

# CENTRE FOR JOINT WARFARE STUDIES



## CENJOWS

### AFRL Holds Directed Energy and Kinetic Energy Wargaming Experiment

1. The U.S. Air Force Research Laboratory's Directed Energy Directorate hosted a collaborative wargame with its sister AFRL unit, the Munitions Directorate in January 22. The Directed Energy and Kinetic Energy Directed Energy Utility Concept Experiment, or DEKE DEUCE, explored synergies between directed energy and kinetic concepts in the future battlespace. DEKE DEUCE placed pilots, weapon systems officers and air battle managers in a series of virtual vignettes exploring mission sets that relate to the combined use of DE and KE systems, tying together previous studies and analysis focused on an airborne high energy laser pod and two future kinetic concepts. Dr. Darl Lewis, the DEUCE lead and wargaming principal investigator said, "An urgent need exists to rapidly field and integrate viable next-generation weapons, both DE and KE, in response to increasing capabilities and aggressive intentions from our adversaries," "This DEUCE focused on identifying capability and joint integration gaps that can be addressed by systems under consideration, as well as potential future tactics and procedures."

<https://www.af.mil/News/Article-Display/Article/2932774/afri-holds-directed-kinetic-energy-wargaming-experiment/>

2. **Comments.** As threats become faster, more agile, and more varied in number and capability, laser-based interception is providing a viable option for defence. Directed

Energy Weapon Systems are being pursued by various countries and some are very close to field trials and subsequent operational deployments. The capabilities range from non-lethal measures, such as optical "dazzling" and disabling of sensors, to destruction of a target and would require lasers of varying intensity to address multiple threats using a range of escalating options. Laser Weapons provide a number of advantages over conventional weapons. They are precise and more responsive and reduce the logistical and safety issues related of traditional propellants or gunpowder-based ordnance. With continued electrical power being the only requirement, it provides a resilient, low cost option against a variety of targets. However, their performance deteriorates during bad weather conditions. Laser systems would thus not replace but supplement and complement existing kinetic weapon systems. Wargames like DEKE DEUCE demonstrate the synergising of next-gen technologies and devising the tactics and procedures, by involving all stakeholders in a virtual environment.