The ECN Roundtable - The State of the Mil-Aero Market

Moderated by Alix Paultre, our roundtable this month deals with the state of military and aerospace applications and their demands. The question is: **"What do you think will make the greatest impact on the military electronics community in 2012?"**

John Costello, Vice President of Business Development/Mil-Aero, Microsemi Corp. (www.microsemi.com [1]***)***

There are two specific factors on what will make the greatest impact on military electronics community in 2012, the military budget and export controls.

The overall spend estimated in 2012 of $553B is expected to decrease to $526B in 2013, and there is talk of transitioning to a smaller and smarter force. This leads me to believe we will require machines to do more and man to do less. Most future cuts appear to be the result of troop draw-downs and other personnel reductions - not weapons systems although certain programs will inevitably be cut. To mitigate risk, more advanced systems requiring additional electronics will be prioritized.

With long-range air and sea power the focus, as well as drones, surveillance and reconnaissance, electronic content is bound to grow. To brace for the new strategy, it makes sense for R&D dollars to transition to smart weapons which require more

electronic content.

If export/ITAR controls are relaxed, increased exports will have a positive effect on the military electronics community. An argument can be made that any ease in export of fielded weapons systems restrictions will require implementation of information assurance and anti-tamper features leading to additional electronic content.

Les Goodman, President, Parvus (www.parvus.com ***[2])***

The single largest factor driving today's military electronics community is the reshaping of the DoD budget. As funds have decreased, military programs must do more with less, be creative and seek the "80-percent solution"—equipment that's affordable and can be fielded quickly and in large quantities. To contain their costs, prime contractors are relying heavily on COTS military suppliers for integration expertise and a level of software development as part of those integration efforts. The movement within the military to focus on price and capability over ideal, envelope-pushing systems has led to the design of sophisticated—yet cost-effective – COTS electronics to meet the military's stringent requirements.

DoD budget cuts also means new vehicles/aircraft contracts are going to be limited and carefully considered. For example, we've seen cancellations of some new platforms (i.e. EFV, MEADS) and waffling support for others (F-35, JLTV). Instead, the DoD will opt for upgrades and tech refreshes with COTS equipment onboard existing platforms. This positions companies like Parvus very well since we have MIL-STD certified ultra-rugged networking and computer electronics optimized for size, weight and power (SWaP) and designed for multiple military service environments (air, land, maritime) in tech refreshes and upgrades. Legacy platforms (i.e. HUMMV) are ripe for upgrades and the US military is calling for common architectures that are SWaP and cost-optimized to meet their needs.

Modularity will also prove to be an important feature for military electronics as it provides superior longevity and flexibility as components can be upgraded in the future without a complete system redesign—an especially attractive feature to organizations faced with tightening budgets.

Now as COTS military suppliers have more "skin in the game," electronics designed

for the military will be designed for multiple applications, satisfy SWaP requirements and provide more multi-function solutions.

Dave Moore, Director defense/aerospace business development, Avnet Electronics Marketing (www.avnet.com [3]***)***

In the upcoming FY2013 budget, the Department of Defense will attempt to demonstrate good stewardship through sustained implementation of strategic budget cuts. Based on a variety of recent contracts, one key element of this strategy will be the continued procurement of legacy products that have performed well over time, instead of continued investment in newer technologies that could potentially improve performance and lower overall cost. Unfortunately, this procurement objective directly conflicts with a typical semiconductor manufacturer's desire to produce high volumes of the latest technology. This dichotomy opens the door for counterfeit components to enter the supply chain.

In an effort to create methodical barriers of entry of counterfeit components, the SAE recently released the ARP 6178 standard. Affected by this standard are all distributors that sell electronic components without contractual authorization from the original component manufacturer (OCM). Further, many defense contractors have implemented rigid internal processes to avoid buying from the broker community. This scenario presents some real challenges in the continued production of certain electronic sub-systems that provide critical intelligence to our nation's high-technology weapons. Defense contractors have the daunting task of acquiring the original semiconductor components or facing prohibitive costs associated with redesign and recertification.

To augment these steps, I propose that enhanced dialogue between OCM, authorized distribution and the defense contractor community would create additional authorized product continuance strategies and further mitigate counterfeit products in the defense contractor supply chain.

Andrew Stelmack, Business Development Manager Advanced Electronic Systems, Excelitas (www.excelitas.com ***[4])***

The current budget environment coupled with a new set of Defense priorities will further shape the military electronics community in 2012. Flat DOD budgets will limit the number of new programs. Government and industry program managers are shifting their focus to R&D initiatives in order to keep up the pace of technology insertion and maintain weapon system capabilities. With the reduction in force structure, the need to maintain technology superiority becomes paramount to executing the National Defense Strategy.

The challenge for industry is to provide those innovative technologies in an environment where cost and affordability have become significant factors in program execution. Delivering innovative value - increasing performance while keeping unit and life cycle costs under control - will take top priority in 2012. Value, not performance, will drive the military electronics community, a shift from the high growth budget of the last decade.

Excelitas Technologies is responding to the challenge to deliver innovative value to our customers in 2012. For example, we continue to deliver best-in-class power efficiency and power density in our DC-DC converters, meeting the size, weight, and power requirements of today’s high-performance military electronic systems. Offering these solutions through standard converter designs that are readily adaptable to meet unique power needs reduces development costs and timelines while offering proven, reliable, best-value solutions.

James Hunt, Mil/Aero Sales Engineer/Business

Unit Lead, TouchInternational (www.touchinternational.com ***[5])***

In 2012 I expect to see some contraction within the military market; however high-tech military electronics will continue to enjoy growth and development. Specifically, I anticipate seeing a major rise in the deployment of touch technology in military applications. Touch technology has proven itself to be highly versatile, and applications for touch screen devices are virtually countless. Although touch screen electronics have been in the mainstream for quite some time, military devices take a little bit longer to develop.

While there are many military applications for touch technology, one of the most obvious is the ability to communicate through mobile phones and touch pads. In recent weeks US government agencies and contractors have publicized the development of secure software run on Android-based touch screen devices to be deployed to soldiers in the field. By providing soldiers with this kind of touch-enabled device, classified information containing the location of infantry or potentially dangerous areas can be sent directly to the soldier on a digital map.

This breakthrough is just one example of how touch screens are becoming a requirement in military electronics and provide key advantages in the field. Whether it is a large-format touch screen being used to view maps at a regional command post, or one of thousands of hand-held devices used in the field for communication, or part of the control panel inside of an MRAP vehicle, the possibilities for touch technology in military electronics are virtually endless and will enjoy unmatched growth across the board.

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