

## H. COMMERCIAL OPERATIONS AND SUPPORT SAVINGS INITIATIVE (COSSI)



The purpose of the COSSI program is to reduce Department of Defense (DoD) operations and support (O&S) costs by developing, testing, and inserting commercial technologies into fielded military systems on a routine and expedited basis. As the service lives of military platforms are extended, the cost of maintaining those systems increases. In addition, some military-specific components in those systems have become obsolete and hard to get at any price. Using commercial items adapted to function in military systems (instead of military unique items) can reduce maintenance costs and improve system performance. The use of commercial components also permits DoD to reduce parts inventories, obtain rapid delivery from commercial suppliers, and “upgrade through spares” as new technologies become available. Moreover, because the commercial supplier underwrites the cost of developing the commercial component, DoD saves on R&D expenses. Reducing O&S costs on fielded systems will make more financial resources available for new system acquisition and is an essential ingredient in DoD’s modernization strategy.

The COSSI program began in FY 97 as part of the Dual Use Applications Program. In FY 98, the program office was placed under the Office of Technology Transition. OTT recently supported a joint Service solicitation for new COSSI projects. Proposals were submitted for all three Services as well as several joint projects and are currently being evaluated.

Thirty projects were selected in the first round of COSSI projects in 1997. These represented a development and qualification cost to the Government of \$96 million. The proposers agreed to underwrite \$89.9 million in additional costs of the projects. If all these projects succeed and are procured by the Services, the Government is estimated to save over \$3 billion in O&S costs over 10 years.

### Forming Partnerships With Industry

COSSI establishes Government and industry partnerships. Projects are cost-shared between the Government and industry reducing the expense of developing and qualifying a commercial product for use in a military system for each partner. It also signifies the contractor’s commitment to the long term success of the project. By involving commercial and “dual use” suppliers, COSSI is making a small but important step in a process of creating an integrated military and commercial industrial base.

COSSI projects use Other Transactions for Prototypes Agreements rather than traditional Government procurement contracts. The authority to use such agreements was given to the Services by Section 804 of the Fiscal Year 1997 Defense Authorization Act (P.L. 104-201). This type of agreement has fewer regulatory requirements and is less burdensome than Federal Acquisition Regulation (FAR) contracts. It is also more compatible with best commercial practices. Many of the proposals submitted in response to COSSI solicitations came from non-traditional defense manufacturers, so in an era of consolidation, COSSI is expanding the potential sources providing materiel to DoD.

Projects are pursued as a public-private partnership, with shared goals and mutually acceptable milestones. Progress payments are made as observable technical milestones are achieved. Either party can terminate the project if it becomes apparent that the

agreed upon goals cannot be met. The Government's funding support is capped, although industry may increase its contribution if needed.

## The COSSI Process

COSSI is a two stage process. In Stage I, firms or teams that include at least one for-profit firm submit proposals. The proposal must also include the written support of a "Military Customer" who has the authority to modify the system and purchase the kits in Stage II. During Stage I, modifications are made to the core commercial product to adapt it for military use. The item is then tested to ensure it performs satisfactorily in the selected application and operational environment, with no degradation in overall system performance. Stage I takes approximately 24 months to complete. If Stage I is successful, the military customer may then use procurement funds to contract for reasonable production quantities in Stage II.

The goal of the military customer in Stage II is to purchase the components without recompetition at a fair and reasonable target price, using Federal Acquisition Regulation Part XII, Commercial Items. Commercial item purchases do not require vendors to provide detailed cost or pricing data. Commercial firms generally do not operate on cost-accounting standards that traditional Government suppliers typically use. Using Generally Accepted Accounting Procedures in lieu of government Cost Accounting Standards encourages non-traditional defense contractors to participate. Section XII of the FAR permits price (as opposed to cost) based procurements for commercial items that have been slightly modified for military use.

## COSSI Technical Categories

COSSI projects comprise several broad technical categories. The application of commercial electronics and software to replace military specific items is the largest and potentially most rewarding area. It includes open system architectures, computers, standard commercial interfaces, and easily maintainable software. Other categories include advanced materials, diagnostics and test equipment, and design and manufacturing.

## Examples of COSSI Projects

The following examples illustrate the benefits expected from COSSI projects.

### *Mini-MUTES Replacement Processor*

The AN/MST-T1(V) Mini-MUTES is an Air Force Electronic Warfare training system that emits electromagnetic signals that simulate threat radars so aircrews can practice countering these systems. Mini-MUTES relies on an aging proprietary computer processor that requires a continuously controlled environment. This COSSI project is to replace the obsolete hardware and rehost its software on a robust VME bus based system. Without COSSI, the Mini-MUTES system, worth \$275 million, would have to be replaced prematurely, necessitating a development estimated to cost over \$100 million. With COSSI, the Mini-MUTES training system will remain useful and supportable at least until 2015. In addition, by inserting a VME based architecture, system reliability will increase dramatically, significantly reducing the costs associated with lost training missions when the system is unavailable to train aircrews.

### ***Commercially Based Processing for the F/A-18 (C/D)***

The current architecture for the mission computer in the F/A-18 (C/D) requires software upgrades to be done in assembly language. This project will replace the current mission computer with a commercial processor and operating system allowing software upgrades to be done in a higher order language. Additionally, the project will employ widely accepted interface standards. As a result, the O&S costs for maintaining and upgrading the hardware and software will be reduced by over \$400 million. The Department is investing \$14 million and the commercial company is investing over \$22 million during Stage I. This project will increase reliability and enable the F/A-18 (C/D) to constantly improve performance through adoption of a commercial innovation path.

### ***Switchable Eyesafe Laser Rangefinder/Designator***

This project will insert commercially-based solid state diode laser technology into the mast mounted sight of the OH-58D Kiowa Warrior. This technology was developed for commercial printing, lithography, and medical applications. The mast mounted sight's current laser suffers from decreasing reliability and parts obsolescence problems. The Department will invest \$3 million and the commercial company will also invest \$3 million to cover the costs of non-recurring engineering, testing and qualification. The current laser rangefinder designator is one of the Kiowa Warrior's leading sources of operations and support costs and the solid state diode laser design is expected to improve the reliability over the current laser system by a factor of 20. The expected improvements in reliability are projected to generate over \$100 million in O&S savings over 10 years, provide a 30% improvement in target designation, and provide a laser rangefinder that is eyesafe.

### ***Affordable AH-64 Apache Main Rotor System***

This project will insert an existing commercially based helicopter rotor system, including composite blades, into the Apache helicopter. The current Apache Longbow upgrade adds weight to the helicopter. The new rotor system will accommodate the heavier weight better than the current rotor system, significantly increase fatigue life, and facilitate repairs. The project also applies commercial certification processes and standards, reducing development and qualification costs and time by 20-30%. This streamlined process could potentially lead to the establishment of a standard joint military-commercial certification program. The Department and commercial vendor will each invest \$11 million for the design and testing of the new rotor system. The increased reliability and ease of repair is estimated to generate over \$200 million in operations and support savings.

### ***Data Distribution Kits for Command Centers***

This project replaces an obsolete, defense-unique, data distribution network for mobile command centers with current commercial technologies using open architectures and standard commercial interfaces. The project targets components responsible for escalating operations and support costs. The Department will invest \$4 million and the commercial vendor will invest \$2.2 million in the design and testing of this technology. O&S savings are estimated at \$41 million over 10 years. The new network will use commercial high-speed asynchronous transfer mode (ATM) technology and associated COTS products. The project utilizes open standards, which will result in long-term supportability and facilitate interoperability with other commercial products for future integration.