

Automated Material Handling Technology

The US Army Armament Research Development and Engineering Center's (ARDEC) Armament Software Engineering Center (Armament SEC) is overseeing and assisting in the software and hardware development of the Automated Material Handling Technology (AMHT) program. This program utilizes software from the Agile Robotics program, a prototype automated forklift developed by Massachusetts Institute of Technology (MIT). The AMHT software is being managed in collaboration with Command Arms Support Command (CASCOM) Support Battle Lab, Army Research Laboratory (ARL), Director Defense Research and Engineering (DDR&E) and Armament Research Development and Engineering Center (ARDEC) and other robotics community stakeholders.

The overall goal of AMHT is to leverage and identify ways in which concepts and components of the prototype software developed by MIT, Lincoln Laboratory, Draper Laboratory and BAE Systems' efforts can be adapted and modularized to develop application kits. These kits will allow autonomous capabilities to be added to tactical forklifts in a modular fashion. The effort will address the workarounds and details of the many issues related to developing a depot and tactical robotics forklift.

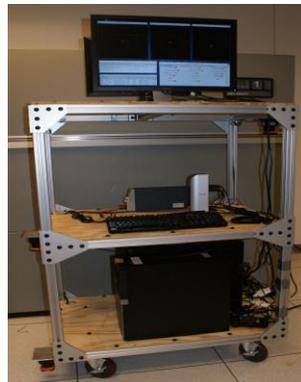
The primary objective of the proposed effort is to develop an analysis of kit-based automated applications across a broad range of rough terrain forklifts, rough terrain variable reach forklifts and a variety of depot warehouse forklifts. The goal is to ensure new technologies are developed in such a way that the architecture can be reused when developing automated appliqué kits for a tactical platform.

The Armament SEC provides the following competencies including, but not limited to:

- Capability Maturity Model Integration (CMMI) Level 5 process expertise in support of full range of DoD Research & Engineering / Science & Technology activities
- Expertise in software requirements, design, integration, testing, fielding, maintenance, as well as hardware engineering, and program acquisition support
- Cradle to grave software life cycle management
- Verify and validate contractor software deliverables through the use of a simulator and software testing tools
- Software development feedback on maintainability, supportability, architecture development



Tactical Forklift



AMHT Mockup



Hyster Forklift

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