Research Objective

• Develop geospatially based analytics for decision support and sustainment planning that reduces the planning cycle from days to minutes and provides optimized solutions.

Challenges

• Visualization of constraint impacts (i.e. mobility, threat, inventory, demand, etc.) on the supply chain in the form of actionable knowledge.
• Sparse data at sufficient fidelity for application at the tactical level (i.e. > 1 M digital elevation data, >15 M soil moisture data reading).

ARL Facilities and Capabilities Available to Support Collaborative Research

• 3-D immersive environment to evaluate data visualization methodologies and techniques.
• Expertise in visualization research.
• Expertise in logistics and sustainment.
• Collaboration partnerships with the Combined Arms Services Command (CASCOM, Petroleum and Water School, TARDEC, Product Manager for Petroleum and Ware Systems (PdM PAWS)).

Complementary Expertise / Facilities / Capabilities Sought in Collaboration

• Expertise in predictive analytics, complex constraint modeling of supply chains, mathematical modeling with sparse or low resolution data, and alternative methods of validation and verification of analytic models.
• Intelligent and autonomous agent technology to support and improve sustainment and supply chain management analytics.
• Expertise in business intelligence tools.
• Innovative or unique ways to simulate and visualize demand constraints across the supply chain to provide situational awareness on mission impact.