# RANGER-Created RADAR Addresses Supply Chain Issues

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**WRIGHT-PATTERSON AIR FORCE BASE, Ohio** -- Funded by the Office of the Secretary of Defense's Defense-Wide Manufacturing Science and Technology program and managed by Air Force Research Laboratory's Manufacturing Technology Division, the Risk Assessment for Next-Generation Supply Chain Readiness, or RANGER, program launched to identify and categorize elements of risk associated with the manufacturing supply chain and, in turn, enable effective management of any vulnerabilities and unforeseen challenges that may negatively impact technology development (including potential concerns with delivery, performance, and/or life-cycle evaluation).

Identifying risks related to the manufacturing supply chain is imperative, given that any break in the chain could jeopardize a technology investment. RANGER focuses on uniting military services in addressing enterprise-wide issues, assessing industry and program office risk, and developing essential and unique programs that ultimately produce tools facilitating cost-effective manufacturing processes and enterprise business practices. Further, RANGER aims to improve existing manufacturing processes, establish new processes, and exploit applications expediting the transition of emerging technologies.

Accordingly, RANGER assesses the various origins of supply chain risk across four major product life-cycle stages: premanufacturing, manufacturing, use, and postuse. Researchers from the University of Kentucky used commercial and defense-application-related manufacturing data received from industry partners General Electric and Boeing to model and conduct simulations of several risk scenarios. With various studies and supplier surveys offering development guidance, the RANGER team used real supply chain data to develop a software simulation package called Risk Assessment and Decision Analysis for Supply Chain Readiness. Demonstrations of the RADAR software at recent symposiums have generated interest from commercial software developers and vendors alike. Subsequent efforts will strive to refine the risk management framework and generate an actual use case, with future demonstrations expected to support the direction, validation, and commercialization of the RADAR tool.

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