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# Logistics Transformation through Sense-and-Respond Logistics Network

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**LOGISTICS TRANSFORMATION THROUGH SENSE-AND-RESPOND  
LOGISTICS NETWORK**

**Published: 1 May 2005**

**by**

**Dr. Jacques S. Gansler and Kenneth A. Gabriel**

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# Logistics Transformation through Sense-and-Respond Logistics Network

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**Presenter: The Honorable Jacques S. Gansler**, former Under Secretary of Defense for Acquisition, Technology, and Logistics, is the University of Maryland's Vice President for Research and the Roger C. Lipitz Chair in Public Policy and Private Enterprise. As the third-ranking civilian at the Pentagon from 1997 to 2001, Professor Gansler was responsible for all research and development, acquisition reform, logistics, advance technology, environmental security, defense industry, and numerous other security programs. Before joining the Clinton Administration, Dr. Gansler held a variety of positions in government and the private sector, including Deputy Assistant Secretary of Defense (Materiel Acquisition), assistant director of defense research and engineering (electronics), executive vice president at TASC, vice president of ITT, and engineering and management positions with Singer and Raytheon Corporations. Throughout his career, Dr. Gansler has written, published, and taught on subjects related to his work. He is a Member of the National Academy of Engineering and a Fellow of the National Academy of Public Administration. Additionally, he is the Glenn L. Martin Institute Fellow of Engineering at the A. James Clarke School of Engineering, an Affiliate Faculty member at the Robert H. Smith School of Business and a Senior Fellow at the James MacGregor Burns Academy of Leadership (all three at the University of Maryland). During 2003–2004, he served as Interim Dean of the School of Public Policy at that institution.

**Presenter: Kenneth A. Gabriel**, is Senior Research Scholar and Program Manager at the Center for Public Policy and Private Enterprise, School of Public Policy, University of Maryland, where he leads research and pilot demonstration of focused and efficient logistics. He is also Professor of Strategy and New Venture Creation at the RH Smith School of Business, University of Maryland. Prior to assuming his position at the University of Maryland, Dr. Gabriel served as Founder, President and CEO of High Performance Materials Group, Inc., Boothwyn, PA. He also founded and led InterConcepts, Inc., a consulting and business incubator firm in Alexandria, VA. Dr. Gabriel served in key technology leadership roles in the Department of Defense including serving as Director, US Army Research Office in Washington, DC and Director of Research, US Army, Pentagon, Washington, DC. Dr. Gabriel holds a PhD in Physical Chemistry and two MS degrees in Chemistry and Chemical Engineering from University of Illinois, Chicago. He also earned a MA in National Security from Georgetown University School of Foreign Service, Washington, DC.

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## Abstract

Commercial and military logistics continue to evolve from amassing supplies, through supply chain management, to (more recently) sense-and-respond networks. The realization that “demand-pull” is inherently more efficient than a “supply-push” strategy propels the migration from supply chains to demand networks. Major commercial enterprises in the United States and abroad have already transformed their supply chains to include Sense-and-Respond Logistics (SRL) elements. Likewise, military planners and leaders have recently recognized the need to adopt SRL to transform military logistics to significantly enhance military readiness while reducing costs.

Military supply-chain modernization has recently been the subject of increasing interest as a result of publicized logistics challenges in Iraq and other fronts in the global war on terror. In response to the need for highly maneuverable, flexible, decentralized logistics, planners have



sought to transform military logistics from “legacy” government-provided logistics support to Contractor Logistics Support (CLS). This, in turn, has brought about the need to retain multiple support strategies to satisfy both complex supply-chain issues and, as may be expected, the need to overcome much institutional resistance to this logistics transformation.

This paper presents the successful migration of logistics support of a modern weapon system from a traditional “legacy” approach to an efficient supply-chain management portal that begins to incorporate a SRL strategy. The demonstrated web-based portal was the first of its kind to integrate Government logistics assets with CLS assets in real time. This study will review ongoing research and demonstration pilot projects to further migrate logistics from the supply-chain portal to sense-and-respond logistics (or Demand Network Logistics) through intelligent agents, fused sense-and-respond functionalities, Automatic Identification Technology (AIT) and Radio Frequency Identification (RFID).

Obstacles to logistics transformation within and between the nodes of the supply-chain network—as well as network security and availability—will be discussed along with prescriptions to overcome these hurdles. Strategies to implement these technologies within the military services—and ultimately across coalition forces—will be presented.



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