Australian Government

Department of Defence
Science and Technology

Weapon systems technologies

DST applies the science and technology of sensors, intelligent processing and electromagnetic interactions to weapons and tactical systems to deliver a warfighting capability edge.

DST researchers develop technologies across three time horizons to enhance (1 to 5 years), shape (5 to 15 years) and transform (+15 years) ADF warfighting capability.

Significant programs

- Collaborative and cognitive weapons
- High speed weapons
- Directed energy weapons
- Weapons technical intelligence
- Counter improvised threats
- Current and planned force weapons.

Partnering opportunities

- Weapon seekers and tactical sensors – multiband/multi-sensor systems, novel sensor characterisation and evaluation, quantum sensing, navigation sensors.
- Sensor processing and algorithms – radar, image and EO/IR seeker processing and algorithms, data fusion, seeker modelling, scene generation and modelling, IED detection.
- Collaborative weapons and autonomous response – weapon guidance and control, machine learning and intelligence, dynamic path planning and teaming, task and resource allocation.
- Electromagnetic effects characterisation and control – surface current detection and effector design, characteristic mode analysis research, control measures and protection against EM, high power EM.
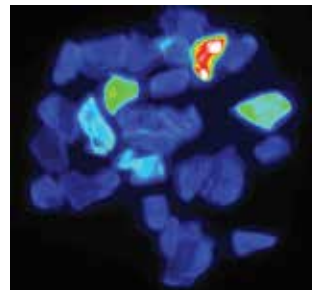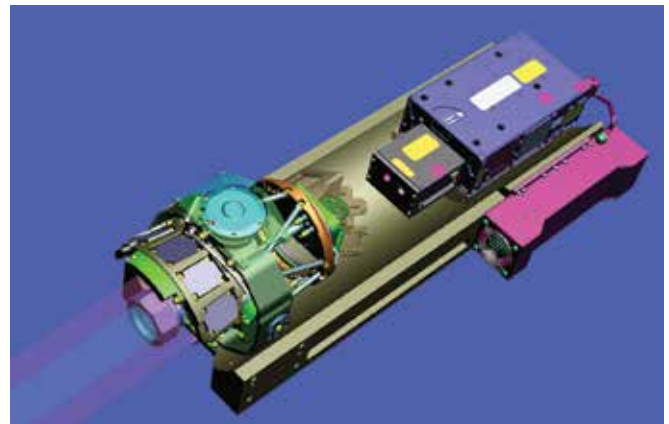
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