

## Future India Army soldiers to turn into 'super warriors' as DRDO works on exoskeleton technology

Major countries all over the world are looking at the exoskeleton technology for their soldiers which will not only have built-in advanced technology at the disposal of the wearer but also reduce the weights of several equipment that a soldier has to carry with him, like helmets, radios, night vision goggles, body armour.

Exoskeletons or Exo-suits are dual-use technology gadgets worn as a harness by a soldier to increase the strength. A soldier with an exoskeleton is capable of faster movements and possesses the extra load-bearing capability.

Reportedly, the Defence Research and Development Organisation (DRDO)'s Defence Bioengineering and Electro-medical Laboratory (DEBEL) has been collating data for Simulation and Analysis of Musco-skeletal parts for a while, and defence ministry is already incurring expenditure on upgrading wearable gear on each soldier to meet the ever-changing combat environment challenges.

Several private sector companies too are doing research and development for the Exo-suit design for the conditions specific to Indian soldier.

Artificial Intelligence and C4I expert Milind Kulshreshtha states that each of the soldier's muscle micro-motion is measured for its correlated moment on the joints, so that a similar smooth response from the Exo-suit can be obtained.

For Military applications, an Exo-suit rigged up on a soldier is expected to enhance the soldier's additional load carrying capacity by 100 kg for a minimum of 8 hours of operational time and 3-5 hours of battery backup, he was quoted as saying by *Financial Express*.

Exo-suits can also help soldiers who have been disabled in the combat to live a close to normal life.

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