

TOI exclusive: India working on robots that may patrol borders

BEL designing AI-enabled robots for border patrol

B'luru Lab May Facilitate User Trials By Feb '20

Chethan.Kumar
@timesgroup.com

Bengaluru: As part of enhancing India's defence capabilities, scientists have been working on an all-terrain artificial intelligence-enabled robot that may eventually patrol our borders. Scientists of the Central Research Laboratory (CRL) at defence PSU Bharat Electronics Limited (BEL) in Bengaluru, who began work on this robot in December 2018, hope to have the first prototype by December 2019.

BEL CMD **Gowthama MV** told TOI: "AI will change some critical operations of the armed forces, and our robot will be able to patrol the borders." Although Ajay Ku-



Scientists of the Central Research Laboratory at BEL in Bengaluru hope to have the first prototype by December and user trials in February 2020

mar, secretary (defence production), said the prototype will be ready this year, there has been no specific requirement from the armed forces. "As a company committed to R&D, we want to show capabilities which can become useful for armed forces and this is one such project," Gowthama said.

Companies like Irobot Corporation, Northrop Grumman Corporation, Mit-

subishi, Thales Group, BAE Systems and General Dynamics Corporation have been designing first responder border patrol robots. Experts said India may take at least a decade to have an operational robot for this task.

Unconventional wars

"Future wars will not be fought on conventional basis... AI-enabled products will aid decision-making. Robots can

save lives of soldiers deployed for border surveillance," Gowthama said. While a rudimentary robot is in the making, next generation AI will involve much design complexities. There are many challenges, including collection of raw data.

Gowthama said the biggest challenge will be to design a self-learning machine. "Raw data needed for such products is massive and we have to figure out ways to gather it. Then, we can customise algorithms for the robot to perform specific tasks," he said.

User-trials By Feb 2020?

BEL is looking at December first week for internal review of the first prototype and February 2020 for user trials. The BEL robot will be programmed to communicate with a control centre and work in post-disaster situations while also conducting surveillance. The estimated cost of each robot is Rs 70 lakh-Rs 80 lakh per for small orders.