



Australian Government

Department of Defence

Defence Science and
Technology Organisation

DEFENCE EXPERIMENTATION



www.dsto.defence.gov.au

Joint Decision Support and Simulation Centre.

DEFENCE SCIENCE AND TECHNOLOGY ORGANISATION

DSTO

What is experimentation?

Defence experimentation can be defined as ‘the application of the experimental method to the solution of complex defence capability development problems, potentially across the full spectrum of conflict types, such as warfighting, peace-enforcement, humanitarian relief and peace-keeping.’

Experimentation is used extensively in countries such as Australia, New Zealand, Canada, Great Britain and the United States to enhance military effectiveness and to transform their Defence Forces.

This form of investigation involves the simulation of complex multi-asset environments in which strategic, operational and tactical issues are analysed.

It provides a means of applying traceable, logical and valid methodologies to produce findings that inform decision makers about Defence capabilities throughout the Capability Life Cycle of assets as well as informing the use of Defence capabilities in present operations.

Experimentation in the Australian setting

The Australian Defence Force (ADF) uses experimentation and analysis to produce results that inform capability development by:

- Gaining an improved understanding of current and future capabilities
- Identifying capability gaps
- Assessing near term capability options
- Assessing future capability requirements
- Validating concepts for future forces
- Ensuring capability definition and assessment are sound
- Providing an analytic framework to define, test and refine capability options and concepts
- Investigating the validity of concepts
- Providing guidance on strategic priorities.

The DSTO Battle Labs

In order to support ADF experimentation, DSTO has developed a number of next-generation Battle Labs in which warfighting concepts and technologies can be fully explored.

Each Battle Lab supports decision-makers with concept development, systems integration, and training and exercise functions. This support is provided through the use of state-of-the art visualisation, analysis and verification capabilities.

The Battle Labs are linked by a common network that allows several facilities to be used for a given exercise.



Maritime Experimentation Lab.

DSTO: Science and Technology for a Secure World

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Land Battle Lab.



Mission Systems Research Centre.

DSTO's Battle Lab facilities include:

- Maritime Experimentation Lab
- Survivability Integration Lab
- Aerospace Battle Lab
- Land Battle Lab
- Weapon Systems Battle Lab
- Concept Exploration Analysis Laboratory
- Joint Decision Support and Simulation Centre.

ADF's newly established experimentation hub

The Joint Decision Support and Simulation Centre (JDSSC), the latest inclusion in Defence's array of Battle Labs, is a joint initiative sponsored by DSTO and the Defence Capability Development Executive.

The JDSSC is an experimentation hub that provides a link for ADF decision-makers in Canberra with other DSTO Battle Labs, other Defence Battle Labs, Industry Battle Labs, overseas Battle Labs, RPDE, academia, non-Defence Government Agencies and the Joint Combined Training Centre.

Defence experimentation has been successfully used by DSTO to 'operationalise' the concept of NCW, explore requirements for Australia's future amphibious capability and future air combat, reduce the risk posed by improvised explosive devices, and explore the complexities of whole of government approaches to war fighting.

DSTO contacts and information

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