

## **After 10-year wait, jawans to get bullet-proof jackets**

Ordinary infantry soldiers are still a long way from getting modern assault rifles and light-machine guns, new anti-tank weapons and light-weight ballistic helmets, but they are finally going to get desperately needed bulletproof jackets after waiting for a decade.

The Army has inked a contract for “emergency” procurement of 50,000 bullet-proof jackets with Tata Advanced Materials Limited, a subsidiary of the Tata Group, for Rs 140 crore. “The jackets will be delivered from August onwards. All the jackets are to be delivered by January 2017,” a defence ministry source said.

Given the huge shortage of bullet-proof jackets in the 1.18million strong Army due to convoluted procurement procedures, Manohar Parrikar had approved this “interim emergency acquisition” through the “revenue route” soon after he took over as defence minister in November 2014.

It became all the more important after the tender for “capital procurement” of 1.86 lakh modular jackets was scrapped in October 2015 because the samples offered by six vendors “failed” to clear field trials, as was first reported by TOI.

The modern light-weight jackets, as per the Army's new GSQRs (technical parameters or general staff qualitative requirements), were meant to adequately protect the head, neck, chest, groin and sides of the foot-soldiers as well as allow them to move with greater agility during counter-insurgency operations in “unfriendly terrain”.

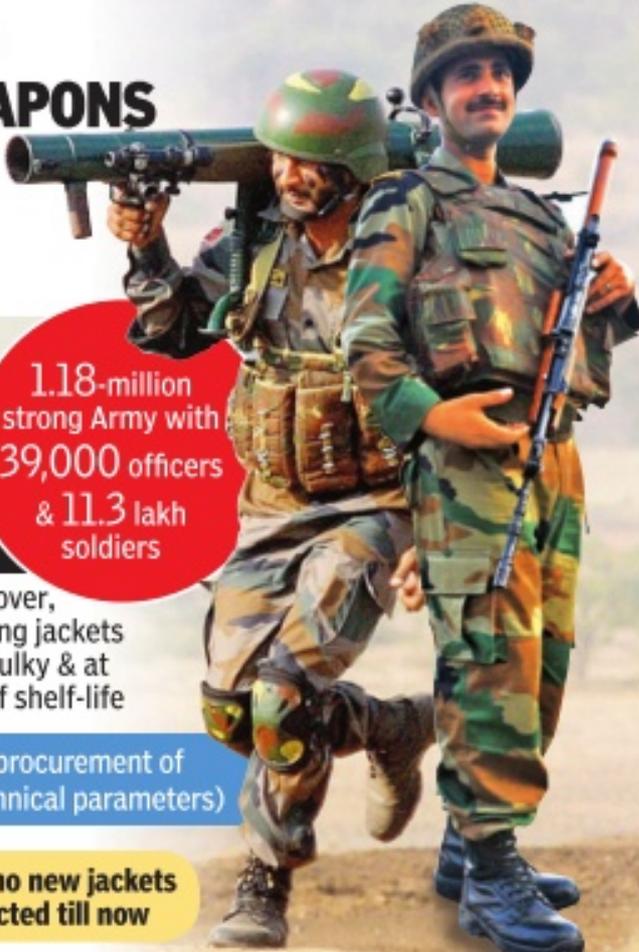
But when the move came to a naught, the Army vicechief's existing financial powers were “relaxed as a onetime exception” to ensure urgent purchase of 50,000 jackets based on older GSQRs after ballistic tests. “The minister and Army vice-chief Lt-General M M S Rai pushed to expedite the entire process,” said a source.

The 50,000 jackets will somewhat help in meeting the Army's requirement for 3,53,765 new jackets. Of them, 1.86 lakh jackets were to be inducted by 2012, with the remaining 1.67 lakh by 2017. While no new jackets have been acquired till now, the Army's existing bulky ones with poor protection are also near the end of their operational life.

Interestingly, DRDO has now come up with a prototype bullet-proof jacket, as per the new GSQRs, using different “state-of-the-art ballistic material” to protect against AK-47 and self-loading rifle bullets. “The prototype has successfully undergone stage-1 and 2 trials. It will be a contender in the fresh capital procurement case being initiated again for the first lot of 1.86 lakh jackets,” said a source.

When the acquisition of these 1.86 lakh jackets was first approved by the defence acquisitions council in October 2009, each was estimated to cost around Rs 50,000.

Several parliamentary committees have taken an extremely dim view of “critical shortage” of bullet-proof jackets, slamming the government for “playing with the lives” of soldiers, as reported by TOI earlier.



# LONG WAIT FOR BASIC INFANTRY GEAR & WEAPONS

**Infantry biggest arm with 382 battalions (each with 800 soldiers) & 63 Rashtriya Rifles battalions**

Foot-soldiers lack modern assault rifles, close-quarter battle carbines, light machine guns, 3rd generation anti-tank guided missiles, sniper rifles, modular bullet-proof jackets, light-weight ballistic helmets etc

**1.18-million strong Army with 39,000 officers & 11.3 lakh soldiers**

**Bullet-proof jackets (BPIs)**

Army authorised 3,53,765 jackets for guarding borders & counter-insurgency operations	But short of 1,86,138 jackets	Moreover, existing jackets old, bulky & at end of shelf-life
---	-------------------------------	--

**Oct 2009 | Defence Acquisitions Council cleared procurement of 3,53,765 jackets as per Army's new GSQRs (technical parameters)**

First 1,86,168 jackets were to come in 11th Plan (2007-2012) & rest 1,67,597 in 12th Plan (2012-2017)

**But no new jackets inducted till now**

*Live Mint*  
31 Mar, 2016

## **MBDA in talks with DRDO, Bharat Dynamics for making missiles**

*European missile manufacturer MBDA is in talks with DRDO, Bharat Dynamics to make a short-range surface-to-air missile for the Indian Navy through extensive technology transfer*

MBDA has also started initial discussions with Indian officials to co-develop and locally produce the fifth generation anti-tank guided missile.

European missile manufacturer MBDA is in talks with the state-run Defence Research and Development Organization (DRDO) and public sector firm Bharat Dynamics Ltd (BDL) to co-develop and manufacture a short-range surface-to-air missile (SRSAM) for the Indian Navy through extensive technology transfer, said Loïc Piedevache, India head of MBDA Group.

SRSAM will also have significant export potential—an added incentive for the government’s Make in India project, said Piedevache in an interview. “SRSAM will be designed by DRDO, made by Bharat Dynamics assisted by MBDA’s longstanding and recognised expertise and know-how.”

Piedevache said MBDA Group has been working with India for more than 50 years. “The company started its make in India strategy even before the Modi government started its Make In India campaign,” he added.

The Make in India programme is now more than 18 months old. Launched on 25 September 2014, it was the brainchild of Prime Minister Narendra Modi to promote India as the world’s next manufacturing destination and attract Foreign Direct Investment (FDI). Twenty-five sectors were identified—from automobiles to aviation to pharmaceuticals to tourism and wellness.

Under the programme, the government has awarded 56 defence manufacturing permits to private sector entities in the past one year, after allowing 49% FDI in the defence sector in August 2014, compared with 47 granted in the preceding three years.

“We sell products to all around the world. But India is the only country where we are offering co-development and ToT (transfer of technology) of cutting edge missile technology. MBDA’s office in Delhi is growing and is already the company’s largest overseas set up,” Piedevache said.

On the new defence procurement procedure or DPP 2016 , he said that already the government is clearly aiming at making the procurement process quicker and easier. The DPP 2016 aims to bring into effect measures to promote indigenization and self-reliance in defence. DPP also has enabling provisions for utilization and consolidation of design, development and manufacturing infrastructure available in the country are included in the proposal.

On the lower defence allocation in the Union Budget 2016-17, Piedevache said the group is in India for the long term, and its strategy is not based on annual budgets.

Piedevache said MBDA has started initial discussions with Indian officials to co-develop and locally produce the fifth generation anti-tank guided missile (ATGM), drawing on some of the highly advanced technology already being developed for the French army’s new Missile Moyenne Portée or medium range missile.

He did not disclose more details but added that the ATGM will be suitable for India’s own operational requirements.

*KNN*  
*31 Mar, 2016*

## **DRDO invites EoI for development/ production of CBRN Defence Equipments**

New Delhi- Chemical, Biological, Radiological and Nuclear (CBRN) contaminated environment poses a formidable threat to environment and Defence Research & Development Organisation (DRDO) is engaged in the development of products and technologies to provide a robust CBRN defence capability in the form of detection, protection, decontamination and medical management systems.

To augment the existing capabilities as well as create new, DRDO has released Expression of Interest for prospective industry partners for joint development and/or production of the CBRN equipments.

It is a standard practice of DRDO to go for such partnership with Industry for joint development of new items in either cost sharing or fully funded model. While so far the participation was mainly limited to large corporates, FISME, as the leading federation of MSMEs are in continuous dialogue with DRDO authorities to encourage participation from MSMEs also.

According to the EoI document available in the website of DRDO, interested enterprises may forward information about their current business, financials etc. alongwith products of interest etc. to DRDO.

DRDO has also planned a industry meet at DRDO Bhawan, New Delhi during April/May, 2016. The purpose of the meet is to provide further technical information about the proposed activities and provide clarifications to interested industries.

The participation of industry partner may be either of Joint development/ Manufacturing/ Subsystem or component manufacturing/ Facility development or Service/ Consultancy.

*The Hindu*  
*31 Mar, 2016*

## **Govt plans to increase defence exports**

Defence Minister Manohar Parrikar said on Wednesday that the government aimed at increasing the exports of defence equipment by three to four times in five to seven years.

He was speaking to the media at the site of the DefExpo. With this objective, the Defence Research and Development Organisation and the defence public sector undertakings (DPSUs) participated in the expo in full strength.

### **New DPP**

Mr Parrikar said the new defence procurement policy (DPP) would permit the defence PSUs to export up to 10 per cent of the production.

As exports generate higher revenue, the profits would be ploughed back for improving supply to the armed forces. Export from the DPSUs would be subject to clearances from the partner concerns and the Ministry of External Affairs.

Mr Parrikar said the value of defence exports was expected to cross Rs 2,000 crore this year.

DRDO had booked the largest area in the exhibition, which included indoor and outdoor display.

### **Design theme**

This year the design theme of the DRDO pavilion was “rise of futurism”. Its vision is to make India prosperous by establishing a world-class science and technology base and provide the defence services a decisive edge by equipping them with internationally competitive systems and solutions.

The DPSUs Bharat Dynamics Limited, Bharat Earth Movers Limited, Bharat Electronics Limited, BrahMos Aerospace, Hindustan Aeronautics Limited, Mazgaon Dock Shipbuilders Limited, Mishra Dhatu Nigam Limited, and Ordnance Factory Board showcased their latest products and cutting edge technologies.

*Jagran Josh*  
*31 Mar, 2016*

## **Defence Minister Manohar Parrikar flagged off India's first indigenous Sonar Dome**

Defence Minister Manohar Parrikar on 29 March 2016 flagged off India's first indigenous composites bow mounted Sonar Dome during **DefExpo 2016** in Goa.

The Sonar Dome will now be delivered to Mazgaon Docks, Mumbai for use in the warships of Indian Navy.

With the successful manufacture of Sonar Dome, India joined a select group of nations which have the capability of realizing large composites structure with multi-functional requirements, complex geometry and high structural rigidity with acoustic transparency.

It was possible due to the **Vacuum Assisted Resin Transfer Molding (VARTM)** process technology with built-in process monitoring capability, to ensure manufacture of a quality product.

### **Key highlights of the Sonar Dome**

- The huge bow mounted Sonar Dome is designed and developed by Research & Development Establishment (Engineers), a DRDO laboratory based in Pune.
- It is a first of its kind in the country, and has been manufactured by Kineco Ltd., a composites manufacturing company in India.
- The Sonar Dome comes as a huge contribution by Indian Industry to the **Make in India** movement.
- All anti-submarine warfare (ASW) ships have a sonar array fitted to the ship structure below the waterline. The sonar functions as the ship's underwater eyes and ears.
- The sonar dome is a structure fitted over the sonar array so that its electronics and sensors are not exposed to surrounding hostile environment.

*International Business Times*  
*31 Mar, 2016*

## **Indian Army soldiers to get bullet-proof jackets after a decade**

After a decade long wait, the soldiers of the Indian Army are all set to receive bullet-proof jackets. The army has signed a contract with Tata Advanced Materials Limited for obtaining the jackets under "emergency" provision.

The deal is for 50,000 bullet-proof jackets that will cost Rs 140 crore. The delivery of the jackets will start from August and must be completed by January 2017, the Times of India reported citing defence ministry sources.

The delay in the induction of bullet-proof jackets has been blamed on "convoluted procurement procedures."

One of important issues to sort out for Defence Minister Manohar Parrikar when he took over in November 2014 was the acquisition of bullet-proof jackets for the army. He had approved the "interim emergency acquisition" via "revenue route."

In October 2015, the government had to scrap a tender for modular bullet-proof jackets as the six vendors who had offered their jackets, "failed" the tests set by the army's new GSQRs (technical parameters or general staff qualitative requirements), the report said. These jackets were supposed to sufficiently protect the head, neck, chest, groin and sides of the soldiers, while allowing them to move with greater agility.

The shortages in the bullet-proof jackets have been termed "critical" with several parliamentary committees reprimanding the government for not procuring new jackets.

The report also adds that the current deal for bullet-proof jackets is according to the older GSQR, and the rules were relaxed as "one-time exception" for fast-tracking their purchase. "The (defence) minister and Army vice-chief Lt.General M M S Rai pushed to expedite the entire process," the source added.

India has a 1.18-million strong army and there is a requirement of 3,53,000 odd jackets. The initial idea was to acquire 1.86 lakh jackets by 2012 and remaining 1.67 lakh by 2017.

Meanwhile, the Defence Research and Development Organisation (DRDO) has been testing a new bullet-proof jacket prototype that conforms with the new GSQRs. This prototype jacket uses various "state-of-the-art ballistic material" to protect against AK-47 and self-loading rifle bullets.

The source further added that stage-1 and stage-2 tests for the prototype jacket were successfully completed and it "will be" a contender when the government issues tender for the procurement of the bullet-proof jackets via "capital procurement."

*Shephard*  
*31 Mar, 2016*

## **DefExpo 2016: Robot family blessed with new children**

The Daksh family of UGV from the state-owned Defence Research and Development Organisation (DRDO) has seen new additions added to its portfolio.

The original skid-steer Daksh (Sanskrit for 'capable') titled Primal is a six-wheeled robot designed for bomb disposal and improvised explosive device (IED) handling tasks.

Alok Mukherjee, head of robotics at DRDO's Research and Development Establishment (Engineers), said the Indian military has been using 20 Primals for the past two years, and that a larger order of the Daksh is expected this year.

DRDO's development and manufacturing partner is Hi-Tech Robotic Systemz, a company founded in 2004. All the following Daksh family are manufactured at its Delhi-based facility.

The six-wheeled Daksh Spotter has a manipulator arm that can lift 20kg at a maximum reach of 2.5m. Its main equipment is chemical, biological, radiological, nuclear and explosive (CBRNe) sensors that can collect soil samples, for example.

It can both detect contaminated areas and defuse IEDs. It can climb 200mm stair risers or 40° slopes.

The Daksh Warrior, as its name suggests, has the most teeth. This armed version boasts a 7.62mm machine gun and 30mm automatic grenade launcher with sighting system, and live firings have already been conducted.

Its endurance is three hours and range is 500m. The DRDO suggests it is suitable for hostage situations, border infiltration control, installation security and counterinsurgency missions.

Next is the tracked Daksh Mini that is suitably designed to operate in train and aircraft aisles as a smaller version of the Primal.

Its six-axis manipulator arm reaches 2.5m high, enough to search overhead baggage compartments, and it can lift 8kg.

The Mini weighs 90kg and has a 200m line-of-sight range (100m in urban areas). Payloads include an X-ray and water jet disruptor.

The DRDO said it is in service with Indian military, paramilitary, police, rail and airport authorities.

Finally, the tracked Daksh Scout is used for silent surveillance or counterterrorism missions, something aided by its ability to climb stairs. The Scout can operate for two hours and it has a 200m line-of-sight range.

A recoilless water jet disruptor can be fitted if desired.

On its own Hi-Tech Robotic Systemz also developed and produced the spherical Iris throwable surveillance device, as well as the two-wheeled Mole device that offers manoeuvrability.

## **Indian Navy to get first sonar dome developed by DRDO**

The Indian Defence Ministry has launched the first indigenous composites sonar dome at Defexpo site in Goa.

The structure will be delivered to the Mazgaon Docks in Mumbai, India, for incorporation into vessels for the Indian naval forces.

The sonar dome has been developed by the Research & Development Establishment (Engineers) [R&DE(E)], a defence research and development organisation (DRDO) laboratory based in Pune.

DRDO R&D chief controller S Guruprasad was quoted by Punemirror as saying: "Sonar dome is made with a state-of-the art technology, which is developed indigenously."

The huge bow-mounted sonar dome has been built indigenously by a composites manufacturing company in India, Kineco, as part of the 'Make in India' campaign.

The Vacuum Assisted Resin Transfer Molding (VARTM) process technology, with built-in process monitoring capability developed by R&DE, DRDO, has been used to ensure quality while manufacturing the product, according to a report by IBNlive.

The anti-submarine warfare (ASW) ships are equipped with a sonar array fitted below the waterline that acts as the underwater scanner for the vessel.

The dome is positioned over the sonar array to bar the visibility of the electronics and sensors to the hostile environment on the surface.

The sonar dome is required to be structurally sound and acoustically transparent.

Senior DRDO officials have claimed that the development of the sonar dome will prompt the future manufacturing of advanced naval structures such as entire ship hulls as well as land based and aerospace applications, reported by IBNlive.