INDIAN ARMY

MAKE IN INDIA

FICCI

ATMANIRBHAR BHARAT

Webinar on

Army Make Projects-2020

17 August 2020

MAKE IN INDIA DEFENCE
CREATING CAPABILITIES FROM WITHIN

INDIAN ARMY

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VICE CHIEF OF THE ARMY STAFF

MESSAGE

The Indian Army is committed to buying and using indigenous weapons and equipment and, therefore, supports their conception design, development and manufacture within the country.

Make in India initiative of the Government has been given a new impetus by the call for '**Atamanirbhar Bharat**'. Ministry of Defence has been facilitating all initiatives of domestic defence industry, be it innovation through '**Innovations for Defence Excellence (iDEX)**' or Make Projects. The introduction of Make-II category has given significant momentum and fresh direction to the indigenisation programme.

Facilitation of participation by start-ups in Make-II Projects is yet another positive push which provides young minds a National Platform to display new concepts and ideas. As a result, tremendous progress has been achieved by the Indian Army. There are today 28 major projects worth ₹ 30,000 Cr in progress. This includes 13 '**Approval In Principle**' of projects which are suo moto projects from the industry. Of these 28 projects, 13 Make-II Projects have already been granted '**Acceptance of Necessity**'. This clearly exhibits resolve of the Army to foster indigenous Research and Development and boost indigenous defence manufacturing. It gives me immense pride to place on record the commitment of Indian Army to fight the modern wars with home grown world class solutions and equipment.

Make Seminar each year has been a forum for formal interaction with the industry to showcase new projects and understand defence industry concerns. It gives me immense satisfaction to see the value growth of this platform. I convey my best wishes to all stakeholders in this journey of indigenisation.

Lt Gen SK Saini PVSM, AVSM, YSM, VSM
Vice Chief of the Army Staff
Indian Army

राज कुमार
सचिव
Raj Kumar
Secretary

भारत सरकार / Government of India
रक्षा उत्पादन विभाग / Deptt. of Defence Production
रक्षा मंत्रालय / Ministry of Defence
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MESSAGE

DPP 2016 had brought in new avenues for Indian def industry and opened more channels of indigenisation. It has streamlined and simplified defence procurement procedure to give boost to Make in India initiative by introducing the Chapter IIIA on Make-II procedure. Further experience gained since its introduction in 2016 and issues indicated to us by industry, are being addressed through the new DAP 2020. DPP adopts a multipronged strategy in its endeavour to stand out as an effective capability development manual. Innovation and new concepts are the corner stone for import substitution. An innovation ecosystem for defence titled 'Innovations for Defence Excellence (iDEX)' has been introduced as an initiative for fostering an ecosystem of innovation and technology development in Defence and Aerospace. DDP has always stressed upon engaging industries including MSMEs and Start-Ups, and provide them necessary support. Services have been playing a stellar role in this process. The efforts of IA towards 'Make Process' and for creating confidence in Indian Defence industry through 'Indian Army Make Webinar 2020' are laudable.

Results are the only indicators of efforts given to the cause. Big leaps toward indigenisation have been taken by IA. The number of projects taken through AoN stage is an indicator of same. All the progress so far inspires confidence in defence industry and it is expected that other future initiatives will garner momentum towards self-reliance in defence manufacturing & R&D. I am confident of still bigger achievements by IA through the lead it is maintaining in this direction, I extend best wishes to all stake holders.

'Jai Hind'

(Raj Kumar)

Place: New Delhi
Date: 11th August, 2020



MESSAGE

Hon'ble Prime Minister Shri Narendra Modi Ji's call for **Atmarnirbhar Bharat** is inconceivable without building a roadmap for **Atmarnirbhar Raksha Utpandhan**. Towards this Ministry of Defence has recently announced a slew of policies to make Indian industry self-reliant and push through indigenisation.

The process of indigenisation necessitates meticulous perspective planning, assured budgetary support, and perseverance for design, development and manufacture, including allowance for some inexorable failures. The first step therefore is to achieve self-reliance in segments where we already have proficiency. The recent policy announcements by **Hon'ble Raksha Mantri - Shri Rajnath Singh Ji** on negative import list, earmarking separate capital budget for domestic procurement, finalizing the draft Defence Production & Export Promotion Policy (DPEPP) 2020 and Defence Acquisition Policy (DAP) 2020 in continuous consultation with the Indian industry are steps in the right direction.

Another way of attaining Atmarnirbhar Rasksha Utpadhan is to strongly push the Make Projects in a time-bound manner. Make Projects are developmental programmes that enlarge the scope for indigenisation and strengthens the capabilities of Indian Defence Industry. Make projects not only cater to large system integrators, but also offers significant opportunities for MSMEs / Start-ups through Suo Moto Proposals.

Indian industry appreciates and acknowledges the tremendous efforts undertaken by Indian Army and to be the leader amongst the armed forces in promoting 'Make Projects'.

FICCI is highly privileged to work for the defence industry to build a strong Defence - Industry partnership and to successfully realise the Make Projects for our armed forces. This annual engagement between Indian Army and Defence Industry on "Army Make Projects 2020" is very timely and shall provide the much-needed impetus to the Indian Industry which is looking for more business and partnership opportunities.

I am confident that the deliberations during the webinar will serve as critical inputs for all the stakeholders involved in successfully realizing Make Projects.

My best wishes and sincere thanks to all the participants!!!

'Jai Hind'

S P Shukla
Chairman
FICCI Defence and Aerospace Committee

Ser No	Dte	Proj Name	Contact Information
New Projects			
1.	DG Inf	Infantry Weapon Training Sys (IWTS)	*O11-23018398, 23018060* *Khanjar@nic.in*
2.	DG AAD	Drone Kill Sys	*011-23015616* *Skycoord94@nic.in*
3.	DG CE	All Terrain Fork Lift (Heavy Duty) (Exploratory Project)	*011-23019359* *Ce-einc-army@nic.in*
4.	DG Sigs	FCE Mk-II	*011-23019076* *Tac.comns-5@gov.in*
AIP Accorded (Inadequate Vendor Response)			
5.	DG Arty	Truck Mounted Crane for ULH Regt	*9168330310* *aproc@nic.in*

INFANTRY WEAPON TRAINING SYS (IWTS)



The Infantry Weapon Training Simulator (IWTS) is a modularly designed system which allows handling of Small Arms of a section and platoon to include in-service Pistols, Carbines, Rifles, Light Machine Gun, Rocket Launchers, Sniper Rifle, Multiple Grenade Launcher and MP9. Sys should be able to provide a large number of modules to include Annual Range Courses, Moving Target exercise, Reflex Shooting course, Field Firing, Tactical Engagement etc. Proposed IWTS should cater for scenarios to be tailor-made to user requirements and the customizable lane configuration to 6 lane, 8 lane or 10 lane profiles.

ALL TERRAIN FORK LIFT (Heavy Duty)



Engineers in Armed Forces are involved in number of infrastructure development projects like construction of Habitats, Permanent Defences, Operational Tracks, Bridges and various ancillaries during peace and operations. Loading/ unloading and carriage/ handling of various stores for construction consume large number of manpower during operations. To obviate the problem of handling these stores manually, use of Material Handling Equipment like All Terrain Fork Lift will extensively save the man hours and improve their efficiency. The induction of Fork Lifts into Units will not only reduce the man-hours but also reduce fatigue and stress, thereby improving combat efficiency. Currently, it is an Exploratory Project.

DRONE KILLS SYSTEM



The aerial threat has evolved over a period of time, currently multifaceted threat are being faced from drones / Unmanned Aerial Systems (UAS) which are not only small sized target but highly lethal too. Threat manifests increasing these days and therfore there is a requirement to develop hard kill systems which will be employed to effectively neutralize this dimension of emerging aerial threats.

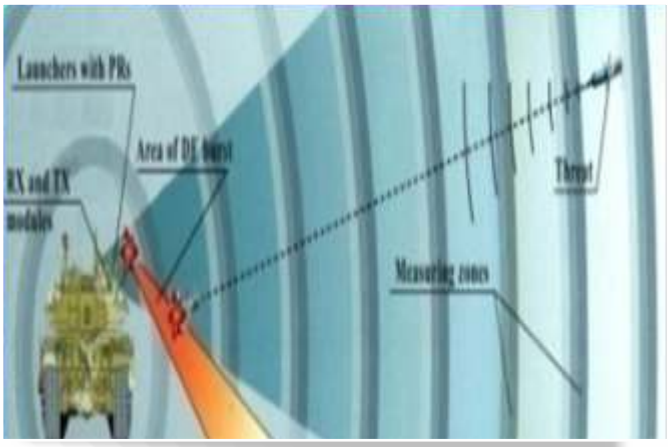
The Drone Kill System will utilize the latest advancement in counter UAS technology with regards to flight control which can effectively neutralize the hostile drone / UAS. The hard kill system will have to be user friendly and should have capability to be rapidly deployed.

FIELD CIPHER EQUIPMENT MK-II

The proposed equipment is an encrypting device, which is compatible with IT equipment (computer, printer and key board). It is an upgraded version of Field Cipher Equipment. The eqpt is flexible in accessing various media (HF, VHF, SDR and line Ethernet). The eqpt can work in online and offline mode. The equipment is proposed to be equipped with Touch Screen (sunlight readability) external keyboard support, 32 GB (or more) storage capacity, PC and printer connectivity, External Radio Modern (for operation with in service radios) & encryption.



AFV PROTECTION AND COUNTER MEASURE SYSTEM FOR T-90 TK



The population of T90 tanks is constantly increasing and it will be the mainstay of the Mechanised Forces. Tanks T-90s are presently devoid of an Active Protection System and only equipped with ERA panels which provide limited survivability in present battle field scenario. There is a need for an Active Protection System capable of not only detecting an ensuing attack but also defeating it, thereby enhancing own survivability. The enhanced protection is expected to be achieved through soft kill and hard kill capabilities of envisaged AFV Protection and Counter Measure System.

Current Status- Pre AoN (SoC stage).

ROBOTIC SURVEILLANCE PLATFORM



It is imperative that troops employed in counter terrorist operations are suitably equipped with equipment which enhances awareness. Robotic Surveillance will enable troops to know in advance the inside dispositions of targets before making an entry in buildings in built up areas. RR Directorate is nominated for Make project 'Robotic Surveillance Platform and the assessment/ Feasibility Study for this project was completed where by likelihood of bringing up such capabilities by Indian industry have been established.

Current Status- PSQR formulation in progress.

TRUCK MOUNTED CRANE FOR ULH UNITS



Regiment of Artillery is in the process of modernising its capabilities. All future medium guns are planned to be 155 mm/ 39/45/52 Cal, thus, ensuring common 155 mm ammunition sys. Unlike other calibre ammunitions which comes in single round packages, 155mm ammunition is palletised. Weight of each shell pallet of 12 rounds is approx 620 Kgs and that of each Bi-Modular Charge System (BMCS) pallet, with 125 modules is approx 540 Kgs. To load and unload each pallet, mechanical means are an inescapable requirement. Truck Mounted Ammunition Crane on Ammunition Vehicles of medium regiments is proposed as a new Make project.

Current Status- PSQR formulation in progress.

FLY RIPPER FIRE CONTROL RADAR

As the Army Air Defence is modernising there is a requirement of Fire Control Radar System due to vintage inventory presently held with Army AD. The radar needs to be light weight, towed and flexible with high mobility content.

Current Status- PSQR formulation in progress.



HF SOFTWARE DEFINED RADIO (SDR)



The present radio sets in Indian Army are hardware based with separate radio sets for HF, VHF and UHF frequencies. The legacy radio sets have little or no data capability thereby restricting proliferation of network centric operations. The HF SDR will address these operational and technological voids. The HF SDR will also have provision for interoperability with legacy systems with ability to add, remove or modify the output of the systems through reconfigurable and re-deployable waveform leading to multi-mode, multi - frequency and multi-platform operations in a single hardware configuration. HF SDR will provide communication flexibility to our troops during UN Missions and all types of operations and Humanitarian Assistance & Disaster Relief (HADR).

Current Status- Pre AoN (SoC stage).

MAN – PACK V/UHF SOFTWARE DEFINED RADIO (SDR)



Man-pack V/UHF Software Defined Radio is proposed as a backward compatible Software Defined Radio which is interoperable with future SDRs and other form factor SDRs. It will have the ability to add, remove or modify the out-put of the systems through reconfigurable and platform independent waveform leading to multi-mode, multi - frequency and multi - platform operations in a single hardware configuration. The proposed system should have the ability to establish communication both in fixed frequency and frequency hopping mode in both Clear and Secure Combat Net Radio and Mobile Adhoc Networks (MANET) to have communication range of 15 Km or greater. The system should be able to transmit voice, data, message and video in both Clear and Secure mode in Fixed Frequency and Frequency Hopping mode for transmission of Voice, Ground to Air Voice, Narrow Band Data, Wide Band Data, Narrow Band Mobile Adhoc Network (MANET) having 16 Nodes and Wide Band MANET having 32 Nodes.

Current Status- EoI stage.

PORTABLE HELIPAD



The size of the helipads made by Corps of Engineers vary from 25Mx25M to 100Mx100M. Presently portable helipads have several shortcomings such as heavy weight, difficult handling, larger requirement of transport, manpower intensive and difficulties in camouflage. Consequent to the developments in metallurgy and other alternatives, that are both flexible and resilient, it is proposed to seek a solution for helipad material that is user friendly, light weight and ruggedized with scope for modularity.

Current Status- Pre AoN (SoC stage).

ARMAMENT UPGRADE OF BMP

Armament Upgrade of BMP includes Gunner Main Sight, Commander Panoramic Sight and Fire Control System (FCS) with Auto Target Tracker (ATT).

Night enablement of Mechanised Infantry is an operational imperative in modern war fighting capability of Indian Army. A part of BMP fleet is planned to be upgraded with available niche technology. Based on the same, Indian industry has indicated capabilities for Up-gradation of Fire Control System (FCS) for Infantry Combat Vehicle (ICV).

Current Status- EoI stage.





155MM TERMINALLY GUIDED MUNITIONS





For Indian Artillery there is a need to optimize the use of ammunition with precision strike capability and greater lethality. Terminally Guided Munitions are therefore appropriate smart ammunition of the future which will meet requirements of the Indian Artillery in terms of accuracy, faster speed of engagement, improved kill probability and correspondingly reduced logistics.

Current Status- Pre AoN (SoC stage).

MEDIUM RANGE PRECISION KILL SYSTEM (MRPKS)



The MRPKS is proposed to be an indigenous weapon system planned to be developed and mounted on a 4x4 in-service vehicle and hence can be effectively employed in mountainous terrain. Each Launcher should carry number of missile in a cassette. The launcher should be able to operate in both standalone and Battery configuration with long range communications. The ammunition planned for the weapon system is a high precision, medium range with an on board guidance system & a passive IR terminal guidance.



The ammunition being a fire & forget rocket, will ensure greater efficacy of engagements with precision strike ca-pability available to own forces.

It is proposed to be vertical launched, giving a 360 degree employment capability hence ensuring, no crest clearance issues in hills.

The voids of employing rockets in mountainous region with near pin point accuracy at medium ranges will be addressed with the development of the MRPKS weapon system. It will act as a major force multiplier for tactical operations due to its fast deployment, high mobility, increased employability, low weight of the vehicle, precision accuracy and shoot & scoot capabilities.

Current Status- Pre AoN (SoC stage).

AUXILIARY POWER UNIT (APU)



The proposed Auxiliary Power Unit will be an alternate source of power for the Fire Control System (FCS) to cater for power requirements during a lull in the battle or surveillance mode or during training to preserve the life of the main engine of the tank.

Current Status- EoI response evaluation in progress.

125MM APFSDS FOR T-72 & T-90 TANK

125mm APFSDS ammunition is primary tank ammunition utilised for destroying enemy tanks. There is a requirement to develop an indigenous APFSDS ammunition for T-72/T-90 tanks with a capability of achieving Depth of Penetration (DoP) of more than 530mm to enhance lethality within the existing safety and consistency parameters.

Current Status- EoI response evaluation in progress.



UPPER AIR SOUNDING SYS

The Upper Air Sounding Sys (UASS) is a Meteorological equipment used to measure upper atmospheric weather parameters viz, Pressure, Temperature, Humidity, Wind Speed and Wind Direction at various heights with an aim to undertake aviation weather forecasting, missile firing and in identification of atmospheric ducts which is essential for establishing enhanced radar/ sensor ranges.

Current Status- UTRR Stage.



FLARES & CHAFFS



Flares are used in aircraft as a defensive countermeasure against heat-seeking missiles. These are discharged individually or in salvos by the pilot or automatically by tail-warning devices.

Chaff radar is a countermeasure in which aircraft or other targets spread a cloud of small, thin pieces of aluminum, metallized glass fiber or plastic, which either appears as a cluster of primary targets on radar screens or swamps the screen with multiple returns.

Current Status- Prototype Development in progress.

ELECTRONIC FUSE FOR ROCKETS

Electronic Fuses are required for rockets with the following main characteristics:-

- Proximity (Variable Time) with 10m Height of Burst (HOB).
- Proximity (Variable Time) with 30m HoB.
- Electronic Timed with 1000 m HoB.
- Proximity (Variable Time) with 300m HoB.

Current Status- Exploratory Project.



MEAT

MEAT is required to provide realistic live firing practice to crews of Air Defence weapons of Army, particularly the crews of long range missiles. The MEAT should be capable of a maximum speed of 400 Kmph or more and an altitude range of 20m to 5000m. It would be ground launched.

Current Status- RFP issued on 13 Jul 2020.



AUGMENTED REALITY (AR) BASED HEAD MOUNTED DISPLAY SYSTEM



All modern armies employ a mix of AD systems so as to optimise their air defence capabilities, while maintaining due human intervention. Many of the modern surveillance radars have the capability to detect and track multiple targets and also communicate the coordinates of such targets to a distant location. This facility opens up opportunities for a fair weather system located at a distant location to utilise the coordinates received from the surveillance radar to better engage the incoming targets.

Current Status- EoI Stage.

INDIVIDUAL PROTECTION SYSTEM WITH INBUILT SENSORS

There is a requirement of a light weight protection system to enhance operational mobility and reduce fatigue to troops during operations. It should also provide protection against impact and blast. It must also monitor vital parameter to ascertain operational worthiness of individual including health parameters in real time. Besides it should provide facility for monitoring its own damage assessment.

Current Status- iDEX projects, 2nd milestone in progress



NIGHT SIGHT FOR AGS - 30



AGS is an area weapon used by Infantry. Presently there is no night sight for its employment during night. The project aims to develop a Thermal Imaging based night sight alongwith a Fire Control System for employment during darkness and improving the kill probability.

Current Status- EoI Stage.

3RD GENERATION ATGM

3rd Gen missiles have not only increased the accuracy of the system but has also provided a quantum jump to operator safety. A 3rd Generation ATGM enables the operator to disengage his sights from the target the moment the missile is triggered. Thereafter the inbuilt guidance system ensures target destruction with high accuracy and precision.

Current Status- EoI response evaluation in progress.



GPS/GIS BASED MINEFD RECORDING SYSTEM



The laying, recording and marking of mine fields is covered under Geneva Conventions. Once the requirement of laying the minefield is over, all unused mines are retrieved. There is thus a requirement to record accurately the location of each mine that is laid. Presently such records are maintained manually and involve lengthy and cumbersome manual procedures. The project aims to develop a fully automated GPS/GIS based minefield recording system.

Current Status- EoI Stage.

UPGRADED ASSAULT TRACK WAY

The equipment is held with Engineers for con-struction of operational tracks in under devel-oped/desert terrain. The present ATW has its limitations and a new track way is envisaged to support move of heavier vehicles yet be lighter in weight with a reduced volume for faster em-ployment.

Current Status- RFP Stage.



SIMPLIFICATION TO CORE

RELAXATION IN CONDITIONS

- Allowing all eligible vendors to participate in the prototype development process.
- No Cap on number of players who show interest & offer prototype.
- Suo-moto proposals allowed.
- Start-ups permitted to supply equipment.

FACILITATIONS & GUARANTEES

- No foreclosure - assured orders.
- Provision for Project Facilitation Team.
- IPR remains with the industry.
- Reduces the total time from AIP to placing of order.
- Projects with developmental cost of less than three crore reserved for MSME.



REDUCED DOCUMENTATION

- No detail project report required – saving of time & efforts.

SHQ EMPOWERMENT

- SHQs to give all subsequent clearances after AIP.
- Option with SHQs to accept single individual/ firm offers on innovative solution.
- SHQs allowed to hire domain experts/ consultants.

RAPID PROTOTYPING AND QUICK DEPLOYMENT

LESSER TIME WITH SIMPLE STEPS FOR BETTER PRODUCTS

AIP — Project recommended by SHQ is Approved In Principle by a collegiate headed by Secretary (Defence Production) and listed on the DDP website

→ Conducted by a multidisciplinary team at the SHQ to establish technical and commercial feasibility and draw broad Preliminary Services Qualitative Requirements — **Feasibility Study 8**

PSQR 4 — Preliminary Services Qualitative Requirements are the broad functional requirements and specifications required from the equipment

→ Govt accords Acceptance of Necessity through a system of collegiate meetings termed as SCAP meetings. Higher outlay projects are approved by Defence Procurement Board or Defence Acquisition Council. A Project Facilitation Team (PFT) hereafter steers the project — **AoN 12**

EoI 14 — Expression of Interest is published on the MoD (DDP) website to invite company (ies) to participate in the project

→ Responses to EoI are evaluated by the Project Facilitation Team. VCOAS approves the EoI evaluation report — **EoI Evaluation 5**

PSO 2 — Project Sanction Order (PSO) is issued to all companies who qualify the EoI evaluation, as approved by VCOAS

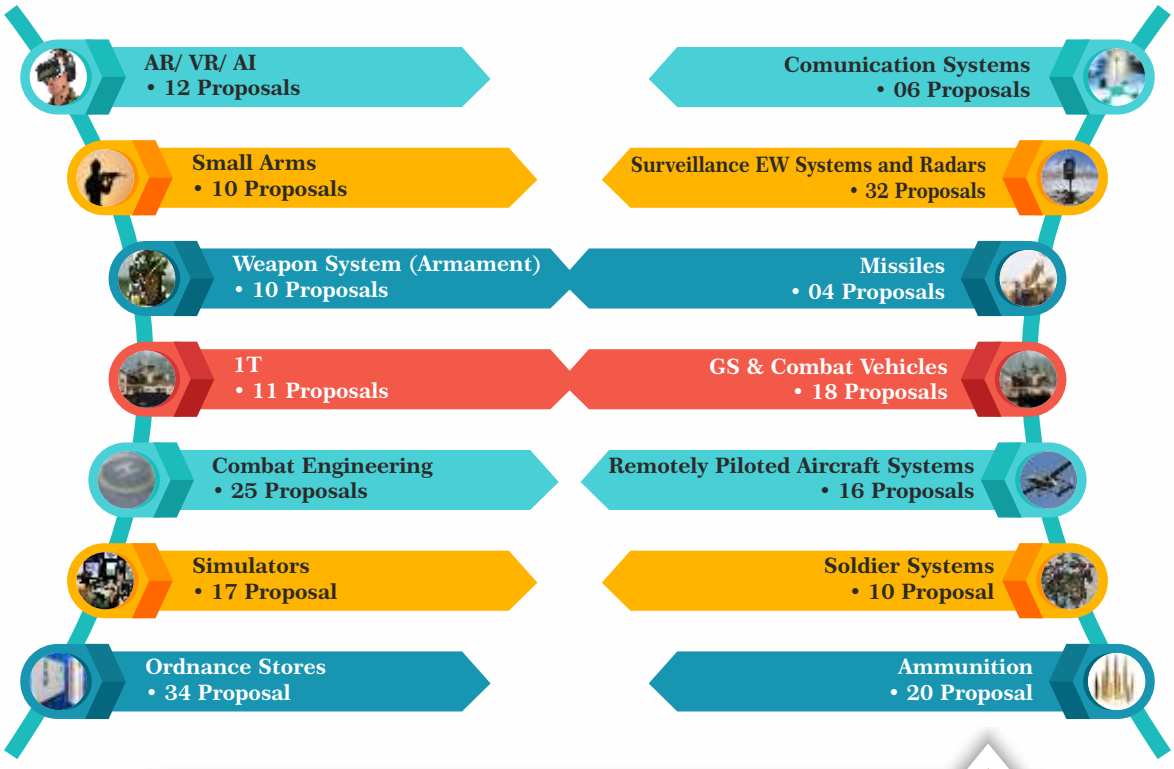
→ Close interaction with the companies is maintained by the Project Facilitation Team to provide handholding, throughout the project — **Prototype Development 12-30**

Commercial Offer 4 — Commercial offers are sought prior to commencement of trials of the prototype

→ Trials are carried out and post their staff evaluation process is followed for CNC — **Trials & Staff Evaluation 8-26**

Timing in weeks for each stage.

Army Make Projects-2020



OUT OF 225 SUO MOTO PROPOSALS RECEIVED, 14 PROPOSALS TAKEN FOR AIP MANY MORE IN CHAIN FOR PROCESSING

- 3rd Generation ATGM
- Night Fire Control System for AGS
- Remotely Piloted Aircraft System Simulator
- Multi Role Precision Kill Sys
- Armament Upgrade of BMP
- Integrated AD Combat Simulator
- AD Unit Level System
- Truck Mounted Crane for ULH Regiments
- Mountain FCR
- HF Software Defined Radio
- VHF Software Defined Radio
- FCE MK-II
- Drone Kill Syestem
- IWTS

Part- I : General Information

1. Name of the Vendor/Company/Firm/Individual.

_____

2. Contact Details.

_____

City: _____ State: _____

Pin Code: _____ Tele: _____

Fax: _____ URL/Web Site: _____

Email: _____ Mobile: _____

3. Local Branch/Liaison Office in Delhi (if any).

Name & Address: _____

Pin Code: _____ Tel: _____ Fax: _____

Email: _____ Mobile: _____

4. Type of the Applicant (Company Partnership firm/ Individuak etc)

5. Company profile (Not more than 500 words)

6. Cetification by Quality Assurance Organisation.

Name of Agency	Certification	Applicable from (Date & Year)	Valid till (Date & Year)

7. Membership of FICCI/ASSOCHAM/CII or other Industrial Associations.

Name of Organisation **Membership Number**

8. Any other relevant information:

Part- II : Details of the proposed product/

Sr No.	Subject
1.	Name of the product:
2.	Brief Description of the product including its functions/applications
3.	Intended End User: Army/Navy/Air Force/ Para Military.
4.	Preliminary specification of Material, Dimensions/ Weight etc
5.	Image of the product, if already developed (may be attached as Annexure)
6.	Tentative cost of the equipment/ system
7	Proposed timelines for development of prototype and if successful production and delivery timelines
8	Proposed methodology for evaluation
9	Details of inspection agency/ Accredited lab likely to be involved
10	Approximate Indigenous Content
11	Equipment/ System life
12	Whether proposed equipment/ system being offered is an upgrade/ Innovation? If yes, Please elaborate.
13	Is any other similar product available with world market? If Yes, a brief comparison of capability/ performance/Cost etc may be furnished
14	Any patents existing
15	If product is yet to be developed, please indicate the following in detail:- (i) Assistance required from end user, If any. (ii) Time frames envisaged

Note: The firm/ individual may attach Video/ images etc of the proposed product separately.

Declaration It is certified that the above information is true.

Date: (Authorised Signatory)

Imp: Suo Moto proposals to be forwarded through Defence Investor Cell (definvestorcell@ddpmod.gov.in)

ROLE

To be the Facilitator for Research & Development efforts and Initiation of Procurements of Weapons and Equipment required by the Indian Army

CHARTER OF ARMY DESIGN BUREAU

- Act as a central repository of technical know-how for the Indian Army
- To collate operational requirements from the field formations and bring it forward for deliberations with DRDO, OFB, DPSUs, De-fence Industry and Academia
- To assist in formulation of GSQRs and Statements of Case in respect of Indian Army
- To collate and bring to fruition the Innovations undertaken by the field formations
- Subsume Army Technology Board and Simulator Development Division in its organisation and adopt their charter
- Act as a nodal point to integrate and synergise the efforts of various category 'A' establishments having domain specific centres of technological excellence
- Generate long term research requirements for the Indian Army and share the same with the DRDO and Academia
- Assist in identifying various projects for the DRDO and be the single point contact with it

SUPPORTING INCUBATION OF TECHNOLOGY IN DEFENCE

iDEX

Aim. Creation of an ecosystem to foster innovation and technology development in Defence and Aerospace. Idex functions as the executive arm of Defence Innovation Organization (DIO) formed as a "not for profit" company.

Funding. Defence Innovation Fund (DIF) will be managed by iDEX.

ATB

Aim. Army Technology Board (ATB) is to support R&D in Academic Institutions in the field of Defence Technology through innovation and integration with exisitng equipment.

Funding. ATB will fund projects on a milestone linked plan.

TDF

Aim. Technology Development Fund (TDF) encourages participation of public/ private industries to create an eco-system for enhancing cutting edge technology capability for defence application. Proposals that can be supported by TDF are

- Significant up-gradation/ improvements/ further developments in the existing products/ process/ application.
- Technology readiness level up-gradation from TRL3 onwards.
- Development of futuristic technologies/ innovative products.
- Import substitution of components.

CREATING OPPORTUNITIES FOR INDUSTRY AND ACADEMIA

ARTECH. ADB conducts an annual Army Technology (ARTECH) Seminar in January every year in Delhi, focussing on the requirements of niche technologies required by Indian Army. Its an ideal opportunity for academia & industry to showcase their technologies and products.

Field Visits. ADB facilitates visit of industry and academia representatives to Operational Areas to assist them assimilate the operational and terrain specific requirements where the product developed by them needs to be exploited.

FIND US AT WEB

For Army Design Bureau Log in at https://indianarmy.nic.in/makeinindia



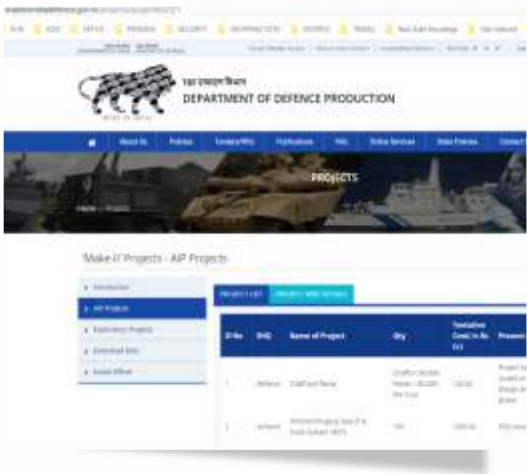
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Explore Webpage for

- Army Design Bureau
- RFIs
- Projects
- Latest Policies
- Firing Ranges & Test Facilities
- Olive Pages
- Important Links

For details of Army Make Projects Log in at https://makeinindiadefence.gov.in/



Explore Webpage for

- Details of Make Process & policies
- Tenders/RFI
- Publications
- Project Briefs & Progress Status
  - AIP Projects
  - Exploratory Projects
- Details of Project Officers and Nodal Officers
- DIC

Army Make Projects-2020

ATB PROJECTS

1. Laser Marksmanship and Tactical Training Sys (LMTTS)
2. Extended Range Ammunition using Ramjet Technology with Precision Guidance
3. Near Space (Stratospheric) Remotely Piloted Aircraft Sys
4. Habitation in High Altitude Area
5. Sewage Disposal in High Altitude Area
6. Indigenisation of Critical Sub-Assemblies of Air Defence Guns
7. Add-on Radar for Jamming of UAVs
8. Controlled Detonation Arty Munition
9. Modular Electronic Fuze for 155mm Shells with Replaceable Battery and Explosive Components
10. Ballistic Helmet (Project ABHEDYA)
11. AI based UGV for creating VSL by employing Ground Penetration Radar & Image Processing

iDEX PROJECTS

1 Individual Protection Sys
2 See Through Armour
3 Active Protection Sys
4 Identify Friend or Foe

TDF PROJECTS

1. Course Correction Fuzes
2. Improved reinforced 155mm Shell for Artillery Guns
3. Exoskeleton
4. English to Mandarin Translator
5. Gun Raising & Lowering Mechanism for L70 Guns
6. Development of Robotic Solution for Disposal of Misfire Ammunition
7. Development of Drones for Carriage of Stores in HAA
8. Automated Change Detection in Satellite Images for Surveillance
9. Logistics Management Support Sys (renamed as 'Real Effective Available Logistics Through AI (REAL-TAI)'
10. AI Based Target Recognition Sys Based on Electro Optical Day Night Images (AI)
11. Analysis of Health Data of Past 5 to 10 Yrs
12. Cyber Def & Cyber Warfare Sys

Disclaimer
The information given in this brochure is only indicative and cannot be quoted as authority. For any queries contact us on the details given on the back cover.

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Together Building Capabilities

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