

DATA SCIENCES BRANCH (DSB)

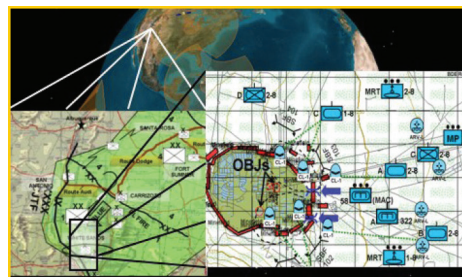


Design and execute operational and cost benefit analyses that enable experimentation, exercises, tabletop wargames, and studies required to support major decisions concerning acquisition

The Data Sciences Branch is part of the U.S. Army Space and Missile Defense Command's Space and Missile Defense Center of Excellence War Fighter Solutions Division. DSB focuses on determining the military utility of space, missile defense and high altitude, as well as the associated concepts of operation for the current and future ground warfighter.

DSB evaluates systems and operations through tabletop wargames and experiments; analysis of alternatives in support of materiel development activities and capabilities requirements determination; assessments of advanced concepts; and analyses that define space, missile defense, high altitude and cyberspace operations for the ground warfighter.

DSB conducts major studies that support decisions made at the Army and Department of War (DoW) – both in determining the best way ahead in support of the Army Joint Capabilities Integration and Development System process and in influencing joint development efforts of the other services and homeland defense that impact the current and future ground warfighter.



- Technical personnel with operational knowledge
- Analysis experience with constructive force-on-force simulations
- Proficiency in experimental and analytic design
- In-depth statistical data analysis skills
- Proficiency in executing cost-benefit analysis
- Expertise in operations research systems analysis techniques

DATA SCIENCES BRANCH

Warfighter Solutions Division's Data Sciences Branch develops and sustains the core competencies required to execute these functions: operational experience, force-on-force simulation expertise, statistical analysis skills, cost-benefit analysis proficiency and design of experiments expertise. These competencies, combined with an extensive in-house suite of models and simulations, enable DSB to conduct studies and analyses that impact major decisions made at the U.S. Army Space and Missile Defense Command, Department of the Army, Department of the Air Force, Joint Staff, U.S. Strategic Command, and Office of the Secretary of War levels.

Operational Analysis – DSB analytically enables USASMDC, the Army and the Department of War in all operational aspects of space, missile defense and high altitude support to the ground warfighter. DSB conducts analyses for the full warfighting spectrum utilizing a staff of professional operations research analysts who have extensive experience in the areas of space, missile defense, high altitude, high energy laser, cyber and military combat operations. DSB modifies and creates scenarios, develops measures of performance and effectiveness, and other critical metrics. DSB also collaborates with the U.S. Army Futures Command and the Cross Functional Teams to collaborate and develop scenarios and maintain force-on-force simulations.

Experimental and Analytic Design – DSB designs experiments and analyses from planning and execution to synthesis and reporting. DSB has broad experience in the design of experiments to ensure that the collection of data supports all essential elements of analysis. DSB has developed the methodology for experiments and analyses for numerous efforts and has assisted other DoW organizations in designing their experiments and analyses.

Statistical Data Analysis – DSB has the internal capability to perform a complete range of statistical data analyses. DSB consists of analysts who have an extensive background in mathematical and simulation modeling – both operational and cost based – and utilize the latest methodologies and tools.

Force-on-Force Simulation – DSB maintains an in-house suite of force-on-force simulations

that include engineering, tactical, theater and operational simulations. DSB maintains a staff dedicated to maintenance, sustainment and operation of these tools, which enables the execution of quick turnaround analyses as well as long-term studies.

Cost-Benefit Analysis – DSB conducts cost-benefit analyses to identify solutions that address Army and organizational objectives by quantifying potential financial impacts and performance improvements. DSB consists of analysts with experience and training in the execution of cost-benefit analyses and related assessments.

PAST AND ONGOING STUDIES

- National Capital Region – Integrated Air Defense System Analysis Support
- Homeland Defense for Integrated Air and Missile Defense
- Effects High Energy Laser Study
- Multi-domain Operations for Integrated Air and Missile Defense
- Missile Defense Planning Analysis Support to EUCOM
- Joint Missile Defeat Effects on Army Air and Missile Defense
- Theater Strike Effects Group Operational Impacts of Counter-Surveillance & Reconnaissance Company Study
- Space Demand Analysis
- Space Kill-Web Timeline Analysis Study
- Joint Space Interdiction Mix Study
- Assured Position, Navigation and Timing in a Denied Environment
- Kinetic Anti-Radiation Missile Army (KARMA) Study

IN-HOUSE SIMULATION TOOLS

- Extended Air Defense Simulation (EADSIM)
- Advanced Framework for Simulation, Integration, and Modeling (AFSIM)
- Systems Effectiveness Analysis Simulation (SEAS)
- GPS Interference and Navigation Tool (GlaNT)
- Command and Control Battle Management and Communications (C2BMC) Planner
- Improved Many on Many (IMoM) Systems Tool Kit (STK)
- Satellite Orbit Analysis Program (SOAP)
- ExtendSim



For more information, please contact: USASMDC Public Affairs Office

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