

# **Team Cognition During a Simulated Close Air Support Exercise: Results From a New Behavioral Rating Instrument**

**Jerzy Jarmasz**, Defence R&D Canada

**Richard Zobarich**, HumanSystems, Inc.

**Lora Bruyn-Martin**, HumanSystems, Inc.

**Tab Lamoureux**, HumanSystems, Inc.

The so-called low-intensity conflicts in which Coalition forces are currently engaged in Afghanistan and Iraq have forced departures in Close Air Support (CAS) practice from accepted US and NATO doctrine. That is, CAS in these environments relies much more on supporting ground troops with non-kinetic effects, and depends much more on effective combat identification (combat ID) in producing these effects as well as the kinetic effects (i.e., firepower) typically associated with CAS doctrine. As combat ID in CAS is mostly a product of team cognition processes, effective training and assessment methods are critical for ensuring effective combat ID in CAS missions. Here we discuss results of a behaviorally anchored rating scale (BARS)-based rating instrument we designed for the purpose of assessing the quality of team processes, based on behavioral markers for team cognition breakdowns (Wilson, Salas, Priest & Andrews, 2007), in distributed simulation-based CAS exercises for the Canadian Forces. The BARS instrument was applied for the first time during Exercise Northern Goshawk, a distributed Close Air Support (CAS) simulation exercise that involved participants from the United States, the United Kingdom and Canada in August 2007. Despite a number of challenges encountered in applying the instrument and analyzing its results, it captured a number of noteworthy patterns in team cognition during the exercise, including a number with implications for combat ID effectiveness. Thus, this initial application of the BARS instrument shows that it has strong potential for assessing the collective cognitive processes that underlie effective CAS performance in general, and effective combat ID in CAS in particular, during simulated CAS missions. We feel that further research could make this a valuable tool for improving CAS training in simulated environments for the Canadian Forces and the armed forces of allied nations.