NEWS SERVICES DIVISION
ALL INDIA RADIO

Thu, 09 Jan 2020

Avalanche warning issued for Leh, Ladhak; Parts of North India in grip of coldwave

Snow and Avalanche Study Establishment (SASE), a laboratory of the Defence Research and Development Organization (DRDO) has issued an Avalanche warning to Leh in Ladakh region. Along with several other districts, the establishment in a communication to the Leh District Administration issued a warning of low-level avalanche between 7th and 8th of January.

AIR Correspondent reports that the avalanche meant for Leh in Ladakh is important as it has two passes namely Chang La and Khardung La with world's highest motorable roads through them with several avalanche-prone zones.

The also meant for the soldiers in the world's highest battle filed Siachen, in the region. Responding to the warning, Leh District Administration directed all the concerned agencies and departments to be in state of readiness with men and machinery to meet any eventuality.

The District Administration also advised the general public to avoid venturing avalanche prone areas during the period.

Meanwhile, several parts of the national capital witnessed light rain last night leading to fall in temperature.

The weatherman has predicted light rain and thunderstorm in Delhi today as well.

The maximum temperature is expected to hover around 17 degrees Celsius while minimum at 12 degrees Celsius.

Yesterday, the city's maximum temperature was recorded at 19 degrees Celsius, while the minimum temperature was 11.6 degrees Celsius.

In Himachal Pradesh, the mid and higher reaches and tribal regions of the state continued to reel under intense cold as the region received moderate to heavy snowfall for the third day today.

Most of the higher reaches of the state including Shimla, Manali, Kufri and Dalhousie are experiencing fresh snowfall since last night.

In Uttar Pradesh, rain accompanied with thunderstorms at some places has intensified cold wave in the entire state.

Cloudy conditions are likely to prevail today also in state.

http://www.newsonair.com/News?title=Avalanche-warning-issued-for-Leh%2C-Ladhak%3B-Parts-of-North-India-in-grip-of-Coldwave&id=377370

THE WEEK

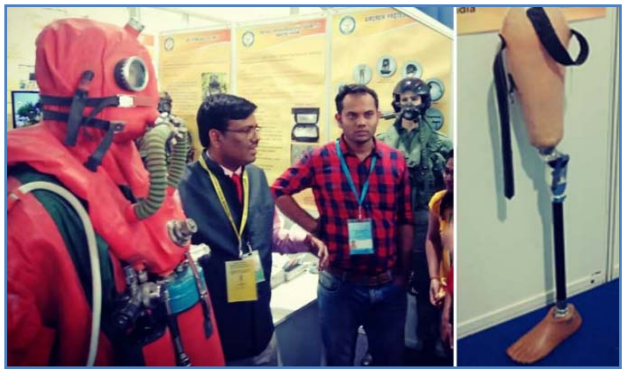
Thu, 09 Jan 2020

Make in India: DRDO's foray into hearing implants, exoskeletons and prosthetics

These are some of the items DRDO is making for civilians and the military

By Prathima Nandakumar

If you think DRDO is all about defence technology, think again: The country's premier military research organisation has its ears to the ground too. Be it a cochlear implant for the hearing-impaired, a stent, or an artificial limb—DRDO has plans to make advanced technology affordable and indigenously-developed.



A dream of late President A.P.J. Abdul Kalam was to share the know-how of defence innovations for the benefit of the civil society. Launched on June 27, 1993, the Society for Biomedical Technology (SBMT) under DRDO, has been focussing on developing indigenous technology to tackle the healthcare challenges of the society. After the huge success of the Kalam Raju Coronary Stent, which brought down the exorbitant cost of stents to Rs 15,000 per units (against the market price of Rs 60,000 for imported stents), SBMT has now developed an indigenous multi-electrode cochlear prothesis for the benefit of profoundly deaf people, to be made available in the next 100 days.

The high cost of imported implants inspired DRDO to set out on this societal mission.

"The human trial for the cochlear implants is underway. In November 2019, the first surgery was performed. Once 50 surgeries are through, it will be made commercially available. The transfer of technology will be followed by commercialisation of the product," said Dr Aparna Shastry, scientist, DRDO.

"We have tied up with leading hospitals, and the transplant will cost less than Rs one lakh, while the imported ones cost more than Rs 25-30 lakh. This will be available in the market within 100 days. The cochlear implant is compatible as it is customised to suit even a four-month-old infant. The earlier it is implanted the better as it will function like a normal ear. A team of doctors, biomedical engineers and mechanical engineers have worked to develop this implant," adds Shastry.

The Make in India initiative of SBMT also includes the Above Knee Prosthesis (AKP). The prototype of an artificial limb for those who have suffered amputation of the leg, has been developed and it is undergoing evaluation. "AKP will be available for as less as Rs 5,000. Unlike the Jaipur foot, this one weighs less than a kilo and can provide better gait as it can turn up to three degrees in all directions. It is stable on uneven terrain too," explains Shastry.

Another innovation is the 'Exoskeleton'—a wearable orthotic device that enhances endurance and strength. A useful device for soldiers carrying payloads of up to 30kgs, it is battery-powered and can help soldiers walk and climb in tough terrains without getting tired, as the device prevents pressure from being exerted on the limbs. "This prototype will take three years to provide the needed efficiency and functionality. The project is being monitored by the PMO," says Shastry.

A submarine escape set for Indian Navy, a bio-vest to monitor the physiological parameters for Gaganyaan astronauts and underwater breathing apparatus are some of the other innovations aimed at equipping the Indian armed forces with the best of technology to assist them in escape and survival.

"If the submarine gets stuck underwater, the 60-65 crew members are under very high pressure and the oxygen they breathe becomes poisonous. So the hydro-suit and the breather system will give protection until the rescue team arrives. It has a cylinder with a gas mixture of Helium, Nitrogen and Oxygen, with a reducer. All inert gases are flushed out once you reach the surface and in the closed circuit, carbon-dioxide will be converted into oxygen in a separate chamber [at a rate of] 4 litres/minute. It gives a window of two and a half hours for rescue. The system weighs 24.5 kilos as it should control the rate of ascent, so the blood flow is not obstructed," explains Arun Kumar, a scientist from DEBEL-DRDO.

https://www.theweek.in/news/sci-tech/2020/01/08/make-in-india-drdos-foray-into-hearing-implants-exoskeletons-and-prosthetics.html

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IAF to add clause on local engines for AMCA fighters

The assessment within the Indian establishment is that engine technologies needed for future aircraft are available with nations like France, UK and the US. The Indian side is also keen not to repeat a deficiency in the Chinese weapons development programme where the lack of a reliable aero engine programme is seen as an impediment

By Manu Pubby

New Delhi: The air force is likely to insist on a clause for development of an indigenous aero engine when it clears a multi-billion dollar programme to go ahead with the next generation Advanced Multirole Combat Aircraft (AMCA) by the Defence Research and Development Organisation (DRDO).

The fighters – expected to take to the skies by 2026 as per current projects – are being planned to substitute costly imports of combat aircraft in the future, with the air force keen that a home grown engine be developed for true self dependence.

Sources said that while the first two squadrons of the AMCA will be powered by a variant of American origin GE 414 engine, the project will be clearing in the coming months on the condition that a parallel process be initiated by DRDO to develop a aero engine plant with foreign collaboration. "A clear path towards developing our own aero engine is essential and should be done along the AMCA programme which is being supported. If needed, foreign collaboration from western nations that have advanced technologies can be sought," senior officials told ET.

The assessment within the Indian establishment is that engine technologies needed for future aircraft are available with nations like France, UK and the US while traditional ally Russia has lagged behind in the field. The Indian side is also keen not to repeat a deficiency in the Chinese weapons development programme where the lack of a reliable aero engine programme is seen as an impediment.

As reported by ET, the DRDO has carried out preliminary designs for the AMCA and is confident that it will be in a position to roll out the first test fighter within five years of the project receiving the next stage of financial sanction that is pegged around $ 1billion. The air force has put its weight behind the project as well, along with the Light Combat Aircraft. In comments preceding the air force day, Air Chief Marshal RKS Bhadauria had said that “on the fifth generation (requirement), the AMCA has been given a go ahead and we have given it our whole support and are putting in our energies there” and that no imports were planned in the foreseeable future.

Plans to develop the indigenous Kaveri fighter jet engine as part of the Rafale offsets deal have not taken off, even though presentations have been made by the French side on creating an aircraft engine ecosystem in India. Similarly, a plan to share jet engine technology under the US-India Defense Technology and Trade Initiative (DTTI) has been suspended last year after little progress was made by the two sides after detailed discussions.

https://economictimes.indiatimes.com/news/defence/iaf-to-add-clause-on-local-engines-for-amca-fighters/articleshow/73162616.cms