

Early Testing Key to Significant R-TOC for DoD Weapon Systems

Army Test & Evaluation Command Highlights R-TOC Initiatives at 14th Test Technology Symposium

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Examining how test and evaluation contributes to Reduction in Total Ownership Costs (R-TOC) in program management was the theme for the 14th Test Technology Symposium. Sponsored by the Army Test and Evaluation Command (ATEC), this year's event was held May 1-2 at the Turf Valley Resort and Conference Center in Ellicott City, Md.

From a diversity of speakers and presentations, two strategies emerged as most effective in significantly reducing total ownership costs:

- Early, well-planned and well-executed testing can reduce total ownership costs for proposed weapon systems.
- By using instrumentation embedded into vehicles, aircraft, and other military equipment, today's technology permits continuous data collection. As a result, continuous performance evaluation helps predict and collect the true total ownership costs.

National-International Presence

A record 170 participants attended, including representatives from Office of the Secretary of Defense (OSD); testers and evaluators; program managers; experts in science and technology and battle labs from all Services; private industry; academia; and representatives of Canada, France, Germany, and the United Kingdom.

Swan is a public affairs specialist with the Army Test and Evaluation Command, Alexandria, Va.



Army Lt. Col. Stephen T. Tate, ATEC liaison officer to the United Kingdom, inspects the truck used by Aberdeen Test Center's VISION [Versatile Information Systems Integrated Online] system. Instruments on-board measure the effects of roadway conditions on the truck during normal city driving, which helps automobile and truck manufacturers design and produce safer vehicles. VISION is one of the many testing services Aberdeen Test Center provides to civilian industry.

Conferees listened to presentations from distinguished panelists, including Walt Hollis, Deputy Under Secretary of the Army for Operations Research; John Gehrig, Deputy Director of Resources

and Ranges, Defense Operational Test and Evaluation; Dr. Ernest Seglie, Science Advisor to the Director for Operational Test and Evaluation, OSD; and Mike Novak, Strategic and Tactical Sys-

tems, Office of the Under Secretary of Defense (Acquisition, Technology and Logistics).

Variety of Perspectives

The presentations and panel discussions considered R-TOC from a variety of perspectives. Setting the stage in his May 1 keynote address, Gehrig posed the question, "How can you manage something if you don't know what it costs?"

Gehrig stated that effective test and evaluation actually drives down total ownership costs when it detects problems early, thereby providing early corrections to flaws. Besides early testing and continuous performance evaluation, he spoke of two additional means to reduce total ownership costs:

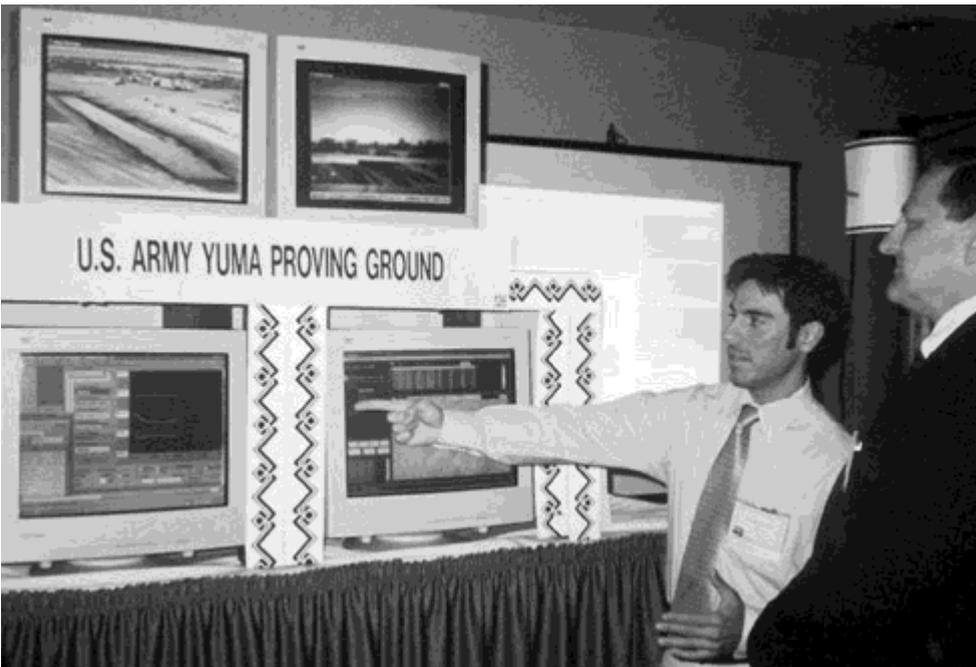
- Combining developmental testing with operational testing and operational testing with training, where appropriate.
- Supplementing test and evaluation with modeling and simulation.

Hollis described the dilemma program managers face in scheduling tests even as they strive to reduce costs. If tests are successful, program managers may feel they have wasted limited dollars to prove something they already knew was right. And if tests fail, he countered, they now have a problem they must fix that may throw them off schedule.

Adding his support to the idea that test and evaluation can contribute significantly to R-TOC, Hollis said that there will be considerable focus on R-TOC to help finance the Objective Force. He also called attention to Reliability, Availability, and Maintainability testing as an area for concentration and opportunity for payoff.

Hollis stressed the need for a decent data collection system for components to achieve specific R-TOC, along with computer programs to sort the data. PMs, he said, should "drive systems to the red line" with early testing. Last, he noted that systems would benefit from the involvement of more warrant officers and

Gregory M. Vickers, Systems Test and Assessment Deputy Director at White Sands Missile Range, N.M., explains the successful testing of PAC-3 missiles fired to intercept multiple incoming dummy warheads launched from separate points around New Mexico.



Joseph J. Tardiolo, a test engineer with Yuma Proving Ground's Materiel Test Center, explains live video of anti-lock break skid tests at Yuma to Darrell E. Bench, a computer scientist from the Technology Management Division of Army Developmental Test Command.

noncommissioned officers in maintenance of systems before field testing

While supportive of R-TOC efforts, Seglie said they may prove ineffective without regulatory "teeth" that help force/support the program. Citing three testing criteria, he said systems should be tested until failure, designed for growth, and be subject to durability testing throughout.

In panel discussions, Seglie reminded his colleagues that increased developmental testing will reduce total ownership costs if the program manager is given incentives. He also advocated simulations, stating that they not only ensure that a system is ready for a test but also contribute to the overall success of testing.

Novak discussed how R-TOC is adversely impacted by budgeting and operational trends on force structure and readiness. The failure of DoD to keep pace with private sector improvements in logistics and the supply chain, he said,

also contributes to problems in achieving R-TOC. Novak outlined a pilot program to maintain and improve readiness by reducing total ownership costs 20 percent by fiscal 2005. Calling for increased sharing of R-TOC among complementary DoD programs, he concluded that overall, a small amount of seed money will reap large benefits in R-TOC.

Symposium Chair Dr. C. David Brown, Director for Test and Technology, U.S. Army Developmental Test Command gave voice to the OSD perspective on R-TOC. It has OSD's attention, he stated, and the Department believes that test and evaluation, particularly early direct testing, can contribute significantly to R-TOC.

Modeling and Simulation in R-TOC

Through various presentations, other program managers at the symposium explained that total ownership cost is a focus area, and they depend highly on test and evaluation to yield the essential

information necessary to predict and quantify total ownership costs. Modeling and simulation, they agreed, plays a significant role: first as a tool to improve testing, enabling more thorough planning and focusing testing on predicted failure or high-stress areas; and second, as an excellent design tool to assure that systems are designed with an eye to reliability and maintainability.

In addition to the many technical presentations, conferees viewed educational displays and demonstrations from representatives of White Sands Missile Range, N.M.; Electronic Proving Ground, Fort Huachuca, Ariz.; Aberdeen Test Center, Aberdeen Proving Ground, Md.; Yuma Proving Ground, Ariz.; Redstone Technical Test Center, Huntsville, Ala.; and Real Networks, Inc.

Editor's Note: The author welcomes questions or comments on this article. Contact him at swanpatrick@atec.army.mil. For more information on R-TOC, visit the Air Force R-TOC Web site at <http://www.safaqxt.rtoc.hq.af.mil/links.cfm>

From the White House Office of the Press Secretary

President George W. Bush today [May 15, 2001] announced his intention to nominate Marvin R. Sambur to be Assistant Secretary of the Air Force for Acquisition, Research, and Development. He is currently a consultant with ITT Industries where he has served for over 25 years. He has served in several capacities, including President and CEO of ITT from 1998 to 2001, President and General Manager of the ITT Aerospace and Communications Division from 1991 to 1998, and President and General Manager of ITT's Electronics Technology Division from 1988 to 1991. A resident of Fort Wayne, Ind., he received his bachelor's degree from City College of New York, and a master's degree and Ph.D. from Massachusetts Institute of Technology.

Editor's Note: This information is in the public domain at <http://www.whitehouse.gov/news>.

Statement of Deidre Lee Director of Defense Procurement

On the Redesigned Defense Procurement Web Site

I am delighted to announce the redesigned Defense Procurement Web site. Our goal is to meet the needs of the Defense procurement community by providing timely information in a user-friendly way. This means a Web site that is logically laid out, easy to use and navigate, and compliant with Section 508 requirements regarding accessibility by persons with disabilities. We are also providing expanded descriptions of how changes or new policies impact the way field contracting professionals do their jobs. This is just a first step—we plan on expanding and further refining our site to better serve our primary customer—the contracting professionals who buy the services, supplies, and systems the Defense Department needs to defend our country.

Access the Web site at <http://www.acq.osd.mil/dp/>. Questions or comments regarding the redesigned site should be directed to Robert Bembien of our Electronic Business Initiatives Office at (703) 695-1098. Direct email comments to DoDProcurement@osd.mil.