

**PACERS: Platoon Aid for Collective Employment of Robotic Systems. Durlach, P.; U.S. Army Research Institute.**

In the future, Army platoons will be equipped with small aerial and ground robotic systems, according to the plans laid out for the Future Combat System. The term “small” here refers to systems where all system components (i.e. – platform or vehicle, control and communication equipment, and payload) are fully transportable by dismounted troops. Such systems have relatively low logistics requirements, which allow them to be used without an established base of operations (such as required by large fixed wing aircraft). Ideally, they provide the commander with real time information about the immediate surroundings; what’s over the next hill or on the roof of a building. It has been projected that platoon-level systems operators will be designated, not dedicated. In other words, that the platoon leader must select personnel from within his unit for systems operations, and will not have specific personnel dedicated to this as their main responsibility. A situation in which operator teams are designated provides special challenges in terms of assigning duties and responsibilities.

This talk will describe a tool, PACERS (Platoon Aid for Collective Employment of Robotic Systems), intended to help prepare and train platoons equipped with small organic unmanned systems. Current training concerning unmanned systems focuses almost entirely on individual operator training. In contrast, PACERS is intended to assist with integration of robotic system employment into platoon operations. The guidance provided by PACERS is applicable to both air and ground assets, and deliberately avoids the particulars of any specific system, because, guidance relevant to a specific system will rapidly become out dated. Moreover, leaders and training exercise Observer/Controllers will not have the opportunity to become conversant with the specifics of the myriad of systems and versions of systems they may encounter. Nevertheless, there are certain activities and goals associated with unmanned system employment as an organic asset at the platoon level, which are relevant across systems. PACERS addresses these common activities and goals, and provides a tool to help train collective employment of robotic systems, independent of specific mission. PACERS does this by suggesting appropriate observations as well as questions to facilitate coaching and after action review (AAR) discussion with respect to system employment. The observations serve to assess a unit’s strengths and weaknesses in the command and control of unmanned systems, and the AAR questions serve to guide the unit in diagnosing their problems and generating improved techniques and procedures.