

Trials for indigenous cochlear implants developed by DRDO begin at PGIMER, Chandigarh

A three-day conference will be held from February 14, which will give a platform to further strengthen the links to other professionals and to facilitate multicentre research

By Amanjeet Singh Salyal

Chandigarh: The Post Graduate Institute of Medical Education and Research is among five other national institutes to begin trials for indigenous cochlear implants developed by the Defence Research and Development Organisation (DRDO).

Cochlear implants are electronic hearing devices, implanted onto people with severe to profound hearing loss, in order to produce useful hearing sensations. The aim of the project is to decrease the cost of the device, which at present is somewhere between ₹ 5-7 lakh, and is supplied by three companies approved by the United States Food and Drug Administration.



“The former president of India APJ Abdul Kalam envisioned to make cheap cochlear implants available and told DRDO in 2005 to develop the technology. PGIMER was also a part of that plan,” said Naresh K Panda, Head of Otolaryngology (ENT) department, PGIMER.

Three years of research

Dr Panda said that a good amount of time had been invested on the process of planning, assessment and development of the prototype.

“In the last three years, many rounds of meetings have been held with the people involved. Many suggestions have been included and after the prototype was tested, it has been made ready for trials on patients,” Dr Panda said.

In the initial phase, five hospitals namely Apollo Hospital in Bangalore, Armed Forces Medical College, CMC Vellore, All India Institute of Medical Sciences and PGIMER have been provided with the prototype and at least 10 trial implants will be conducted by each institute.

Four trials have been conducted in other hospitals while PGIMER is waiting for suitable patients for making their first implant. “We will monitor each case and then come up with a study on it,” Dr Panda said. Regarding the drop in prices, Dr Panda said that it should cost around ₹ 1 lakh, however, the price has not been decided yet, but it will be cheaper.

Conference on speech and hearing

While holding a press meet here on Tuesday, doctors of the speech and hearing unit, department of otolaryngology, along with Chandigarh chapter of Indian Speech and Hearing Association, said they are organising a conference ‘Beyond 2020’, which will focus on recent and forthcoming advances in the field of speech and hearing.

“We will be organising three parallel pre-conference workshops in audiology, speech pathology and language, with a scientific focus on vestibular assessment and management, paediatric dysphagia and neuroimaging in communication disorders,” the doctors said.

A three-day conference will be held from February 14, which will give a platform to further strengthen the links to other professionals and to facilitate multicentre research.

<https://www.hindustantimes.com/chandigarh/trials-for-indigenous-cochlear-implants-developed-by-drdo-begin-at-pgimer-chandigarh/story-F2eAHRU7HNaZJJmE5on8VJ.html>

Blood samples of LWO employees collected to check pesticide levels

Jodhpur: A team of technicians from Defence Research and Development Organisation (DRDO) took blood samples of 81 employees of the Locust Warning Organisation (LWO) who have been engaged in anti-locust operations in the desert of Rajasthan for the past 9 months.

“A team of technicians of the DRDO remained in Jodhpur for two days and took blood samples of 81 employees to check if they did not have residue of the pesticide Organo-Phosphate, which has been sprayed to eliminate the swarms of locusts,” said the deputy director of LWO K L Gurjar.

He, however, claimed that it was a routine precautionary exercise and none of the employees has developed any negative impact of the chemical so far.

The team will take the samples along and test them to confirm if any of them has suffered any ill-effects of the pesticide.

“Based on the report, further steps will be taken and if required, medication would be provided to the affected ones,” Gurjar said.

According to medical practitioners, if the residues of this chemical, which is harmful for human beings, enter the body, it may result in paralysis, coma, vision-loss or memory loss.

It may be noted that on May 19 last year, the first swarm of locust had been reported in Rajasthan and since then over 3 lakh litres of the pesticide has been sprayed in the fields by the employees of LWO.

<https://timesofindia.indiatimes.com/city/jaipur/blood-samples-of-lwo-employees-collected-to-check-pesticide-levels/articleshow/74090136.cms>

Lessons from Def Expo 2020

By Harsha Kakar

The Def Expo held last week at Lucknow provided a glimpse of the strides made by the Indian private sector in defence research and development. It was less than two decades ago that this sector was opened for private industries and entrepreneurs. Till then, defence was considered a holy cow with research, development and production controlled by the Defence Research and Development Organization (DRDO), Defence Public Sector Undertakings and the Ordnance Factory Board (OFB). Presently, with the government concentrating on Make in India, it is the private sector which was most keenly observed in the Def Expo.

The theme for current Def Expo was ‘India: the emerging defence manufacturing hub’ and was focused on ‘digital transformation of defence’. India is currently the world’s second largest importer of defence equipment, after Saudi Arabia, hence major companies are keen to invest in the Indian defence market.

By projecting India as the emerging defence manufacturing hub, the government hopes to transfer latest technology from across the globe to Indian manufacturers, expand ‘make in India’ and turn India into a net defence equipment exporter, rather than an importer. Digital Transformation of Defence

implies the importance of technology in future warfare. The event also showcased Indian military power in live demonstrations and fly past of air power.

Indian MSME products on display included modern fencing for securing Indian borders linked with sensors and camera to artillery guns developed in house to sniper rifles and drones. Army establishments like the College of Military Engineering displayed their own designed and presently under production bullet proof jackets with the capability to withstand a sniper bullet to the Electrical and Mechanical Engineering School at Baroda, which proudly projected its own fault finding system incorporated into the newly inducted Vajra artillery gun.

The DRDO and OFB had their own products on display including the BrahMos missiles, Anti Satellite systems, remote controlled vehicles, newly inducted Dhanush guns, Akash air defence systems and upgraded combat vehicles. Many products under development were also displayed. Foreign vendors cutting across countries had brought forth their latest designed and developed equipment, hoping to enhance their foray into Indian and other developing country defence markets. Defence Research and Development (R&D) is capital intensive with limited guarantees of success. Not many private players are willing to get involved with it on a large scale. However, the success of smaller vendors in their limited fields was laudable.

Def Expo was an eye opener for those seeking to observe strides made by smaller Indian companies and organizations. Senior defence officials, including the Chief of Defence Staff and the Army Chief, spent immense time at Indian industry pavilions with the intention of encouraging small entrepreneurs and even accepting to provide them an opportunity to trial evaluate their products, which could then be considered for induction.

It was also an opportunity for foreign vendors to observe Indian research and development, seek to enhance inter-company cooperation and sign tie-ups. Multiple tie-ups were signed. States which had created defence corridors saw keen interest by industries seeking to invest in the corridors. Seminars highlighting cooperation between countries and on products under development witnessed keen attendance.

The presence of international delegates added to the flavour of the Def Expo. Companies, Indian and foreign, had an opportunity to display their products globally and thereby expand their markets beyond Indian shores. Foreign delegates displayed keen interest in available systems and sought trials in their own countries.

There are multiple lessons which could be drawn from the Def Expo. The foremost is observing that in some fields, the Indian product was matching known international brands in quality, while being far lower in price. They may have some shortcomings, but being home developed and produced, they could be considered for procurement and defects rectified even during the induction phase. It also indicated the technological breakthrough Indian entrepreneurs have achieved in some fields. The encouragement and opportunity provided to these vendors would push them further for enhancing quality of their products.

On the contrary, in a few cases there has been an over reliance on imported components. While they have claimed that there is a high percentage of indigenization, these have not been in critical components. This implies that costs can never come down and dependence on foreign manufacturers would continue. In such instances, the armed forces need to intervene, re-evaluate their off-set policy and seek to procure critical technologies which the Indian industry desires, rather than just investment into the Indian market.

Large Indian private defence production units displayed their products which were being manufactured for foreign defence manufacturing concerns. This would need to be encouraged as India seeks to enhance defence manufacturing exports. There would also be near similar equipment from different vendors which the armed forces would not need. An example are artillery guns under development by the Kalyani Group, Bharat 52 and Garuda V2, on which the Saudi delegation

envisaged keen interest, not the Indian armed forces. Encouraging and supporting their export and trials should be undertaken by the government.

The Indian armed forces need to realise that some Indian products may not be technologically superior to those available in the international market, but unless these are considered favourably, the fledging Indian defence industry may not be encouraged to invest in defence. Once inducted the manufacturer will be willing to improve his product by investing in R&D. Further, the prototypes displayed, if suitable for Indian armed forces' needs, could be centrally financed for further R & D to enhance quality. This would boost the Indian defence manufacturing capability.

Finally, the armed forces need to lay down their future technological requirements. They should issue a road map of developing the same by means of a strategic white paper. This would guide major private and government manufacturers to concentrate on Indian military demands. Logically, this should flow from an analysis of the armed forces role, emanating from the national security strategy.

The Prime Minister in his opening address remarked that his aim is that Indian defence exports should touch the USD 5 billion mark in the next five years. This would only be possible if the armed forces and private entrepreneurs, large and small, work together. Financial support and firm orders would be of major benefit. It is only then that reliance on foreign products would reduce and India would become a net exporter, rather than remain an importer of defence equipment.
(The author is Major General (Retd))

<https://www.dailyexcelsior.com/lessons-from-def-expo-2020/>