

Here is how MoD can assist existing India's defense projects

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By Debjit Sarkar

Based on several reports released by governments in North America and Europe, it is now quite clear that Chinese firms owned by the state and communist party leaders have become significant investors in European and American start-ups that are working on leading-edge technologies with prospective military uses. The start-ups include companies that build rocket engines for spacecraft, sensors for unmanned underwater vessels, and 3D printers that make flexible screens that could be used in cockpits of aircraft. The major reason why Chinese firms are making billions of dollars of investments in such technologies is because the most important objective of all military technology programs is to provide a technological advantage to the warfighter. In many cases, the evolution of technology from a research and development (R & D) program to the battlefield involves additional development and investment at the end of a program. In India, the Defence Research & Development Organization (DRDO) is working on several such R & D projects. In some cases, the primary market is the defense sector, while in others the most practical path to providing technology to the Ministry of Defence (MoD) requires a parallel commercial market.

Ergo, it makes perfect sense if the Indian MoD, aids existing DRDO projects as well as defense related projects in the Indian private sector, by attempting to create commercial markets for transition if a defense market does not exist, and connect start-ups with investment. The MoD can achieve this by partnering with successful commercial accelerators based in India and elsewhere. This then gets rid of the conundrum that futuristic DRDO technologies face: not having profitable, business -related opportunities and consequently being brushed aside after central government monetary backing ends. Such a program will help both the DRDO & the Indian MoD forge enduring relationships with the most innovative companies across India. This program should present applicants the prospect for extra funding, partaking in a contingent of entrepreneurial scientists, the facility to bring an entrepreneur-in-residence on their side and access to business and investor mentors.

For instance, the next big emerging technology for Precision Guided Munitions (PGM) is a technology called Automatic Target Recognition (ATR). For quite some time there have been video processing systems that can analyze video footage and detect moving things and put a box around them, showing the view from a thermal imager that automatically puts target boxes around objects moving, like a night view from a police helicopter that sees a man running in the dark. The man glows because of his body heat and as he moves a box appears around him and follows his movements. ATR achieves this entire operation without any human intervention. The 3D video models and face, object recognition technology being designed for ATR can very easily find commercial application. Joining forces with commercial accelerators will give the Ministry of Defence access to up-and-coming technologies and ideas, both early enough in their development cycle and at an affordable entry point. Several organizations involved in defense manufacturing spends a lot on related R & D. What they should also do is explore the civilian market for gaps, where they can use already developed technology that might only need a small modification to fill those gaps very well and perhaps even make further changes to make them popular. These organizations need a component or department that looks into civilian potential uses.

It is in the greater interests of all defense manufacturers to have as extensive a range of products in as many different markets as possible because markets change and you have to change with them, but having an income stream or two that you can rely on will make things much less stressful.

(The author is an expert in Unmanned Vehicle Systems and Smart Weapons. Views expressed are personal.)

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