

## **India Successfully Tests Laser Weaponry System to Thwart Enemies: Report**

India has successfully tested a 1KW laser weaponry system, according to a report published in the *Economic Times*. The test was carried out by India's Defense Research and Development Organization (DRDO) in August this year at Chitradurga in Karnataka state.

An official told the *Economic Times* that the 1KW laser system was installed on a truck, and the beam produced by the weapon system precisely hit a metal sheet located 250 meters away from it. The beam created a hole in the sheet and took just 36 seconds to accomplish this task. Indian defense minister Arun Jaitley was also present at the site, where these tests were conducted.

DRDO is India's main defense research agency responsible for developing advanced weaponry systems for the country and making India self-reliant in terms of defense systems. The agency was created in 1958. It is headquartered in New Delhi, India, and is currently working in a variety of areas of military technology, including missiles, combat vehicles, aeronautics, instrumentation, armaments, electronics, naval systems, etc., to develop advanced, powerful weapons for the country.

For the past many years, DRDO has been trying to produce directed energy weapons (DEWs), although not much was revealed by the agency about this program. The *Economic Times* report reveals that DRDO's two laboratories LASTEC and CHESS have been given the responsibility to develop the "heart of the system"—the laser beam source—which is currently purchased from Germany. Some private players, including Kalyani Group, are also trying to develop DEWs in India.

DEWs are based on high-powered lasers. They produce a powerful beam of electromagnetic energy, which can destroy aircraft, ships, missiles, unmanned aerial vehicles, and different types of weapons in the battlefield within seconds. At the time of a war, DEWs can be used to kill enemy soldiers by burning specific areas of their bodies or by making them blind.

According to defense experts, researchers are currently working on two types of DEWs: microwaves and high-powered lasers. While it is not clear whether DRDO has any plan to develop microwave weapons, the agency is definitely planning to develop more powerful laser systems able to hit targets from longer distances.

The *Economic Times* report also reveals that DRDO will now test a 2KW laser system against a target located 1 km away from the test weapon.

**Business Standard**

## **President of India visits Andhra University and opens Centre for Defence Studies**

The President of India, Shri Ram Nath Kovind, visited the Andhra University, Visakhapatnam today (December 7, 2017) and opened the Centre for Defence Studies. He also laid the foundation stone for the E-Classroom Complex and Incubation Centre.

Speaking on the occasion, the President said that it is extremely satisfying that the Andhra University, in particular its College of Engineering, is engaged in R&D projects with defence institutions. He noted that the Centre for Defence Studies will focus on cybersecurity, nanotechnology, radar and communications, corrosion technology, and other technologies that have strategic dimensions.

The President noted that professors and researchers from the Andhra University are collaborating on specific projects with DRDO as well as with the Naval Research Board and other institutions. Professors from Andhra University have been used as R&D consultants for missile projects, including in the development of the Brahmos missile. Additionally, expertise from this University has been sought by the Eastern Naval Command, headquartered in Vishakhapatnam, for civil engineering structural applications and corrosion related issues.

Research related to defence and military applications and technologies will have multiple benefits for our country. It will provide a tonic to the effort to Make in India. And as experience in other countries has shown, research in defence technologies can also lead to innovations that have diverse civilian applications.

The President said that the overall gender imbalance in our scientific and technological institutions continues to be a concern. He was happy to note that 40 per cent of the students at the Andhra University are girls. He expressed optimism that the inauguration of the Classroom and Laboratory Complex at the Andhra University College of Engineering for Women will enhance our countrys capacities to produce high-quality women engineers and technologists.

The President said that a true test of Indias progress is in the access and opportunity we provide our daughters when it comes to education. He pointed out that some of our leading defence and space scientists - who have powered our missile programmes and our rocket launches - are women. He said that he had the privilege to felicitate the senior DRDO scientist Dr Tessy Thomas, known as the "Missile Woman of India", earlier this week in Agra. Women achievers like her are role models for our youth, particularly for our girl students.

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