LMI

Enabling Logistics Decision Advantage with Modeling and Simulation

Modeling and Simulation Solutions

Is understanding your supply chain processes difficult? Let us help. LMI's Financial and Inventory Simulation Model (FINISIM™) enables you to understand all the important facets of your supply chain by modeling processes as well as their interactions for insights into bottlenecks, cost drivers, or mission degraders.

Does demand forecasting not work for your organization? You're not alone. LMI developed our award-winning inventory models, Peak and Next Gen (PNG™), to better support DoD's unforecastable items. These inventory models, in conjunction with FINISIM™, give you control over cost and customer service tradeoff decisions.

How much readiness are you buying? We help maximize your ROI by using advanced simulation techniques to build a digital twin of your organization's processes, resources, and business rules to uncover hidden interactions and readiness impacts of each investment opportunity.

How can you assess and enhance your capabilities for orbital warfare scenarios? The Rapid Analysis & Prototyping Toolkit for Resiliency (RAPTR™) offers advanced modeling and simulation (M&S) tools for orbital warfare strategy evaluation. Users can simulate scenarios, assess space asset performance, and develop effective protection and defense strategies.

How does fuel availability limit your operations? How long can you sustain your current or heightened levels of operations? LMI's FuelSim enables you to understand the limitations and risks of your fuel supply network and experiment with alternatives to evaluate operational implications.

How do disruptions impact your supply chain; do your mitigation strategies map to key supply chain metrics? LMI's LogSmart™ Supply evaluates the impact of supply chain disruptions and measures the time-dependent outcomes over future years of operations. LogSmart™ Supply details the performance of pre-defined or user-customized mitigations to compare supply chain risk management (SCRM) strategy options.

LogSmart™ Supply

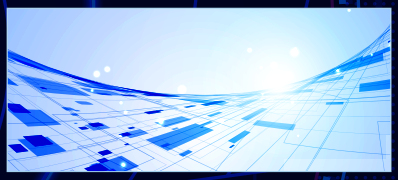
FINISIM™

RAPTR™

PNG™

Air Force

U.S. Space Command J8



Naval Research Lab

Use Cases

Defense Logistics Agency (DLA): For more than 10 years, LMI has used FINISIM™ to develop the PNG™ inventory models, a risk-balancing approach for the best customer service for a given level of inventory investment and procurement workload. FINISIM™ with PNG™ enabled DLA to increase materiel availability 5 percentage points without increasing the dollar value of inventory while saving over $400 million.

Air Force: LMI—in collaboration with the Secretary of the Air Force for Studies and Analysis—is developing an enterprise simulation model to study tradeoffs between cost and readiness. This readiness model serves as a digital twin of the Air Force enterprise, replicating the processes, policies, and business rules for everything from supply and maintenance to operations and training.

U.S. Space Command J8: LMI's flagship platform for the national security space industry, RAPTR™, is built on an adaptable, unified M&S platform for detailing complex interactions and behavioral analysis between space, air, maritime, and terrestrial based assets. Space Command uses RAPTR™ for automated and interactive data analytics, wargaming, and knowledge management. To determine the best course of action for satellites in both offensive and defensive scenarios, RAPTR™ generates in-depth satellite maneuvering solutions and optimized mission plans. The toolkit's user interface empowers users to construct prototype applications rapidly, facilitating swift analysis and informed decision-making.

Naval Research Lab (NRL): Resupplying forces to maintain an extended physical presence is a critical factor for deterrence in a protracted conflict. LMI developed FuelSim to help NRL quantify the operational impacts of alternative energy technologies it is developing. FuelSim was used to model a variety of operational scenarios and estimate the required fuel production rates required of the new technology in order to sustain prolonged operations.

Chief Digital and Artificial Intelligence Office (CDAO): LMI supports the Office of the Secretary of Defense CDAO's Supply Chain Risk Evaluation Environment by designing and implementing the Part Replacement Impact Model (PRIM) as the analysis engine to enable part-level supply chain disruption and mitigation analysis. Driven by LMI's FINISIM™, PRIM combines M&S scenario runs with machine learning–based metamodeling, optimization, and a comprehensive dataset covering weapon systems, suppliers, parts, inventory, costs, transaction history, and item attributes.

Office of the Under Secretary of Defense for Policy: DoD's Pentagon and Mark Center buildings use LMI's workforce planning tool to project future space requirements. The tool accounts for future job requirements, attrition rates, and hiring rates to evaluate workforce size and whether these buildings have adequate space.

About Us

At LMI, we're reimagining the path from insight to outcome at The New Speed of Possible™. Combining a legacy of over 60 years of federal expertise with our innovation ecosystem, we minimize time to value and accelerate mission success. We energize the brightest minds with emerging technologies to inspire creative solutioning and push the boundaries of capability. LMI advances the pace of progress, enabling our customers to thrive while adapting to evolving mission needs.

Learn more at lmi.org

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