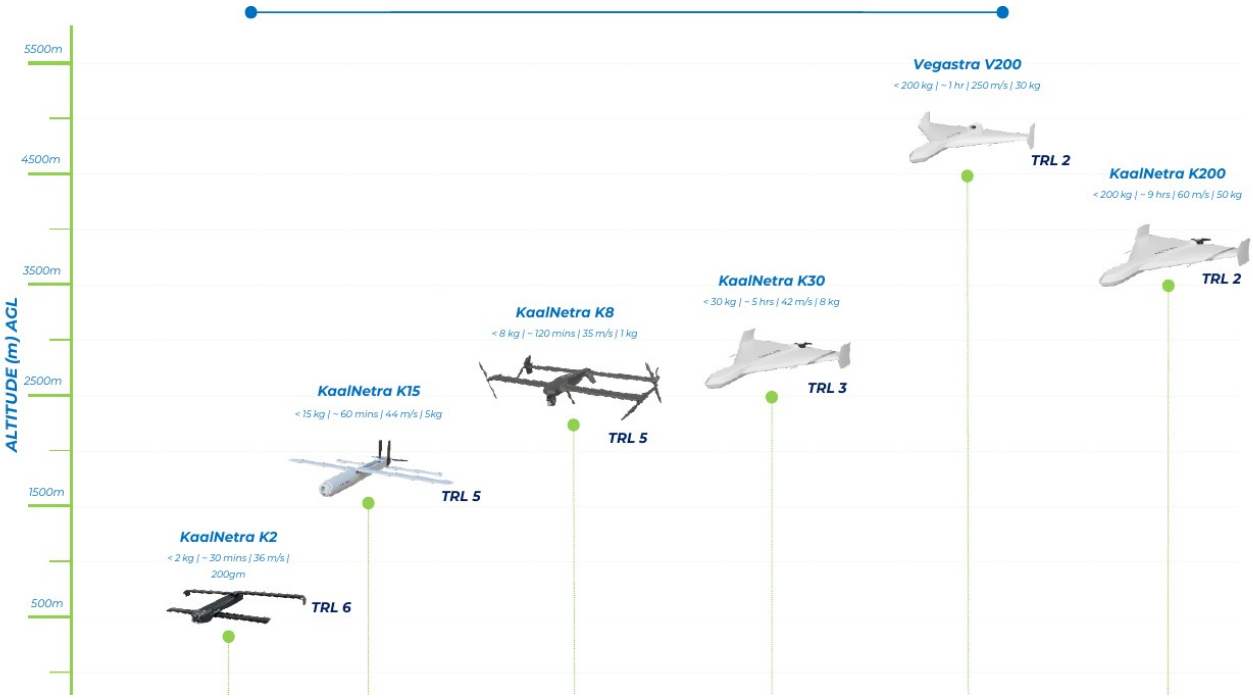
STATIC (TETHERED) ISR PLATFORMS



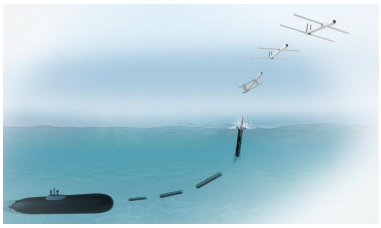
Tethered ISR: under 7 kg / 10 hrs (ISR payloads); under 25 kg / 8 hrs (ISR and custom payloads); under 90 kg / 6 hrs (custom payloads).

FIXED-WING PLATFORMS

Short to long range

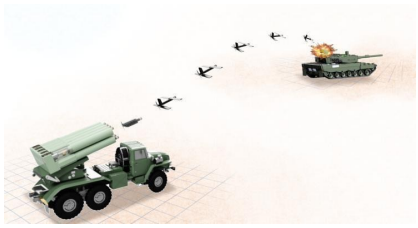


PROGRAMS UNDER DEVELOPMENT



Submarine-launched UAV (DRDO TDF)

- Canister-launched aerial vehicle with ground control station



Multi-barrel launch system (iDEX ADITI

- Fixed-wing based multi-barrel launch concept



Unmanned-unmanned teaming

- Ground vehicle with multi-canister aerial payloads

Heterogeneous swarm drones

Armoured Corps training programme

Counter-UAS drone system

2 kg, 5 km range, 40 min flight time



Airfield FOD detection

RGB + thermal, multi-sensor data fusion

CREDENTIALS

- Field evaluation at multiple air force and army bases
- Survey-grade UAV empanelled and deployed for the SWAMITVA land-mapping project
- Ship and submarine control systems: 700+ installations; qualifies as IDDM (Indigenously Designed, Developed and Manufactured) under DAP 2020

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05 Electric Propulsion and Powertrains

Axial flux motors, SiC inverters and battery packs

AXIAL FLUX MOTORS | SIC INVERTERS | HD BATTERY PACKS

OVERVIEW

High-power-density **axial flux motors** for electric vehicles, marine vessels and aviation, where traditional radial flux motors are bulky, heavy and less efficient. The portfolio offers a complete powertrain - motor, SiC inverter and high-density battery pack - plus electric outboards and pumps for marine and defence use.

3x Lighter than radial flux PMSM (up to)	**5-10%** Better efficiency than radial flux
15-20% Lower cost vs competitors	**95%** Peak efficiency (traction motor)

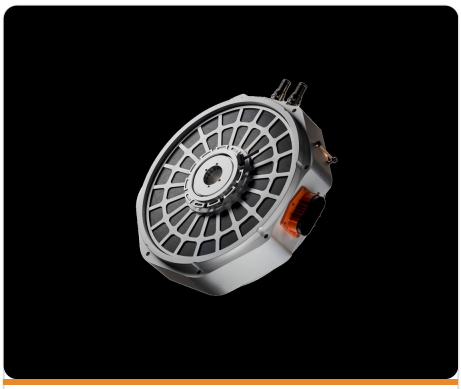
AXIAL FLUX MOTOR PORTFOLIO



35 kW

LCVs, hatchbacks, sports motorcycles, outboards

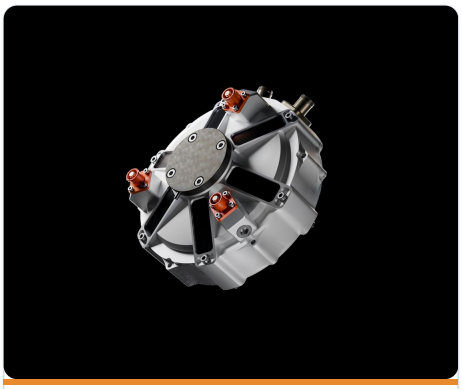
- 35 kW continuous, 55 kW peak
- 96 / 350 / 650 V; max 6,500 rpm
- Weight 14 kg; midget submarines



80 kW

Trucks, sedans, yachts, drones, solar boats

- 80 kW continuous, 120 kW peak
- 650 / 800 V; max 3,000 rpm
- Weight 60 kg



160 kW

Aircraft, VTOLs, container vessels, submarines

- 160 kW
- 650 / 800 V; max 4,200 rpm
- Weight 65 kg

UNDER DEVELOPMENT AND NEXT GENERATION



VTOL drone motors

35 kW, 240 kW and 450 kW class

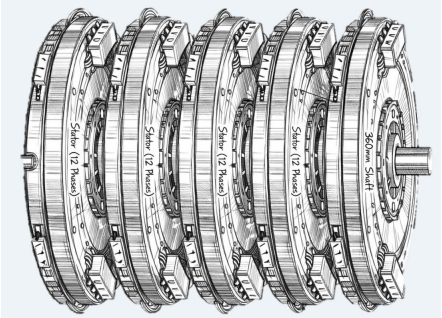
- 35 kW: 12,000 rpm, under 7 kg
- 240 kW and 450 kW peak classes, about 16 kg
- 350 / 650 V systems



Traction motor for heavy commercial v

Stackable and scalable

- 80 / 120 kW, 650 V, 95% peak efficiency
- Up to 2,000 Nm; series production planned 2027-28
- Dia. 450 x 80 mm vs 504 mm legacy motor



Submarine-class 5 MW motor

Future development

- 5 x 1 MW stacked axial flux motor
- Low-current SiC inverters; under 0.3% torque ripple
- Redundant coil / inverters

COMPLETE POWERTRAIN

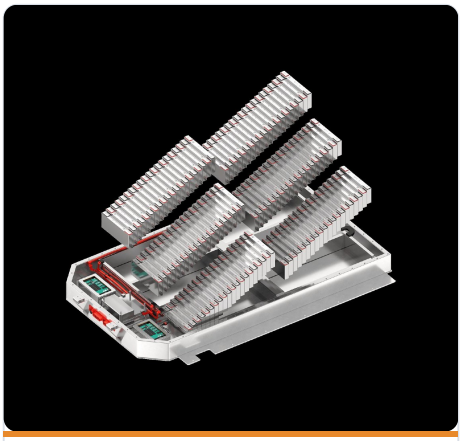
Motor + inverter + battery



SiC inverters

Up to 920 V systems

- High-frequency, high-power-density design
- Single or redundant controller; ARINC, J1939 or Open CAN
- Air or liquid cooled



HD battery packs

Li-NMC pouch cell based modules

- Cell energy density 289 Wh/kg; pack 220 Wh/kg
- Aerospace 300-500 Wh/kg cells available
- In-built BMS and contactors; liquid or air cooled



Axial flux motors

Up to 920 V

- Single or redundant motor
- Air, liquid or combined cooled
- 7-series Al + CF structure

MARINE AND DEFENCE PRODUCTS



Electric outboard, seawater-cooled

12 kW continuous (25 HP compliant)

- 72 / 96 V; 3,000 rpm; embedded 7-inch GPS dashboard
- Under 45 kg; lowest heat and sound signature
- Gemini, aluminium and FRP boats



Direct-drive pod outboard

Immersion cooled

- Super silent; zero coolant clogging
- Usable as fixed pod drive; under 35 kg
- Coast guard, surveillance, stealth ops, ferries



Submersible dewatering pump

5 kW axial flux

- 40 TPH / 666 LPM; 15 m head
- 26 kg vs 56 kg off-the-shelf; one-person carry
- Plug and play; dry-run protection

APPLICATION AREAS

Electric cars and trucks | **Marine propulsion** | **VTOL and drones** | **Submarines** | **Surveillance and coast guard craft** | **Power-dense defence platforms**

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06 Personal and Platform Protection

Ballistic helmets, body armour, vehicle and ship armouring

NIJ TESTED | 5-YEAR WARRANTY | MADE IN INDIA

OVERVIEW

Personal and platform protection built from advanced composites: ballistic helmets, load-bearing body armour, vehicle armouring to STANAG 4569 and anti-swarm-drone protection for ships. Protection products are NIJ-tested, carry a 5-year warranty and are marked Made in India.

NIJ
Tested ballistic protection

5 yrs
Warranty on helmets and armour

IIIA - IV
Protection levels offered

BALLISTIC AND PROTECTIVE HELMETS

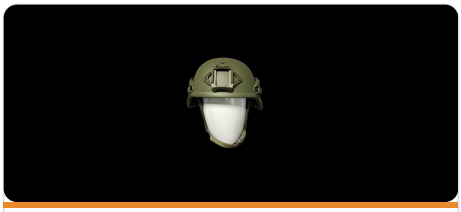
Level IIIA | bolted or bottomless | NVG and accessory rails



Bolted combat helmet

Lightweight advanced combat helmet

- Carbon fibre, aramid, UHMWPE blend; NIJ IIIA
- Adjustable suspension; accessory rails



Combat helmet, aluminium shroud

With rails

- Low-profile design; NVG and comms compatible
- Sizes S-XL; multiple colours



Bottomless PASGT-style helmet

Bolted design

- Maximum protection at minimal weight
- Bottomless rails and NVG shroud



Helmet with ballistic visor

High-cut combat helmet

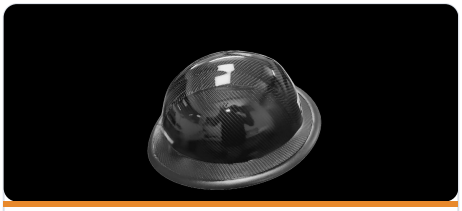
- High-strength shroud and polymer rails
- Ballistic visor 1,250 g option



Stab-resistant helmet

Level 1 stab protection

- Resists stab impacts at 24 joules
- For prison guards and correctional staff



Carbon fibre hard hat

Industrial and tactical

- Up to 80% lighter; 360-degree brim
- Heat resistant to about 176 C

Also: bottomless ACH variants | **Camouflage helmets** | **Tank-crew helmet** | **Level III motorcycle helmet**

PLATFORM ARMOURING



Vehicle armouring: STANAG 4569 Level 2 / 3

- Modular body armour kits, underbelly blast blankets
- Spall liner, IED and fragmentation protection; steel / composite armour



Ship armouring: anti-swarm drone protection

- Composite and ceramic armour for corvettes and larger ships
- Integrated RF jamming and spoofing, kinetic interceptors, AI threat detection

LOAD BEARING SYSTEMS AND BODY ARMOUR

NIJ Level IIIA / III / III+ / IV



Anti-ballistic jacket NIJ Level III

- Modular, ergonomic design
- Chest sizes S-XXL



Anti-ballistic jacket NIJ III+

- Multi-threat protection, weight distribution
- Handles, D-rings, quick-release



Concealable jacket NIJ IIIA

- Stops handgun rounds up to .44 Magnum
- Wearable under clothing



Stab-resistant jacket

- Withstands 24-joule stab impacts
- Light, breathable, adjustable straps



Flotation jacket NIJ III/IV

- Ballistic protection with built-in flotation
- For maritime and rescue operations



Bullet-resistant jacket

- Configurable up to NIJ III / IV
- Quick-release for rapid removal

ACCESSORIES AND ADD-ON ARMOUR



NVG mount



BOA system



Side rails



Helmet pads



NVG shroud



NIJ plates III / III+ / IV

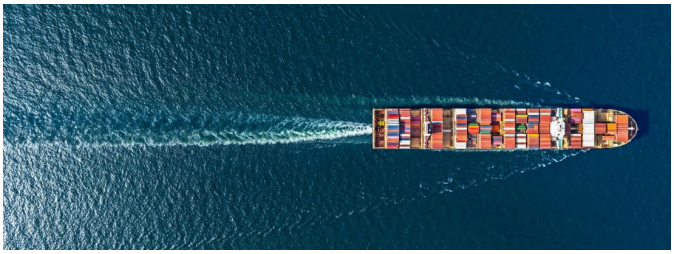
Ballistic visor | **Boltless adapter** | **16 g CO2 cartridge** | **Counterweight pouch** | **Aluminium NVG shroud** | **NIJ IIIA soft armour panel (SAP)**

Helmets and armour are available in black, coyote, tan, olive green, navy, white and camouflage

CARBON FIBRE SHIPPING CONTAINER

Aerospace-grade composite 40-ft container





- **30-ton payload class, under 2.2 t tare** (28-29 t rated payload)
- 40% lighter than a metal equivalent; up to 20% revenue potential
- Monocoque CFRP sandwich panels; carbon UD floor beams; metal only for ISO corner castings and hardware
- Inherently corrosion resistant; 35-year lifecycle; high thermal regulation for perishables and pharma
- Platform for missionised containers: ballistic layers, EMI shielding, sensors
- Airlift and multimodal advantage for defence and disaster relief

	Metal 40-ft	Carbon fibre
Tare weight	3.6 - 4.0 t	1.9 - 2.2 t
Service life	12-15 years	35 years
Selling price	Rs 2.5-3.0 L	Rs 10-14 L
30-yr lifecycle cost	Rs 27-29 L	Rs 14-15 L

Payback of the higher upfront cost estimated in about 4-6 years. India addressable market: Rs 560-840 crore at 5% adoption.

DIRECT METHANOL FUEL CELL (DMFC) POWER SYSTEM

Low-acoustic-signature hybrid DC power



- **50 / 130 / 200 / 500 W** net power at 12 V or 24 V DC
- Hybrid APU plus energy bank: fuel cell supplies steady load, battery handles peaks
- Methanol fuel, about 1 kWh per litre; no external hydrogen reformer
- Power banks 1,500 - 10,000 Wh; optional 110 / 230 V AC; engine-start support
- Rugged enclosure; MIL-STD-810G test configuration
- Applications: vehicle APU / silent watch, turret and mission electronics, communications, remote sensors, UAV-UGV charging

DMFC rating	5 L methanol	10 L methanol
50 W	~100 h	~200 h
130 W	~38.5 h	~76.9 h
200 W	~25 h	~50 h
500 W	~10 h	~20 h

Nominal fuel endurance at rated output

CONTACT For product enquiries, demonstrations and trial support, contact TAJ | +91 93103 15950
Office No. 11, Manorama Chambers, S.V. Road, Bandra West, Mumbai - 400050

08 Naval and Marine Systems Engineering

Turnkey installation, outfitting and support for naval platforms

WEAPON-SYSTEM INTEGRATION | OUTFITTING | HVAC | RETROFIT AND REPAIR

OVERVIEW

Electro-mechanical, HVAC and structural fabrication for naval and marine platforms. The core competence is **turnkey weapon-system and launcher installation, testing and commissioning**, alongside electrical, mechanical, electronic and hydraulic outfitting and warfare-systems repair and maintenance - delivered in alliance with leading shipyards and OEMs in India and abroad.

Turnkey
Installation, testing and commissioning

ISO
9001 / 14001 / 45001 certified

4 domains
Mechanical, electrical, hydraulic, pneumatic



CAPABILITIES AND TURNKEY PROJECTS

Installation and commissioning

- Onboard naval vessels; IRL, WM-18 RL, ITTL / LWTTL
- Vertical launcher and QCIL piping installation
- Foldable hangar doors, helo transfer system, steering gear, stabiliser
- Radar and warfare-system fitment

Outfitting

- Electrical outfitting for ASW vessels
- Mechanical and structural outfitting for marine and naval vessels
- Hydraulic and pneumatic systems: installation, testing, commissioning

Retrofit, repair and AMC

- Retrofit of steering, stabiliser and IRL
- Foldable hangar door, hangar shutter, helo transfer system AMC
- IPMS, APMS, switchboards, control and monitoring devices

HVAC and engineering

- HVAC installation and commissioning on board vessels
- Project design, fabrication, supply and installation
- Replacement of boilers and HPAC for ships

Electronics and PCB support

- Test and repair of circuit boards; DCS troubleshooting, HMI upgrade
- Genuine OEM parts supply
- Fibre connectorisation and cable splicing for naval EW systems

Skilled manpower

- Technical and skilled staffing for shipbuilders and defence yards
- In-house test and repair facility

ANTI-FOULING: NEW OEM VENTURE

In collaboration with a UK technology partner

A collaboration to develop and market an **ultrasonic anti-fouling system in India**, showcased to naval design and excellence centres, with proposals for tugs and naval vessels.

TYPICAL CUSTOMERS

Shipyards | **Naval dockyards and ship-repair yards** | **Coast guard** | **Defence R&D** | **Defence OEMs** | **Port and marine authorities**

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— Connecting Bharat to India —

Let's build together

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