



DHS Implements Commercialization Process

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**Thomas A. Cellucci, Ph.D., MBA
Chief Commercialization Officer
U.S. Department of Homeland Security**

August 2008



**Homeland
Security**

Science and Technology

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The U.S. Department of Homeland Security (DHS) possesses an “Acquisition Mindset,” as do so many government agencies. While the Acquisition model has been utilized effectively in developing custom, one-off products such as aircraft carriers, it is not particularly germane to a majority of the needs at DHS as well as the first responders (a DHS ancillary market). The timely design, development and deployment of lower priced, widely distributed products for both DHS operating components (FEMA, TSA, USCIS, CBP, USSS, ICE and U.S. Coast Guard) and the first responder communities represents a critical step in protecting our nation. Recognizing this fact, the Department recently started implementing a “Commercialization Mindset” in order to leverage the vast capabilities and resources of the private sector through an innovative “win-win” private-public partnership called the SECURE (System Efficacy through Commercialization, Utilization, Relevance and Evaluation) Program.

DHS experienced several challenges merging twenty-two disparate organizations into a cohesive organization with a unified mission and culture. Those familiar with M&A activities realize that while integration of organizations poses difficulties, it also represents opportunities to infuse new processes and values into the newly created organization. Through both “top-down” and “bottom-up” approaches, DHS has been successful in developing, socializing and now implementing an innovative commercialization framework that has started to gain traction throughout the agency. The creation of a “Commercialization Mindset” has caught the attention of DHS managers and employees and has been embraced by senior management because of its significant benefits to the Department’s internal and external activities.

Why is there a need for a commercialization process? DHS requirements, in most instances, are characterized by the need for widely distributed COTS (Commercial-Off-The-Shelf) products. Oftentimes, the need is for thousands, if not millions, of products for DHS’ seven operating components and the fragmented, yet substantial first responder market. Figure 1 shows the major differences between a “pure” Acquisition versus “pure” commercialization processes, along with the recently developed and implemented DHS “hybrid” commercialization process.

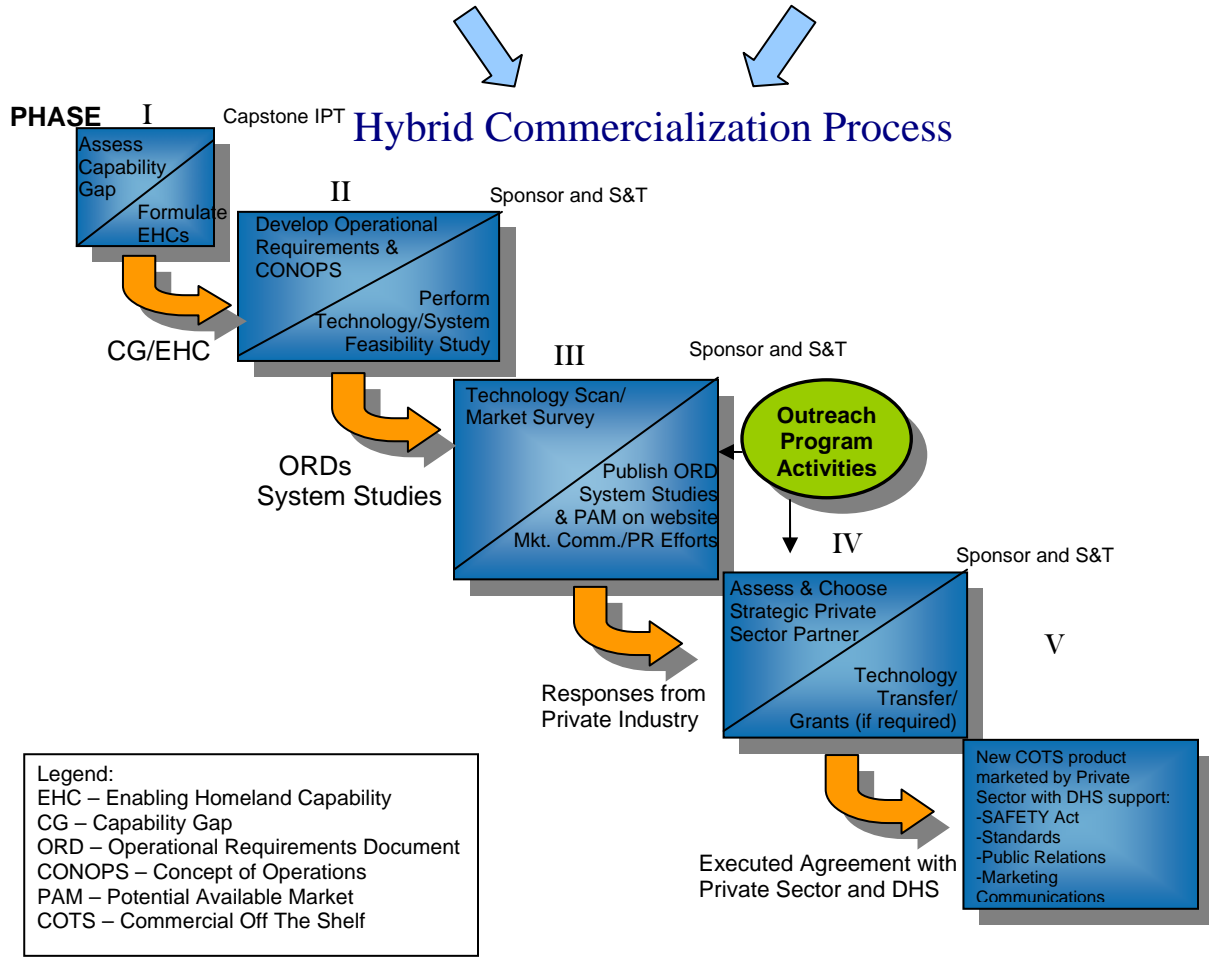
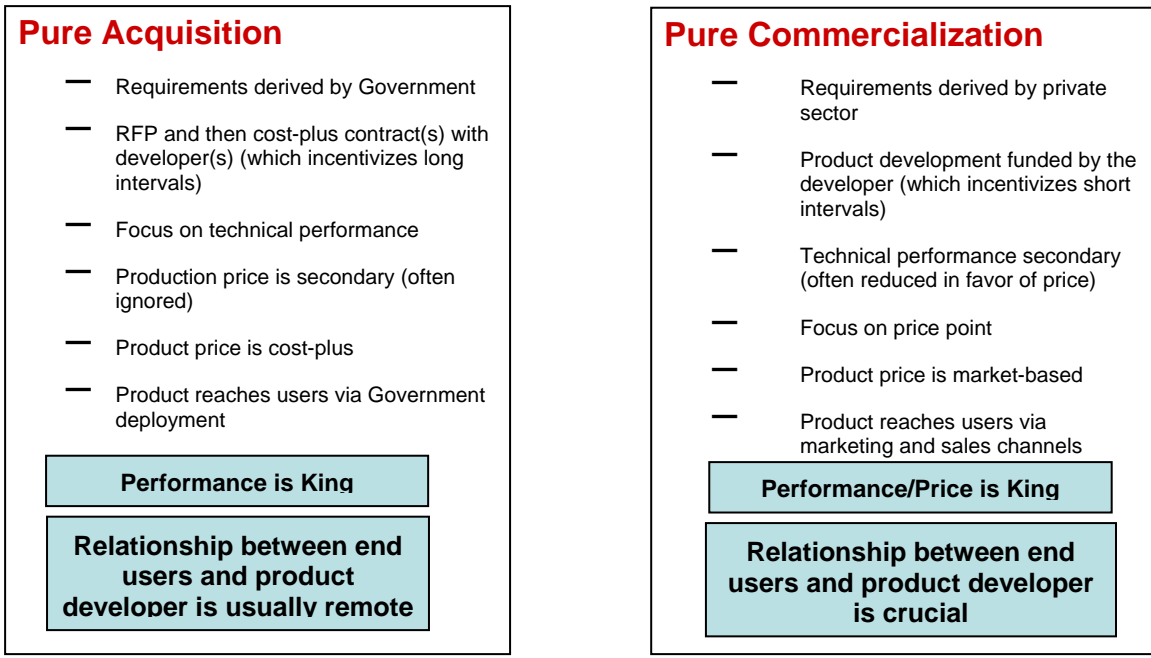


Figure 1: Comparison of “Pure Acquisition” versus “Pure Commercialization” models for product/system development and the resultant hybrid model implemented by DHS.

Figure 2 delineates the overall description of DHS’ new commercialization model and its first private sector outreach program called the SECURE (System Efficacy through Commercialization, Utilization, Relevance and Evaluation) Program to develop products and services in a private-public “win-win” partnership described in detail at www.dhs.gov/xres/programs/gc_1211996620526.shtm. Briefly, the SECURE Program is based on the simple premise that the private sector is willing and able to use its own money, resources, expertise and experience to develop and produce fully developed products and services for DHS if significant market potential exists. The private sector has shown remarkable interest in devoting its time and resources to such activities, if and when an attractive business case can be made related to large revenue/profit opportunities, which certainly exist at DHS and its ancillary markets. The private sector requires two pieces of critical information from DHS: 1. detailed operational requirement(s), and 2. a conservative estimate of the potential available market(s). This information can then be used to generate a business case for possible private sector participation in the program.

A New Model for Commercialization...

- Develop Operational Requirements Documents (ORDs)
- Assess addressable market(s)
- Publish ORD and market assessment on public DHS web portal, solicit interest from potential partners in a way that is open to small, medium and large businesses
- Execute no-cost (CRADA-like) agreement with multiple private sector entities and transfer technology and/or IP(if necessary)
- Develop supporting grants and standards as necessary
- Assess T&E findings after product is developed to assure DHS and ancillary markets that product meet its published specifications
- New Commercial-Off-The-Shelf (COTS) product marketed by private sector with DHS support

SECURE Program



- Application – Seeking products/technologies aligned with posted DHS requirements
- Selection – Products/Technologies TRL-5 or above, scored with internal DHS metrics
- Agreement – One-page CRADA-like document that outlines milestones and exit criteria
- Publication of Results – Recognized third-party T&E conducted on TRL-9 product/service. Results verified by DHS, posted on DHS web-portal to provide confidence to potential customers at DHS and its ancillary markets that product(s) meet or exceed their published specifications in reference to their actual performance.

Figure 2: Step-by-step guide to the commercialization process developed and adopted by DHS with a brief summary of the popular SECURE Program.

To augment the commercialization process, DHS has undertaken the task of developing an easy-to-use comprehensive guide to assist in developing operational requirements. This guide now enables DHS personnel to articulate, in detail, a given system’s requirements and communicate those needs to both internal and external audiences. This effort addresses a long standing need for DHS to fully articulate its requirements.

Early response from groups within DHS, the private sector, and first responders about this guide and programs like SECURE has been very favorable¹. The Department plans to regularly update its website with Operational Requirements Documents (ORDs) to continually expand this innovative private-public partnership. In addition, as evidenced in Figure 3, the taxpayers, private sector and public sector view programs like this as “win-win-win.”

Benefit Analysis – “Win-Win-Win”		
Taxpayers	Public Sector	Private Sector
1. Citizens are better protected by DHS personnel using mission critical products	1. Improved understanding and communication of needs	1. Save significant time and money on market and business development activities
2. Tax savings realized through private sector investment in DHS	2. Cost-effective and rapid product development process saves resources	2. Firms can genuinely contribute to the security of the Nation
3. Positive economic growth for American economy	3. Monies can be allocated to perform greater number of essential tasks	3. Successful products share in the “imprimatur of DHS”; providing assurance that products really work.
4. Possible product “spin-offs” can aid other commercial markets	4. End users receive products aligned to specific needs	4. Significant business opportunities with sizeable DHS and DHS ancillary markets
5. Customers ultimately benefit from COTS produced within the Free Market System – more cost effective and efficient product development	5. End users can make informed purchasing decisions with tight budgets	5. Commercialization opportunities for small, medium and large business

Figure 3: The SECURE Program is viewed positively by DHS stakeholders. The success of the program lies in the fact that all participants receive significant benefits.

In conclusion, DHS’ newly created and implemented commercialization process offers long-awaited benefits to the rapid execution of cost-effective and efficient development of products and services to protect our nation and its resources.



Thomas A. Cellucci, Ph.D., MBA is the U.S. Department of Homeland Security's first Chief Commercialization Officer. In his role, he recently published two comprehensive guides: *Requirements Development Guide* and *Developing Operational Requirements* to aid in effective requirements development and communication for the department. He possesses extensive experience as a senior executive and Board Member in high-technology firms in the private sector.

¹ See Cellucci, T. "Opportunities for the Private Sector," 2008, 43pp. [Available online: http://www.dhs.gov/xres/programs/gc_1211996620526.shtm].

² Margetta, R. "S&T Official Working to Move Product Development Out of DHS, Into Private Sector," Congressional Quarterly Homeland Security. June 27, 2008.

Doing Business with DHS S&T:

All U.S. Government business opportunities can be found at www.fedbizopps.gov.

- **HSARPA:** Register to join the HSARPA mailing list to receive various meeting and solicitation announcements. Link to the Long Range Broad Agency Announcement solicitation, where multiple awards are anticipated and will be based upon the proposal evaluation, funds availability, and other programmatic considerations. Also link to Representative High Priority Technology Areas, where DHS areas of interest can be found. <http://www.hsarpabaa.com>
- **Small Business Innovation Research(SBIR):** SBIR's goal is to increase the participation of innovative and creative small businesses in Federal Research/Research and Development (R/R&D) programs and challenge industry to bring innovative homeland security solutions to reality. <http://www.sbir.dhs.gov>
- **SAFETY Act:** The SAFETY Act enables the development and deployment of qualified anti-terrorism technologies and provides important legal liability protections for manufacturers and sellers of effective technologies. <https://www.safetyact.gov/>
- **TechSolutions:** The mission of TechSolutions is to rapidly address technology gaps identified by Federal, State, Local, and Tribal first responders by fielding prototypical solutions within 12 months at a cost less than \$1M per project. www.dhs.gov/techsolutions
- **Commercialization:** The mission of S&T's commercialization efforts is to identify, evaluate, and commercialize technologies that meet the specific operational requirements of DHS operating components and first responder communities. The commercialization efforts actively reach out to the private sector to establish mutually beneficial working relationships to facilitate cost-effective and efficient product development efforts. Please contact Chief Commercialization Officer Tom Cellucci at S&T-Commercialization@dhs.gov.



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