

रक्षा नवाचार संगठन

**DEFENCE INNOVATION ORGANISATION**



**Department of Defence Production**  
**Ministry of Defence**  
**Government of India**



# Message from the desk of the CEO/DIO

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Government of India  
Ministry of Defence  
Department of Defence Production  
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## CEO message DIO Brochure

India, in current years has proven to be a ground for vibrant and innovative technology development by our budding startups, academia, and other small-scale industries. The innovation ecosystem has witnessed a flurry of activities, directing the nation towards a startup revolution, especially in impactful sectors like Defence and Aerospace. Atmanirbhar Bharat is a major driving force for enhancing the military of our country leading to indigenous Defence equipment manufacturing capability.

The Defence Innovation Organization, under the aegis of Department of Defence Production (DDP), Ministry of Defence (MoD) had implemented the Innovations for Defence Excellence (iDEX) initiative with support from its co-founders, HAL and BEL, along with other stakeholders, including Defence Public Sector Undertakings (DPSUs), the Services and the Partner Incubators (PIs).

The vision is to establish India as a self-sufficient nation in Defence technology and become a leading exporter of Defence equipment through the ideals of the 5 Is - Identify, Incubate, Innovate, Integrate, and Indigenize. The core objective of iDEX is to create an ecosystem, essentially to foster innovation, entrepreneurship, and technology development, specifically in the Defence and Aerospace sector. I invite all budding entrepreneurs, to utilize the iDEX platform to make India superior and provide our men and women in uniform, who serve and protect the nation, with "MAKE IN INDIA" products.

Since the inception of iDEX in 2018, our iDEX winners have overcome several hurdles to deliver the products despite the ongoing pandemic situation and have thrived in our innovation ecosystem. The main aim of this brochure is to unveil and showcase the capabilities of Defence Equipment indigenization through our iDEX winners under the Defence India Startup Challenges (DISC) and Open Challenges (OC). Also, with the initiation of DISC 5 and the Launch of DISC 6 in DEFEXPO2022, this brochure will be a source of inspiration for budding and innovative entrepreneurs to be a part of the upcoming opportunities and the iDEX platform will ensure equal opportunity for all who wish to be a part of it.

MAY INDIA BE GREAT

(Sanjay Jaju)



## About Defence Innovation Organisation (DIO) & Innovations for Defence Excellence (iDEX)

“Defence Innovation Organisation (DIO) was formed as a not for profit company as per Section 8 of the Companies Act 2013, for managing and funding Innovations for Defence Excellence (iDEX) scheme under the aegis of Department of Defence Production, Ministry of Defence, Government of India. One of the first aims of India as a nation since Independence has been to achieve self - reliance in the field of Defence and Defence production. India is the world's largest defence equipment importer and is expected to spend around USD 220 Billion in the coming decade to modernize its armed forces. iDEX aims at creating an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, start-ups, individual innovators, R&D institutes & academia. It will provide them with grants/fundings and other necessary support to carry out R&D which has potential for future adoption for Indian Defence and Aerospace needs. Achieving the goal of self - sufficiency for the Indian military will require a means to incorporate innovation rapidly in the weapons procurement process. iDEX will function as the executive arm of DIO, carrying out all the required activities while DIO will provide high level policy guidance to iDEX.

### Objectives

- Facilitate** rapid development of new, indigenised, and innovative technologies for the Indian Defence and Aerospace sector, to meet their needs in a shorter time span
- Create** a culture of engagement with innovative startups, to encourage co-creation for Defence and Aerospace sectors
- Empower** a culture of technology co-creation and co-innovation within the Defence and Aerospace sectors

### Leadership



#### Chairman/DIO

Dr. Ajay Kumar, IAS  
Defence Secretary



#### CEO/DIO

Sh. Sanjay Jaju, IAS  
Addl. Secretary (DP)



#### Addl. CEO/DIO

Sh. Anurag Bajpai  
Joint Secretary (DIP)



#### COO/DIO

Sh. Vivek Virmani  
Planning Officer



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## About

### SPARK (Support for Prototype and Research Kickstart)

The framework will call for proposals through challenges and other means to address specific technological needs of the Indian Defence Establishment. Applicants showing capability, intent, and promise to be able to produce functional prototypes or to productize existing technologies will be awarded grants of up to Rs. 1.5 crores, strictly on a milestone basis and starting, in the form of grant/equity/debt/other relevant structures. The exact amount and mode of each grant shall be decided by a high-powered committee based on the application, as per the prevailing scheme. MoD and AIM reserve the right to modify the scheme as and when required, without prior notification. In special cases, if deemed necessary by the high-powered committee, the funding amount may be increased beyond the prescribed limit, on a case by case basis.

The vision of SPARK is two-fold:

- Help create functional prototypes of products/technologies relevant for national security (prototyping), this will also help build an ecosystem of fast-moving innovation in the Indian Defence Sector
- Help new deep-tech products and markets and early customers (commercialization) in the context of the Indian Defence Sector

### Defence India Startup Challenge (DISC)

Defence India Startup Challenge, launched by the Ministry of Defence, aims at supporting Startups/MSMEs/Innovators to create prototypes and/or commercialize products/solutions in the area of National Defence and Security.

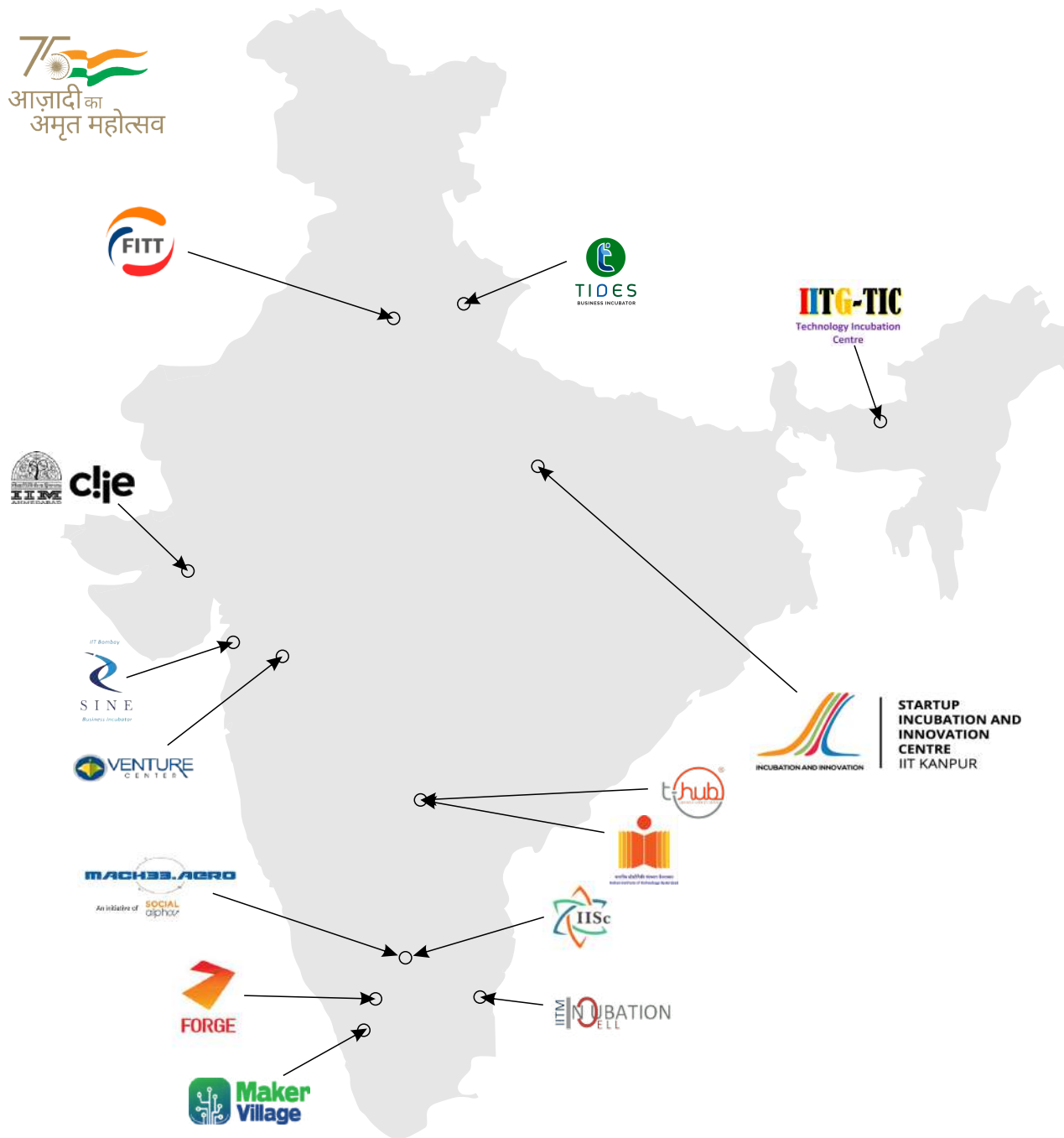


### Open Challenge (OC)

Through the iDEX Open Challenge, we are casting the net wider, creating opportunities for innovators to propose ways for harnessing their technology capabilities to strengthen our nation's military superiority. Innovators, Startups and MSMEs can now engage directly with the military through the iDEX Open Challenge to showcase their technologies, facilitated by DIO and Partner Incubators. Selected applicants are offered a chance to pitch to the iDEX grand jury and qualify for grants and investments, organised periodically throughout the year.

### Eligibility

1. Startups, as defined and recognized by Department of Industrial Policy Promotion (DIPP), Ministry of Commerce and Industry, Government of India
2. Any Indian company incorporated under the Companies Act 1956/2013, primarily a Micro, Small and Medium Enterprises (MSME) as defined in the MSME Act, 2006
3. Individual innovators are also encouraged to apply (research & academic institutions can use this category to apply)



## Partner Incubators

iDEX envisages to work with India's leading incubators, which would help in discovery and exploration of Startups/MSMEs that can perform the function of co-creation.

iDEX would work with these incubators closely, tracking upcoming Startups/MSMEs and Innovators, and investing in them opportunistically, from the Defence Innovation Fund.

The Defence Innovation Organisation has signed MoUs with 14 incubators nominated as iDEX Partner Incubators to mentor entrepreneurs and MSMEs to create, deploy and commercialise technologies and products for the Indian military and defence PSUs.

### List of Partner Incubators

1. Maker Village, Kochi
2. Indian Institute of Science, Bangalore
3. Indian Institute of Technology, Hyderabad
4. Society for Innovation and Entrepreneurship (SINE), IIT Bombay
5. Centre for Innovation Incubation and Entrepreneurship (CIIE), IIM Ahmedabad
6. IITM Incubation Cell, IIT Madras
7. T-Hub, Hyderabad
8. FORGE, Coimbatore
9. Foundation For Innovation And Technology Transfer (FITT), IIT Delhi
10. Technology Incubation and Entrepreneurship Development Society (TIEDS), IIT Roorkee
11. IIT Guwahati Technology Incubation Centre (IITG-TIC)
12. Start-up Incubation and Innovation Centre (SIIC), IIT Kanpur
13. Venture Center, CSIR-NCL, Pune
14. Social Alpha, Bengaluru



# iDEX Showcase





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**iDEX  
LAND  
SYSTEMS**





## Challenge: See Through Armour

### Dimensions NXG Pvt. Ltd.

#### AjnaESAS 360° see-through armour system

AjnaESAS is an indigenous see-through armour system for armoured vehicles. It comprises a 360° camera system which is mounted on the tank and an Augmented Reality Head Mounted Display (AR-HMD) which is worn by the crew member sitting inside. In addition to providing panoramic vision, the robust camera system empowers the crew with night vision and 4X zoom capabilities. The system can also be enhanced with advanced features like IFF.



Hand Held



Vehicle Mounted



Smart Optics

### Product Specification

#### System Specifications

- Resolution - 4K@30fps
- Field of View (FOV) - 360° with Head Rotation
- Camera Rig Dimensions - 560mm x 560mm x 130mm
- Camera Rig Weight - 14 kg
- Power Consumption - 260 W at Full Load
- Nominal Input Voltage - 200 to 240VRMS
- Nominal Input Current - 12A @ 200V AC
- Streaming Latency - < 50 ms
- Video stitching Dead Zone - < 30 cm
- Vibration Isolator Nominal Load - 10 kg
- Vibration Isolator Shock Capacity - 100g/6ms
- Working Temperature - 0° to 45°C
- Storage Temperature - -5° to 55°C

#### Glasses (Display) Specification

- Resolution - 1920x1080 per eye
- Aspect Ratio - 16:9
- Field of View (FOV) - 52°
- Weight - 95 gm
- Display Type - OLED
- Display Brightness - 3000 cd/m3
- Contrast - 1000:1
- Distortion - < 1%
- Processor - Android Snapdragon 845



## Challenge: See Through Armour

### Big Bang Boom Solutions Pvt. Ltd.

#### See Through Armour Module

Armored vehicles, while enabling safety, severely handicap the crew's visibility leading to poor situational awareness. Our solution uses multiple cameras and sensors to produce a stitched 360-degree view projected onto an MR glass and display unit. This system allows soldiers to 'see through' their vehicles in real-time during day and night using RGB and infrared cameras.



Hand Held



Vehicle Mounted



Smart Optics

### Product Features

#### Capability:

- Independent situational awareness to commander and driver under closed hatches in static, moving (30 kmph) and amphibious (06 kmph), even when on-board weapons are firing
- 360° natural, real-time, continuous, and seamless day and night video of surroundings
- In case one of the cameras (Day or TI) in an External Module is damaged/not functioning, the system automatically uses the image from the serviceable camera (day / TI) in that module
- Can provide at least 12 hrs of continuous operation
- Ballistic and Blast protection of STANAG Level -2
- Power back up source - min power backup of 06 hours

#### Operating Temperatures:

- Desert/ Plains. Max: 40° to 45°C, Min: 0° to 5°C
- HAA/Mtn. Max: 40° to 45°C, Min: (-)20° to (-)10°C



## Challenge: See Through Armour

### Tonbo Imaging Pvt. Ltd.

#### Wolfpack-STAR

A future ready multisensor see through armor solution for combat vehicles that provides 360° surrounding information to the crew from inside the safety of the vehicle. The nature of threats is constantly evolving, for instance improvised explosive devices and UAVs. This makes it extremely hazardous to operate armored vehicles with the hatch open. Tonbo Imaging's solution uses AI for target detection, recognition and multiple target tracking to relay role-based information to the crew's AR-based head-mounted device, facilitating real-time information exchange with troops in vicinity and instant decision-making.



Hand Held



Vehicle Mounted



Smart Optics

### Product Features

- Integrated 12um thermal imager and low lux CMOS sensor
- Advanced video processing including sensor fusion and AI enabled ATR
- Real-time video processing
- Electronic video stabilization
- Realtime panoramic video with >25Hz



## Challenge: Integrated Mobile Camouflage System (IMCS)

### Hyper Stealth Technologies Pvt Ltd

#### Stealth & Camouflage for Defense

The Integrated Mobile Camouflage System aims at reducing the detection range of AFV by 55% when viewed through Hand held Thermal Imager (HHTI)/Battle Field Surveillance Radar (BFSR)/ tank based thermal camera under given environmental and weather conditions. It is an integrated system comprising of low emissivity and/or CAM-IIR coatings and Mobile Camouflage System materials providing ability of the Armored Field Vehicle to merge with a terrain background.



Vehicle Mounted



Stealth

### Product Features

- Multi Spectral Self Signature Management
- Assured reduction in Multi Spectral Signature minimum 50% in following spectrums given below:
  - (a) Visual and Near-infrared properties
  - (b) Thermal Signature
  - (c) Radar (8-12Ghz)
- Light Weight Solution no weight penalty & No interference in vehicle movement and functions
- EMI / EMC compatible
- Field repairable
- Dust Cloud prevention
- Internal Heat Reduction





## Challenge: Remotely Piloted Airborne Vehicles

### Z Motion Autonomous Systems Pvt. Ltd.

#### Electric Loitering Ammunition System - TRINETRA

OPTIMIZED ELECTRIC PROPULSION SYSTEM FOR LOW NOISE OPERATION

Replacement ammunition system for hand launch with precision targeting. Enabled with multiple targeting modes, it's a complete integrated 15Km operational range fire and forget tactical attack drone with parachute recovery and reusability.



Hand Held



Vehicle Mounted



RC - Drones

### Product Features

- Delivery Mechanism : Impact burst, Proximity air burst
- Target Mechanism : GPS, Image based and video based
- 128 AES Encrypted telemetry with live stream video
- Cruise speed : 20m/sec
- Advanced composite airframe structure
- Multiple optional payload capabilities





## Challenge: Countermeasures for Illegal Drones

### Big Bang Boom Solutions Pvt. Ltd.

#### Anti-Drone Defence System

The Anti-Drone Defence System (ADDS) combat all the threats posed by un-manned aerial vehicles including commercially available drones. The advanced long range sensors, state of the art artificial intelligence and computer vision algorithms help in precise detection and identification of drone and its payload, with drone flight pattern recognition. The ADDS has effective RF detection range of 5 kms and visual detection range of 700 m. The smart neural network of ADDS enables autonomous decision in counter measures like signal jamming in 5 km radius, however it also relays prompt recommendations to the human operator for manual countermeasure when needed.



Hand Held



RC - Drones



Networking

#### Product Features

##### Sensors

- Core Technology: Detection and classification using passive & RF scanning and an AI-enabled pattern recognition fingerprint library.
- Detection Frequencies: 400 Mhz - 6GHz
- Avg. Detection Time: <5 secs after drone enters range
- Detection Capability: Upto 15 drones, depending on model system will be capable to detect pilot location.
- Detection coverage: ~99% of COTS drones by market volume.
- Detection Distance: Upto 20 Kms of semi-spherical radius.

##### Jammers

- Technology: RF Barrage, FM Modulated white noise
- Coverage: ~99.9% of COTS drones by market volume (generic)
- Distance: Up to 20 km, for US Dji Phantom 4 in rural environment with low RF noise.
- Detection Sectors: Single omnidirectional antenna for each frequency range, covering 360°
- Capability: Any number of drones within the effective jamming zone will be concurrently blocked.
- Operations: System will be portable and can be operated by one person
- Power: Supply - 220 VAC
- Consumption: 3000 W





## Challenge: Portable Spoof Emitter

### SCI-COM SOFTWARE INDIA PVT. LTD.

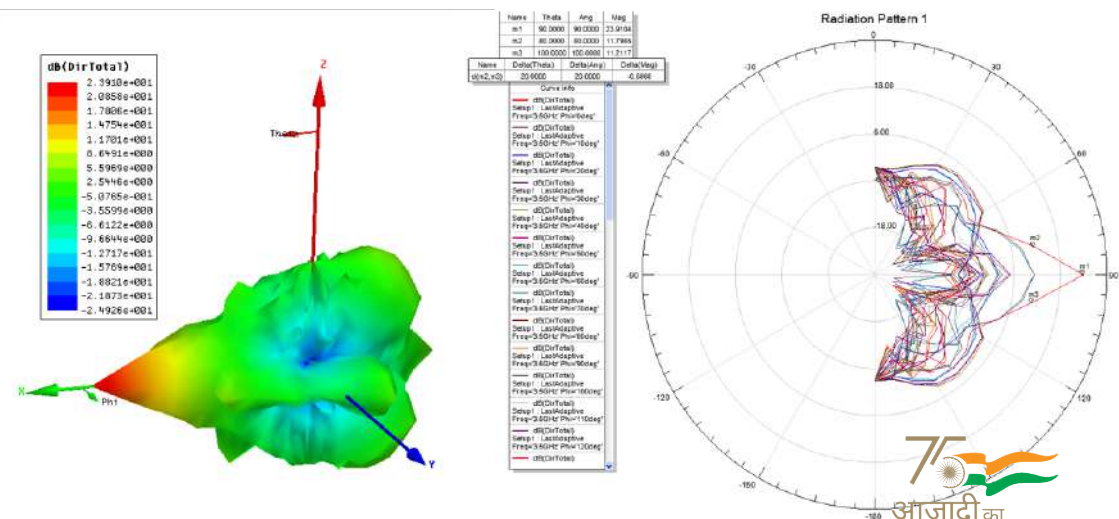
#### Product Description

There are various types of radiation emitting devices in Radars being used for surveillance and other Defence applications. POSERAD provides spoof transmissions of these emitters.



#### Product Features

- Effective diversion device
- Configurable Spoof Emission Profile
- Remote access for configuration and monitoring
- Creation of complex Spoof Emission patterns using group of Spoof Emitters
- User friendly Graphical User Interface & State-of-the-art technology











**iDEX**  
**NAVAL**  
**SYSTEMS**



## Challenge: Unmanned Surface Vehicles

### Saif Automations LLP

#### LIFE

Battery Operated Self Propelled Lifebuoy is an innovative device used to remotely save lives on water bodies. With speed in excess on 7m/sec on water, easy to operate and its compact size makes it a positive compliment to the present systems. Serving as a platform on water, this can be used with variety of other payloads to perform other tasks.



Hand Held



RC - Drones

### Product Specification

- Length - 1200 mm
- Breadth - 900 mm
- Height - 350 mm
- Weight - 18-20 Kgs
- Material of Constructions - UV stabilized HDPE
- Floatation - 200 kgs (3 Adults)
- Carrying capacity - 150 Kgs streamlined objects
- Maximum Speed - 8 to 10 knots
- Cruising speed - 6 to 7 knots
- Economical speed - 3 to 4 knots
- Battery Life 500 charge - discharge cycle.
- Power requirement for charging - 220VAC
- Charging time Up to 80% charge in 1 hour
- Rechargeable Battery operation - Yes
- Endurance at Maximum speed - 15 mins
- Endurance at Cruising speed - 30 mins
- Endurance at Economical speed - 60 mins.
- Intermittent use - 3 to 4 hours
- Remote Control Range - 1 Km LOS
- Dedicated Radio Communication & Remote - Available for each craft
- Add on payloads (Optional) - Depth Sonar, Camera, Debris Cleaning attachment, Torpedo recovery attachment, Current Speed Measurement attachment.





इलेक्ट्रॉनिक युद्ध यंत्र  
ELECTRONIC WARFARE JAWNER



**iDEX**  
**Communication**  
**SYSTEMS**





## Challenge: 4G / LTE Tactical LAN

### Astrome Technologies Pvt. Ltd

#### Gigamesh

We have pioneered the world's first Point-to-MultiPoint E-band Radio which is completely software driven and offers significant reduction in both CAPEX and OPEX for deployment of 5G and Rural Broadband networks. Astrome's second product is called GigaSat, an innovative Ku/Ka-band electronically steerable terminal for satcom markets. GigaSat will serve the need for low-cost user terminals required by LEO satellite internet providers and for mobility terminals for GEO satellites.



### Product Specification

#### Product Features

- Multiple Non-shared Links in a Single Device (Multiple- Point-to-Point Links)
- Intelligent Algorithms Enable Automatic Link Alignment and Dynamic Power Allocation.
- Modular Design to seamlessly scale in capacity and number of links.
- Communication up to 10km enabled by Patented Digital Beam Forming Technology.

#### Technical Details

Operating Frequency: 71-76 GHz & 81-86 GHz

Channel Bandwidth: 250MHz

Number of Links: 2 Links ungradable to 4 links

Maximum Throughput per link: Upto 2 Gbps per link

Aggregate Throughput: Upto 4 Gbps ungradable to 8 Gbps

Antenna Type: Phase Array Antenna with electronic beam steering

Device type: Integrated ODU

Interfaces: 3X 10G SFP+ (for Data), 1G RJ45 (for Configuration)

## Challenge: Generation of Quantum Secure Keys between two nodes connected directly over 200 km

### QuNu Labs Private Limited

A pair of quantum secure key distribution nodes (Alice and Bob) that can support upto 200 kms for secure encryption key distribution. Leverages the current 100 km QKD technology with two patents pending. Uses DPS (Differential Phase shift) protocol with Decoy State Method - A proprietary method for distributing secure quantum keys between two nodes through a relay node.



### Product Features

Quantum Key Distribution (QKD) device capable of quantum key generation & distribution, QKD device for receiving the key, trusted relay node for extending the quantum key distribution over longer distances, Fiber Spool for lab demonstration and Network, Configuration & Misc. elements. The details are as under:

- QKD pair of Devices for Quantum Key Generation & Distribution
- Trusted Relay Node
- Fiber Spool for Lab Demonstration
- Network, Configuration & Misc Elements



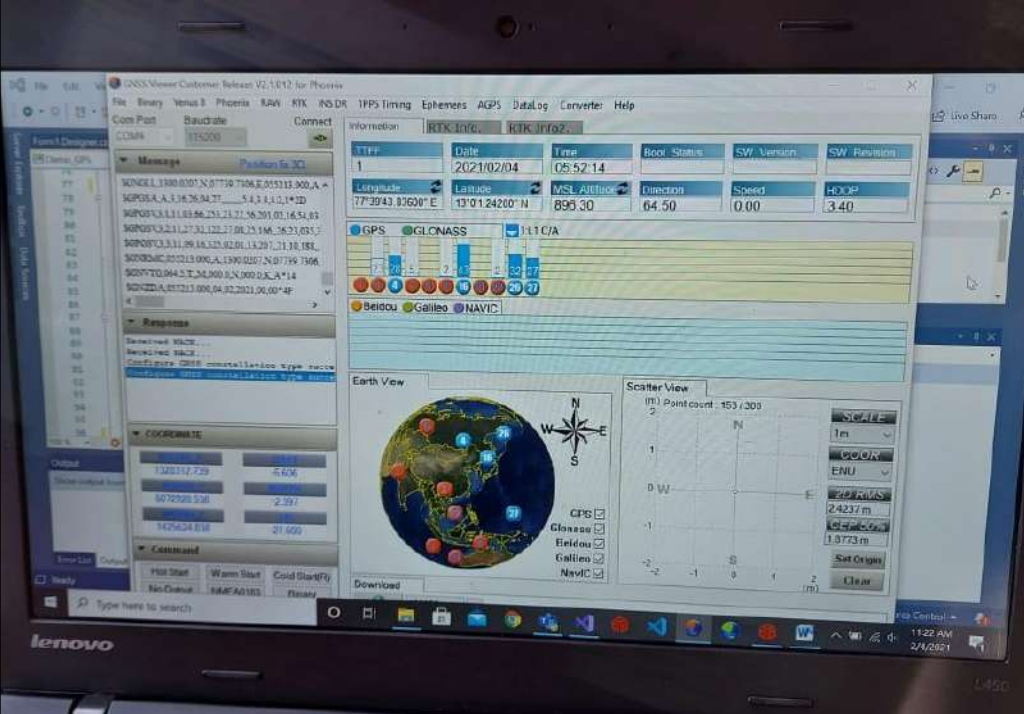
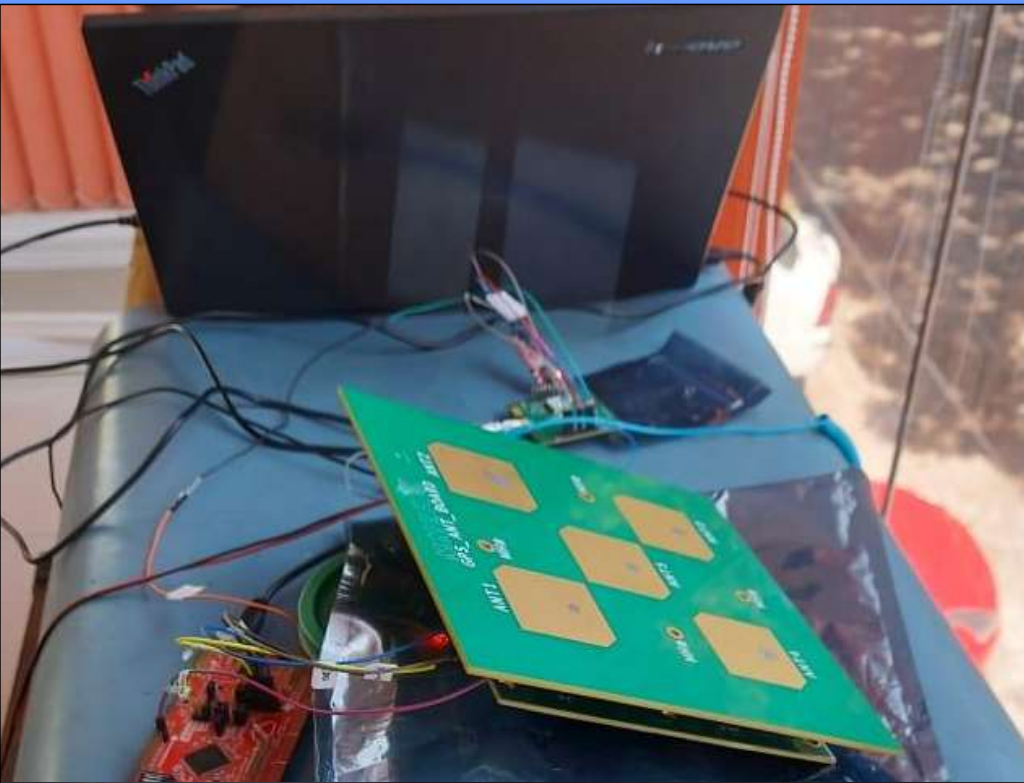


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**iDEX**  
**AIRBORNE**  
**SYSTEMS**





## Challenge: GPS Anti Jam Device

### MMRFIC Technology Pvt. Ltd.

The delivered products and those under development currently include, Custom LNA in Ka and W Band, W Band Receiver in SiGe, Wide Band Octal TRM solution in X Band, Ultra Low Jitter PLL in X Band, K Band Radar for Surveillance, K Band Exciter for RF Transceiver systems, VPX Card Programmable RF Transceiver, Custom IPs for WLAN Transceivers, GPS & NAVIC receivers and Anti Jam GPS Receiver.



### Product Specification

- Sensitivity
  - a) Acquisition: -150 dBm
  - b) Navigation: -153 dBm
  - c) Tracking: -156 to -160 dBm
- TTFF (cold start): 32 to 36 Sec
- Max Fix Rate: 10 Sec
- Horizontal Fix Accuracy: 1.8m
- Max. Acceleration: 4.5G
- No. of Jammers: 1 to 3
- Jammer Level: -80 dBm



## GPS Anti-Jam Device



## Challenge: GPS Anti Jam Device

HW Design Labs Pvt. Ltd.



HWGAJD-01, low SWaP GPS Anti-Jam Device employs multi-level jamming and interference mitigation techniques. It uses the advanced signal processing techniques and is immune to jamming and interferences. HWGAJD-01 supports GPS & NavIC standards, enables seamless navigation of the Aircrafts or Military Vessels/Vehicles during mission critical operations.

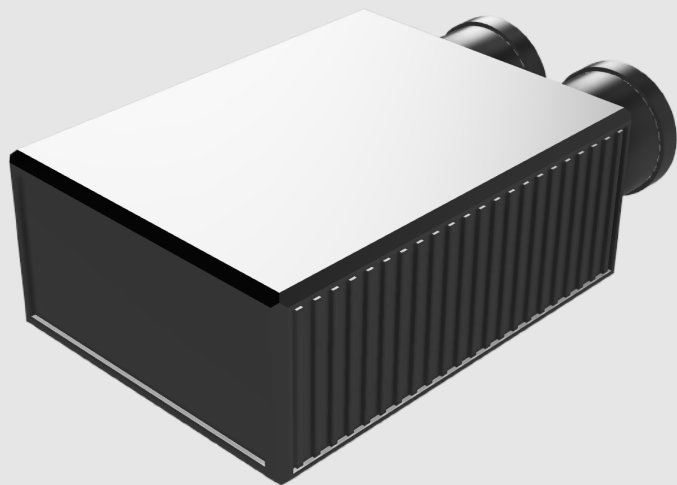
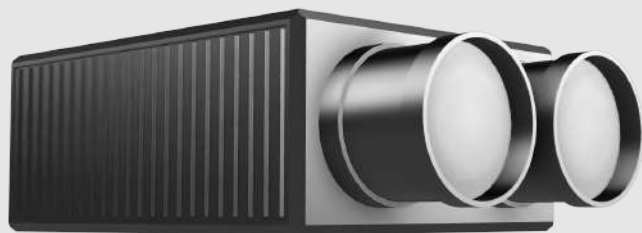


Networking



Hand Held





## Challenge: Remotely Piloted Airborne Vehicles

### DV2JS Innovation LLP

Gagan: Eyes in the Sky

DV2JS Innovation



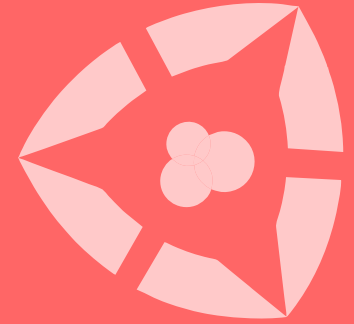
### Product Specification

- Format: 95 Megapixel
- Detector: CMOS Digital Monochrome Image Sensor
- Optical Format: 35 mm
- Spectral Response: 0.4-0.7  $\mu\text{m}$
- Pixel Pitch: < 10  $\mu\text{m}$
- Frames Rate: 9 Hz @10 bit (Full 100 MP); 100 Hz (2MP Mode)
- Shutter Type: Global Shutter
- Dark Noise: Dark Noise < 100 e- rms @ 60oC
- Sensitivity: 20,000 e-/lx/sec
- Image Capture: Programmable Image Exposure time and Gain Modes
- Data Acquisition: 8 to 12-Bit Digital Data
- Image Processing: Binning (2x2) & FLIP Horizontal / Vertical
- Video Interface: PC Interface-USB 3.0 (Type C) Video @ 2 MP at 30 Hz
- Operating Temperature: 0°C to +60°C
- Dimensions and Weight: 120mm x 120 mm x 90 mm
- Optical Interface: C/M-Mount Lens
- Power Requirements: 12V/24V Input
- Maintenance: Firmware Update through USB
- Total weight, volume of the system: <15 Kg; 250 mm x 250 mm with optics protruding in the Z plane
- Total power consumption: <15 W









**iDEX**

**DATA ANALYTICS**

**SYSTEM**



## Challenge: AI in SCM and Logistics

### Radome Technologies and Services Pvt. Ltd.

#### ProHM+ Software

The currently followed conventional condition-based monitoring practices can inform about a defect only after occurring. This can prove to be ineffective and could lead to unsafe operation of the aircraft. It is therefore necessary to identify a method to monitor the health of the aircraft components and system to avoid an impending failure before occurring.

ProHM+ is an AI based in Aircraft Health Monitoring software product that used data analytics techniques to identify trends, patterns, and relationships, which will enable prediction of aircraft behaviour, equipment failure and other future events. ProHM+ converts acquired data into operational and business intelligence. Descriptive, Predictive, Prescriptive and Prognostic layers of Data Analytics monitor the trend of operation and predict the maintenance requirement with a high confidence level. This can maximize the uptime of the asset and reduce the total cost of ownership.



#### Features of ProHM+ include

1. Machine Learning & AI
2. Descriptive, Predictive and Prognostic Data Analytics with visualization
3. Engine Health monitoring
4. Performance Trending
5. Anomaly detection in airframe operations
6. Prediction of impending faults
7. Mathematical modeling of aircraft parameters



#### Artificial Intelligence for Aircraft Health Monitoring

**Multi-Linear-Regression**

Attempts to model the relationship between two or more features and a response by fitting a linear equation to observed data.

[Get Started](#)

**Health Forecasting**

Model forecasts takeoff regime of next consecutive sorties based on historic patterns. Pattern is captured within first 100sec of takeoff regime.

[Get Started](#)

**Fault Prediction**

Attempts to model the relationship between two or more features and a response by fitting a linear equation to observed data.

[Get Started](#)





## CYRAN AI Geospatial Situation Awareness Tool



Proudly Designed and Made in India



[www.cyran.in](http://www.cyran.in)  
[contact@cyran.in](mailto:contact@cyran.in)

### Challenge: AI Based Satellite Image Analysis

#### CYRAN AI SOLUTIONS Pvt. Ltd.

##### CYRAN AI Geospatial Situational Awareness Tool

Indigenized solution that provides comprehensive real-time geospatial situational awareness backed by cutting-edge R&D. Generate one-click actionable insights supporting multi-sensor, multi-platform data fusion. Utilizes state-of-the-art data-processing and advanced Artificial Intelligence techniques for multiple aerial and space platforms. Fine-tuned for a wide range of security user requirements.



#### Product Specification

- GIS based
- Field Customizable Analytics
- Secure-edge Field Trainable AI
- Real-time & Hardware Accelerated
- Automated zero-code data processing
- Supports multiple Air/Space borne platforms



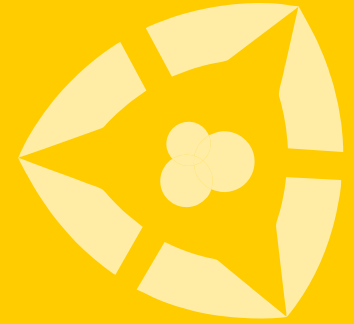
Software



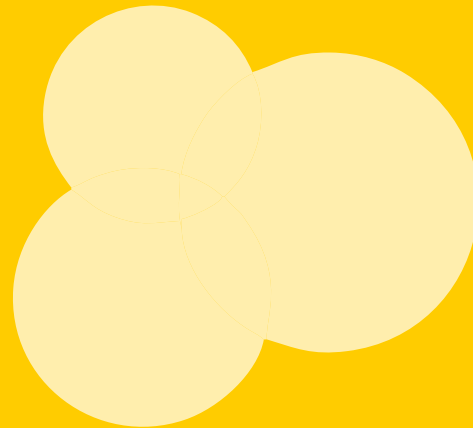
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**iDEX**  
**OTHER**  
**SYSTEMS**







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## Challenge: Carbon Fiber Winding

### North Street Cooling Towers Pvt. Ltd.

84mm Rocket Launcher MK III



Hand Held

### Product Specification

#### 1) Summary of the product/technology:

Caliber: 84mm rifled.

- Weight: 10 Kg
- Length: 1,065 mm
- Effective fire range
  - 350 to 400 m against moving vehicles
  - 500m against stationary vehicles
  - 1000 m using smoke and high explosive rounds
  - 2000 m using rocket-boasted laser guided ammunition
- Rate of fire: 6 rounds per minute
- Service life: 1000 rounds

#### 2) Utility of the product:

- Negligible fatigue feature due to its recoilless design
- Light in weight
- Shoulder-fired system
- Compatible with current standard optical devices
- High explosive anti-tank (HEAT) round, dual purpose (HEDP) round can be used

## DIO-iDEX Team

### DIO Board of Directors



**Dr. Ajay Kumar, IAS**  
Defence Secretary



**Mrs Anandi Ramalingam**  
Director (Marketing) &  
Additional Charge, CMD -BEL



**Shri R Madhavan**  
Chairman and  
Managing Director - HAL



**Dr. Chintan Vaishnav**  
Mission Director  
Atal Innovation Mission

### Chief Officers of the Organisation



**CEO/DIO**  
Sh. Sanjay Jaju, IAS  
Addl. Secretary (DP)



**Addl. CEO/DIO**  
Sh. Anurag Bajpai  
Joint Secretary (DIP)



**COO/DIO**  
Sh. Vivek Virmani  
Planning Officer



**ADVISOR - DIO**  
Sh. Mudit Narain  
CTO, Office of PSA, Govt. of India

### Chief Finance Officer

**Sh. Avnish Tandon**

### Company Secretary

**Ms. Ritu Lamba**

### Program Management Unit

**Col Arvind Kumar (Retd)**

Program Director

**Col Sanjeev Nair (Retd)**

Program Director

**Capt Roy Joseph (Retd)**

Program Director

**Sh. Dayanand**

Dy. Program Director

**Smt. Kriti Taneja**

Dy. Program Director

**Sh. M N Saquib Khan**

Program Executive

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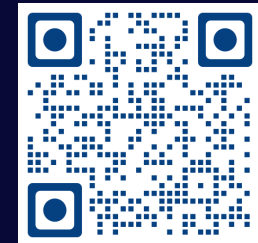
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