

## SENSE & RESPOND LOGISTICS

The Marines Corps future vision of highly maneuverable, highly flexible, decentralized operations requires a similar approach to logistics. Future operations, especially STOM operations, require an adaptable, flexible, and responsive logistic system. Sense and Respond Logistics (S&RL) embodies these characteristics. The classic, “mass-based,” approach requires the establishment of “mountains” of materiel in relative proximity to the fighting forces. This approach relies heavily on a linear battlefield, secure logistic supply areas, and long build-up times. In this approach, massive amounts of inventory are a hedge against uncertainty. A more recent approach, Just-in-Time Logistics, attempts to hedge uncertainty by predicting and optimizing inventory and delivery. Unfortunately, the non-linear realm of warfare is difficult to model successfully, and when the predictive models fail, the entire system tends to fail. Both approaches provide little or no feedback on resource consumption and supply needs, resulting in misallocation and unnecessary shortages of supplies.

Decentralized forces can no longer concentrate supplies in “iron mountains,” but must get them delivered where and when they are needed. S&RL does not hedge uncertainty by mass or prediction, but instead hedges uncertainty through responsiveness, speed, and flexibility enabled by the use of robust information technology and a highly flexible transportation system. With information technology,

S&RL senses and recognizes consumption and requirement patterns and quickly responds to these patterns. S&RL leverages the capabilities of networked enabled forces to share logistic information, share a common perspective of the battle space, provide early awareness of consumption and needs, allow commitment tracking, and allow for reconfiguration of the logistic system when needed. Without large inventories, transportation will be flexible and configurable to ensure that the system can adapt to sensed patterns and needs. The best supply chain is no longer one that is highly optimized, but on that is highly adaptive and flexible.

In order to implement S&RL the Navy and Marine Corps cannot merely modify current practices, but must pursue a network enabled approach to operations that greatly improves the integration between operations and logistics. The S&RL Initiative aims to rapidly introduce a prototype, network enabled logistics system into joint experimentation and identify appropriate measures to evaluate potentially transformational logistics concepts. The Marine Corps has incorporated S&RL into the Logistics Capability Development efforts that support the Sea Viking-04 (SV04) exercise this year. The S&RL Initiative will also serve as a baseline for ongoing ForceNet efforts where intelligence, operations, fires, logistics, and other areas must function quickly within a complex Common Operating Picture (COP).