



Australian Government
Department of Defence
 Science and Technology

Aerospace capability analysis

To assist the ADF shape its future aerospace capability, the Defence Science and Technology (DST) Group has, and continues to develop, a range of analysis capabilities, including simulation, that can model aircraft performance across different platform types and operations.

DST Group use modelling and simulation during the acquisition process to explore human factors issues, measure effectiveness, and develop maritime operations tactics for aerospace platforms such as the P-8A Poseidon, MQ-4C Triton, EA-18G Growler, F-35A JSF and the MH-60.

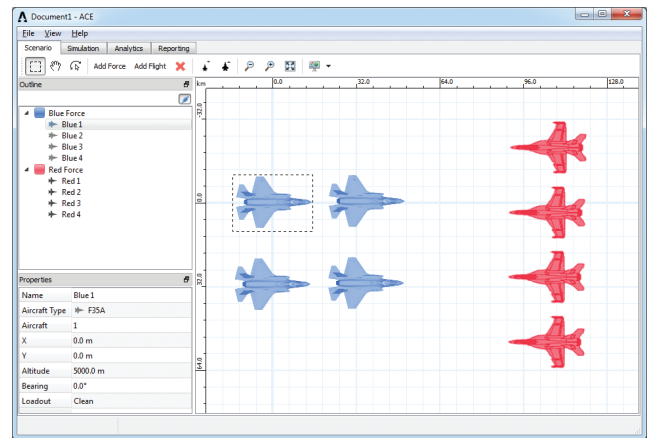
Experimentation in controlled simulation environments is used to provide advice to the ADF on capability acquisition, tactics development, operational support and training.





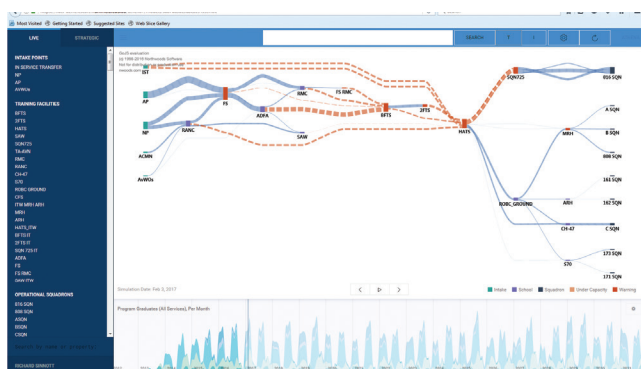
CHOPPA: a constructive simulation that allows the user to quickly examine the effectiveness of helicopter, unmanned aircraft, and fixed-wing platforms in a range of ADF operations. CHOPPA simulates scenarios thousands of times faster than real time, allowing analysts to investigate representative operations and rapidly generate advice for the ADF. CHOPPA is currently being used to develop tactics for ADF helicopters.

ACE: a beyond visual range air-to-air combat constructive simulation being developed to allow analysis of current and future air combat capability. The primary purpose of ACE will be to support Australia's air combat acquisitions, the current fighter force, system upgrades and evaluation of tactics. ACE is driven by more than 20 years of world leading research in cognitive modelling and multi-agent systems for representing team situational awareness.



ATHENA: A decision support tool used by the ALGORA Systems team that provides Defence stakeholders with evaluation and strategic analysis capabilities specifically for the Navy and Army aircrew training continuum.

The core of this tool is the hybrid agent-based and discrete event model of the aircrew training pipelines. The tool incorporates optimisation and predictive capabilities to produce optimal solutions to assist with strategic policy testing and implementation.



For further information:
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