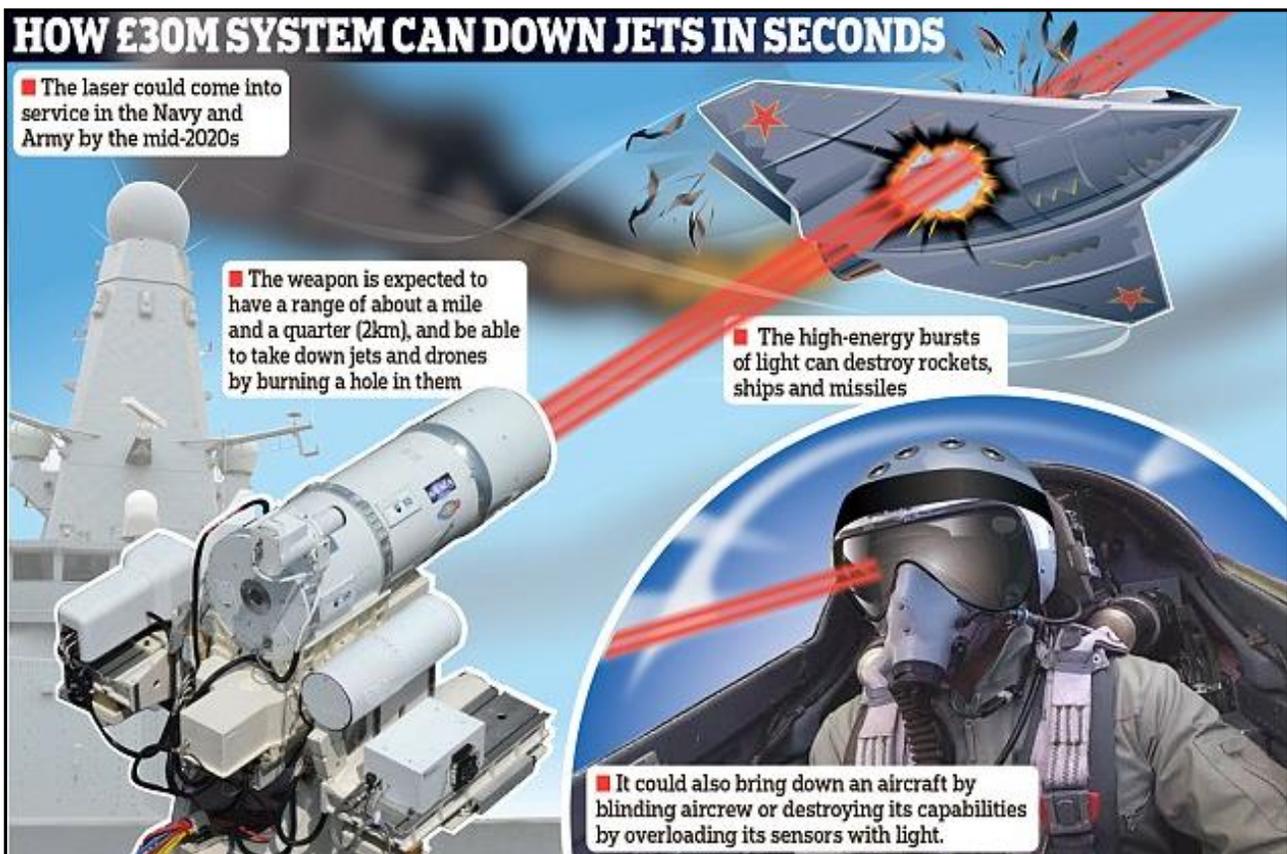


DRDO building 'Directed Energy Weapons' which can dismantle Ariel Targets without a shot being fired

The Defence Research and Development Organisation (DRDO) is working on Directed energy weapons or DEWs as part of ongoing efforts to modernize defence technology according to DRDO Chairman G. Satheesh Reddy

Laser-based or microwave-based high-power DEWs can easily incapacitate almost all ariel targets like drones, missiles and other targets without leaving any physical debris.

Dr Reddy, who is Secretary, Department of Defence R&D, said DEWs would play a major role in future warfare. "DEWs are extremely important today. The world is moving towards them. In the country too, we are doing a lot of experiments. We have been working in this area for the past three to four years to develop 10-kW and 20-kW [weapons]," he said.



Dr. Reddy said technology planning for the defence should start at least 10-20 years in advance. "If we also have to be a technology leader we need to lay our futuristic technologies roadmap clearly, put a good amount of resources into it and also work towards those technologies. Otherwise, we will remain just technology followers," he said, delivering the 12th annual Air Chief Marshal L.M. Katre memorial lecture.

A directed-energy weapon (DEW) is designed to burn its target with highly focused energy, including laser, microwaves and particle beams. Potential applications of this technology include weapons that target personnel, missiles, vehicles, and optical devices.

After decades of R&D, directed-energy weapons are still at the experimental stage and it remains to be seen if or when they will be deployed as practical, high-performance military weapons. Only the US, China, Russia, the UK and India are known to be developing directed-energy weapons. China is not only developing laser weapons but also working on countermeasures to evade them.

<https://eurasianimes.com/drdo-building-directed-energy-weapons-which-can-dismantle-ariel-targets-without-a-shot-being-fired/>



Mon, 12 Aug 2019

Laser weapons, swarm drones on DRDO menu

The DRDO's Hyderabad-based lab, Centre for High Energy Systems and Sciences (CHESS) is the node for all related activities

Bengaluru: Directed energy weapons or DEWs are among the next bunch of military technologies that the Defence Research and Development Organisation (DRDO) is working on, Organisation Chairman G. Satheesh Reddy said on Sunday.

Laser-based or microwave-based high-power DEWs can quietly disable enemy drones or missiles temporarily or permanently without leaving physical debris. In contrast, the ASAT or anti-satellite missile that the DRDO tested on March 27, killed an orbiting Indian target satellite and left hundreds of small pieces as debris for a few months.

Dr. Reddy, who is Secretary, Department of Defence R&D, said DEWs would play a major role in future warfare. “DEWs are extremely important today. The world is moving towards them. In the country too, we are doing a lot of experiments. We have been working in this area for the past three to four years to develop 10-kW and 20-kW [weapons],” he said.

Hyderabad hub

The DRDO's Hyderabad-based lab, Centre for High Energy Systems and Sciences (CHESS) is the node for all related activities.

Dr. Reddy said technology planning for the military should start at least 10-20 years in advance. “If we also have to be a technology leader we need to lay our futuristic technologies roadmap clearly, put a good amount of resources into it and also work towards those technologies. Otherwise we will remain just technology followers,” he said, delivering the 12th annual Air Chief Marshal L.M. Katre memorial lecture.

The talk was organised by the Air Force Association Karnataka in honour of the former air chief who also was the chairman of Hindustan Aeronautics Ltd (HAL).

Apart from its current fighter plane projects — the LCA and advanced medium combat aircraft or AMCA — India would look at pilotless hardware such combat drones or UCAVs (unmanned combat air vehicles), as well as swarm drones that fly in tandem for surveillance, attack or intelligence gathering. Any UCAV programme could also use the Kaveri as its engine.

<https://www.thehindu.com/sci-tech/science/drdo-focus-on-stealth-weapons-drones/article28988571.ece>

‘Image-data knowledge needed for defence and to improve security’, DRDO Scientist noted in his research paper

The biggest threat to image data in defence applications is that of artificial technologies.

The tampering can often lead to the creation of an entirely different picture

Hyderabad: There is an urgent need to understand image data for finding long-term solutions to security problems in critical defence applications, S Srinivasachary, a Defence Research and Development Organisation (DRDO) scientist, noted in his paper on ‘Relevance of Image Processing and Security in Defence Applications’, presented at the Institution of Engineers. Srinivasachary is a scientist with the Advanced Numerical Research and Analysis Group (ANURAG) of the DRDO.

“In defence installations, most of the generated data is in the form of images and videos. They are large in size, bringing additional problems including that related to the computational storage capacity,” Srinivasachary said.

While any data, in general, has the potential for leakage of sensitive information if fallen into hands of enemies, images are a particularly rich source of information, he added. However, what is possible threats that might pose defence installation if image data is compromised? “If an adversary can tamper and modify images, it has potential to generate a false scenario and mislead operations,” he said. The biggest threat to image data in defence applications is that of artificial technologies. The tampering can often lead to the creation of an entirely different picture.

<http://www.newindianexpress.com/states/telangana/2019/aug/12/image-data-knowledge-needed-for-defence-and-to-improve-security-drdo-scientist-noted-in-his-research-paper-2017611.html>

THE TIMES OF INDIA

Gullalamoda missile testing facility to boost infra devpt

Vijayawada: After five years of dithering, the Union ministry of environment, forests and climate change has approved setting up a missile testing range in the Diviseema area of Krishna district.

The area was set to undergo a facelift after it was announced that a missile testing facility would be set up at Gullalamoda near Nagayalanka. Although the area was considered conducive for testing missiles, the project could not progress owing to delay in environmental clearances.

Now, with the green nod, the Defence Research and Development Organisation (DRDO) can establish the missile testing facility. According to Arja Srikanth, an IRS officer from Nagayalanka who has been pursuing the matter with the Centre, the project will bring about Rs 1,000 crore worth of investment.

The facility could lead to large-scale infrastructural development in the area. Ancillary and manufacturing units will also probably be set up. The 22-km long Karakatta road from Nagayalanka to Koduru along the coast has already been identified as alternate route by the DRDO. Srikanth said this will strengthen the area’s potential to become a major tourist attraction.

DRDO had identified Nagayalanka and Kalpakkam in Tamil Nadu as best suited locations for establishing missile testing facilities. As Kalpakkam already has an atomic power plant, the DRDO had finalised Nagayalanka for the missile test facility.

Nagayalanka will become the second missile testing facility in India after Balasore in Odisha. Sources said that long-range missiles can be test-fired from Nagayalanka. Missiles with more than 5,000-km-range can also be test-fired from here. Diviseema, located on the shore of the Bay of Bengal, is, identified as an ecologically sensitive area. The land where the missile testing facility is to be established falls in the notified forest area. The state government had sent the proposal to environment and forest ministry for approval in September 2014.

The ministry had given its in-principle approval in 2017 and it took two more years to give stage-II and final nod. G Satish Reddy, chairman of DRDO, cleared all issues raised by the ministry to ensure environmental and wildlife protection. The environmental ministry has set 20 conditions to be fulfilled to establish the facility. The conditions, include compensatory reforestation measures and precautionary measures to protect wildlife.

<https://timesofindia.indiatimes.com/city/vijayawada/gullalamoda-missile-testing-facility-to-boost-infra-devpt/articleshow/70623757.cms>