



Canadian Air Range Modernization Case study

Summary

QinetiQ has delivered the Range Modernization Study for the modernization of the Department of National Defence (DND) Air Weapons Ranges under its contract with the Royal Canadian Air Force's (RCAF) Air Warfare Centre (AWC). Working collaboratively with the AWC and other RCAF stakeholders, the QinetiQ report provides recommendations for suitable Operational Training Infrastructure (OTI) to facilitate Force Development and Force Generation activities. This is part of the RCAF's mandate to deliver relevant advanced combat capabilities for training 4+/5th generation Air Forces for the North American Aerospace Defense Command (NORAD) mission, and in contested joint operations abroad.

The brief

QinetiQ's brief was to deliver a report that provided a structured milestone-based series of priorities for rejuvenation of the Air Ranges. The recommendations aimed at delivering a world-class Air Range Training, Test and Evaluation (TT&E) Enterprise centred on the Cold Lake Air Weapons Range (CLAWR) on the Alberta / Saskatchewan border, that would attract allies to Canada to resume multi-national Large Force Exercises such as MAPLE FLAG. The recommendations were underpinned by comprehensive benchmarking against similar global ranges in the US, UK and Australia, as well as by QinetiQ's own expertise in the provision of OTI and range services to allied 5th generation fighter capabilities.

Our solution

QinetiQ undertook an initial scoping phase, working with RCAF stakeholders, from tactical-level operators to senior leadership. This resulted in stakeholder needs, current capability levels and modernization priorities being combined into a comprehensive requirements set which was traceable to sources. In turn, the requirements were used to inform a Live Virtual Constructive (LVC)

Enterprise Design, providing a high-level design for the modernized range. The LVC Enterprise Design fed the findings in an Enterprise Lifecycle Report. This report presented an initial roadmap of investment that DND/RCAF could embrace to meet its requirements and strategic intent, together with an outline capability operation and sustainment plan for the future enterprise. The last activity provided an enterprise-level range modernization implementation, encompassing detailed suggestions for the evolution of RCAF's Live Synthetic Blend (LSB) capabilities, a practical set of recommendations regarding OTI security, a developed version of the overall modernization timeline, and refined lifecycle plans. At each step, the RCAF team and QinetiQ jointly reviewed the information provided and agreed direction for the next activity.

Outcome and benefits

The work conducted by QinetiQ provided a series of reports and ultimately two sets of recommendations. The first set provided recommendations for LSB capability evolution, and the second set provided recommendations for OTI modernization. These recommendations lead into and support the future Options Analysis phase of the RCAF's plan to modernize the Air Weapons ranges, provide information for a business case and ultimately support the implementation with a set of traceable user requirements. The QinetiQ team included experts from the UK and Canada and the outcome benefited immensely from the close RCAF-QinetiQ collaboration, enabling a highly informed and widely influenced solution.