2009 ARMY GREATEST INVENTIONS (AGI)

Landmine Blast Field Event Reconstruction Using Computational Modeling & Simulation (M&S)

TARDEC's Concepts, Analysis, System Simulation and Integration (CASSI) Analytics team received a 2009 AGI award for its "Landmine Blast Field Event Reconstruction Using Computational M&S" work. CASSI developed a method to reconstruct an underbody blast-field event using data obtained from theater. The explicit finite element modeling technique included all key blast phenomenon elements: soil, charge, air, vehicle and occupant. This end-to-end M&S capability method enables a clear understanding of data collected and how to interpret and translate it to represent mathematical loading and boundary conditions for the computational model. The Army benefits because analysts can bridge the gap between live-fire testing and actual field events for these complex, highly transient events.