



Disruptive weapon effects

Delivering game-changing innovations in weapon technologies to disrupt multi-domain combat and change the way we shape, deter, deny, contest and fight.

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CONTEXT

The emergence of advanced and unconventional weapons has transformed the battlefield. Modern weapons are smaller, faster and smarter. They have greater range and are more agile, precise, lethal and resilient to countermeasures. Furthermore, the introduction of novel approaches to applying lethal and non-lethal effects, such as through directed energy or swarm technologies, is disrupting the way we fight.

In this new environment, Defence needs new weapons and counter-capabilities to ensure the ADF can shape and compete in multi-domain combat. This includes the ability to operate in an urban environment while protecting civilians; project force deep into hostile regions and deliver coordinated effects; survive a prolonged high-intensity battle; and apply strategic effects through deterrence and denial.

Achieving operational outcomes depends on providing the future force with the weapons it needs to control the battlespace, enable freedom of manoeuvre, ensure survivability and prevail in highly contested environments.

OPPORTUNITIES

- Directed energy and other novel technologies.
- Small, smart, networked and low-cost guided missiles.
- Intelligent teaming, swarming and collaborative weapons.
- Coordinated delivery of effects for enhanced lethality with minimal collateral damage.
- Thrust-on-demand propulsion and highly agile systems.
- Advanced reconfigurable warheads.
- Moral and ethical weapons.

'Emerging and disruptive technologies will be rapidly translated into weapon systems – such as sophisticated sensors, autonomous systems and long-range and high-speed weapons – reducing decision times and improving weapon precision and lethality.'

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