



U.S. Army Research, Development and Engineering Command



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

Rapid Acquisition MANPRINT Challenges

Jared Sapp
September 2012



US ARMY
RDECOM

Rapid Acquisition

ARL

- Army must be responsive to current fight needs
- Acquisition streamlined to speed time to fielding
- T&E needs to be balanced with urgent needs
- Acquisition community often trying to eliminate as much testing as possible
- Effort to eliminate costs wherever possible
- Commercial Off The Shelf (COTS) systems are common practice



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

- COTS has become best practice
- Many aren't established consumer items
- Untested prototypes with limited modifications to meet military needs
- Equipment is not always matched perfectly to mission requirements





US ARMY
RDECOM

COTS Concerns



- Little documentation available for review before testing
- Manuals and training materials are often in development
- Labeling often lacking
- Important to examine unexpected unplanned usage modes
- Description of performance may not match actual performance



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



Rapid Acquisition = Rapid Action



- Communication needs to be early and often
- Funding needs to be handled early
- Request for manuals, documentation and training materials should be done early (Materials often developed to meet request)
- Direct communication with the PM/developer serves the Soldier
- Developers often welcome suggestions in lead-up to testing and afterward
- Non-critical issues can still be communicated, and may be fixed before fielding
- Although testing goal may be just to determine if safe, this is not the only goal
- PM may have plans to improve design, make later modifications
- MANPRINT Practitioners can be of great help during earliest stages



Questions often posed?



In order to streamline the acquisition process, and to save costs some questions are posed often to MANPRINT Practitioners:

- Can you just do a pen and paper analysis?
- Can somebody from (insert location) cover this instead of traveling?
- Can we get someone besides Soldiers to operate the system as test subjects?

NO.



- **Tasks must be examined from beginning to end** (For the dismounted soldier, transport of equipment is not an afterthought)
- Maintenance, Transport, Shipping, etc. are all required tasks that often have been given little consideration for Rapid Acquisition



- **Unforeseen effects** (high sunlight, hot temperatures)



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

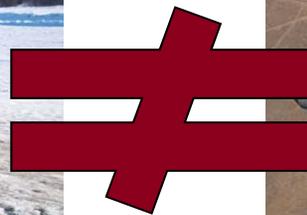


US ARMY
RDECOM

Human Factors SMEs

ARL

- Human Factors Engineering covers many specialties
- These personnel are not interchangeable especially in the short term of rapid acquisition (no time to become expert, little documentation)
- Travel is often necessary to get the most knowledgeable SME on site



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.



US ARMY
RDECOM

Non Soldier Operators

ARL

- Soldiers are best experts on how the system will be used
- Details matter, Soldiers bring their experience to the table



TECHNOLOGY DRIVEN. WARFIGHTER FOCUSED.

- System evaluation survey often difficult to develop with what little documentation may be available
- Documentation is often not up to date (changes happen daily to system)
- Surveys often need to be edited and adapted up until actual administration of survey to catch all issues and modifications
- Rapid Acquisition Test events often have very few participants
- Surveys should catch key issues, cannot rely on large number of data points or comments
- Interviews can often be key to gathering information
- “Would you use these system in theater?”



General Lessons



- Rapid Acquisition requires rapid, early action from all involved
- MANPRINT Practitioners must remain flexible
- Documentation may be sparse
- Systems can often be modified in response to MANPRINT evaluation (not necessarily before first fielding)
- Safety labels and warnings are often missing (Details are overlooked)
- Focus on the Soldier